

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-Q**

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2019

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_.

Commission File Number: 001-36042

**INTREXON CORPORATION**

(Exact name of registrant as specified in its charter)

Virginia  
(State or other jurisdiction of  
incorporation or organization)

26-0084895  
(I.R.S. Employer  
Identification Number)

20374 Seneca Meadows Parkway

Germantown, Maryland  
(Address of principal executive offices)

20876

(Zip Code)

(301) 556-9900

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report date)

Securities registered pursuant to Section 12(b) of the Exchange Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, no par value	XON	Nasdaq Global Select Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of July 31, 2019, 162,070,609 shares of common stock, no par value per share, were outstanding.

## INTREXON CORPORATION

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### Special Note Regarding Forward-Looking Statements

This Quarterly Report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, which statements involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this Quarterly Report, including statements regarding our strategy, future events, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management, and expected market growth are forward-looking statements. The words "anticipate", "believe", "estimate", "expect", "intend", "may", "plan", "predict", "project", "would", and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- our strategy and overall approach to our business model;
- our efforts to realign our business;
- our efforts to hold or generate significant operating capital, including through partnering, potential asset sales, and operating cost reductions;
- our ability to successfully enter new markets or develop additional products, whether independently or with our collaborators;
- our ability to successfully enter into optimal strategic relationships with our subsidiaries and operating companies that we may form in the future;
- competition from existing technologies and products or new technologies and products that may emerge;
- actual or anticipated variations in our operating results;
- our current and future joint ventures, or JVs, exclusive channel collaborations, or ECCs, license agreements and other collaborations;
- developments concerning our collaborators and licensees;
- actual or anticipated fluctuations in our competitors' or our collaborators' and licensees' operating results or changes in their respective growth rates;
- our cash position;
- market conditions in our industry;
- our ability to protect our intellectual property and other proprietary rights and technologies;
- our ability to adapt to changes in laws, regulations and policies;
- our ability and the ability of our collaborators and licensees to adapt to changes in laws, regulations and policies and to secure any necessary regulatory approvals to commercialize any products developed by us or under our ECCs, license agreements and JVs;
- the ability of our collaborators and licensees to protect our intellectual property and other proprietary rights and technologies;
- our ability and the ability of our collaborators and licensees to develop and successfully commercialize products enabled by our technologies;
- the rate and degree of market acceptance of any products developed by us, our subsidiaries, a collaborator under an ECC, or through a JV or license under a license agreement;
- our ability to retain and recruit key personnel;

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- the result of litigation proceedings or investigations that we currently face or may face in the future;
- our expectations related to the use of proceeds from our public offerings and other financing efforts; and
- our estimates regarding expenses, future revenue, capital requirements, and need for additional financing.

Forward-looking statements may also concern our expectations relating to our subsidiaries and other affiliates. We caution you that the foregoing list may not contain all of the forward-looking statements made in this Quarterly Report.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report, particularly in Part II, Item 1A. "Risk Factors," that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, JVs or investments that we may make.

You should read this Quarterly Report, the documents that we reference in this Quarterly Report, our Annual Report on Form 10-K for the year ended December 31, 2018, the other reports we have filed with the Securities and Exchange Commission, or SEC, and the documents that we have filed as exhibits to our filings with the SEC completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

## PART I. FINANCIAL INFORMATION

## Item 1. Consolidated Financial Statements

Intrexon Corporation and Subsidiaries  
Consolidated Balance Sheets  
(Unaudited)

(Amounts in thousands, except share data)	June 30, 2019	December 31, 2018
<b>Assets</b>		
Current assets		
Cash and cash equivalents	\$ 58,162	\$ 102,768
Restricted cash	—	6,987
Short-term investments	67,641	119,688
Equity securities	—	384
Receivables		
Trade, net	24,496	21,195
Related parties, net	7,095	4,129
Other, net	2,866	2,754
Inventory	18,192	21,447
Prepaid expenses and other	4,712	6,131
Total current assets	183,164	285,483
Equity securities, noncurrent	21,503	1,798
Property, plant and equipment, net	120,401	128,874
Intangible assets, net	112,526	129,291
Goodwill	149,916	149,585
Investments in affiliates	18,093	18,859
Right-of-use assets	41,558	—
Other assets	8,027	2,287
Total assets	\$ 655,188	\$ 716,177

The accompanying notes are an integral part of these consolidated financial statements.

**Intrexon Corporation and Subsidiaries**  
**Consolidated Balance Sheets**  
(Unaudited)

(Amounts in thousands, except share data)	June 30, 2019	December 31, 2018
<b>Liabilities and Total Equity</b>		
Current liabilities		
Accounts payable	\$ 8,563	\$ 13,420
Accrued compensation and benefits	9,034	10,687
Other accrued liabilities	11,701	20,620
Deferred revenue, including \$7,053 and \$6,945 from related parties as of June 30, 2019 and December 31, 2018, respectively	16,593	15,554
Lines of credit	387	466
Current portion of long-term debt	468	559
Current portion of lease liabilities	4,813	—
Related party payables	74	256
Total current liabilities	51,633	61,562
Long-term debt, net of current portion, including \$55,743 and \$55,290 to related parties as of June 30, 2019 and December 31, 2018, respectively	212,479	211,235
Deferred revenue, net of current portion, including \$51,195 and \$52,227 from related parties as of June 30, 2019 and December 31, 2018, respectively	66,542	54,210
Lease liabilities, net of current portion	38,757	—
Deferred tax liabilities, net	6,332	7,213
Other long-term liabilities	222	3,235
Total liabilities	375,965	337,455
Commitments and contingencies (Note 16)		
Total equity		
Common stock, no par value, 400,000,000 and 200,000,000 shares authorized as of June 30, 2019 and December 31, 2018, respectively; 161,917,424 and 160,020,466 shares issued and outstanding as of June 30, 2019 and December 31, 2018, respectively	—	—
Additional paid-in capital	1,737,449	1,722,012
Accumulated deficit	(1,430,020)	(1,330,545)
Accumulated other comprehensive loss	(28,206)	(28,612)
Total Intrexon shareholders' equity	279,223	362,855
Noncontrolling interests	—	15,867
Total equity	279,223	378,722
Total liabilities and total equity	\$ 655,188	\$ 716,177

The accompanying notes are an integral part of these consolidated financial statements.

**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Operations**  
(Unaudited)

(Amounts in thousands, except share and per share data)	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
<b>Revenues</b>				
Collaboration and licensing revenues, including \$7,110 and \$13,148 from related parties during the three months ended June 30, 2019 and 2018, respectively, and \$10,922 and \$29,788 during the six months ended June 30, 2019 and 2018, respectively	\$ 9,097	\$ 17,450	\$ 15,067	\$ 37,298
Product revenues	7,819	9,568	12,676	16,720
Service revenues	18,400	17,718	29,783	29,965
Other revenues	670	539	1,795	958
Total revenues	35,986	45,275	59,321	84,941
<b>Operating Expenses</b>				
Cost of products	9,176	10,639	17,466	19,169
Cost of services	8,218	7,895	15,310	14,678
Research and development	34,518	42,049	67,580	79,187
Selling, general and administrative	21,483	34,427	55,077	74,164
Total operating expenses	73,395	95,010	155,433	187,198
Operating loss	(37,409)	(49,735)	(96,112)	(102,257)
<b>Other Expense, Net</b>				
Unrealized and realized appreciation (depreciation) in fair value of equity securities and preferred stock, net	5,632	(19,182)	5,702	(20,278)
Interest expense	(4,358)	(142)	(8,669)	(241)
Interest and dividend income	1,031	5,746	2,395	11,216
Other expense, net	(2,605)	(93)	(2,099)	(881)
Total other expense, net	(300)	(13,671)	(2,671)	(10,184)
Equity in net loss of affiliates	(1,747)	(4,550)	(3,387)	(7,010)
Loss before income taxes	(39,456)	(67,956)	(102,170)	(119,451)
Income tax benefit	525	1,127	1,103	5,213
Net loss	\$ (38,931)	\$ (66,829)	\$ (101,067)	\$ (114,238)
Net loss attributable to the noncontrolling interests	165	1,447	1,592	2,691
Net loss attributable to Intrexon	\$ (38,766)	\$ (65,382)	\$ (99,475)	\$ (111,547)
Net loss attributable to Intrexon per share, basic and diluted	\$ (0.25)	\$ (0.51)	\$ (0.65)	\$ (0.87)
Weighted average shares outstanding, basic and diluted	153,749,929	129,299,584	153,351,208	128,500,897

The accompanying notes are an integral part of these consolidated financial statements.

**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Comprehensive Loss**  
**(Unaudited)**

<b>(Amounts in thousands)</b>	<b>Three Months Ended June 30,</b>		<b>Six Months Ended June 30,</b>	
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
Net loss	\$ (38,931)	\$ (66,829)	\$ (101,067)	\$ (114,238)
Other comprehensive income (loss):				
Unrealized gain on investments	59	—	106	2
Gain (loss) on foreign currency translation adjustments	26	(12,153)	311	(6,293)
Comprehensive loss	(38,846)	(78,982)	(100,650)	(120,529)
Comprehensive loss attributable to the noncontrolling interests	199	1,489	1,581	2,792
Comprehensive loss attributable to Intrexon	\$ (38,647)	\$ (77,493)	\$ (99,069)	\$ (117,737)

*The accompanying notes are an integral part of these consolidated financial statements.*



**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Shareholders' and Total Equity**  
**(Unaudited)**

(Amounts in thousands, except share data)	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Intrexon Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amount						
<b>Balances at March 31, 2019</b>	160,615,416	\$ —	\$1,732,608	\$ (28,325)	\$(1,391,254)	\$ 313,029	\$ 21,794	\$ 334,823
Stock-based compensation expense	—	—	56	—	—	56	5	61
Shares issued upon vesting of restricted stock units	345,378	—	—	—	—	—	—	—
Shares issued as payment for services	956,630	—	4,857	—	—	4,857	—	4,857
Adjustments for noncontrolling interests	—	—	(72)	—	—	(72)	72	—
Deconsolidation of subsidiary	—	—	—	—	—	—	(21,672)	(21,672)
Net loss	—	—	—	—	(38,766)	(38,766)	(165)	(38,931)
Other comprehensive income	—	—	—	119	—	119	(34)	85
<b>Balances at June 30, 2019</b>	<u>161,917,424</u>	<u>\$ —</u>	<u>\$1,737,449</u>	<u>\$ (28,206)</u>	<u>\$(1,430,020)</u>	<u>\$ 279,223</u>	<u>\$ —</u>	<u>\$ 279,223</u>

(Amounts in thousands, except share data)	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Intrexon Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amount						
<b>Balances at March 31, 2018</b>	129,239,376	\$ —	\$1,492,916	\$ (9,737)	\$(867,374)	\$ 615,805	\$ 18,317	\$ 634,122
Stock-based compensation expense	—	—	8,814	—	—	8,814	32	8,846
Shares issued for exercises of stock options and warrants	5,311	—	47	—	—	47	562	609
Shares issued as payment for services	177,101	—	2,546	—	—	2,546	—	2,546
Adjustments for noncontrolling interests	—	—	33	—	—	33	(33)	—
Net loss	—	—	—	—	(65,382)	(65,382)	(1,447)	(66,829)
Other comprehensive loss	—	—	—	(12,111)	—	(12,111)	(42)	(12,153)
<b>Balances at June 30, 2018</b>	<u>129,421,788</u>	<u>\$ —</u>	<u>\$1,504,356</u>	<u>\$ (21,848)</u>	<u>\$(932,756)</u>	<u>\$ 549,752</u>	<u>\$ 17,389</u>	<u>\$ 567,141</u>

The accompanying notes are an integral part of these consolidated financial statements

**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Shareholders' and Total Equity**  
**(Unaudited)**

(Amounts in thousands, except share data)	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Intrexon Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amount						
<b>Balances at December 31, 2018</b>	160,020,466	\$ —	\$1,722,012	\$ (28,612)	\$(1,330,545)	\$ 362,855	\$ 15,867	\$ 378,722
Stock-based compensation expense	—	—	9,046	—	—	9,046	69	9,115
Shares issued upon vesting of restricted stock units and for exercises of stock options and warrants	632,015	—	57	—	—	57	250	307
Shares issued for accrued compensation	150,908	—	1,102	—	—	1,102	—	1,102
Shares issued as payment for services	1,114,035	—	5,688	—	—	5,688	—	5,688
Shares issued in public offerings, net of issuance costs	—	—	—	—	—	—	6,611	6,611
Adjustments for noncontrolling interests	—	—	(456)	—	—	(456)	456	—
Deconsolidation of subsidiary	—	—	—	—	—	—	(21,672)	(21,672)
Net loss	—	—	—	—	(99,475)	(99,475)	(1,592)	(101,067)
Other comprehensive income	—	—	—	406	—	406	11	417
<b>Balances at June 30, 2019</b>	<u>161,917,424</u>	<u>\$ —</u>	<u>\$1,737,449</u>	<u>\$ (28,206)</u>	<u>\$(1,430,020)</u>	<u>\$ 279,223</u>	<u>\$ —</u>	<u>\$ 279,223</u>

  

(Amounts in thousands, except share data)	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Intrexon Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amount						
<b>Balances at December 31, 2017</b>	122,087,040	\$ —	\$1,397,005	\$ (15,554)	\$(847,820)	\$ 533,631	\$ 12,914	\$ 546,545
Cumulative effect of adoption of ASC 606	—	—	—	(104)	26,611	26,507	—	26,507
Stock-based compensation expense	—	—	20,154	—	—	20,154	54	20,208
Shares issued for exercises of stock options and warrants	27,033	—	121	—	—	121	812	933
Shares issued as payment for services	407,715	—	5,487	—	—	5,487	—	5,487
Shares and warrants issued in public offerings, net of issuance costs	6,900,000	—	82,374	—	—	82,374	5,616	87,990
Adjustments for noncontrolling interests	—	—	(785)	—	—	(785)	785	—
Net loss	—	—	—	—	(111,547)	(111,547)	(2,691)	(114,238)
Other comprehensive loss	—	—	—	(6,190)	—	(6,190)	(101)	(6,291)
<b>Balances at June 30, 2018</b>	<u>129,421,788</u>	<u>\$ —</u>	<u>\$1,504,356</u>	<u>\$ (21,848)</u>	<u>\$(932,756)</u>	<u>\$ 549,752</u>	<u>\$ 17,389</u>	<u>\$ 567,141</u>

The accompanying notes are an integral part of these consolidated financial statements

**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Cash Flows**  
(Unaudited)

(Amounts in thousands)	Six Months Ended June 30,	
	2019	2018
<b>Cash flows from operating activities</b>		
Net loss	\$ (101,067)	\$ (114,238)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	12,690	16,881
Loss on disposal of assets, net	1,286	5,585
Unrealized and realized (appreciation) depreciation on equity securities and preferred stock, net	(5,702)	20,278
Noncash dividend income	(25)	(9,914)
Amortization of premiums (discounts) on investments, net	(693)	—
Equity in net loss of affiliates	3,387	7,010
Stock-based compensation expense	9,115	20,208
Shares issued as payment for services	5,688	5,487
Provision for bad debts	344	789
Accretion of debt discount and amortization of deferred financing costs	4,532	—
Deferred income taxes	(981)	(5,089)
Other noncash items	3,166	205
Changes in operating assets and liabilities:		
Receivables:		
Trade	(3,743)	(3,639)
Related parties	(3,317)	6,279
Other	296	(53)
Inventory	3,096	432
Prepaid expenses and other	45	1,284
Right-of-use assets	2,639	—
Other assets	(1,202)	102
Accounts payable	(3,686)	(468)
Accrued compensation and benefits	(347)	7,597
Other accrued liabilities	(7,855)	(1,165)
Deferred revenue	8,890	(15,648)
Lease liabilities	(2,675)	—
Related party payables	67	(199)
Other long-term liabilities	(585)	218
Net cash used in operating activities	(76,637)	(58,058)

*The accompanying notes are an integral part of these consolidated financial statements.*

**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Cash Flows**  
(Unaudited)

<b>(Amounts in thousands)</b>	<b>Six Months Ended</b>	
	<b>June 30,</b>	
	<b>2019</b>	<b>2018</b>
<b>Cash flows from investing activities</b>		
Purchases of investments	(37,163)	(76)
Maturities of investments	90,000	6,000
Proceeds from sales of equity securities	589	217
Investments in affiliates	(2,370)	(8,510)
Decrease in cash from deconsolidation of subsidiary	(7,244)	—
Return of investment in affiliate	—	2,598
Purchases of property, plant and equipment	(25,423)	(21,589)
Proceeds from sale of assets	176	440
Net cash provided by (used in) investing activities	18,565	(20,920)
<b>Cash flows from financing activities</b>		
Proceeds from issuance of shares and warrants in public offerings, net of issuance costs	6,611	87,990
Advances from lines of credit	3,250	2,278
Repayments of advances from lines of credit	(3,329)	(1,937)
Proceeds from long-term debt, net of issuance costs	376	—
Payments of long-term debt	(321)	(281)
Proceeds from stock option and warrant exercises	307	933
Payment of issuance costs	—	(37)
Net cash provided by financing activities	6,894	88,946
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(418)	381
Net increase (decrease) in cash, cash equivalents, and restricted cash	(51,596)	10,349
<b>Cash, cash equivalents, and restricted cash</b>		
Beginning of period	110,182	75,545
End of period	\$ 58,586	\$ 85,894

*The accompanying notes are an integral part of these consolidated financial statements.*

**Intrexon Corporation and Subsidiaries**  
**Consolidated Statements of Cash Flows**  
**(Unaudited)**

<b>(Amounts in thousands)</b>	<b>Six Months Ended</b>	
	<b>June 30,</b>	
	<b>2019</b>	<b>2018</b>
<b>Supplemental disclosure of cash flow information</b>		
Cash paid during the period for interest	\$ 3,637	\$ 195
Cash paid during the period for income taxes	40	163
<b>Significant noncash financing and investing activities</b>		
Purchases of property and equipment included in accounts payable and other accrued liabilities	\$ 1,010	\$ 2,051
Purchases of equipment financed through debt	—	76
Issuance costs included in accounts payable and other accrued liabilities	—	320

The following table provides a reconciliation of the cash, cash equivalents, and restricted cash balances as of June 30, 2019 and December 31, 2018 as shown above:

	<b>June 30,</b>	<b>December 31,</b>
	<b>2019</b>	<b>2018</b>
Cash and cash equivalents	\$ 58,162	\$ 102,768
Restricted cash	—	6,987
Restricted cash included in other assets	424	427
Cash, cash equivalents, and restricted cash	\$ 58,586	\$ 110,182

*The accompanying notes are an integral part of these consolidated financial statements.*

**Intrexon Corporation and Subsidiaries**  
**Notes to the Consolidated Financial Statements**  
**(Unaudited)**  
**(Amounts in thousands, except share and per share data)**

**1. Organization**

Intrexon Corporation ("Intrexon"), a Virginia corporation, uses synthetic biology to focus on programming biological systems to alleviate disease, remediate environmental challenges, and provide sustainable food and industrial chemicals, which may be accomplished directly or through collaborations and joint ventures. Intrexon's primary domestic operations are in California, Florida, Maryland, and Virginia, and its primary international operations are in Hungary. There have been no commercialized products derived either directly by Intrexon or through its collaborations or joint ventures to date.

Precigen, Inc. ("Precigen"), a dedicated discovery and clinical stage biopharmaceutical company advancing the next generation of gene and cellular therapies using precision technology to target urgent and intractable diseases in immuno-oncology, autoimmune disorders, and infectious diseases, is a wholly owned subsidiary of Intrexon with primary operations in Maryland.

ActoBio Therapeutics, Inc. ("ActoBio") is pioneering a new class of microbe-based biopharmaceuticals that enable expression and local delivery of disease-modifying therapeutics and is a wholly owned subsidiary of Intrexon with primary operations in Belgium.

Trans Ova Genetics, L.C. ("Trans Ova"), Progentus, L.C. ("Progentus"), and ViaGen, L.C. ("ViaGen"), providers of advanced reproductive technologies, including services and products sold to cattle breeders and other producers, are wholly owned subsidiaries with primary operations in California, Iowa, Maryland, Missouri, New York, Oklahoma, Texas, and Washington.

Oxitec Limited ("Oxitec"), a pioneering company in biological insect control solutions, is a wholly owned subsidiary of Intrexon with primary operations in Brazil and the United Kingdom.

Intrexon Produce Holdings, Inc. ("IPHI") is a wholly owned subsidiary of Intrexon. Okanagan Specialty Fruits, Inc. ("Okanagan Specialty Fruits"), a company that developed and received regulatory approval for the world's first non-browning apple without the use of any artificial additives, is a wholly owned subsidiary of IPHI with primary operations in Canada. Fruit Orchard Holdings, Inc. ("FOHI") is a wholly owned subsidiary of IPHI with primary operations in Washington. IPHI and its subsidiaries are hereinafter referred to as "Okanagan."

Exemplar Genetics, LLC ("Exemplar"), a provider of genetically engineered swine for medical and genetic research, is a wholly owned subsidiary with primary operations in Iowa.

Through April 8, 2019, Intrexon consolidated AquaBounty Technologies, Inc. ("AquaBounty"), a company focused on improving productivity in commercial aquaculture and whose common stock is listed on the Nasdaq Stock Market. On April 9, 2019, AquaBounty completed an underwritten public offering that resulted in Intrexon no longer having the contractual right to control AquaBounty's board of directors, and accordingly, Intrexon deconsolidated AquaBounty. After remeasuring its retained interest in AquaBounty, Intrexon recorded a loss on deconsolidation of \$2,648, which is included in other expense, net, on the accompanying consolidated statements of operations for the three and six months ended June 30, 2019. The deconsolidation resulted in the derecognition of the carrying amount of \$38,682 in net assets that are no longer reported in the accompanying consolidated balance sheet as of June 30, 2019. See Notes 9, 10, and 11 for additional discussion of material impacts to the accompanying consolidated balance sheet as of June 30, 2019. As of June 30, 2019, Intrexon owned approximately 38% of AquaBounty and, after deconsolidating the entity, accounts for these equity securities using the fair value option (Note 2). See Note 2 for additional discussion of Intrexon's investment in AquaBounty.

Intrexon Corporation and its consolidated subsidiaries are hereinafter referred to as the "Company."

**2. Summary of Significant Accounting Policies**

***Basis of Presentation***

The accompanying interim consolidated financial statements are unaudited and have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). Certain information and footnote disclosures normally included in the Company's annual financial statements have been condensed or omitted. These interim consolidated financial statements, in the opinion of management, reflect all normal recurring adjustments necessary for fair

statement of the Company's financial position as of June 30, 2019 and results of operations and cash flows for the interim periods ended June 30, 2019 and 2018. The year-end consolidated balance sheet data was derived from the Company's audited financial statements but does not include all disclosures required by U.S. GAAP. These interim financial results are not necessarily indicative of the results to be expected for the year ending December 31, 2019, or for any other future annual or interim period. The accompanying interim unaudited consolidated financial statements should be read in conjunction with the audited consolidated financial statements and related notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018.

The accompanying consolidated financial statements reflect the operations of the Company and its subsidiaries. All intercompany accounts and transactions have been eliminated.

### ***Liquidity and Going Concern***

The Company has incurred operating losses since its inception and management expects operating losses and negative cash flows to continue for the foreseeable future and, as a result, the Company will require additional capital to fund its operations and execute its business plan. As of June 30, 2019, the Company had \$125,803 in cash, cash equivalents and short-term investments which is not sufficient to fund the Company's planned operations through one year after the date the interim unaudited consolidated financial statements are issued, and accordingly, there is substantial doubt about the Company's ability to continue as a going concern. The analysis used to determine the Company's ability to continue as a going concern does not include cash sources outside of the Company's direct control that management expects to be available within the next twelve months.

The Company may not be able to obtain sufficient additional funding through monetizing certain of its existing assets, entering into new license and collaboration agreements, issuing additional equity or debt instruments or any other means, and if it is able to do so, they may not be on satisfactory terms. The Company's ability to raise additional capital in the equity and debt markets, should the Company choose to do so, is dependent on a number of factors, including, but not limited to, the market demand for the Company's common stock, which itself is subject to a number of business risks and uncertainties, as well as the uncertainty that the Company would be able to raise such additional capital at a price or on terms that are favorable to the Company. Should the Company not be able to secure additional funding through these means, the Company may have to engage in any or all of the following activities: (i) shift the Company's internal investments from subsidiaries and platforms whose potential for value creation is longer-term to near-term opportunities; (ii) sell certain of our operating subsidiaries to third parties; (iii) reduce operating expenditures for third-party contractors, including consultants, professional advisors, and other vendors; and (iv) reduce or delay capital expenditures, including non-essential facility expansions, lab equipment, and information technology projects. These actions may have a material adverse impact on the Company's ability to achieve certain of its planned objectives. Even if the Company is able to source additional funding, it may be forced to significantly reduce its operations if its business prospects do not improve. If the Company is unable to source additional funding, it may be forced to shut down operations altogether. These interim unaudited consolidated financial statements have been prepared on a going concern basis and do not include any adjustments to the amounts and classification of assets and liabilities that may be necessary in the event the Company can no longer continue as a going concern.

### ***Equity Securities***

The Company holds equity securities of private and publicly traded companies, including investments received and/or purchased from certain collaborators. The Company elected the fair value option to account for its equity securities held in publicly traded companies. These equity securities are recorded at fair value at each reporting date and are subject to market price volatility. Unrealized gains and losses resulting from fair value adjustments are reported in the consolidated statements of operations. The fair value of these equity securities is subject to fluctuation in the future due to the volatility of the stock market, changes in general economic conditions and changes in the financial conditions of these collaborators. The Company accounts for its investments in private companies using either the equity method, as discussed below, or the measurement alternative method for equity securities without readily determinable fair values, which represents cost and any adjustments for impairment or observable price changes in certain transactions. Equity securities that the Company does not intend to sell within one year are classified as noncurrent in the consolidated balance sheet.

For equity securities received pursuant to a collaboration agreement, the Company records the fair value of securities received on the date the collaboration is consummated or the milestone is achieved using the fair value of the collaborator's security on that date, assuming the transfer of consideration is considered perfunctory. If the transfer of the consideration is not considered perfunctory, the Company considers the specific facts and circumstances to determine the appropriate date on which to evaluate fair value. The Company also evaluates whether any discounts for trading restrictions or other basis for lack of marketability should be applied to the fair value of the securities at inception of the collaboration. In the event the Company concludes that a

discount should be applied, the fair value of the securities is adjusted at inception of the collaboration and re-evaluated at each reporting period thereafter.

### Equity Method Investments

The Company accounts for its investments in each of its joint ventures and for its investments in start-up entities backed by the Harvest Intrexon Enterprise Fund I, LP ("Harvest"), all of which are related parties, using the equity method of accounting based upon relative ownership interest. The Company's investments in these entities are included in investments in affiliates in the accompanying consolidated balance sheets. See additional discussion related to certain of the Harvest start-up entities in Note 3.

Effective in April 2019, the Company accounts for its investment in AquaBounty, a related party, using the fair value option. The fair value of the Company's investment in AquaBounty was \$20,041 as of June 30, 2019 and is included in equity securities, noncurrent, in the accompanying consolidated balance sheet. The Company's ownership of AquaBounty was approximately 38% as of June 30, 2019. Unrealized appreciation in the fair value of the Company's investment in AquaBounty common stock was \$5,802 for the three and six months ended June 30, 2019. See Note 1 for additional discussion regarding AquaBounty.

The Company accounts for its investment in Oragenics, Inc. ("Oragenics"), one of its collaborators and a related party, using the fair value option. Oragenics was considered an equity method investment through September 30, 2018. See Note 17 for additional discussion regarding Oragenics. Unrealized depreciation in the fair value of the Company's investment in Oragenics common stock was \$409 and \$1,160 for the three and six months ended June 30, 2018, respectively.

Summarized financial data as of June 30, 2019 and December 31, 2018 and for the three and six months ended June 30, 2019 and 2018, for the Company's equity method investments are shown in the following tables.

	June 30, 2019	December 31, 2018
Current assets	\$ 22,159	\$ 17,485
Noncurrent assets	58,286	31,274
Total assets	80,445	48,759
Current liabilities	7,260	4,226
Noncurrent liabilities	4,872	—
Total liabilities	12,132	4,226
Net assets	\$ 68,313	\$ 44,533

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Revenues	\$ 297	\$ 173	\$ 395	\$ 240
Operating expenses	9,384	10,531	14,761	19,141
Operating loss	(9,087)	(10,358)	(14,366)	(18,901)
Other, net	4	7	8	21
Net loss	\$ (9,083)	\$ (10,351)	\$ (14,358)	\$ (18,880)

### Variable Interest Entities

As of June 30, 2019 and December 31, 2018, the Company determined that certain of its collaborators and joint ventures as well as Harvest were variable interest entities ("VIE" or "VIEs"). The Company was not the primary beneficiary for these entities since it did not have the power to direct the activities that most significantly impact the economic performance of the VIEs. The Company's aggregate investment balances of these VIEs as of June 30, 2019 and December 31, 2018 were \$20,238 and \$21,219, respectively, which represents the Company's maximum risk of loss related to the identified VIEs.



### **Operating Leases**

The Company adopted Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 842, *Leases* ("ASC 842"), effective January 1, 2019. Under ASC 842, the Company determines if an arrangement is a lease at inception. Operating leases are included as right-of-use assets ("ROU Assets") and lease liabilities on the consolidated balance sheets. The Company has elected not to recognize ROU Assets or lease liabilities for leases with lease terms of one year or less.

ROU Assets and lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. For leases that contain fixed non-lease payments, the Company accounts for the lease and non-lease components as a single lease component. Variable lease payments, which primarily include payments for non-lease components such as maintenance costs, are excluded from the ROU Assets and lease liabilities and are recognized in the period in which the obligation for those payments is incurred. As most of the Company's operating leases do not provide an implicit interest rate, the Company uses its incremental borrowing rate at the lease commencement date, which is the estimated rate the Company would be required to pay for a collateralized borrowing equal to the total lease payments over the term of the lease, in determining the present value of future payments. The initial measurement of the ROU Asset also includes any lease payments made and excludes lease incentives. The lease term for all of the Company's leases includes the noncancelable period of the lease plus any additional periods covered by options that the Company is reasonably certain to exercise, either to extend or to not terminate the lease. Lease expense is recognized on a straight-line basis over the lease term.

### **Use of Estimates**

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

### **Segment Information**

The Company realigned its business in April 2019, and as a result, its chief operating decision maker ("CODM") now regularly reviews disaggregated financial information for various operating segments. The Company's reportable segments now include (i) Precigen; (ii) the Methane Bioconversion Platform division, which is an operating division of Intrexon; (iii) the Fine Chemicals division, which is also an operating division of Intrexon; (iv) Okanagan; and (v) Trans Ova. All of Intrexon's consolidated subsidiaries and operating divisions that did not meet the quantitative thresholds to report separately are combined and reported in a single category, All Other. See Note 1 for a description of Precigen, Okanagan, and Trans Ova. Corporate expenses are not allocated to the segments and are managed at a consolidated level. The Company's segment presentation has been recast to retrospectively reflect the change from one reportable segment to multiple reportable segments. See Note 19 for further discussion of the Company's segments.

### **Recently Adopted Accounting Pronouncements**

The Company adopted ASC 842 on January 1, 2019 using the modified retrospective method as of the adoption date without restating prior periods. In addition, the Company elected to use the package of practical expedients which allowed the Company to not have to reassess whether expired or existing contracts contain leases under the new definition of a lease or the lease classification for expired or existing leases under ASC Topic 840. As a result of the adoption of ASC 842, the Company recorded ROU Assets and lease liabilities of approximately \$43,500 and \$45,500, respectively, as of January 1, 2019. The difference between the ROU Assets and lease liabilities primarily represents the balance of deferred rent as of December 31, 2018 that resulted from historical straight-lining of operating leases expense, which was reclassified upon adoption to reduce the measurement of the ROU Assets.

In June 2018, the FASB issued Accounting Standards Update ("ASU") 2018-07, *Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"). The provisions of ASU 2018-07 expand the scope of ASC Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. The Company adopted this standard effective January 1, 2019, and there was no material impact to the accompanying consolidated financial statements.

### **Recently Issued Accounting Pronouncements**

In October 2018, the FASB issued ASU 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606* ("ASU 2018-18"). The provisions of ASU 2018-18 clarify when certain transactions between

collaborative arrangement participants should be accounted for under ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606"), and incorporates unit-of-account guidance consistent with ASC 606 to aid in this determination. The guidance is effective for annual periods and interim periods within those annual periods beginning after December 15, 2019, with early adoption permitted, and is effective for the Company for the year ending December 31, 2020. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

In October 2018, the FASB issued ASU 2018-17, *Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities* ("ASU 2018-17"). The provisions of ASU 2018-17 modify the guidance under ASC Topic 810 related to the evaluation of indirect interests held through related parties under common control when determining whether fees paid to decision makers and service providers are variable interests. Indirect interests held through related parties that are under common control are no longer considered to be the equivalent of direct interests in their entirety and instead should be considered on a proportional basis. This guidance more closely aligns with accounting of how indirect interests held through related parties under common control are considered for determining whether a reporting entity must consolidate a VIE. The guidance is effective for annual periods and interim periods within those annual periods beginning after December 15, 2019, with early adoption permitted, and is effective for the Company for the year ending December 31, 2020. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, *Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU 2018-15"). The provisions of ASU 2018-15 clarify the accounting for implementation costs of a hosting arrangement that is a service contract. The new standard requires an entity (customer) in a hosting arrangement that is a service contract to follow existing internal-use software guidance to determine which implementation costs to capitalize as an asset related to the service contract and which costs to expense. Capitalized implementation costs of a hosting arrangement that is a service contract should be amortized over the term of the hosting arrangement, which might extend beyond the noncancelable period if there are options to extend or terminate. ASU 2018-15 also specifies the financial statement presentation of capitalized implementation costs and related amortization, in addition to required disclosures for material capitalized implementation costs related to hosting arrangements that are service contracts. The guidance is effective for annual periods and interim periods within those annual periods beginning after December 15, 2019, with early adoption permitted, and is effective for the Company for the year ending December 31, 2020. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurements (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurements* ("ASU 2018-13"). The provisions of ASU 2018-13 modify the disclosures related to recurring and nonrecurring fair value measurements. Disclosures related to the transfer of assets between Level 1 and Level 2 hierarchies have been eliminated and various additional disclosures related to Level 3 fair value measurements have been added, modified or removed. The guidance is effective for annual periods and interim periods within those annual periods beginning after December 15, 2019, but entities are permitted to early adopt either the entire standard or only the provisions that eliminate or modify the requirements. This standard is effective for the Company for the year ending December 31, 2020. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). The provisions of ASU 2016-13 modify the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology, and requires a consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The guidance is effective for annual periods and interim periods within those annual periods beginning after December 15, 2019, with early adoption permitted, and is effective for the Company for the year ending December 31, 2020. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

In April 2019, the FASB issued ASU 2019-04, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments* ("ASU 2019-04"). The provisions of ASU 2019-04 clarify and improve areas of guidance related to ASU 2016-13 and ASC Topic 825, *Financial Instruments* ("ASC 825"). The amendments to ASU 2016-13 have the same effective date as the original ASU and are effective for the Company for the year ending December 31, 2020. The amendments to ASC 825 are effective for fiscal years beginning after December 15, 2019, with early adoption permitted, and are effective for the Company for the year ending December 31, 2020. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

### 3. Mergers and Acquisitions

#### *Asset Acquisition of Certain Harvest Entities*

In September 2018, the Company, through its wholly owned subsidiary ActoBio, issued \$30,000 of convertible promissory notes to Harvest, a related party, to acquire Harvest's ownership in CRS Bio, Inc., Genten Therapeutics, Inc., and Relieve Genetics, Inc. (collectively the "Harvest entities"). The Company also received \$15,500 cash in the transaction from the acquisition of the Harvest entities. Prior to the transaction, the Company held a noncontrolling interest in the Harvest entities, with a combined carrying value for all entities of \$4,303, and accounted for its ownership using the equity method of accounting. Following the transaction, the Company owns 100% of the equity interests of the Harvest entities including the rights that had been previously licensed to the Harvest entities by the Company. The Harvest entities did not meet the definition of a business and accordingly, the transaction was accounted for as an asset acquisition.

By reacquiring the rights previously licensed to the Harvest entities, the Company was relieved from its obligations under the original exclusive channel collaborations ("ECCs") and therefore wrote off deferred revenue of \$10,078 in September 2018 as part of the transaction. The remaining value acquired of \$8,721 was considered in-process research and development related to the reacquired rights under the ECCs and expensed immediately.

See Note 11 for additional discussion of the convertible promissory notes.

### 4. Investments in Joint Ventures

#### *Intrexon Energy Partners*

In March 2014, the Company and certain investors (the "IEP Investors"), including an affiliate of Third Security, LLC ("Third Security"), a related party, entered into a Limited Liability Company Agreement that governs the affairs and conduct of business of Intrexon Energy Partners, LLC ("Intrexon Energy Partners"), a joint venture formed to optimize and scale-up the Company's methane bioconversion platform ("MBP") technology for the production of certain fuels and lubricants. The Company also entered into an ECC with Intrexon Energy Partners providing exclusive rights to the Company's technology for the use in bioconversion, as a result of which the Company received a technology access fee of \$25,000 while retaining a 50% membership interest in Intrexon Energy Partners. The IEP Investors made initial capital contributions, totaling \$25,000 in the aggregate, in exchange for pro rata membership interests in Intrexon Energy Partners totaling 50%. In addition, Intrexon has committed to make capital contributions of up to \$25,000, and the IEP Investors, as a group and pro rata in accordance with their respective membership interests in Intrexon Energy Partners, have committed to make additional capital contributions of up to \$25,000, at the request of Intrexon Energy Partners' board of managers (the "Intrexon Energy Partners Board") and subject to certain limitations. As of June 30, 2019, the Company's remaining commitment was \$4,568. Intrexon Energy Partners is governed by the Intrexon Energy Partners Board, which has five members. Two members of the Intrexon Energy Partners Board are designated by the Company and three members are designated by a majority of the IEP Investors. The Company and the IEP Investors have the right, but not the obligation, to make additional capital contributions above the initial limits when and if solicited by the Intrexon Energy Partners Board.

The Company's investment in Intrexon Energy Partners was \$(585) and \$(656) as of June 30, 2019 and December 31, 2018, respectively, and is included in other accrued liabilities in the accompanying consolidated balance sheets.

#### *Intrexon Energy Partners II*

In December 2015, the Company and certain investors (the "IEPII Investors"), including Harvest, entered into a Limited Liability Company Agreement that governs the affairs and conduct of business of Intrexon Energy Partners II, LLC ("Intrexon Energy Partners II"), a joint venture formed to utilize the Company's MBP technology for the production of 1,4-butanediol, an industrial chemical used to manufacture spandex, polyurethane, plastics, and polyester. The Company also entered into an ECC with Intrexon Energy Partners II that provides exclusive rights to the Company's technology for use in the field, as a result of which the Company received a technology access fee of \$18,000 while retaining a 50% membership interest in Intrexon Energy Partners II. The IEPII Investors made initial capital contributions, totaling \$18,000 in the aggregate, in exchange for pro rata membership interests in Intrexon Energy Partners II totaling 50%. In December 2015, the owners of Intrexon Energy Partners II made a capital contribution of \$4,000, half of which was paid by the Company. Intrexon has committed to make additional capital contributions of up to \$10,000, and the IEPII Investors, as a group and pro rata in accordance with their respective membership interests in Intrexon Energy Partners II, have committed to make additional capital contributions of up to \$10,000, at the request of Intrexon Energy Partners II's board of managers (the "Intrexon Energy Partners II Board") and subject to certain limitations. Intrexon Energy Partners II is governed by the Intrexon Energy Partners II Board, which has five members. One member of the Intrexon Energy Partners II Board is designated by the Company and four members are designated by a

majority of the IEPII Investors. The Company and the IEPII Investors have the right, but not the obligation, to make additional capital contributions above the initial limits when and if solicited by the Intrexon Energy Partners II Board.

The Company's investment in Intrexon Energy Partners II was \$(373) and \$(50) as of June 30, 2019 and December 31, 2018, respectively, and is included in other accrued liabilities in the accompanying consolidated balance sheets.

### ***EnviroFlight***

In February 2016, the Company entered into a series of transactions involving EnviroFlight, LLC ("Old EnviroFlight"), Darling Ingredients Inc. ("Darling") and a newly formed venture between the Company and Darling ("New EnviroFlight"). New EnviroFlight was formed to generate high-nutrition, low environmental impact animal and fish feed, as well as fertilizer products, from black soldier fly larvae. Through June 30, 2019, the Company and Darling have made subsequent capital contributions of \$18,000 each.

The Company's investment in New EnviroFlight was \$15,798 and \$16,720 as of June 30, 2019 and December 31, 2018, respectively, and is included in investments in affiliates in the accompanying consolidated balance sheets.

### ***Intrexon T1D Partners***

In March 2016, the Company and certain investors (the "T1D Investors"), including affiliates of Third Security, entered into a Limited Liability Company Agreement that governs the affairs and conduct of business of Intrexon T1D Partners, LLC ("Intrexon T1D Partners"), a joint venture formed to utilize the Company's proprietary ActoBiotics platform to develop and commercialize products to treat type 1 diabetes. The Company also entered into an ECC with Intrexon T1D Partners that provides the exclusive rights to the Company's technology for use in the field, as a result of which the Company received a technology access fee of \$10,000 while retaining a 50% membership interest in Intrexon T1D Partners. The T1D Investors made initial capital contributions, totaling \$10,000 in the aggregate, in exchange for pro rata membership interests in Intrexon T1D Partners totaling 50%. Intrexon committed to make capital contributions of up to \$5,000, and the T1D Investors, as a group and pro rata in accordance with their respective membership interests in Intrexon T1D Partners, committed to make additional capital contributions of up to \$5,000, at the request of Intrexon T1D Partners' board of managers, which consisted of two members appointed by the Company and three members appointed by a majority of the T1D Investors. The Company satisfied its commitment in 2018.

In November 2018, the Company, together with its wholly owned subsidiary ActoBio, issued 1,933,737 shares of Intrexon common stock valued at \$18,970 to the T1D Investors to acquire their ownership interest in Intrexon T1D Partners. Following the transaction, the Company owns 100% of the membership interests in Intrexon T1D Partners, including the rights that had been previously licensed to Intrexon T1D Partners by the Company in the ECC. Intrexon T1D Partners did not meet the definition of a business, and accordingly, the transaction was accounted for as an asset acquisition. By reacquiring the rights previously licensed to Intrexon T1D Partners, the Company was relieved from its obligations under the original ECC and therefore wrote off \$8,517 of deferred revenue in November 2018 as part of the transaction. The remaining value of \$10,453 was considered in-process research and development related to the reacquired rights under the ECC and expensed immediately.

## **5. Collaboration and Licensing Revenue**

The Company's collaborations and licensing agreements provide for multiple promises to be satisfied by the Company and typically include a license to the Company's technology platforms, participation in collaboration committees, and performance of certain research and development services. Based on the nature of the promises in the Company's collaboration and licensing agreements, the Company typically combines most of its promises into a single performance obligation because the promises are highly interrelated and not individually distinct. At contract inception, the transaction price is typically the upfront payment received and is allocated to the single performance obligation. The Company has determined the transaction price should be recognized as revenue based on its measure of progress under the agreement primarily based on inputs necessary to fulfill the performance obligation.

The Company recognizes the reimbursement payments received for research and development services in the period when the services are performed. At the inception of each collaboration, the Company determines whether any milestone payments are probable and can be included in the transaction price. The milestone payments are typically not considered probable at inception and are therefore constrained. Royalties related to product sales will be recognized when sales have occurred since the royalties relate directly to the technology license granted in the agreement.

The Company determines whether collaborations and licensing agreements are individually significant for disclosure based on a number of factors, including total revenue recorded by the Company pursuant to collaboration and licensing agreements, collaborators or licensees with either majority-owned subsidiaries or equity method investments, or other qualitative factors. Collaboration and licensing revenues generated from consolidated subsidiaries are eliminated in consolidation.

The following table summarizes the amounts recorded as revenue in the consolidated statements of operations for each significant counterparty to a collaboration or licensing agreement for the three and six months ended June 30, 2019 and 2018.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
ZIOPHARM Oncology, Inc.	\$ 533	\$ 3,423	\$ 1,699	\$ 8,800
Ares Trading S.A.	—	3,526	—	5,949
Oragenics, Inc.	181	37	384	162
Intrexon T1D Partners, LLC	—	703	—	2,031
Intrexon Energy Partners, LLC	796	819	1,773	2,016
Intrexon Energy Partners II, LLC	420	553	924	931
Surterra Holdings, Inc.	160	—	160	—
Genopaver, LLC	398	1,072	692	2,387
Fibrocell Science, Inc.	2,462	331	2,845	624
Persea Bio, LLC	810	306	(462)	515
Harvest start-up entities (1)	2,039	5,904	4,762	9,101
Other	1,298	776	2,290	4,782
<b>Total</b>	<b>\$ 9,097</b>	<b>\$ 17,450</b>	<b>\$ 15,067</b>	<b>\$ 37,298</b>

- (1) For the three and six months ended June 30, 2019 and 2018, revenues recognized from collaborations with Harvest start-up entities include: Thrive Agrobiotics, Inc.; Exotech Bio, Inc.; and AD Skincare, Inc. For the three and six months ended June 30, 2018, revenues recognized from collaborations with Harvest start-up entities also include Genten Therapeutics, Inc. and CRS Bio, Inc.

Except for the agreements discussed below, there have been no significant changes to the agreements with our collaborators and licensees in the six months ended June 30, 2019.

#### **Surterra Collaboration**

In June 2019, the Company entered into an Exclusive Product Collaboration agreement ("Surterra EPC") with Surterra Holdings, Inc. ("Surterra") to advance Surterra's cannabinoid production at a reliable, efficient, cost-effective, and industrial scale utilizing the Company's yeast fermentation platform. Upon execution of the Surterra EPC, the Company received a technology access fee in the form of a \$10,000 cash payment and common stock of Surterra valued at \$4,530 as upfront consideration. The Company is entitled to developmental milestones for each target selected by Surterra up to a maximum of \$68,000 for the achievement of all milestones for all targets as defined in the agreement. The Company is entitled to payments for research and development services provided pursuant to the agreement as well as single-digit royalties on quarterly gross sales of products developed. The Company's performance obligations terminate upon the acceptance of all deliverables for each target selected under the agreement, and the agreement may be terminated by either party in the event of a material breach as defined in the agreement or may be terminated voluntarily by Surterra upon 90 days written notice to the Company.

The Company has recorded a receivable, which is included in other noncurrent assets in the accompanying consolidated balance sheet, for the balance of common stock as of June 30, 2019, since the stock had not yet been legally issued as of that date.

#### **Fibrocell Science Collaboration**

In April 2019, Fibrocell Science, Inc. ("Fibrocell"), a publicly traded cell and gene therapy company focused on disease affecting the skin and connective tissue and a related party, entered into a collaboration agreement with a third party to develop and commercialize a product in the field of the Company's ECC with Fibrocell ("Fibrocell ECC"). Pursuant to the terms of the

Fibrocell ECC, the Company is entitled to 50% of sublicensing fees and accordingly, has recorded a related party receivable in the accompanying consolidated balance sheet of \$3,750 as of June 30, 2019.

### Deferred Revenue

Deferred revenue primarily consists of consideration received for the Company's collaboration and licensing agreements. Deferred revenue consists of the following:

	June 30, 2019	December 31, 2018
Collaboration and licensing agreements	\$ 78,265	\$ 63,284
Prepaid product and service revenues	2,523	2,933
Other	2,347	3,547
Total	\$ 83,135	\$ 69,764
Current portion of deferred revenue	\$ 16,593	\$ 15,554
Long-term portion of deferred revenue	66,542	54,210
Total	\$ 83,135	\$ 69,764

The following table summarizes the remaining balance of deferred revenue associated with upfront and milestone payments for each significant counterparty to a collaboration or licensing agreement as of June 30, 2019 and December 31, 2018, including the estimated remaining performance period as of June 30, 2019.

	Average Remaining Performance Period (Years)	June 30, 2019	December 31, 2018
ZIOPHARM Oncology, Inc.	0.3	\$ 398	\$ 1,214
Oragenics, Inc.	4.9	5,552	5,810
Intrexon Energy Partners, LLC	4.8	9,059	10,267
Intrexon Energy Partners II, LLC	5.4	13,136	14,060
Surterra Holdings, Inc.	9.0	14,500	—
Genopaver, LLC	4.8	1,162	1,175
Fibrocell Science, Inc.	5.4	18,507	17,519
Persea Bio, LLC	5.5	3,839	2,697
Harvest start-up entities (1)	5.7	6,993	7,644
Other	1.8	5,028	2,898
Total		\$ 78,174	\$ 63,284

(1) As of June 30, 2019 and December 31, 2018, the balance of deferred revenue for collaborations with Harvest start-up entities includes: Thrive Agrobiotics, Inc.; Exotech Bio, Inc.; and AD Skincare, Inc.

### 6. Short-term Investments

The Company's investments are classified as available-for-sale. The following table summarizes the amortized cost, gross unrealized gains and losses, and fair value of available-for-sale investments as of June 30, 2019:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Aggregate Fair Value
U.S. government debt securities	\$ 67,256	\$ 45	\$ —	\$ 67,301
Certificates of deposit	340	—	—	340
Total	\$ 67,596	\$ 45	\$ —	\$ 67,641

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The following table summarizes the amortized cost, gross unrealized gains and losses, and fair value of available-for-sale investments as of December 31, 2018:

	<b>Amortized Cost</b>	<b>Gross Unrealized Gains</b>	<b>Gross Unrealized Losses</b>	<b>Aggregate Fair Value</b>
U.S. government debt securities	\$ 119,401	\$ —	\$ (61)	\$ 119,340
Certificates of deposit	348	—	—	348
<b>Total</b>	<b>\$ 119,749</b>	<b>\$ —</b>	<b>\$ (61)</b>	<b>\$ 119,688</b>

As of June 30, 2019, all of the available-for-sale investments were due within one year based on their contractual maturities.

Changes in market interest rates and bond yields cause certain investments to fall below their cost basis, resulting in unrealized losses on investments. The unrealized losses of the Company's investments were primarily a result of unfavorable changes in interest rates subsequent to the initial purchase of these investments and were not significant as of June 30, 2019.

As of June 30, 2019 and December 31, 2018, the Company did not consider any of its debt security investments to be other-than-temporarily impaired. When evaluating its debt security investments for other-than-temporary impairment, the Company reviews factors such as the length of time and extent to which fair value has been below its cost basis, the financial condition of the issuer, the Company's ability and intent to hold the security and whether it is more likely than not that it will be required to sell the investment before recovery of its cost basis.

### 7. Fair Value Measurements

The carrying amount of cash and cash equivalents, restricted cash, receivables, prepaid expenses and other current assets, accounts payable, accrued compensation and benefits, other accrued liabilities, and related party payables approximate fair value due to the short maturity of these instruments.

#### Assets

The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at June 30, 2019:

	<b>Quoted Prices in Active Markets (Level 1)</b>	<b>Significant Other Observable Inputs (Level 2)</b>	<b>Significant Unobservable Inputs (Level 3)</b>	<b>June 30, 2019</b>
<b>Assets</b>				
U.S. government debt securities	\$ —	\$ 67,301	\$ —	\$ 67,301
Equity securities	1,196	266	20,041	21,503
Other	—	468	247	715
<b>Total</b>	<b>\$ 1,196</b>	<b>\$ 68,035</b>	<b>\$ 20,288</b>	<b>\$ 89,519</b>

The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at December 31, 2018:

	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	December 31, 2018
<b>Assets</b>				
U.S. government debt securities	\$ —	\$ 119,340	\$ —	\$ 119,340
Equity securities	1,626	556	—	2,182
Other	—	468	191	659
Total	<u>\$ 1,626</u>	<u>\$ 120,364</u>	<u>\$ 191</u>	<u>\$ 122,181</u>

The method used to estimate the fair value of the Level 1 assets in the tables above is based on observable market data as these equity securities are publicly-traded. The method used to estimate the fair value of the Level 2 short-term investments in the tables above is based on professional pricing sources for identical or comparable instruments, rather than direct observations of quoted prices in active markets. The methods used to estimate the fair value of the Level 2 and Level 3 equity securities in the tables above are based on the quoted market price of the publicly-traded security, adjusted for any trading restrictions, including discounts for lack of marketability based on historical volatilities and the restriction period. Market price volatility of these Level 3 securities and a significant change in the assumptions used in the discount for lack of marketability could result in a significant impact to the fair value. The Company owns preferred stock in certain of its collaborators, and these investments are classified as Level 3 within the fair value hierarchy. The methods used to estimate the fair value of these Level 3 assets are discussed in Note 17.

The following table summarizes the changes in the Level 3 investments in equity securities and preferred stock during the six months ended June 30, 2019.

	Six Months Ended June 30, 2019
Beginning balance	\$ 191
Retained interest in deconsolidated subsidiary	14,239
Dividend income from investments in preferred stock	25
Net unrealized appreciation in the fair value of the investments in equity securities and preferred stock	5,833
Ending balance	<u>\$ 20,288</u>

There were no transfers of assets between levels of the fair value hierarchy during the six months ended June 30, 2019.

### Liabilities

The carrying values of the Company's long-term debt, excluding the 3.50% convertible senior notes due 2023 (the "Convertible Notes"), approximates fair value due to the length of time to maturity and/or the existence of interest rates that approximate prevailing market rates.

The calculated fair value of the Convertible Notes (Note 11) was approximately \$112,000 and \$141,000 as of June 30, 2019 and December 31, 2018, respectively, and is based on the most recent third-party trade of the instrument as of the balance sheet date. The fair value of the Convertible Notes is classified as Level 2 within the fair value hierarchy as there is not an active market for the Convertible Notes, however, third-party trades of the instrument are considered observable inputs. The Convertible Notes are reflected on the accompanying consolidated balance sheets at amortized cost, which was \$152,634 and \$148,101 as of June 30, 2019 and December 31, 2018, respectively.

The Company's contingent consideration liabilities are measured on a recurring basis and were \$585 at June 30, 2019 and December 31, 2018. These fair value measurements were based on significant inputs not observable in the market and thus represented a Level 3 measurement. A significant change in unobservable inputs could result in a significant impact on the fair



value of the Company's contingent consideration liabilities. The contingent consideration liabilities are remeasured to fair value at each reporting date until the contingencies are resolved, and those changes in fair value are recognized in earnings. There were no changes in the fair value of the Level 3 liabilities during the three and six months ended June 30, 2019.

### 8. Inventory

Inventory consists of the following:

	June 30, 2019	December 31, 2018
Supplies, embryos and other production materials	\$ 2,962	\$ 4,729
Work in process	4,893	4,391
Livestock	9,462	10,167
Feed	875	2,160
<b>Total inventory</b>	<b>\$ 18,192</b>	<b>\$ 21,447</b>

### 9. Property, Plant and Equipment, Net

Property, plant and equipment consist of the following:

	June 30, 2019	December 31, 2018
Land and land improvements	\$ 11,674	\$ 12,490
Buildings and building improvements	11,590	20,371
Furniture and fixtures	1,684	1,891
Equipment	68,138	74,555
Leasehold improvements	31,925	28,289
Breeding stock	4,675	4,582
Computer hardware and software	12,131	11,697
Trees	16,141	11,910
Construction and other assets in progress	23,000	18,880
	180,958	184,665
Less: Accumulated depreciation and amortization	(60,557)	(55,791)
<b>Property, plant and equipment, net</b>	<b>\$ 120,401</b>	<b>\$ 128,874</b>

The deconsolidation of AquaBounty (Note 1) in April 2019 resulted in the reduction of \$24,186 of property, plant and equipment, net on the accompanying consolidated balance sheet as of June 30, 2019.

During the three and six months ended June 30, 2018, the Company recorded a \$4,972 loss on disposal of certain leasehold improvements, equipment, and other fixed assets, in conjunction with the closing of one of its research and development facilities in Brazil.

Depreciation expense was \$3,347 and \$3,642 for the three months ended June 30, 2019 and 2018, respectively, and \$6,920 and \$7,098 for the six months ended June 30, 2019 and 2018, respectively.

### 10. Goodwill and Intangible Assets, Net

The changes in the carrying amount of goodwill for the six months ended June 30, 2019 are as follows:

<b>Balance at December 31, 2018</b>	<b>\$ 149,585</b>
Foreign currency translation adjustments	331
<b>Balance at June 30, 2019</b>	<b>\$ 149,916</b>

The Company had \$13,823 of accumulated impairment losses as of June 30, 2019 and December 31, 2018.

In April 2019, as a result of the Company's change in segments (Notes 2 and 19), the Company concluded that certain operating segments are now separate reporting units. Accordingly, the Company performed a relative fair value allocation of certain of its goodwill.

Intangible assets consist of the following as of June 30, 2019:

	<b>Gross Carrying Amount</b>	<b>Accumulated Amortization</b>	<b>Net</b>
Patents, developed technologies and know-how	\$ 139,363	\$ (37,251)	\$ 102,112
Customer relationships	10,700	(8,002)	2,698
Trademarks	5,900	(3,514)	2,386
In-process research and development	5,330	—	5,330
<b>Total</b>	<b>\$ 161,293</b>	<b>\$ (48,767)</b>	<b>\$ 112,526</b>

Intangible assets consist of the following as of December 31, 2018:

	<b>Gross Carrying Amount</b>	<b>Accumulated Amortization</b>	<b>Net</b>
Patents, developed technologies and know-how	\$ 152,482	\$ (35,133)	\$ 117,349
Customer relationships	10,700	(7,565)	3,135
Trademarks	6,800	(3,341)	3,459
In-process research and development	5,348	—	5,348
<b>Total</b>	<b>\$ 175,330</b>	<b>\$ (46,039)</b>	<b>\$ 129,291</b>

The balance of in-process research and development includes certain in-process research and development technology acquired in the Company's acquisition of Oxitec in September 2015, and amortization will begin once certain regulatory approvals have been obtained for the in-process programs.

The deconsolidation of AquaBounty (Note 1) in April 2019 resulted in the reduction of \$11,567 of net intangible assets, primarily related to patents, developed technologies, and know-how, on the accompanying consolidated balance sheet as of June 30, 2019.

Amortization expense was \$2,766 and \$4,857 for the three months ended June 30, 2019 and 2018, respectively, and \$5,770 and \$9,783 for the six months ended June 30, 2019 and 2018, respectively.

## 11. Lines of Credit and Long-Term Debt

### Lines of Credit

Trans Ova has an \$8,000 revolving line of credit with First National Bank of Omaha that matures on December 31, 2019. The line of credit bears interest at the greater of 2.95% above the London Interbank Offered Rate or 3.00%, and the actual rate was 5.37% as of June 30, 2019. As of June 30, 2019, there was no outstanding balance. The amount available under the line of credit is based on eligible accounts receivable and inventory up to the maximum principal amount. The line of credit is collateralized by certain of Trans Ova's assets and contains certain restricted covenants that include maintaining minimum tangible net worth and working capital and maximum allowable annual capital expenditures. Trans Ova was in compliance with these covenants as of June 30, 2019.

Exemplar has a \$700 revolving line of credit with American State Bank that matures on October 30, 2019. The line of credit bears interest at 5.75% per annum. As of June 30, 2019, there was an outstanding balance of \$387.

## Long-Term Debt

Long-term debt consists of the following:

	June 30, 2019	December 31, 2018
Convertible debt	\$ 208,376	\$ 203,391
Notes payable	4,320	4,551
Other	251	3,852
Long-term debt	212,947	211,794
Less current portion	468	559
Long-term debt, less current portion	\$ 212,479	\$ 211,235

The deconsolidation of AquaBounty (Note 1) in April 2019 resulted in the reduction of \$4,030 of long-term debt on the accompanying consolidated balance sheet as of June 30, 2019.

## Convertible Debt

### Intrexon Convertible Notes

In July 2018, Intrexon completed a registered underwritten public offering of \$200,000 aggregate principal amount of Convertible Notes and issued the Convertible Notes under an indenture (the "Base Indenture") between Intrexon and The Bank of New York Mellon Trust Company, N.A., as trustee, as supplemented by the First Supplemental Indenture (together with the Base Indenture, the "Indenture"). Intrexon received net proceeds of \$193,958 after deducting underwriting discounts and offering expenses of \$6,042.

The Convertible Notes are senior unsecured obligations of Intrexon and bear interest at a rate of 3.50% per year, payable semiannually in arrears on January 1 and July 1 of each year beginning on January 1, 2019. The Convertible Notes mature on July 1, 2023, unless earlier repurchased or converted. The Convertible Notes are convertible into cash, shares of Intrexon's common stock or a combination of cash and shares, at Intrexon's election. The initial conversion rate of the Convertible Notes is 58.6622 shares of Intrexon common stock per \$1,000 principal amount of Convertible Notes (equivalent to an initial conversion price of approximately \$17.05 per share of common stock). The conversion rate is subject to adjustment upon the occurrence of certain events, but will not be adjusted for any accrued and unpaid interest. In addition, following certain corporate events that occur prior to the maturity date as defined in the Indenture, Intrexon will increase the conversion rate for a holder who elects to convert its Convertible Notes in connection with such a corporate event in certain circumstances. Prior to April 1, 2023, the holders may convert the Convertible Notes at their option only upon the satisfaction of the following circumstances:

- During any calendar quarter commencing after the calendar quarter ending on September 30, 2018, if the last reported sales price of Intrexon's common stock for at least 20 trading days (whether or not consecutive) during the last 30 consecutive trading days of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- During the five business day period after any five consecutive trading day period in which the trading price, as defined in the Indenture, for the Convertible Notes is less than 98% of the product of the last reported sales price of Intrexon's common stock and the conversion rate for the Convertible Notes on each such trading day; or
- Upon the occurrence of specified corporate events as defined in the Indenture.

None of the above events allowing for conversion prior to April 1, 2023 occurred during the three months ended June 30, 2019. On or after April 1, 2023 until June 30, 2023, holders may convert their Convertible Notes at any time. Intrexon may not redeem the Notes prior to the maturity date.

If Intrexon undergoes a fundamental change, as defined in the Indenture, holders of the Convertible Notes may require Intrexon to repurchase for cash all or any portion of their Convertible Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date. The Indenture contains customary events of default, as defined in the agreement, and, if

any of the events occur, could require repayment of a portion or all of the Convertible Notes, including accrued and unpaid interest. Additionally, the Indenture provides that Intrexon shall not consolidate with or merge with or into, or sell, convey, transfer or lease all or substantially all of its properties and assets to, another entity, unless (i) the surviving entity is organized under the laws of the United States and such entity expressly assumes all of Intrexon's obligations under the Convertible Notes and the Indenture; and (ii) immediately after such transaction, no default or event of default has occurred and is continuing under the Indenture.

The net proceeds received from the issuance of the Convertible Notes were initially allocated between long-term debt, the liability component, at \$143,723 and additional paid-in capital, the equity component, at \$50,235. Additional paid-in capital was further reduced by \$13,367 of deferred taxes resulting from the difference between the carrying amount and the tax basis of the Convertible Notes that is created by the equity component, which resulted in deferred tax benefit recognized from the reversal of valuation allowances on the then current year domestic operating losses in the same amount. As of June 30, 2019, the outstanding principal balance on the Convertible Notes was \$200,000 and the carrying value of long-term debt was \$152,634. The effective interest rate on the Convertible Notes, including amortization of the long-term debt discount and debt issuance costs, is 11.02%. As of June 30, 2019, the unamortized long-term debt discount and debt issuance costs totaled \$47,366.

Total interest expense related to the Convertible Notes was \$4,069 and \$8,032 for the three and six months ended June 30, 2019, respectively, which consists of \$1,750 and \$3,500 cash interest expense, respectively, and \$2,319 and \$4,532 of non-cash interest expense, respectively. The cash interest expense was paid in June 2019.

#### ActoBio Convertible Notes

In September 2018, ActoBio issued \$30,000 of convertible promissory notes (the "ActoBio Notes") to a related party in conjunction with an asset acquisition with Harvest (Note 3). The ActoBio Notes have a maturity date of September 6, 2020, accrue interest at 3.0% compounded annually, are convertible into shares of ActoBio common stock at any time by the holder, and are automatically convertible in shares of ActoBio common stock upon the closing of certain financing events as defined in the ActoBio Notes. If the ActoBio Notes have not been converted to ActoBio common stock by the maturity date, ActoBio can pay the principal and accrued interest in cash or with shares of Intrexon common stock at its election. There are no embedded features that are required to be separated from the debt host and accounted for separately, so the ActoBio Notes were recorded at \$30,000. Interest expense for the three and six months ended June 30, 2019 was \$228 and \$453, respectively. As of June 30, 2019, the carrying value of the ActoBio Notes, including accrued interest, was \$30,743.

#### Intrexon and Precigen Convertible Note

In December 2018, in conjunction with the Securities Purchase, Assignment and Assumption Agreement with Ares Trading S.A. ("Ares Trading"), Intrexon and Precigen jointly and severally issued a \$25,000 convertible note (the "Merck Note") to Ares Trading in exchange for cash. The Merck Note has a maturity date of June 28, 2021 and will be converted to Intrexon common stock on the first trading day following maturity if not otherwise converted prior to that date. Prior to maturity, Ares Trading may convert the Merck Note, at their election, into (i) Intrexon common stock at any time, (ii) Intrexon common stock upon the Company's closing of qualified financing as defined in the agreement, (iii) Precigen equity upon Precigen closing a qualified financing as defined in the agreement, and (iv) Precigen common stock upon the closing of a qualified initial public offering ("IPO") of Precigen common stock. In the event of a conversion upon a qualified IPO, the conversion price will be 90% of the IPO price. In the event Ares Trading elects to convert the Merck Note into Precigen equity, the Merck Note accrues interest at a rate of 5% per year ("PIK interest") and will be converted with the outstanding principal. The Company determined that the potential PIK interest and IPO conversion discount represented embedded derivatives requiring bifurcation from the debt host but had no significant value as of June 30, 2019 and December 31, 2018.

#### *Notes Payable*

Trans Ova has a note payable to American State Bank that matures in April 2033 and had an outstanding principal balance of \$4,281 as of June 30, 2019. Trans Ova pays monthly installments of \$39, which includes interest at 3.95%. The note payable is collateralized by certain of Trans Ova's real estate and non-real estate assets.

### Future Maturities

Future maturities of long-term debt are as follows:

2019	\$	241
2020		31,254
2021		25,329
2022		339
2023		200,353
2024		366
Thereafter		2,431
Total	\$	<u>260,313</u>

## 12. Income Taxes

Tax provisions for interim periods are calculated using an estimate of actual taxable income or loss for the respective period, rather than estimating the Company's annual effective income tax rate, as the Company is currently unable to reliably estimate its income for the full year. For the three and six months ended June 30, 2019, the Company had U.S. taxable loss of approximately \$55,700 and \$147,300, respectively. For the three and six months ended June 30, 2019, the Company recognized \$52 and \$122, respectively, of current foreign income tax benefit. For the three and six months ended June 30, 2018, the Company had U.S. taxable loss of approximately \$30,200 and \$65,300, respectively, and recorded \$0 and \$113, respectively, of current domestic income tax expense. For the three and six months ended June 30, 2018, the Company recognized \$112 and \$237, respectively, of current foreign income tax benefit. For the three and six months ended June 30, 2019, the Company recorded deferred tax benefit of \$473 and \$981, respectively. For the three and six months ended June 30, 2018, the Company recorded deferred tax benefit of \$1,015 and \$5,089, respectively. The Company's net deferred tax assets, excluding certain deferred tax liabilities totaling \$6,332, are offset by a valuation allowance due to the Company's history of net losses combined with an inability to confirm recovery of the tax benefits of the Company's losses and other net deferred tax assets. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment.

As of June 30, 2019, the Company has operating and capital loss carryforwards for U.S. federal income tax purposes of approximately \$516,400 available to offset future taxable income, including approximately \$263,900 generated after 2017, and federal and state research and development tax credits of approximately \$8,800, prior to consideration of annual limitations that may be imposed under Section 382 of the Internal Revenue Code of 1986, as amended. Carryforwards generated prior to 2018 begin to expire in 2022. As of June 30, 2019, the Company's foreign subsidiaries have foreign loss carryforwards of approximately \$162,900, most of which do not expire.

## 13. Shareholders' Equity

### Issuances of Intrexon Common Stock

In January 2018, Intrexon closed a public offering of 6,900,000 shares of its common stock, including 1,000,000 shares of common stock purchased by affiliates of Third Security. The net proceeds of the offering were \$82,374, after deducting underwriting discounts of \$3,688 and offering expenses of \$188, all of which were capitalized.

### Share Lending Agreement

Concurrently with the offering of the Convertible Notes (Note 11), Intrexon entered into a share lending agreement (the "Share Lending Agreement") with J.P. Morgan Securities LLC (the "Share Borrower") pursuant to which Intrexon loaned and delivered 7,479,431 shares of its common stock (the "Borrowed Shares") to the Share Borrower. The Share Lending Agreement will terminate, and the Borrowed Shares will be returned to Intrexon within five business days of such termination, upon (i) termination by the Share Borrower or (ii) the earliest to occur of (a) October 1, 2023 and (b) the date, if any, on which the Share Lending Agreement is either mutually terminated or terminated by one party upon a default by the other party. The Borrowed Shares were offered and sold to the public at a price of \$13.37 per share under a registered offering (the "Borrowed Shares

Offering"). Intrexon did not receive any proceeds from the sale of the Borrowed Shares to the public. The Share Borrower or its affiliates received all the proceeds from the sale of the Borrowed Shares to the public. Affiliates of Third Security purchased all of the shares of common stock in the Borrowed Shares Offering.

The Share Lending Agreement was entered into at fair value and met the requirements for equity classification. Therefore, the value is netted against the issuance of the Borrowed Shares in additional paid-in capital. Additionally, the Borrowed Shares are not included in the denominator for loss per share attributable to Intrexon shareholders unless the Share Borrower defaults on the Share Lending Agreement.

#### **Issuances of AquaBounty Common Stock**

In March 2019, AquaBounty completed an underwritten public offering that resulted in net proceeds of \$6,611 after deducting discounts, fees, and expenses. See Note 1 for additional discussion of issuances of AquaBounty common stock in April 2019, which resulted in the deconsolidation of AquaBounty.

In January 2018, AquaBounty completed an underwritten public offering that resulted in net proceeds of \$10,616 after deducting discounts, fees and expenses. As part of this offering, Intrexon purchased \$5,000 of additional AquaBounty common stock. In October 2018, certain investors exercised warrants acquired from the January 2018 offering, resulting in additional net proceeds of \$4,316, including \$3,077 from Intrexon.

#### **Components of Accumulated Other Comprehensive Loss**

The components of accumulated other comprehensive loss are as follows:

	<b>June 30, 2019</b>	<b>December 31, 2018</b>
Unrealized gain (loss) on investments	\$ 45	\$ (61)
Loss on foreign currency translation adjustments	(28,251)	(28,551)
Total accumulated other comprehensive loss	<u>\$ (28,206)</u>	<u>\$ (28,612)</u>

#### **14. Share-Based Payments**

The Company records the fair value of stock options and restricted stock units ("RSUs") issued to employees and nonemployees as of the grant date as stock-based compensation expense. Stock-based compensation expense for employees and nonemployees is recognized over the requisite service period, which is typically the vesting period. Stock-based compensation costs included in the consolidated statements of operations are presented below:

	<b>Three Months Ended June 30,</b>		<b>Six Months Ended June 30,</b>	
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
Cost of products	\$ 4	\$ 25	\$ 12	\$ 50
Cost of services	52	79	117	156
Research and development	1,882	2,376	3,727	5,634
Selling, general and administrative	(1,877)	6,366	5,259	14,368
Total	<u>\$ 61</u>	<u>\$ 8,846</u>	<u>\$ 9,115</u>	<u>\$ 20,208</u>

#### **Intrexon Stock Option Plans**

In April 2008, Intrexon adopted the 2008 Equity Incentive Plan (the "2008 Plan") for employees and nonemployees pursuant to which Intrexon's board of directors granted share based awards, including stock options, to officers, key employees and nonemployees. Upon the effectiveness of the 2013 Omnibus Incentive Plan (the "2013 Plan"), no new awards may be granted under the 2008 Plan. As of June 30, 2019, there were 393,098 stock options outstanding under the 2008 Plan.

Intrexon adopted the 2013 Plan for employees and nonemployees pursuant to which Intrexon's board of directors may grant share based awards, including stock options and shares of common stock, to employees, officers, consultants, advisors, and

nonemployee directors. The 2013 Plan became effective in August 2013, and as of June 30, 2019, there were 25,000,000 shares authorized for issuance under the 2013 Plan, of which 11,337,856 stock options and 2,271,277 RSUs were outstanding and 6,397,402 shares were available for grant.

In April 2019, Intrexon adopted the Intrexon Corporation 2019 Incentive Plan for Non-Employee Service Providers (the "2019 Plan"), which became effective upon shareholder approval in June 2019. The 2019 Plan permits the grant of share based awards, including stock options, restricted stock awards, and RSUs, to non-employee service providers, including board members. As of June 30, 2019, there were 5,000,000 shares authorized for issuance under the 2019 Plan, of which 4,853,513 were available for grant.

Stock option activity was as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)
<b>Balances at December 31, 2018</b>	11,093,063	\$ 27.95	6.81
Granted	1,433,075	6.46	
Exercised	(17,811)	(3.17)	
Forfeited	(634,204)	(35.36)	
Expired	(143,169)	(28.38)	
<b>Balances at June 30, 2019</b>	<u>11,730,954</u>	24.96	5.75
<b>Exercisable at June 30, 2019</b>	<u>8,179,447</u>	28.82	4.52

RSU activity was as follows:

	Number of Restricted Stock Units	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (Years)
<b>Balances at December 31, 2018</b>	970,341	\$ 13.82	1.43
Granted	2,278,460	6.59	
Vested	(765,112)	(9.75)	
Forfeited	(212,412)	(9.20)	
<b>Balances at June 30, 2019</b>	<u>2,271,277</u>	8.37	1.49

Intrexon currently uses authorized and unissued shares to satisfy share award exercises.

The Company's Chief Executive Officer ("CEO") receives a base salary of \$200 per month payable in fully-vested shares of Intrexon common stock with such shares subject to a three-year lock-up on resale. The monthly number of shares of common stock was calculated based on the closing price on the last trading day of each month and the shares were issued pursuant to the terms of a Restricted Stock Unit Agreement ("RSU Agreement") between Intrexon and the CEO pursuant to the terms of the 2013 Plan. The RSU Agreement, which is subject to renewal annually by the compensation committee of the board of directors of the Company, expired March 31, 2019. In April 2019, the Company entered into a new RSU agreement with its CEO through March 31, 2020. Under the new RSU agreement, the base salary and lock-up terms remained unchanged from the original RSU Agreement. However, the number of fully-vested shares of Intrexon common stock paid monthly will be calculated based on the volume weighted average of the price of Intrexon common stock over the 30 day period ending on the last calendar day of each month. The fair value of the shares issued as compensation for services is included in selling, general and administrative expenses in the Company's consolidated statements of operations and totaled \$495 and \$483 for the three months ended June 30, 2019 and 2018, respectively, and \$981 and \$969 for the six months ended June 30, 2019 and 2018, respectively.

## 15. Operating Leases

The Company leases certain facilities and equipment under operating leases. Leases with a lease term of twelve months or less are not recorded on the balance sheet, and expense for these leases is recognized over the term of the lease. The Company's leases have remaining terms of one to twenty years, some of which may include options to extend the lease and some of which may include options to terminate the lease within one year. The leases are renewable at the option of the Company and do not contain residual value guarantees, covenants, or other restrictions. The Company's finance leases are not material.

The components of lease costs were as follows:

	<b>Three Months Ended June 30, 2019</b>	<b>Six Months Ended June 30, 2019</b>
Operating lease costs	\$ 2,522	\$ 5,048
Short-term and variable lease costs	1,120	2,168
Lease costs	<u>\$ 3,642</u>	<u>\$ 7,216</u>

Maturities of lease liabilities as of June 30, 2019 were as follows:

2019	\$ 4,352
2020	10,088
2021	9,445
2022	8,646
2023	7,274
2024	7,139
Thereafter	26,746
Total	73,690
Present value adjustment	(30,120)
Total	<u>\$ 43,570</u>
Current portion of operating lease liabilities	<u>\$ 4,813</u>
Long-term portion of operating lease liabilities	38,757
Total	<u>\$ 43,570</u>

Other information related to operating leases was as follows:

	<b>Six Months Ended June 30, 2019</b>
<b>Supplemental Cash Flows Information</b>	
Cash paid for operating lease liabilities	\$ 4,929
Operating lease right-of-use assets added in exchange for new lease liabilities	1,125
	<b>June 30, 2019</b>
Weighted average remaining lease term (years)	8.98
Weighted average discount rate	11.35%

As of June 30, 2019, the Company had an additional operating lease commitment that had not yet commenced of approximately \$1,400 with a lease term of three years.



At December 31, 2018, future minimum lease payments under operating leases having initial or remaining noncancelable lease terms in excess of one year were as follows:

2019	\$	9,182
2020		9,910
2021		9,127
2022		8,305
2023		7,229
Thereafter		34,157
Total	\$	<u>77,910</u>

## 16. Commitments and Contingencies

### Purchase Commitments

As of June 30, 2019, the Company had outstanding contractual purchase commitments of \$10,384, which primarily relate to amounts to be paid in 2019, 2020, and 2021 upon delivery of commercial non-browning apple trees.

### Contingencies

In March 2012, Trans Ova was named as a defendant in a licensing and patent infringement suit brought by XY, LLC ("XY") alleging that certain of Trans Ova's sale of semen-sorting products and services breached a 2004 licensing agreement and infringed on patents related to semen sorting that XY allegedly owned. Trans Ova filed a number of counterclaims in the case. The matter proceeded to a jury trial in the United States District Court for the District of Colorado in January 2016. The jury determined that XY and Trans Ova had each breached the licensing agreement and that Trans Ova had infringed XY's patents. In April 2016, the court issued its post-trial order, awarding \$528 in damages to Trans Ova and \$6,066 in damages to XY. The order also provided Trans Ova with the ability to continue to practice XY's technology, subject to an ongoing royalty obligation of 12.5% of gross proceeds on Trans Ova's standard sorted semen products, plus a 2% enhancement on those products utilizing "reverse-sorted semen", or semen that is frozen before being sorted. In addition, the court assigned a \$5.00 minimum royalty for a straw of sexed semen. Both parties appealed the district court's order. In May 2018, the Court of Appeals for the Federal Circuit denied Trans Ova's appeal of its claims for antitrust, breach of contract, and patent invalidity (except as to one patent, for which the Federal Circuit affirmed invalidity in a separate, same-day ruling in a third-party case). The Federal Circuit remanded the district court's calculation of the ongoing royalty and instructed the district court to re-calculate the ongoing royalty in light of post-verdict economic factors. In March 2019, the district court clarified the royalty base and reset the royalty rates consistent with the Federal Circuit opinion. The district court increased the royalty rate on Trans Ova's standard sorted semen products to 18.75%. For the reverse-sort enhancement, however, it applied a weighted, blended royalty of 12.63% to Trans Ova's entire in vitro fertilization service cycle that utilizes reverse-sorted semen. The district court also changed the minimum royalty for a straw of sexed semen to \$6.25 for a 2-million cell straw (prorated appropriately for straws of higher cell counts), and assigned a minimum royalty for a sexed embryo at \$6.25 per embryo. The new royalty rates are retroactive to February 2016 (the end date of the trial).

Since the inception of the 2004 licensing agreement, Trans Ova has remitted payments to XY pursuant to the terms of that agreement, or pursuant to the terms of the district court's April 2016 post-trial order, and has recorded these payments in cost of services in the consolidated statements of operations for the respective periods. For the period from inception of the 2004 agreement through the district court's April 2016 order, aggregate royalty and license payments were \$3,170, of which \$2,759 had not yet been deposited by XY. In 2016, the Company recorded the expense of \$4,228, representing the excess of the net damages awarded to XY, including prejudgment interest, over the liability previously recorded by Trans Ova for uncashed checks previously remitted to XY. In August 2016, Trans Ova deposited the net damages amount, including prejudgment interest, into the district court's registry, to be held until the appeals process was complete and final judgment amounts were determined. These amounts are included in restricted cash and other accrued liabilities on the consolidated balance sheet as of December 31, 2018. After the appeal, the district court subsequently released the funds held in its registry to XY in January 2019. As for post-trial damages, Trans Ova continued to remit payment to XY every quarter based on the original ongoing royalty rates set by the district court, though XY refused to cash those checks. Under the district court's March 2019 order clarifying the royalty base and resetting the royalty rates, Trans Ova recalculated royalties owed from February 2016 through the first quarter of 2019, plus any applicable pre- and post-judgment interest, and remitted that payment, totaling \$5,801, to XY in May 2019. In June 2019, XY deposited the \$5,801 into the district court's registry while the parties resolve a dispute over the

appropriate calculation of royalties. In that dispute, which is pending before the district court, XY filed a motion claiming over \$1,000 in additional back royalties. Trans Ova is seeking an oral hearing and contends that no additional back royalties are due.

During the three and six months ended June 30, 2019, the Company recorded additional royalty expense of \$267 and \$383, respectively, based on the recalculation of royalties owed XY from February 2016 through December 2018. These amounts are included in selling, general and administrative expenses on the accompanying consolidated statements of operations.

In December 2016, XY filed a complaint for patent infringement, trade secret misappropriation, and various state law claims against Trans Ova in the United States District Court for the Western District of Texas in Waco, Texas. Since the claims in the 2016 complaint directly relate to the parties' other litigation, Trans Ova filed and was granted a motion to transfer the case to Colorado district court. That court subsequently dismissed nine of the complaint's twelve counts, including all five non-patent counts. The court subsequently dismissed another patent count after ruling that the patent was invalid, leaving only two patent counts left in the case. In February 2019, a Wisconsin district court invalidated one of the remaining patents, which XY had asserted against another competitor. That ruling prompted the Colorado district court to stay the two remaining patent counts and enter final judgment against XY's ten other dismissed counts. The 2016 litigation is administratively closed, pending XY's appeal of the district court's rulings dismissing its various patent and non-patent causes of action.

Trans Ova shall continue to utilize the technology consistent with the determinations of the court proceedings. Nonetheless, these disputes remain subject to a number of uncertainties, including the outcome of appellate proceedings, the possibility of further claims by XY, and the impact of these matters on Trans Ova's ability to utilize the technology. Trans Ova and the Company could elect to enter into a settlement agreement in order to avoid the further costs and uncertainties of litigation.

The Company may become subject to other claims, assessments, and governmental investigations from time to time in the ordinary course of business. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. The Company accrues liabilities for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. As of June 30, 2019, the Company does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company's business, financial condition, results of operations, or cash flows.

## **17. Related Party Transactions**

### ***Third Security and Affiliates***

The Company's CEO and Chairman of the board of directors is also the Senior Managing Director and CEO of Third Security and owns 100% of the equity interests of Third Security. In November 2015, the independent members of Intrexon's board of directors, with the recommendation of the audit committee of the board of directors, approved the execution of a Services Agreement ("Services Agreement") with Third Security pursuant to which Third Security provides the Company with certain professional, legal, financial, administrative, and other support services necessary to support the Company and its CEO. The Services Agreement provides for a term of one year, can be terminated by the Company at any time, and may be extended only by agreement of the parties, including approval of a majority of the independent members of Intrexon's board of directors. The independent members of Intrexon's board of directors, with the recommendation of the audit committee of the board of directors, subsequently approved extensions of the Services Agreement through January 1, 2020. Under the Services Agreement, as consideration for providing these services, Third Security is entitled to a fee of \$800 per month to be paid in the form of fully-vested shares of Intrexon common stock. Through 2018, the number of shares of common stock was calculated based on the closing price of the Company's common stock on the 15th day of each month. Beginning in 2019, the number of shares of common stock is calculated based on the volume weighted average of the closing price of the Company's common stock over the 30-day period ending on the 15th day of the calendar month when the applicable services are provided. Through May 2019, the payments made by the Company under the Services Agreement constitute, in the aggregate, an award under the 2013 Plan and are subject to the terms of the 2013 Plan. Following the effectiveness of the 2019 Plan in June 2019, subsequent payments made by the Company under the Services Agreement constitute, in the aggregate, an award under the 2019 Plan and are subject to the terms of the 2019 Plan (Note 14). For the three months ended June 30, 2019 and 2018, the Company issued 483,279 shares and 139,691 shares, respectively, with values of \$2,284 and \$2,064, respectively, to Third Security as payment for services pursuant to the Services Agreement. For the six months ended June 30, 2019 and 2018, the Company issued 839,993 shares and 300,317 shares, respectively, with values of \$4,362 and \$4,105, respectively, to Third Security as payment for services pursuant to the Services Agreement. In addition to the foregoing Services Agreement, the Company reimburses Third Security for certain out-of-pocket expenses incurred on the Company's behalf, and the total expenses incurred by the Company under this arrangement were \$1 and \$3 for the three months ended June 30, 2019 and 2018, respectively, and \$18 and \$17 for the six months ended June 30, 2019 and 2018, respectively.

See also Note 14 regarding compensation arrangements between the Company and its CEO.

The Company also subleases certain administrative offices to Third Security. The significant terms of the lease mirror the terms of the Company's lease with the landlord, and the Company recorded sublease income of \$22 and \$23 for the three months ended June 30, 2019 and 2018, respectively, and \$44 for the six months ended June 30, 2019 and 2018.

#### ***Transactions with ECC Parties***

In addition to entities controlled by Third Security, entities in which the Company holds more than a de minimis equity interest, including equity securities received as upfront or milestone consideration, and that also are party to a collaboration with the Company are considered to be related parties.

In June 2016, the Company received 100,000 shares of Series 1 Preferred Stock (the "Preferred Shares") of ZIOPHARM Oncology, Inc. ("ZIOPHARM"), with a per share stated value of \$1,200, as consideration for amending their two previously existing ECC agreements. The Company received a monthly dividend, paid in additional Preferred Shares, equal to \$12.00 per Preferred Share held per month divided by the stated value of the Preferred Shares. In conjunction with the reacquisition of certain rights previously licensed to ZIOPHARM in October 2018, the Company returned to ZIOPHARM all of the Preferred Shares owned or accrued by the Company as of the effective date of the agreement. During the three and six months ended June 30, 2018, the Company received an additional 3,734 and 7,358 Preferred Shares, respectively, and recognized \$5,019 and \$9,890 of dividend income in the accompanying consolidated statement of operations, respectively. Following the transaction in October 2018, ZIOPHARM is no longer considered a related party.

In March 2017, Fibrocell sold Series A Convertible Preferred Stock (the "Convertible Preferred Shares"), convertible into shares of Fibrocell common stock, and warrants to purchase shares of Fibrocell common stock to certain institutional and accredited investors, including the Company and affiliates of Third Security. The Company paid \$1,161 in exchange for 1,161 Convertible Preferred Shares and warrants to acquire 99,769 shares of Fibrocell common stock. The Convertible Preferred Shares are convertible at any time at the election of the Company and accrue dividends at 4% per annum, compounded quarterly, increasing the stated value of the shares. The investment in Fibrocell preferred stock is categorized as Level 3 as there are significant unobservable inputs and the Convertible Preferred Shares are not traded on a public exchange. The fair value of the investment in Fibrocell preferred stock is estimated using a conversion plus dividend approach utilizing the trading value of the underlying common stock and an estimated premium for the preferred stock dividend and other preferences. Market price volatility of Fibrocell's common stock and a significant change in the estimated preferred stock premium could result in a significant impact to the fair value of the investment in Fibrocell preferred stock. As of June 30, 2019 and December 31, 2018, the fair value of the Company's investment in Fibrocell preferred stock totaled \$247 and \$191, respectively, and is included in other assets on the accompanying consolidated balance sheets.

The Company also holds a promissory note convertible into shares of Fibrocell common stock ("convertible note") and additional warrants to purchase shares of Fibrocell common stock. As of June 30, 2019 and December 31, 2018, the value of the convertible note and warrants totaled \$128 and \$120, respectively, and is included in other assets on the accompanying consolidated balance sheets.

In November 2017, concurrent with Oragenics closing a preferred stock private placement, the Company exchanged a promissory note, including accrued interest, purchased from Oragenics in May 2017 and receivables due from Oragenics totaling \$3,385 for Oragenics Series C preferred stock ("Series C Preferred Stock"). The Series C Preferred Stock is non-voting and non-convertible and is redeemable in whole or part at any time by Oragenics in cash. The Series C Preferred Stock accrued an annual 12% dividend payable in additional Series C Preferred Stock through May 10, 2019, and after such date, the annual dividend increased to 20%. As of June 30, 2019 and December 31, 2018, based on the most recent financial information available on Oragenics, the Company concluded that there was no value to its investment in Oragenics preferred stock.

During 2018, the Company mutually terminated each of its ECC agreements with Histogenics Corporation, OvaScience, Inc., and Synthetic Biologics, Inc. Upon termination of these ECCs, the Company recognized the remaining deferred revenue totaling \$11,877, including \$3,183 during the six months ended June 30, 2018.

## 18. Net Loss per Share

The following table presents the computation of basic and diluted net loss per share:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Historical net loss per share:				
Numerator:				
Net loss attributable to Intrexon	\$ (38,766)	\$ (65,382)	\$ (99,475)	\$ (111,547)
Denominator:				
Weighted average shares outstanding, basic and diluted	153,749,929	129,299,584	153,351,208	128,500,897
Net loss attributable to Intrexon per share, basic and diluted	\$ (0.25)	\$ (0.51)	\$ (0.65)	\$ (0.87)

The following potentially dilutive securities as of June 30, 2019 and 2018, have been excluded from the above computations of diluted weighted average shares outstanding for the three and six months then ended as they would have been anti-dilutive:

	June 30,	
	2019	2018
Convertible debt	19,667,765	—
Options	11,730,954	11,359,531
Restricted stock units	2,271,277	1,033,084
Warrants	133,264	133,264
Total	33,803,260	12,525,879

## 19. Segments

Through March 31, 2019, the Company was a single operating segment. In April 2019, the Company initiated efforts to better deploy resources, realize inherent synergies, and position the Company for growth with a core focus on healthcare and initiated plans to achieve this through various corporate activities, including partnering, potential asset sales, and operating cost reductions. Thereafter, the Company's CODM assessed the operating performance of and allocated resources for several operating segments using Segment Adjusted EBITDA. Management believes this financial metric is a key indicator of operating results since it excludes noncash revenues and expenses that are not reflective of the underlying business performance of an individual enterprise. The Company defines Segment Adjusted EBITDA as net loss before (i) interest expense, (ii) income tax expense or benefit, (iii) depreciation and amortization, (iv) stock-based compensation expense, (v) loss on impairment of goodwill and other long-lived assets, (vi) equity in net loss of affiliates, and (vii) recognition of previously deferred revenue associated with upfront and milestone payments as well as cash outflows from capital expenditures and investments in affiliates.

Because the Company uses Segment Adjusted EBITDA as its primary measure of segment performance, it has included this measure in its discussion of segment operating results. The Company has also disclosed revenues from external customers and intersegment revenues for each reportable segment. Corporate expenses are not allocated to the segments and are managed at a consolidated level. The CODM does not use total assets by segment to evaluate segment performance or allocate resources, and accordingly, these amounts are not required to be disclosed. The Company's CODM now regularly reviews disaggregated financial information for each of the Company's operating segments. The Company's segment presentation has been recast to retrospectively reflect the change from one reportable segment to the newly identified reportable segments.

For the three and six months ended June 30, 2019, the Company's reportable segments are (i) Precigen, (ii) the Methane Bioconversion Platform division, (iii) the Fine Chemicals division, (iv) Okanagan, and (v) Trans Ova. These identified reportable segments met the quantitative thresholds for the six months ended June 30, 2019, to be reported separately. See Note 1 for a description of Precigen, Okanagan, and Trans Ova. The Company's Methane Bioconversion Platform division is an operating division within Intrexon which is focused primarily on the development of microbial cell lines for the bioconversion

of methane into liquid fuels and chemicals. The Company's Fine Chemicals division is an operating division within Intrexon which is focused primarily on microbial production of therapeutic compounds. The All Other category as reported below reflects Intrexon's consolidated subsidiaries and operating divisions that do not meet the quantitative thresholds to report separately.

Information by reportable segment was as follows:

Three Months Ended June 30, 2019							
	Precigen	Methane Bioconversion Platform	Fine Chemicals	Okanagan	Trans Ova	All Other	Total
Revenues from external customers	\$ 549	\$ 1,215	\$ 1,180	\$ 19	\$ 24,392	\$ 8,592	\$ 35,947
Intersegment revenues	2,412	2	1,371	—	674	112	4,571
Total revenues	\$ 2,961	\$ 1,217	\$ 2,551	\$ 19	\$ 25,066	\$ 8,704	\$ 40,518
Segment Adjusted EBITDA	\$ (7,467)	\$ (9,188)	\$ 855	\$ (12,012)	\$ 4,932	\$ (10,060)	\$ (32,940)

Three Months Ended June 30, 2018							
	Precigen	Methane Bioconversion Platform	Fine Chemicals	Okanagan	Trans Ova	All Other	Total
Revenues from external customers	\$ 7,332	\$ 1,371	\$ 1,426	\$ 20	\$ 25,780	\$ 9,356	\$ 45,285
Intersegment revenues	110	4	1,295	—	77	265	1,751
Total revenues	\$ 7,442	\$ 1,375	\$ 2,721	\$ 20	\$ 25,857	\$ 9,621	\$ 47,036
Segment Adjusted EBITDA	\$ (7,858)	\$ (7,629)	\$ 901	\$ (6,280)	\$ 2,096	\$ (10,178)	\$ (28,948)

Six Months Ended June 30, 2019							
	Precigen	Methane Bioconversion Platform	Fine Chemicals	Okanagan	Trans Ova	All Other	Total
Revenues from external customers	\$ 1,730	\$ 2,696	\$ 1,990	\$ 39	\$ 39,326	\$ 13,393	\$ 59,174
Intersegment revenues	4,777	2	2,865	—	947	568	9,159
Total revenues	\$ 6,507	\$ 2,698	\$ 4,855	\$ 39	\$ 40,273	\$ 13,961	\$ 68,333
Segment Adjusted EBITDA	\$ (14,836)	\$ (17,214)	\$ 1,742	\$ (21,123)	\$ 2,706	\$ (17,494)	\$ (66,219)

Six Months Ended June 30, 2018							
	Precigen	Methane Bioconversion Platform	Fine Chemicals	Okanagan	Trans Ova	All Other	Total
Revenues from external customers	\$ 15,463	\$ 2,947	\$ 3,108	\$ 27	\$ 43,987	\$ 19,464	\$ 84,996
Intersegment revenues	231	6	2,794	—	92	720	3,843
Total revenues	\$ 15,694	\$ 2,953	\$ 5,902	\$ 27	\$ 44,079	\$ 20,184	\$ 88,839
Segment Adjusted EBITDA	\$ (12,832)	\$ (13,867)	\$ 1,893	\$ (11,451)	\$ (57)	\$ (22,034)	\$ (58,348)

The table below reconciles total revenues from reportable segments to total consolidated revenues:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Total revenues from reportable segments	\$ 31,814	\$ 37,415	\$ 54,372	\$ 68,655
Other revenues, including from other operating segments	8,743	9,726	14,108	20,581
Elimination of intersegment revenues	(4,571)	(1,866)	(9,159)	(4,295)
Total consolidated revenues	\$ 35,986	\$ 45,275	\$ 59,321	\$ 84,941

The table below reconciles Segment Adjusted EBITDA for reportable segments to consolidated net loss before income taxes:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Segment Adjusted EBITDA for reportable segments	\$ (22,880)	\$ (18,770)	\$ (48,725)	\$ (36,314)
All Other Segment Adjusted EBITDA	(10,060)	(10,178)	(17,494)	(22,034)
Remove cash paid for capital expenditures and investments in affiliates	14,695	9,668	25,985	20,049
Add recognition of previously deferred revenue associated with upfront and milestone payments	7,262	7,054	10,915	16,899
Other expenses:				
Interest expense	(4,358)	(142)	(8,669)	(241)
Depreciation and amortization	(6,113)	(8,499)	(12,690)	(16,881)
Stock-based compensation expense	(61)	(8,846)	(9,115)	(20,208)
Equity in net loss of affiliates	(1,747)	(4,550)	(3,387)	(7,010)
Unallocated corporate costs	(13,032)	(33,122)	(32,978)	(52,673)
Eliminations	(3,162)	(571)	(6,012)	(1,038)
Consolidated net loss before income taxes	\$ (39,456)	\$ (67,956)	\$ (102,170)	\$ (119,451)

As of June 30, 2019 and December 31, 2018, the Company had \$8,753 and \$16,839, respectively, of long-lived assets in foreign countries. The Company recognized revenues derived in foreign countries totaling \$2,195 and \$3,951 for the three months ended June 30, 2019 and 2018, respectively, and \$4,460 and \$8,154 for the six months ended June 30, 2019 and 2018, respectively.

## 20. Subsequent Events

On August 8, 2019, the Company entered into an Investment and Contribution Agreement with a third party (the "Investor") related to the Company's MBP technology (the "Investment and Contribution Agreement"). Under the terms of the Investment and Contribution Agreement, in exchange for membership interests in a newly formed limited liability company, Intrexon will contribute assets related to its MBP technology and its interests in Intrexon Energy Partners and Intrexon Energy Partners II, and the Investor will invest \$60,000, \$20,000 of which will be invested on each of the closing date, the eight month anniversary of that date, and the sixteen month anniversary of that date. The closing of the Investment and Contribution Agreement, which is subject to closing conditions, is expected to occur during the third calendar quarter of 2019. The Company is still evaluating the accounting impact of the Investment and Contribution Agreement.

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

*The following "Management's Discussion and Analysis of Financial Condition and Results of Operations" should be read in conjunction with the unaudited financial information and the notes thereto included in this Quarterly Report on Form 10-Q, or Quarterly Report, and our Annual Report on Form 10-K for the year ended December 31, 2018, or Annual Report.*

*The following discussion contains forward-looking statements that reflect our plans, estimates, and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements and you are cautioned not to place undue reliance on forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report, particularly in "Special Note Regarding Forward-Looking Statements" and "Risk Factors." The forward-looking statements included in this Quarterly Report are made only as of the date hereof.*

### Overview

We believe we are a leader in the field of synthetic biology, focusing on programming biological systems to alleviate disease, remediate environmental challenges, and provide sustainable food and industrial chemicals. At present rates of global industrialization and population growth, food and energy supplies and environmental and healthcare resources are becoming more scarce and/or costly. We believe it is not a viable option for mankind to continue on this path — new solutions will be necessary to preserve and globally expand a high quality of life. We believe that synthetic biology is a solution.

Synthetic biology is a rapidly evolving discipline that applies engineering principles to biological systems to enable rational, design-based control of cellular function for a specific purpose. Using our suite of proprietary and complementary technologies, we design, build, and regulate gene programs, which are DNA sequences that consist of key genetic components. A single gene program or a complex, multi-genic program is fabricated and stored within a DNA vector. Vectors are segments of DNA used as a vehicle to transmit genetic information. DNA vectors can, in turn, be introduced into cells in order to generate a simple or complex cellular system, which are the basic and complex cellular activities that take place within a cell and the interaction of those systems in the greater cellular environment. It is these genetically modified cell systems that can be used to produce biological effector molecules, or be employed directly to enable the development of new and improved products and manufacturing processes across a variety of end markets, including health, food, energy, and environment. Our synthetic biology capabilities include the ability to precisely control the amount, location and modification of biological molecules to control the function and output of living cells and optimize for desired results at an industrial scale.

In working with our subsidiaries, joint ventures, or JVs, and collaborators, we seek to create more effective, less costly, and more sustainable solutions than can be provided through current industry practices. Our technologies combine the principles of precision engineering, statistical modeling, automation, and production at an industrial scale. We efficiently engineer precise and complex gene programs across many cell types. We apply the engineering principle of a design-build-test-learn continuum, through which we accumulate knowledge about the characteristics and performance of gene programs and cell lines. This process of continuous learning allows us to enhance our ability to design and build improved and more complex gene programs and cellular systems.

We believe our technologies are broadly applicable across many diverse end markets, including some end markets that have failed to recognize the applicability of synthetic biology or failed to efficiently utilize biologically-based processes to produce products. To enable us to maximize the number of these markets we could address, we devised a strategy that allowed us to focus on our core expertise in synthetic biology while developing many different commercial product candidates via collaborations in a broad range of industries or end markets. Historically, we built our business primarily around the formation of exclusive channel collaborations, or ECCs. An ECC is an agreement with a collaborator to develop products based on technologies in a specifically defined field. Through our ECCs, we provide expertise in the engineering of gene programs and cellular systems, and our collaborators are responsible for providing market and product development expertise, as well as sales and marketing capabilities. In addition, we have sometimes executed a research collaboration to develop an early-stage program pursuant to which we received reimbursement for our development costs but the exclusive commercial rights, and related access fees, were deferred until completion of an initial research program.

Over time, our strategy has evolved away from ECC-type collaborations to relationships and structures that provide us with more control and ownership over the development process and commercialization path. In these new relationships and structures, we bear more of the responsibility to fund the projects and execute on product candidate development. For example, in October 2018, through our wholly owned subsidiary, Precigen, Inc., or Precigen, we entered into a license agreement, or the ZIOPHARM License Agreement, with ZIOPHARM Oncology, Inc., or ZIOPHARM, which terminated and replaced the terms of an ECC with ZIOPHARM. The ZIOPHARM License Agreement gives us development and commercialization control over certain products previously licensed to ZIOPHARM. Additionally, in December 2018, we reacquired the rights to use Chimeric

Antigen Receptor T-cell (CAR-T) technologies that were previously licensed to Ares Trading S.A., or Ares Trading, a wholly owned subsidiary of Merck KGaA, collectively Merck KGaA.

In certain strategic circumstances, we may enter into a JV with a third-party collaborator whereby we may contribute access to our technology, cash or both into the JV, which we will jointly control with our collaborator. Pursuant to a JV agreement, we may be required to contribute additional capital to the JV, and we may be able to receive a higher financial return than we would normally receive from an ECC to the extent that we and our collaborator are successful in developing one or more products. For a discussion of our JVs, see the "Notes to the Consolidated Financial Statements (Unaudited) - Note 4" appearing elsewhere in this Quarterly Report. Additionally, we are increasing the resources that we are expending internally on early-stage proof-of-concept programs where we believe we can leverage our competitive edge in gene program creation and host cell and genome expertise. We are also seeking to partner our more mature programs and capabilities or later-stage assets. In this way, we endeavor to leverage our capital resources and ultimately hope to realize significant value from our mature assets.

As we consider the broad potential applications of our synthetic biology technologies, and consistent with the evolution of our business strategy, we have acquired a number of ventures that are already enabling products that benefit from the application of synthetic biology. Our strategy contemplates the continued acquisition of product-focused companies that we believe may leverage our technologies and expertise in order to expand their respective product applications. We believe that the acquisition of these types of companies allows us to develop and commercialize innovative products and create significant value.

Consistent with the ongoing evolution of our strategy, we routinely consider ways to organize our business and the grouping of our assets to facilitate strategic opportunities. For example, in April 2019, we announced that we are working to align our operations into two units, Intrexon Health and Intrexon Bioengineering, in an effort to better deploy resources, realize inherent synergies, and position us for growth with a core focus on healthcare.

### **Our operating subsidiaries**

To derive value from the broad potential applications of our synthetic biology technologies, and consistent with the evolution of our business strategy, we routinely consider ways to organize our business to facilitate strategic opportunities. For example, we have acquired a number of ventures that are already enabling products that benefit from the application of synthetic biology and that we now operate as subsidiaries. Our strategy contemplates the continued formation and acquisition of such operating subsidiaries. As these enterprises develop, we will determine whether to maintain full ownership, introduce investors via either private or public financing, or seek strategic options to partner or divest the businesses.

#### ***Primary wholly owned operating subsidiaries***

##### *Precigen, Inc.*

Precigen is a dedicated discovery and clinical stage biopharmaceutical company advancing the next generation of gene and cellular therapies using precision technology to target urgent and intractable diseases in immuno-oncology, autoimmune disorders, and infectious diseases. Precigen's technologies and technologies licensed from Intrexon enable Precigen to find innovative solutions for affordable biotherapeutics in a controlled manner. Precigen operates as an innovation engine, progressing a preclinical and clinical pipeline of well-differentiated unique therapies toward clinical proof-of-concept and commercialization.

##### *ActoBio Therapeutics, Inc.*

ActoBio Therapeutics, Inc., or ActoBio, is pioneering a new class of microbe-based biopharmaceuticals that enable expression and local delivery of disease-modifying therapeutics. The ActoBiotics platform produces biologics through oral or topical administration with treatment applications across many diseases including oral, gastrointestinal, and autoimmune/allergic disorders. This approach is being developed to provide safer and more efficacious treatments than injectable biologicals. ActoBio, both independently and through an ECC, has a strong research and development pipeline with the latest stage candidate in Phase 2b clinical trials and an extensive portfolio of candidates ready for clinical development across a number of potential indications.

##### *Trans Ova Genetics, L.C.*

Trans Ova Genetics, L.C., or Trans Ova, is internationally recognized as a provider of industry-leading bovine reproductive technologies. Intrexon and Trans Ova are building upon Trans Ova's original platform with a goal of achieving higher levels of delivered value to dairy and beef cattle producers. Progentus, L.C., or Progentus, a wholly owned subsidiary of Trans Ova, is a



provider of bovine embryos. ViaGen, L.C., or ViaGen, a wholly owned subsidiary of Trans Ova, is a provider of cloning technology for livestock species.

#### *Okanagan Specialty Fruits, Inc.*

Okanagan Specialty Fruits, Inc. and its affiliates, or Okanagan, is the pioneering agricultural company behind the world's first non-browning apple without the use of any artificial additives. Okanagan is scaling up its commercial supplies of non-browning apples and developing new commercial tree fruit varieties intended to provide benefits to the entire supply chain, from growers to consumers.

#### *Oxitec Limited*

Oxitec Limited, or Oxitec, is a pioneering company in biological insect control solutions. Oxitec is developing products that use genetic engineering to control insect pests that spread disease and damage crops. Among the applications of its platform, which uses advanced genetics and molecular biology, Oxitec has developed innovative solutions for controlling *Aedes aegypti*, a mosquito that is a known vector for the transmission of infectious disease including dengue fever, chikungunya, and Zika and, in conjunction with its collaborators, is pursuing solutions that target certain agricultural crop pests. Oxitec is pursuing regulatory and commercial approvals for its insect solutions in a number of countries, including the United States.

#### *Exemplar Genetics, LLC*

Exemplar Genetics, LLC, or Exemplar, is committed to enabling the study of life-threatening human diseases through the development of miniswine research models and services, as well as enabling the production of cells and organs in its genetically engineered swine for regenerative medicine applications.

### **Segments**

In April 2019, the Company initiated efforts to better deploy resources, realize inherent synergies, and position us for growth with a core focus on healthcare and initiated plans to achieve this through various corporate activities, including partnering, potential asset sales, and operating cost reductions. Our chief operating decision maker now regularly reviews disaggregated financial information for various operating segments. Our reportable segments now include (i) Precigen, (ii) our Methane Bioconversion Platform division, (iii) our Fine Chemicals division, (iv) Okanagan, and (v) Trans Ova. All of our consolidated subsidiaries and operating divisions that did not meet the quantitative thresholds to report separately are combined and reported in single category, All Other. Corporate expenses are not allocated to the segments and are managed at a consolidated level. Our segment presentation has been recast to retrospectively reflect the change from one reportable segment to multiple reportable segments. For a description of Precigen, Okanagan, and Trans Ova, see above under the caption "Our operating subsidiaries." Our Methane Bioconversion Platform division is an operating division within Intrexon which is focused primarily on the development of microbial cell lines for the bioconversion of methane into liquid fuels and chemicals. Our Fine Chemicals division is an operating division within Intrexon which is focused primarily on microbial production of therapeutic compounds.

### **Mergers, acquisitions, and technology in-licensing**

We may augment our suite of proprietary technologies through mergers or acquisitions of technologies, which would then become available to new or existing ventures, including operating subsidiaries, JVs, and collaborations. Among other things, we may pursue technologies that we believe will be generally complementary to our existing technologies and also meet our desired return on investment and other economic criteria. In certain cases, such technologies may already be applied in the production of products or services and in these cases we may seek to expand the breadth or efficacy of such products or services through the use of our technologies. See "Notes to the Consolidated Financial Statements (Unaudited) - Note 3" appearing elsewhere in this Quarterly Report for further discussion of mergers, acquisitions or significant technology in-licensing activities.

### **Financial overview**

We have incurred significant losses since our inception. We anticipate that we may continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability. Outside of collaboration and license fee payments and sales of products and services, which vary over time, we have not generated significant revenues, including revenues or royalties from product sales by us or our collaborators. Certain of our consolidated subsidiaries require regulatory approval and/or commercial scale-up before they may commence significant product sales and operating profits.

In April 2019, we initiated efforts to better deploy resources, realize inherent synergies, and position us for growth with a core focus on healthcare and initiated plans to achieve this through various corporate activities, including partnering, potential asset sales, and operating cost reductions. As we continue our efforts to focus our business and generate additional capital, we may be willing to enter into transactions involving one or more of our operating segments and reporting units for which we have goodwill and intangible assets. These efforts could result in our identifying impairment indicators or recording impairment charges in future periods. In addition, market changes and changes in judgments, assumptions and estimates that we have made in assessing the fair value of goodwill could cause us to consider some portion or all of certain assets to become impaired.

### ***Sources of revenue***

Historically, we have derived our collaboration and licensing revenues through agreements with counterparties for the development and commercialization of products enabled by our technologies. Generally, the terms of these collaborations provide that we receive some or all of the following: (i) technology access fees upon signing; (ii) reimbursements of costs incurred by us for our research and development and/or manufacturing efforts related to specific applications provided for in the collaboration; (iii) milestone payments upon the achievement of specified development, regulatory and commercial activities; and (iv) royalties on sales of products arising from the collaboration.

Our technology access fees and milestone payments may be in the form of cash or securities of the collaborator. Our collaborations contain multiple arrangements, and we typically defer revenues from the technology access fees and milestone payments received and recognize such revenues in the future over the anticipated performance period. We are also entitled to sublicensing revenues in those situations where our collaborators choose to license our technologies to other parties.

From time to time, we and certain collaborators may cancel the agreements or we may repurchase rights to the exclusive fields from collaborators, relieving us of any further performance obligations under the agreement. Upon such circumstances or when we determine no further performance obligations are required of us under an agreement, we may recognize any remaining deferred revenue as either collaboration revenue or as a reduction of in-process research and development expense, depending on the circumstances.

We generate product and service revenues primarily through sales of products or services that are created from technologies developed or owned by us. Our primary current offerings include sales of advanced reproductive technologies, including our bovine embryo transfer and in vitro fertilization, or IVF, processes and from genetic preservation and sexed semen processes and applications of such processes to other livestock, as well as sales of livestock and embryos produced using these processes and used in production. We recognize revenue when control of the promised product is transferred to the customer or when the promised service is completed.

In future periods, our revenues will depend in part on our ability to partner our more mature programs and capabilities, the number of collaborations to which we are party, the advancement and creation of our programs and programs within our collaborations, and the extent to which we or our collaborators bring products enabled by our technologies to market. We expect our collaboration revenues will decrease considerably as a result of a number of transactions in 2018 to reacquire rights to fields previously licensed to collaborators, after which we no longer expect to receive reimbursement of costs incurred by us for research and development services and will no longer recognize previously deferred revenues associated with the terminated collaboration. Our revenues will also depend upon our ability to maintain or improve the volume and pricing of our current product and service offerings and to develop and scale up production of new offerings from the various technologies of our subsidiaries. Our future revenues may also include additional revenue streams we may acquire through mergers and acquisitions. In light of our limited operating history and experience, there can be no assurance as to the timing, magnitude and predictability of revenues to which we might be entitled.

### ***Cost of products and services***

Cost of products and services includes primarily labor and related costs, drugs and supplies used primarily in the embryo transfer and IVF processes, livestock and feed used in production, and facility charges, including rent and depreciation. Fluctuations in the price of livestock and feed have not had a significant impact on our operating margins and no derivative financial instruments are used to mitigate the price risk.

**Research and development expenses**

We recognize research and development expenses as they are incurred. Our research and development expenses consist primarily of:

- salaries and benefits, including stock-based compensation expense, for personnel in research and development functions;
- fees paid to consultants and contract research organizations who perform research on our behalf and under our direction;
- costs related to laboratory supplies used in our research and development efforts;
- costs related to certain in-licensed technology rights or reacquired in-process research and development;
- depreciation of leasehold improvements and laboratory equipment;
- amortization of patents and related technologies acquired in mergers and acquisitions; and
- rent and utility costs for our research and development facilities.

We have no individually significant research and development projects, and our research and development expenses primarily relate to either the costs incurred to expand or otherwise improve our multiple platform technologies, the costs incurred to develop a specific application of our technologies in support of current or prospective partners, or costs incurred to expand or otherwise improve our products and services. Research and development expenses, including costs for preclinical and clinical development incurred for programs we support pursuant to an ECC agreement, are typically reimbursed by the partner at cost, and all other research and development programs may be terminated or otherwise deferred at our discretion. The amount of our research and development expenses may be impacted by, among other things, the number of ECCs and the number and size of programs we may support on behalf of an ECC.

The table below summarizes our research and development expenses incurred to expand or otherwise improve our multiple platform technologies, the costs incurred to develop a specific application of our technologies in support of current or prospective partners, or costs incurred to develop our products and services, including clinical development costs, for the three and six months ended June 30, 2019 and 2018. Other research and development expenses for these periods include indirect salaries and overhead expenses that are not allocated to either expanding or improving our multiple platform technologies, specific applications of our technologies in support of current or prospective partners, or developing our product and services offerings. Additionally, other research and development expenses for the three and six months ended June 30, 2018, include approximately \$5.3 million of one-time costs associated with closing one of Oxitec's Brazilian subsidiary's leased research and development facilities as we decentralized operations previously conducted in this facility.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
	<b>(In thousands)</b>			
Expansion or improvement of our platform technologies	\$ 5,961	\$ 4,715	\$ 12,888	\$ 8,509
Specific applications of our technologies in support of current and prospective partners	9,630	18,553	18,914	36,764
Development of our product and service offerings	11,478	7,690	22,289	15,702
Other	7,449	11,091	13,489	18,212
Total research and development expenses	\$ 34,518	\$ 42,049	\$ 67,580	\$ 79,187

We expect that our research and development expenses will increase as we develop our own proprietary programs and expand our offerings. We believe these increases will likely include increased costs related to the hiring of additional personnel in research and development functions, increased costs paid to consultants and contract research organizations, and increased costs related to laboratory supplies. Research and development expenses may also increase as a result of ongoing research and development operations that we might assume through mergers and acquisitions or in-licensing of technologies.

### ***Selling, general and administrative expenses***

Selling, general and administrative, or SG&A, expenses consist primarily of salaries and related costs, including stock-based compensation expense, for employees in executive, operational, finance, sales and marketing, information technology, legal and corporate communications functions. Other significant SG&A expenses include rent and utilities, insurance, accounting and legal services, and expenses associated with obtaining and maintaining our intellectual property.

SG&A expenses may fluctuate in the future depending on the number and nature of transactions we may undertake with certain of our operations and subsidiaries. These fluctuations could be related to personnel, legal fees, outside consultants, and other professional services. SG&A expenses may increase as a result of ongoing operations that we might assume through mergers and acquisitions.

### ***Other income (expense), net***

We hold equity securities and preferred stock of private and publicly traded companies, including investments received and/or purchased from certain collaborators. We elected the fair value option to account for our equity securities and preferred stock held in publicly traded companies. These equity securities and preferred stock are recorded at fair value at each reporting date. Unrealized appreciation (depreciation) resulting from fair value adjustments are reported as other income (expense) in the consolidated statements of operations. As such, we bear the risk that fluctuations in the securities' share prices may significantly impact our results of operations. We account for our investments in private companies using either the equity method or the measurement alternative method for equity securities without readily determinable fair values, which represents cost and any adjustments for impairment or observable price changes in certain transactions. See "Notes to the Consolidated Financial Statements (Unaudited) - Note 2" appearing elsewhere in this Quarterly Report.

Interest expense is expected to increase in future periods due to the noncash amortization of the long-term debt discount and debt issuance costs related to the 3.50% convertible senior notes due 2023, or the Convertible Notes, issued in July 2018.

Interest income consists of interest earned on our cash and cash equivalents and short-term and long-term investments. Dividend income consists of the monthly preferred stock dividends received from our investments in preferred stock. Dividend income is expected to decrease in future periods because we returned our ZIOPHARM preferred shares to ZIOPHARM in October 2018 in conjunction with the reacquisition of certain rights previously licensed to ZIOPHARM.

### ***Equity in net income (loss) of affiliates***

Equity in net income or loss of affiliates is our pro-rata share of our equity method investments' operating results, adjusted for accretion of basis difference. We account for investments in our JVs and start-up entities backed by Harvest Intrexon Enterprise Fund I, LP, or Harvest, using the equity method of accounting since we have the ability to exercise significant influence, but not control, over the operating activities of these entities.

### ***Segment performance***

We use Segment Adjusted EBITDA as our primary measure of segment performance. We define Segment Adjusted EBITDA as net loss before (i) interest expense, (ii) income tax expense or benefit, (iii) depreciation and amortization, (iv) stock-based compensation expense, (v) loss on impairment of goodwill and other long-lived assets, (vi) equity in net loss of affiliates, and (vii) recognition of previously deferred revenue associated with upfront and milestone payments as well as cash outflows from capital expenditures and investments in affiliates. Corporate expenses are not allocated to the segments and are managed at a consolidated level.

**Results of operations**
**Comparison of the three months ended June 30, 2019 and the three months ended June 30, 2018**

The following table summarizes our results of operations for the three months ended June 30, 2019 and 2018, together with the changes in those items in dollars and as a percentage:

	Three Months Ended June 30,		Dollar Change	Percent Change
	2019	2018		
(In thousands)				
<b>Revenues</b>				
Collaboration and licensing revenues (1)	\$ 9,097	\$ 17,450	\$ (8,353)	(47.9)%
Product revenues	7,819	9,568	(1,749)	(18.3)%
Service revenues	18,400	17,718	682	3.8 %
Other revenues	670	539	131	24.3 %
Total revenues	35,986	45,275	(9,289)	(20.5)%
<b>Operating expenses</b>				
Cost of products	9,176	10,639	(1,463)	(13.8)%
Cost of services	8,218	7,895	323	4.1 %
Research and development	34,518	42,049	(7,531)	(17.9)%
Selling, general and administrative	21,483	34,427	(12,944)	(37.6)%
Total operating expenses	73,395	95,010	(21,615)	(22.8)%
Operating loss	(37,409)	(49,735)	12,326	(24.8)%
Total other expense, net	(300)	(13,671)	13,371	(97.8)%
Equity in loss of affiliates	(1,747)	(4,550)	2,803	(61.6)%
Loss before income taxes	(39,456)	(67,956)	28,500	(41.9)%
Income tax benefit	525	1,127	(602)	(53.4)%
Net loss	(38,931)	(66,829)	27,898	(41.7)%
Net loss attributable to noncontrolling interests	165	1,447	(1,282)	(88.6)%
Net loss attributable to Intrexon	\$ (38,766)	\$ (65,382)	\$ 26,616	(40.7)%

(1) Includes \$7,110 and \$13,148 from related parties for the three months ended June 30, 2019 and 2018, respectively.

### Collaboration and licensing revenues

The following table shows the collaboration and licensing revenues recognized for the three months ended June 30, 2019 and 2018, together with the changes in those items.

	Three Months Ended June 30,		Dollar Change
	2019	2018	
(In thousands)			
ZIOPHARM Oncology, Inc.	\$ 533	\$ 3,423	\$ (2,890)
Ares Trading S.A.	—	3,526	(3,526)
Orogenics, Inc.	181	37	144
Intrexon T1D Partners, LLC	—	703	(703)
Intrexon Energy Partners, LLC	796	819	(23)
Intrexon Energy Partners II, LLC	420	553	(133)
Surterra Holdings, Inc.	160	—	160
Genopaver, LLC	398	1,072	(674)
Fibrocell Science, Inc.	2,462	331	2,131
Persea Bio, LLC	810	306	504
Harvest start-up entities (1)	2,039	5,904	(3,865)
Other	1,298	776	522
Total	<u>\$ 9,097</u>	<u>\$ 17,450</u>	<u>\$ (8,353)</u>

- (1) For the three months ended June 30, 2019 and 2018, revenues recognized from collaborations with Harvest start-up entities include: Thrive Agrobiotics, Inc.; Exotech Bio, Inc.; and AD Skincare, Inc. For the three months ended June 30, 2018, revenues recognized from collaborations with Harvest start-up entities also include Genten Therapeutics, Inc. and CRS Bio, Inc.

Collaboration and licensing revenues decreased \$8.4 million, or 48%, from the three months ended June 30, 2018 primarily due to the reacquisition of rights previously licensed to certain significant collaborators, including ZIOPHARM and Ares Trading, the result of which eliminated or substantially reduced revenues generated from those collaborations. This was partially offset by sublicensing revenue from Fibrocell Science, Inc., or Fibrocell, in the current period.

### Product revenues and gross margin

Product revenues decreased \$1.7 million, or 18%, from the three months ended June 30, 2018. The decrease in product revenues was primarily due to lower customer demand for pregnant cows, live and weaned calves, and cloned products. Gross margin on products declined in the current period as a result of fewer products sold and decreased sales prices.

### Service revenues and gross margin

Service revenues and gross margin thereon were consistent period over period as expected.

### Research and development expenses

Research and development expenses decreased \$7.5 million, or 18%, from the three months ended June 30, 2018. The 2018 amounts include \$5.3 million of one-time costs associated with closing one of Oxitec's research and development facilities as we decentralized operations previously conducted in this facility. Additionally, depreciation and amortization decreased \$2.2 million primarily due to intangible assets that were impaired or abandoned in 2018.

### Selling, general and administrative expenses

SG&A expenses decreased \$12.9 million, or 38%, from the three months ended June 30, 2018. Salaries, benefits and other personnel costs decreased \$10.6 million primarily due to decreased share-based compensation expense due to the reversal of

previously recognized expense for unvested options granted to former employees as well as a result of certain 2014 stock option grants becoming fully vested in March 2018.

### **Total other expense, net**

Total other expense, net, decreased \$13.4 million, or 98%, from the three months ended June 30, 2018. This decrease was primarily attributable to a decrease in unrealized losses on preferred stock, net of dividend income, following the return of our investment in ZIOPHARM preferred stock to ZIOPHARM in October 2018. These decreases were partially offset by an increase in interest expense associated with our Convertible Notes issued in July 2018.

### **Segment performance**

The following table summarizes Segment Adjusted EBITDA, or segment performance, for the three months ended June 30, 2019 and 2018, for each of our reportable segments.

	Three Months Ended June 30,		Dollar Change	Percent Change
	2019	2018		
	(In thousands)			
Precigen	\$ (7,467)	\$ (7,858)	\$ 391	(5.0)%
Methane Bioconversion Platform	(9,188)	(7,629)	(1,559)	20.4 %
Fine Chemicals	855	901	(46)	(5.1)%
Okanagan	(12,012)	(6,280)	(5,732)	91.3 %
Trans Ova	4,932	2,096	2,836	135.3 %

For a reconciliation of Segment Adjusted EBITDA, which is a non-GAAP financial measure, to net loss before income taxes, see "Notes to the Consolidated Financial Statements (Unaudited) - Note 19" appearing elsewhere in this Quarterly Report.

#### *Precigen*

While Precigen's segment performance is comparable period over period, the 2019 amounts are primarily attributable to utilizing its resources on its proprietary cell and gene therapy programs, including initiating clinical trial programs. The 2018 amounts include the effects of Precigen's prior collaboration with ZIOPHARM.

#### *Methane Bioconversion Platform*

In 2019, we have continued to deploy increased resources on not only our platform, but also applications thereof, with our most significant efforts directed towards unpartnered programs where we do not receive reimbursement for work performed.

#### *Fine Chemicals*

Fine Chemicals' segment performance is comparable period over period as expected as there were no substantive changes in its business operations year over year.

#### *Okanagan*

In 2019, we invested significantly in the expansion of Okanagan's orchards in an effort to scale the operation for increased production in future years. Okanagan also scaled up its sales and marketing efforts in anticipation of future growth.

#### *Trans Ova*

Trans Ova incurred lower SG&A expenses in the current period due to reduced legal fees. Capital expenditures also decreased due to the completion of a facility expansion in 2018. These reductions were partially offset by a decrease in product sales.

**Comparison of the six months ended June 30, 2019 and the six months ended June 30, 2018**

The following table summarizes our results of operations for the six months ended June 30, 2019 and 2018, together with the changes in those items in dollars and as a percentage:

	<b>Six Months Ended June 30,</b>		<b>Dollar Change</b>	<b>Percent Change</b>
	<b>2019</b>	<b>2018</b>		
<b>(In thousands)</b>				
<b>Revenues</b>				
Collaboration and licensing revenues (1)	\$ 15,067	\$ 37,298	\$ (22,231)	(59.6)%
Product revenues	12,676	16,720	(4,044)	(24.2)%
Service revenues	29,783	29,965	(182)	(0.6)%
Other revenues	1,795	958	837	87.4 %
Total revenues	59,321	84,941	(25,620)	(30.2)%
<b>Operating expenses</b>				
Cost of products	17,466	19,169	(1,703)	(8.9)%
Cost of services	15,310	14,678	632	4.3 %
Research and development	67,580	79,187	(11,607)	(14.7)%
Selling, general and administrative	55,077	74,164	(19,087)	(25.7)%
Total operating expenses	155,433	187,198	(31,765)	(17.0)%
Operating loss	(96,112)	(102,257)	6,145	(6.0)%
Total other expense, net	(2,671)	(10,184)	7,513	(73.8)%
Equity in loss of affiliates	(3,387)	(7,010)	3,623	(51.7)%
Loss before income taxes	(102,170)	(119,451)	17,281	(14.5)%
Income tax benefit	1,103	5,213	(4,110)	(78.8)%
Net loss	(101,067)	(114,238)	13,171	(11.5)%
Net loss attributable to noncontrolling interests	1,592	2,691	(1,099)	(40.8)%
Net loss attributable to Intrexon	\$ (99,475)	\$ (111,547)	\$ 12,072	(10.8)%

(1) Includes \$10,922 and \$29,788 from related parties for the six months ended June 30, 2019 and 2018, respectively.



### Collaboration and licensing revenues

The following table shows the collaboration and licensing revenues recognized for the six months ended June 30, 2019 and 2018, together with the changes in those items.

	Six Months Ended June 30,		Dollar Change
	2019	2018	
(In thousands)			
ZIOPHARM Oncology, Inc.	\$ 1,699	\$ 8,800	\$ (7,101)
Ares Trading S.A.	—	5,949	(5,949)
Orogenics, Inc.	384	162	222
Intrexon T1D Partners, LLC	—	2,031	(2,031)
Intrexon Energy Partners, LLC	1,773	2,016	(243)
Intrexon Energy Partners II, LLC	924	931	(7)
Surterra Holdings, Inc.	160	—	160
Genopaver, LLC	692	2,387	(1,695)
Fibrocell Science, Inc.	2,845	624	2,221
Persea Bio, LLC	(462)	515	(977)
Harvest start-up entities (1)	4,762	9,101	(4,339)
Other	2,290	4,782	(2,492)
Total	<u>\$ 15,067</u>	<u>\$ 37,298</u>	<u>\$ (22,231)</u>

- (1) For the six months ended June 30, 2019 and 2018, revenues recognized from collaborations with Harvest start-up entities include: Thrive Agrobotics, Inc.; Exotech Bio, Inc.; and AD Skincare, Inc. For the six months ended June 30, 2018, revenues recognized from collaborations with Harvest start-up entities also include Genten Therapeutics, Inc. and CRS Bio, Inc.

Collaboration and licensing revenues decreased \$22.2 million, or 60%, from the six months ended June 30, 2018 primarily due to the reacquisition of rights previously licensed to certain significant collaborators, including ZIOPHARM and Ares Trading, the result of which eliminated or substantially reduced revenues generated from those collaborations. The decline was also attributable to the mutual termination of our ECC with OvaScience, Inc. in March 2018. This was partially offset by increased sublicensing revenue from Fibrocell in the current period.

### Product revenues and gross margin

Product revenues decreased \$4.0 million, or 24%, from the six months ended June 30, 2018. The decrease in product revenues was primarily due to lower customer demand for pregnant cows, live and weaned calves, and cloned products. Gross margin on products declined in the current period as a result of fewer products sold, decreased sales prices, and increased costs associated with new product offerings.

### Service revenues and gross margin

Service revenues and gross margin thereon were consistent period over period as expected.

### Research and development expenses

Research and development expenses decreased \$11.6 million, or 15%, from the six months ended June 30, 2018. The 2018 amounts include \$5.3 million of one-time costs associated with closing one of Oxitec's research and development facilities as we decentralized operations previously conducted in this facility. Additionally, depreciation and amortization decreased \$4.3 million primarily due to intangible assets that were impaired or abandoned in 2018. Salaries, benefits and other personnel costs decreased \$2.0 million primarily due to the closing of one of Oxitec's research and development facilities.

**Selling, general and administrative expenses**

SG&A expenses decreased \$19.1 million, or 26%, from the six months ended June 30, 2018. Salaries, benefits and other personnel costs decreased \$15.5 million primarily due to decreased share-based compensation expense due to the reversal of previously recognized expense for unvested options granted to former employees as well as a result of certain stock option grants becoming fully vested in 2018.

**Total other expense, net**

Total other expense, net, decreased \$7.5 million, or 74%, from the six months ended June 30, 2018. This decrease was primarily attributable to a decrease in unrealized losses on preferred stock, net of dividend income, following the return of our investment in ZIOPHARM preferred stock to ZIOPHARM in October 2018. These decreases were partially offset by an increase in interest expense associated with our Convertible Notes issued in July 2018.

**Segment performance**

The following table summarizes Segment Adjusted EBITDA, or segment performance, for the six months ended June 30, 2019 and 2018, for each of our reportable segments.

	Six Months Ended June 30,		Dollar Change	Percent Change
	2019	2018		
	(In thousands)			
Precigen	\$ (14,836)	\$ (12,832)	\$ (2,004)	15.6 %
Methane Bioconversion Platform	(17,214)	(13,867)	(3,347)	24.1 %
Fine Chemicals	1,742	1,893	(151)	(8.0)%
Okanagan	(21,123)	(11,451)	(9,672)	84.5 %
Trans Ova	2,706	(57)	2,763	<(200)%

For a reconciliation of Segment Adjusted EBITDA, which is a non-GAAP financial measure, to net loss before income taxes, see "Notes to the Consolidated Financial Statements (Unaudited) - Note 19" appearing elsewhere in this Quarterly Report.

**Precigen**

Precigen's 2019 amounts are primarily attributable to utilizing its resources on its proprietary cell and gene therapy programs, including initial clinical trial programs. In 2018 amounts include the effects of Precigen's prior collaboration with ZIOPHARM. Additionally, capital expenditures increased in the current period as Precigen expanded its lab facilities in the first quarter of 2019.

**Methane Bioconversion Platform**

In 2019, we have continued to deploy increased resources on not only our platform, but also applications thereof, with our most significant efforts directed towards unpartnered programs where we do not receive reimbursement for work performed.

**Fine Chemicals**

Fine Chemicals' segment performance is comparable period over period as expected as there were no substantive changes in its business operations year over year.

**Okanagan**

In 2019, we invested significantly in the expansion of Okanagan's orchards in an effort to scale the operation for increased production in future years. Okanagan also scaled up its sales and marketing efforts in anticipation of future growth.

*Trans Ova*

Trans Ova incurred lower SG&A expenses in the current period due to reduced legal fees. Capital expenditures also decreased due to the completion of a facility expansion in 2018. These reductions were partially offset by a decrease in product sales and product gross margin.

**Liquidity and capital resources***Sources of liquidity*

We have incurred losses from operations since our inception, and as of June 30, 2019, we had an accumulated deficit of \$1.4 billion. From our inception through June 30, 2019, we have funded our operations principally with proceeds received from private and public equity and debt offerings, cash received from our collaborators, and through product and service sales made directly to customers. As of June 30, 2019, we had cash and cash equivalents of \$58.2 million and short-term investments of \$67.6 million. Cash in excess of immediate requirements is typically invested primarily in money market funds and U.S. government debt securities in order to maintain liquidity and preserve capital.

We currently generate cash receipts primarily from sales of products and services, reimbursement of research and development services performed by us, and from strategic transactions involving our subsidiaries.

*Cash flows*

The following table sets forth the significant sources and uses of cash for the periods set forth below:

	<b>Six Months Ended June 30,</b>	
	<b>2019</b>	<b>2018</b>
	<b>(In thousands)</b>	
<b>Net cash provided by (used in):</b>		
Operating activities	\$ (76,637)	\$ (58,058)
Investing activities	18,565	(20,920)
Financing activities	6,894	88,946
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(418)	381
Net increase (decrease) in cash, cash equivalents, and restricted cash	<u>\$ (51,596)</u>	<u>\$ 10,349</u>

*Cash flows from operating activities:*

During the six months ended June 30, 2019, our net loss was \$101.1 million, which includes the following significant noncash expenses totaling \$35.4 million: (i) \$12.7 million of depreciation and amortization expense, (ii) \$9.1 million of stock-based compensation expense, (iii) \$5.7 million of shares issued as payment for services, (iv) \$4.5 million of accretion of debt discount and amortization of deferred financing costs, and (v) \$3.4 million of equity in net loss of affiliates. These expenses were partially offset by \$5.7 million of noncash net unrealized gains on our equity securities and preferred stock. Additionally, we had an \$8.4 million net increase in our operating assets and liabilities, including the receipt of \$10.0 million cash payment from Surterra Holdings, Inc., as upfront consideration for a collaboration agreement in the second quarter of 2019.

During the six months ended June 30, 2018, our net loss was \$114.2 million, which includes the following significant noncash expenses totaling \$75.5 million: (i) \$20.3 million of noncash net unrealized losses on our equity securities and preferred stock, (ii) \$20.2 million of stock-based compensation expense, (iii) \$16.9 million of depreciation and amortization expense, (iv) \$7.0 million of equity in net loss of affiliates, and (v) \$5.6 million of losses on disposals of long-lived assets, and (vi) \$5.5 million of shares issued as payment for services. These expenses were partially offset by \$9.9 million of noncash dividend income. Additionally, we had a \$5.3 million net increase in our operating assets and liabilities.

Cash outflows from operations increased \$18.6 million over the six months ended June 30, 2018 due to increased expenses primarily for our clinical programs combined with the lack of reimbursement for research and development services we previously received under certain key collaborations which we reacquired in 2018.

*Cash flows from investing activities:*

During the six months ended June 30, 2019, we received net proceeds of \$52.8 million from the maturity of short-term investments and used \$25.4 million for purchases of property, plant and equipment. Additionally, our cash balance decreased \$7.2 million following the deconsolidation of AquaBounty Technologies, Inc., or AquaBounty.

During the six months ended June 30, 2018, we received proceeds of \$6.0 million from the maturity of short-term investments and \$2.6 million from the return of the balance from an investment in an affiliate that was dissolved, and we used \$21.6 million for purchases of property, plant and equipment and \$8.5 million for investments in our JVs.

*Cash flows from financing activities:*

During the six months ended June 30, 2019, we received \$6.6 million in net proceeds from a public financing in March.

During the six months ended June 30, 2018, we received \$88.0 million in net proceeds from public financings in January.

**Future capital requirements**

Our future capital requirements will depend on many factors, including:

- progress in our research and development programs, as well as the magnitude of these programs;
- the timing, receipt and amount of any payments received in connection with strategic transactions;
- the value we receive, or the expenses we are able to reduce, in connection with asset dispositions, if any;
- the timing, receipt and amount of upfront, milestone and other payments, if any, from present and future collaborators, if any;
- the timing, receipt and amount of sales and royalties, if any, from our potential products;
- our ability to maintain or improve the volume and pricing of our current product and service offerings and to develop new offerings, including those that may incorporate new technologies;
- our ability to implement cost reductions;
- costs we might incur to reacquire previously licensed rights for our own development;
- the timing and capital requirements to scale up our various product and service offerings and customer acceptance thereof;
- our ability to maintain and establish additional collaborative arrangements and/or new strategic initiatives;
- the timing of regulatory approval of products of our collaborations and operations;
- the resources, time, and cost required for the preparation, filing, prosecution, maintenance, and enforcement of patent claims;
- investments we may make in current and future collaborators, including JVs;
- strategic mergers and acquisitions, including upfront acquisition costs as well as the cost to integrate, maintain, and expand the strategic target; and
- the costs associated with legal activities, including litigation, arising in the course of our business activities and our ability to prevail in any such legal disputes.

Until such time, if ever, as we can regularly generate positive operating cash flows, we may finance our cash needs through a combination of equity offerings, debt financings, government or other third-party funding, strategic alliances, sales of assets, and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt

securities, the ownership interests of our common shareholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common shareholders. Our current stock price may make it more difficult to pursue equity financings and lead to substantial dilution if the price of our common stock does not increase. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. If we raise additional funds through strategic transactions, collaborations, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates, or to grant licenses on terms that may not be favorable to us.

Our interim unaudited consolidated financial statements as of and for the three and six months ended June 30, 2019 have been prepared on the basis that we will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. Based on our balance of cash, cash equivalents and short-term investments of \$125.8 million at June 30, 2019 and our recurring losses since inception, there is substantial doubt about our ability to continue as a going concern within one year after the date that our interim unaudited consolidated financial statements were issued. Our ability to continue as a going concern will depend on whether we are able to generate positive cash flows through equity or debt financings, partnering, and strategic collaborations, sales of assets, or equity investments in our subsidiaries or platforms, and the continuation of cash revenues from collaborators and customers of our products and services. The interim unaudited consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty, which could have a material adverse effect on our financial condition. In addition, if we are unable to continue as a going concern, we may be unable to meet our obligations under our existing debt facilities, which could result in an acceleration of our obligation to repay all amounts outstanding under those facilities, and we may be forced to liquidate our assets. In such a scenario, the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our interim unaudited consolidated financial statements.

If we do not achieve our planned operating results, including our expectations with respect to partnering, potential asset sales, and cost reductions, our ability to continue as a going concern would be jeopardized and we may need to take the following actions to support our liquidity needs in 2019:

- shift our internal investments from subsidiaries and platforms whose potential for value creation is longer-term to near-term opportunities;
- sell certain of our assets or operating subsidiaries to third parties;
- reduce operating expenditures; and
- reduce or delay capital expenditures, including non-essential facility expansions, lab equipment, and information technology projects.

Implementing this plan could have a negative impact on our ability to continue our business as currently contemplated, including, without limitation, delays or failures in our ability to:

- maintain the diversity of our various portfolio offerings;
- develop and commercialize products within planned timelines or at planned scales; and
- invest in new research and development efforts.

**Contractual obligations and commitments**

The following table summarizes our significant contractual obligations and commitments as of June 30, 2019 and the effects such obligations are expected to have on our liquidity and cash flows in future periods:

	Total	Less Than 1 Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
(In thousands)					
Operating leases	\$ 75,129	\$ 9,952	\$ 19,742	\$ 15,092	\$ 30,343
Purchase commitments	10,384	5,499	4,885	—	—
Convertible debt (1)	255,743	—	55,743	200,000	—
Cash interest payable on convertible debt	28,000	7,000	14,000	7,000	—
Long-term debt, excluding convertible debt	4,570	468	781	706	2,615
Contingent consideration	585	585	—	—	—
<b>Total</b>	<b>\$ 374,411</b>	<b>\$ 23,504</b>	<b>\$ 95,151</b>	<b>\$ 222,798</b>	<b>\$ 32,958</b>

(1) The convertible debt may be converted to Intrexon common stock or to the common stock of one of our subsidiaries. See "Notes to the Consolidated Financial Statements (Unaudited) - Note 11" appearing elsewhere in this Quarterly Report for further discussion of these instruments.

In addition to the obligations in the table above, as of June 30, 2019 we also have the following significant contractual obligations described below.

In conjunction with the formation of our JVs, we committed to making future capital contributions subject to certain conditions and limitations. As of June 30, 2019, our remaining capital contribution commitments to our JVs were \$14.6 million. These future capital contributions are not included in the table above due to the uncertainty of the timing and amounts of such contributions.

We are party to in-licensed research and development agreements with various academic and commercial institutions where we could be required to make future payments for annual maintenance fees as well as for milestones and royalties we might receive upon commercial sales of products that incorporate their technologies. These agreements are generally subject to termination by us and therefore no amounts are included in the tables above. At June 30, 2019, we also had research and development commitments with third parties totaling \$20.4 million that had not yet been incurred.

**Net operating losses**

As of June 30, 2019, we had net operating and capital loss carryforwards of approximately \$516.4 million for U.S. federal income tax purposes available to offset future taxable income, including \$263.9 million generated after 2017, and U.S. federal and state research and development tax credits of approximately \$8.8 million, prior to consideration of annual limitations that may be imposed under Section 382 of the Internal Revenue Code of 1986, as amended, or Section 382. Carryforwards generated prior to 2018 begin to expire in 2022. Our foreign subsidiaries have foreign loss carryforwards of approximately \$162.9 million, most of which do not expire. Excluding certain deferred tax liabilities totaling \$6.3 million, our remaining net deferred tax assets, which primarily relate to these loss carryforwards, are offset by a valuation allowance due to our history of net losses.

As a result of our past issuances of stock, as well as due to prior mergers and acquisitions, certain of our net operating losses have been subject to limitations pursuant to Section 382. As of June 30, 2019, Intrexon has utilized all net operating losses subject to Section 382 limitations, other than those losses inherited via acquisitions. As of June 30, 2019, approximately \$41.9 million of domestic net operating losses were inherited via acquisitions and are limited based on the value of the target at the time of the transaction. Future changes in stock ownership may also trigger an ownership change and, consequently, a Section 382 limitation.

### **Off-balance sheet arrangements**

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, other than purchase commitments as mentioned above, as defined under Securities and Exchange Commission, or SEC, rules.

### **Critical accounting policies and estimates**

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which we have prepared in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions.

There have been no material changes to our critical accounting policies from those described in "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our Annual Report.

### **Recent accounting pronouncements**

For information with respect to recent accounting pronouncements and the impact of these pronouncements on our consolidated financial statements, see "Notes to the Consolidated Financial Statements (Unaudited) - Note 2" appearing elsewhere in this Quarterly Report.

### **Item 3. Quantitative and Qualitative Disclosures About Market Risk**

The following sections provide quantitative information on our exposure to interest rate risk, stock price risk, and foreign currency exchange risk. We make use of sensitivity analyses that are inherently limited in estimating actual losses in fair value that can occur from changes in market conditions.

#### ***Interest rate risk***

We had cash, cash equivalents and short-term investments of \$125.8 million and \$222.5 million as of June 30, 2019 and December 31, 2018, respectively. Our cash and cash equivalents and short-term investments consist of cash, money market funds, U.S. government debt securities, and certificates of deposit. The primary objectives of our investment activities are to preserve principal, maintain liquidity and maximize income without significantly increasing risk. Our investments consist of U.S. government debt securities and certificates of deposit, which may be subject to market risk due to changes in prevailing interest rates that may cause the fair values of our investments to fluctuate. We believe that a hypothetical 100 basis point increase in interest rates would not materially affect the fair value of our interest-sensitive financial instruments and any such losses would only be realized if we sold the investments prior to maturity.

#### ***Investment in a publicly traded company's common stock***

We own shares of common stock in AquaBounty, which is traded on the Nasdaq Stock Market and is subject to market price volatility. Effective in April 2019, we account for our investment in AquaBounty using the fair value option. As such, we record this investment at fair value at the end of each reporting period with the unrealized gain or loss recorded as a separate component of other income (expense), net for the period. The fair value of our investment in AquaBounty as of June 30, 2019 and December 31, 2018, was \$20.0 million and \$16.9 million, respectively. The fair value of this investment is subject to fluctuation in the future due to the volatility of the stock market, changes in general economic conditions and changes in the financial condition of this company. The fair value of our investment in AquaBounty as of June 30, 2019 would be approximately \$22.0 million and \$16.0 million based on a hypothetical 10% increase or 20% decrease, respectively, in the value of this investment. The fair value of our investment in AquaBounty as of December 31, 2018 would be approximately \$18.6 million and \$13.5 million based on a hypothetical 10% increase or 20% decrease, respectively, in the value of this investment.

### ***Foreign currency exchange risk***

We have international subsidiaries in a number of countries, including Belgium, Brazil, Canada, Hungary, and the United Kingdom. These subsidiaries' assets, liabilities, and current revenues and expenses are denominated in their respective foreign currency. We do not hedge our foreign currency exchange rate risk. The effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would not have a material impact on our consolidated financial statements.

### **Item 4. Controls and Procedures**

Pursuant to Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we carried out an evaluation, under supervision and with the participation of our management, including our Chief Executive Officer ("CEO"), who is our principal executive officer, and our Chief Financial Officer ("CFO"), who is our principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined under Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Based upon that evaluation, as of the end of the period covered by this report, our CEO and CFO concluded that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

There has been no change in our internal control over financial reporting during the three months ended June 30, 2019, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.



## PART II. OTHER INFORMATION

### Item 1. Legal Proceedings

In March 2012, Trans Ova was named as a defendant in a licensing and patent infringement suit brought by XY, LLC, or XY, alleging that certain of Trans Ova's sale of semen-sorting products and services breached a 2004 licensing agreement and infringed on patents related to semen sorting that XY allegedly owned. Trans Ova filed a number of counterclaims in the case. The matter proceeded to a jury trial in the United States District Court for the District of Colorado in January 2016. The jury determined that XY and Trans Ova had each breached the licensing agreement and that Trans Ova had infringed XY's patents. In April 2016, the court issued its post-trial order, awarding \$0.5 million in damages to Trans Ova and \$6.1 million in damages to XY. The order also provided Trans Ova with the ability to continue to practice XY's technology, subject to an ongoing royalty obligation of 12.5% of gross proceeds on Trans Ova's standard sorted semen products, plus a 2% enhancement on those products utilizing "reverse-sorted semen", or semen that is frozen before being sorted. In addition, the court assigned a \$5.00 minimum royalty for a straw of sexed semen. Both parties appealed the district court's order. In May 2018, the Court of Appeals for the Federal Circuit denied Trans Ova's appeal of its claims for antitrust, breach of contract, and patent invalidity (except as to one patent, for which the Federal Circuit affirmed invalidity in a separate, same-day ruling in a third-party case). The Federal Circuit remanded the district court's calculation of the ongoing royalty and instructed the district court to re-calculate the ongoing royalty in light of post-verdict economic factors. In March 2019, the district court clarified the royalty base and reset the royalty rates consistent with the Federal Circuit opinion. The district court increased the royalty rate on Trans Ova's standard sorted semen products to 18.75%. For the reverse-sort enhancement, however, it applied a weighted, blended royalty of 12.63% to Trans Ova's entire IVF service cycle that utilizes reverse-sorted semen. The district court also changed the minimum royalty for a straw of sexed semen to \$6.25 for a 2-million cell straw (prorated appropriately for straws of higher cell counts), and assigned a minimum royalty for a sexed embryo at \$6.25 per embryo. The new royalty rates are retroactive to February 2016 (the end date of the trial).

Since the inception of the 2004 licensing agreement, Trans Ova has remitted payments to XY pursuant to the terms of that agreement, or pursuant to the terms of the district court's April 2016 post-trial order, and has recorded these payments in cost of services in the consolidated statements of operations for the respective periods. For the period from inception of the 2004 agreement through the district court's April 2016 order, aggregate royalty and license payments were \$3.2 million, of which \$2.8 million had not yet been deposited by XY. In 2016, we recorded the expense of \$4.2 million, representing the excess of the net damages awarded to XY, including prejudgment interest, over the liability previously recorded by Trans Ova for uncashed checks previously remitted to XY. In August 2016, Trans Ova deposited the net damages amount, including prejudgment interest, into the district court's registry, to be held until the appeals process was complete and final judgment amounts were determined. After the appeal, the district court subsequently released the funds held in its registry to XY in January 2019. As for post-trial damages, Trans Ova continued to remit payment to XY every quarter based on the original ongoing royalty rates set by the district court, though XY refused to cash those checks. Under the district court's March 2019 order clarifying the royalty base and resetting the royalty rates, Trans Ova recalculated royalties owed from February 2016 through the first quarter of 2019, plus any applicable pre- and post-judgment interest, and remitted that payment, totaling \$5.8 million, to XY in May 2019. In June 2019, XY deposited the \$5.8 million into the district court's registry while the parties resolve a dispute over the appropriate calculation of royalties. In that dispute, which is pending before the district court, XY filed a motion claiming over \$1.0 million in additional back royalties. Trans Ova is seeking an oral hearing and contends no additional back royalties are due.

During the three and six months ended June 30, 2019, \$0.3 million and \$0.4 million, respectively, of additional royalty expense was recorded based on the recalculation of royalties owed XY from February 2016 through December 2018 and is included in SG&A expenses on the accompanying consolidated statements of operations appearing elsewhere in this Quarterly Report.

In December 2016, XY filed a complaint for patent infringement, trade secret misappropriation, and various state law claims against Trans Ova in the United States District Court for the Western District of Texas in Waco, Texas. Since the claims in the 2016 complaint directly relate to the parties' other litigation, Trans Ova filed and was granted a motion to transfer the case to Colorado district court. That court subsequently dismissed nine of the complaint's twelve counts, including all five non-patent counts. The court subsequently dismissed another patent count after ruling that the patent was invalid, leaving only two patent counts left in the case. In February 2019, a Wisconsin district court invalidated one of the remaining patents, which XY had asserted against another competitor. That ruling prompted the Colorado district court to stay the two remaining patent counts and enter final judgment against XY's ten other dismissed counts. The 2016 litigation is administratively closed, pending XY's appeal of the district court's rulings dismissing its various patent and non-patent causes of action.

Trans Ova shall continue to utilize the technology consistent with the determinations of the court proceedings. Nonetheless, these disputes remain subject to a number of uncertainties, including the outcome of appellate proceedings, the possibility of further claims by XY, and the impact of these matters on Trans Ova's ability to utilize the technology. Trans Ova and we could elect to enter into a settlement agreement in order to avoid the further costs and uncertainties of litigation.

We may become subject to other claims, assessments, and governmental investigations from time to time in the ordinary course of business. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. We accrue liabilities for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. As of June 30, 2019, we do not believe that any such matters, individually or in the aggregate, will have a material adverse effect on our business, financial condition, results of operations, or cash flows.

#### **Item 1A. Risk Factors**

As disclosed in "Item 1A. Risk Factors" in our Annual Report, there are a number of risks and uncertainties that may have a material effect on the operating results of our business and our financial condition. There are no additional material updates or changes to our risk factors since the filing of our Annual Report, except as follows:

***Our efforts to realign our business may not be successful and could increase our capital requirements, increase our costs, or otherwise harm our operating results and financial condition.***

Consistent with the ongoing evolution of our strategy, we routinely consider ways to organize our business and the grouping of our assets to facilitate strategic opportunities. As a result of these ongoing efforts, in the second quarter of 2019, we announced that we are working to align our operations into two units, Intrexon Health and Intrexon Bioengineering, in an effort to better deploy resources, realize inherent synergies, and position us for growth with a core focus on healthcare. We believe financial discipline with a focus on partnering, potential asset sales, and operating cost reductions will allow us to continue to hold significant operating capital. However, there is no assurance that the new alignment of our business will be successful or achieve these benefits, that our capital requirements and costs will not increase in connection with or as a result of the new alignment, or that we will not otherwise harm our operating results and financial condition. Furthermore, the implementation of this strategy and the evaluation and implementation of any leadership changes, including the recent departure of two of our executive officers, could lead to strategic and operational challenges, distractions of management from other key initiatives, impaired employee relations, inefficiencies or increased costs, any of which could adversely affect our business, financial condition, results of operations and cash flows.

In evaluating our risks, readers also should carefully consider the risk factors discussed in our Annual Report, which could materially affect our business, financial condition or operating results, in addition to the other information set forth in this report and in our other filings with the SEC.

#### **Item 2. Unregistered Sales of Equity Securities and Use of Proceeds**

From April 1, 2019 through June 30, 2019, we issued 839,993 unregistered shares of our common stock as payment under the Services Agreement entered into and effective as of November 1, 2015, as amended, by and between us and Third Security as previously disclosed in our Current Report on Form 8-K filed on April 22, 2019. We issued these shares of common stock in reliance on exemptions from registration under Section 4(a)(2) of the Securities Act.

#### **Item 3. Defaults on Senior Securities**

None.

#### **Item 4. Mine Safety Disclosures**

Not applicable.

#### **Item 5. Other Information**

None.

## Item 6. Exhibits

Exhibit No.	Description
3.1*	<a href="#">Amended and Restated Articles of Incorporation</a> (incorporated by reference to Exhibit 3.1 of Intrexon Corporation's Current Report on Form 8-K, filed with the Securities and Exchange Commission on August 15, 2013).
3.1A*	<a href="#">Articles of Amendment to the Amended and Restated Articles of Incorporation</a> (incorporated by reference to Exhibit 3.2 of Intrexon Corporation's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 9, 2017).
3.1B	<a href="#">Articles of Amendment to the Amended and Restated Articles of Incorporation</a> .
10.1*	<a href="#">Intrexon Corporation 2013 Amended and Restated Omnibus Incentive Plan, as amended, Restricted Stock Unit Agreement, by and between Intrexon Corporation and Randal J. Kirk, effective April 1, 2019</a> (incorporated by reference to Exhibit 10.1 to Intrexon Corporation's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 9, 2019).
10.2*	<a href="#">Form of Continuing Employment Agreement</a> (incorporated by reference to Exhibit 10.2 to Intrexon Corporation's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 9, 2019).
10.3*	<a href="#">Fourth Amendment to Services Agreement, by and between Intrexon Corporation and Third Security, LLC, dated as of April 19, 2019</a> (incorporated by reference to Exhibit 10.3 to Intrexon Corporation's Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 9, 2019).
10.4*	<a href="#">Amendment to the Intrexon Corporation Amended and Restated 2013 Omnibus Incentive Plan, as amended, effective as of June 12, 2019</a> (incorporated by reference to Exhibit 10.1 to Intrexon Corporation's Current Report on Form 8-K, filed with the Securities and Exchange Commission on June 12, 2019).
10.5	<a href="#">Intrexon Corporation 2019 Incentive Plan for Non-Employee Service Providers, effective as of June 12, 2019</a> .
31.1	<a href="#">Certification of Randal J. Kirk, Chairman and Chief Executive Officer (Principal Executive Officer) of Intrexon Corporation, pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a> .
31.2	<a href="#">Certification of Rick L. Sterling, Chief Financial Officer (Principal Financial Officer) of Intrexon Corporation, pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a> .
32.1**	<a href="#">Certification of Randal J. Kirk, Chairman and Chief Executive Officer (Principal Executive Officer) of Intrexon Corporation, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a> .
32.2**	<a href="#">Certification of Rick L. Sterling, Chief Financial Officer (Principal Financial Officer) of Intrexon Corporation, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a> .
101.0	Interactive Data File (Quarterly Report on Form 10-Q, for the quarterly period ended June 30, 2019, formatted in Inline XBRL (eXtensible Business Reporting Language)).  Attached as Exhibit 101.0 to this Quarterly Report on Form 10-Q are the following documents formatted in XBRL: (i) the Consolidated Balance Sheets as of June 30, 2019 and December 31, 2018, (ii) the Consolidated Statements of Operations for the three and six months ended June 30, 2019 and 2018, (iii) the Consolidated Statements of Comprehensive Loss for the three and six months ended June 30, 2019 and 2018, (iv) the Consolidated Statements of Shareholders' and Total Equity for the three and six months ended June 30, 2019 and 2018, (v) the Consolidated Statements of Cash Flows for the six months ended June 30, 2019 and 2018, and (vi) the Notes to the Consolidated Financial Statements.

\* Previously filed.

\*\* Furnished herewith.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

**Intrexon Corporation**

(Registrant)

Date: August 9, 2019

By: /s/ Rick L. Sterling

Rick L. Sterling

*Chief Financial Officer*

(Principal Financial and Accounting Officer)

**ARTICLES OF AMENDMENT  
OF  
AMENDED AND RESTATED ARTICLES OF INCORPORATION  
OF  
INTREXON CORPORATION**

The undersigned, on behalf of the corporation set forth below, pursuant to Title 13.1, Chapter 9, Article 11 of the Code of Virginia, states as follows:

1. The name of the corporation is Intrexon Corporation (the “Corporation”).
2. The Amended and Restated Articles of Incorporation of the Corporation, as amended to date, are hereby amended by replacing Article III.B in its entirety with the following:  
“The aggregate number of shares that the Corporation shall have authority to issue shall be 25,000,000 shares of Preferred Stock, no par value per share (hereinafter called “Preferred Stock”), and 400,000,000 shares of Common Stock, no par value per share (hereinafter called “Common Stock”).”
3. The foregoing amendment (the “Amendment”) was adopted on June 12, 2019.
4. The Amendment was proposed by the board of directors of the Corporation (the “Board of Directors”) and submitted to the shareholders in accordance with the provisions of Title 13.1, Chapter 9 of the Code of Virginia. Only holders of shares of the Common Stock of the Corporation on April 16, 2019, the record date fixed by the Board of Directors (the “Record Date”), were entitled to vote on the Amendment. The number of shares of Common Stock outstanding on the Record Date, the number of votes entitled to be cast on the Amendment, and the total number of votes cast for and against the Amendment were as follows:

Shares of Common Stock outstanding:	160,720,471
Votes entitled to be cast:	160,720,471
Votes for:	141,106,139
Votes against:	8,480,871

The number of votes cast for the Amendment by the holders of shares of Common Stock was sufficient for approval.

*[Signature page follows]*

IN WITNESS WHEREOF, the undersigned has caused these Articles of Amendment to be executed in the name of the Corporation as of this 11th day of July, 2019.

INTREXON CORPORATION

By: /s/ Donald P. Lehr  
Name: Donald P. Lehr  
Title: Chief Legal Officer

SCC ID 06154801

INTREXON CORPORATION

2019 INCENTIVE PLAN FOR NON-EMPLOYEE SERVICE PROVIDERS

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**ARTICLE I.**  
**DEFINITIONS**

**1.01 409A Award**

409A Award means an Award that is intended to be subject to Section 409A of the Code.

**1.02 Affiliate**

Affiliate means any entity that is part of a controlled group of corporations or is under common control with the Company within the meaning of Code Sections 1563(a), 414(b) or 414(c), except that, in making any such determination, fifty percent (50%) shall be substituted for eighty percent (80%) under such Code Sections and the related regulations.

**1.03 Agreement**

Agreement means a written or electronic agreement (including any amendment or supplement thereto) between the Company and a Participant specifying the terms and conditions of an Award granted to such Participant.

**1.04 Award**

Award means an Option, SAR, Restricted Stock Award, Restricted Stock Unit, Incentive Award, Other Stock-Based Award, Dividend Equivalent or Cash Award granted under this Plan.

**1.05 Board**

Board means the Board of Directors of the Company.

**1.06 Cash Award**

Cash Award means an Award stated with reference to a specified dollar amount which, subject to such terms and conditions as may be prescribed by the Committee, entitles the Participant to receive cash from the Company or an Affiliate.

**1.07 Cause**

Cause means "Cause" as such term is defined in any service agreement between the Company or any Affiliate and the Participant except as otherwise determined by the Committee and set forth in the applicable Agreement. If no service agreement exists or if such service agreement does not contain any such definition, except as otherwise determined by the Committee and set forth in the applicable Agreement, "Cause" means (i) the Participant's willful and continued failure to comply with the lawful directives of the Board or any supervisory personnel of the Participant; (ii) any criminal act or act of dishonesty or willful misconduct by the Participant that has a material adverse effect on the property, operations, business or reputation of the Company or any Affiliate (willful for purposes of this definition, shall mean done, or omitted to be done, by the Participant in bad faith and without reasonable belief that the Participant's action or omission was in the best interest of the Company or any Affiliate); (iii) the material breach by the Participant of the terms of any confidentiality, non-competition, non-solicitation or other agreement that the Participant has with the Company or any Affiliate or of any duty the Participant owes the Company or any Affiliate, (iv) acts by the Participant of willful malfeasance or gross negligence in a matter of material importance to the Company or any Affiliate, (v) any act of fraud, embezzlement, theft, misappropriation or misuse by the Participant of the funds or property of the Company or any Affiliate, (vi) any falsification by the Participant of any record or report in connection with the Participant's duties and obligations to the Company or any Affiliate, (vii) the Participant's sexual harassment of any service providers of the Company or any Affiliate, (viii) the breach by the Participant of any fiduciary duty against the Company or any Affiliate, (ix) the Participant being indicted for a felony that has a material adverse effect on the property, operations, business or reputation of the Company or any Affiliate or being convicted of any other felony or plea of guilty or nolo contendere to any other felony or (x) any other action that may damage the image of the Company's or an Affiliate's

business or their or its standing in the industry, including but not limited to the possession, use or sale of illegal drugs, the abuse of alcohol or prescribed medication, or any other act or omission which the Company or an Affiliate considers to be a violation of Federal, state or local law or regulations other than a simple traffic violation. For purposes of the Plan, other than where the definition of Cause is determined under any service agreement between the Company or any Affiliate and the Participant, in which case such service agreement shall control, in no event shall any termination of service be deemed for Cause unless the Company's Chief Executive Officer concludes that the situation warrants a determination that the Participant's service terminated for Cause; in the case of the Chief Executive Officer or any member of the Board, any determination that the Chief Executive Officer's employment or the Board member's service terminated for Cause shall be made by the Board acting without the Chief Executive Officer or the Board member, as applicable.

#### **1.08 Change in Control**

Change in Control means the occurrence of any of the following events except as otherwise determined by the Committee and set forth in the applicable Agreement:

(a) The accumulation in any number of related or unrelated transactions by any Person of beneficial ownership (as such term is used in Rule 13d-3 promulgated under the Exchange Act) of more than fifty percent (50%) of the combined voting power of the Company's voting stock; provided that for purposes of this subsection (a), a Change in Control will not be deemed to have occurred if the accumulation of more than fifty percent (50%) of the voting power of the Company's voting stock results from any acquisition of voting stock (i) directly from the Company that is approved by the Incumbent Board, (ii) by the Company, (iii) by any employee benefit plan (or related trust) sponsored or maintained by the Company or any Affiliate, or (iv) by any Person pursuant to a merger, consolidation, reorganization or other transaction (a "Business Combination") that would not cause a Change in Control under subsections (b), (c) or (d) below; or

(b) Consummation of a Business Combination, unless, immediately following that Business Combination, (i) all or substantially all of the Persons who were the beneficial owners of the voting stock of the Company immediately prior to that Business Combination beneficially own, directly or indirectly, more than fifty percent (50%) of the then outstanding shares of common stock and more than fifty percent (50%) of the combined voting power of the then outstanding voting stock entitled to vote generally in the election of directors of the entity resulting from that Business Combination (including, without limitation, an entity that as a result of that Business Combination owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) in substantially the same proportions relative to each other as their ownership, immediately prior to that Business Combination, of the voting stock of the Company, or

(c) A sale or other disposition of all or substantially all of the assets of the Company, except pursuant to a Business Combination that would not cause a Change in Control under subsections (b) above or (d) below; or

(d) Approval by the shareholders of the Company of a complete liquidation or dissolution of the Company, except pursuant to a Business Combination that would not cause a Change in Control under subsections (b) and (c) above; or

(e) The acquisition by any Person, directly or indirectly, of the power to direct or cause the direction of the management and policies of the Company (i) through the ownership of securities which provide the holder with such power, excluding voting rights attendant with such securities, or (ii) by contract; provided that a Change in Control will not be deemed to have occurred if such power was acquired (x) directly from the Company in a transaction approved by the Incumbent Board, (y) by an employee benefit plan (or related trust) sponsored or maintained by the Company or any Affiliate or (z) by any person pursuant to a Business Combination that would not cause a Change in Control under subsections (b), (c) or (d) above; or

(f) During any period of two consecutive years, the Incumbent Board ceases to constitute a majority of the Board.

Notwithstanding the foregoing, a Change in Control shall not include any accumulation of beneficial ownership or any Business Combination pursuant to which more than fifty percent (50%) of the beneficial ownership of the combined voting power of the Company's voting stock is owned by (i) Randal J. Kirk, his spouse, his descendants and the spouses of his descendants, (ii) trusts and other entities established generally for the benefit of Randal J. Kirk, his spouse, his descendants and the spouses of his descendants, (iii) NEWVA Capital Partners, LP, New River Management IV, LP, New River Management V, LP, Kirkfield, L.L.C., RJK, L.L.C., Third Security Staff 2001 LLC and any related funds, investors or entities, and/or (iv) any entities established by any of the foregoing.

Notwithstanding the foregoing, a Change in Control shall only be deemed to have occurred with respect to a Participant in connection with the time or form of payment of the Participant's 409A Award (or as otherwise required for the 409A Award to be in compliance with Section 409A of the Code) if the Change in Control otherwise constitutes a change in the ownership or effective control of the Company, or in the ownership of a substantial portion of the assets of the Company, within the meaning of Section 409A of the Code (otherwise, with respect to vesting of the 409A Award and any other terms of the 409A Award that do not require a Change in Control to comply with its meaning under Section 409A of the Code for the 409A Award to be in compliance with Section 409A of the Code, Change in Control shall have the same meaning as described above).

**1.09 Code**

Code means the Internal Revenue Code of 1986 and any amendments thereto.

**1.10 Committee**

Committee means the Compensation Committee of the Board or such other Committee as the Board may appoint from time to time to administer the Plan, or the Board itself if no Compensation Committee or other appointed Committee exists. If such Compensation Committee or other Committee exists, if and to the extent deemed necessary by the Board, such Committee shall consist of two or more directors, all of whom are (i) "non-employee directors" within the meaning of Rule 16b-3 under the Exchange Act and (ii) independent directors under the rules of the principal stock exchange on which the Company's securities are then traded.

**1.11 Common Stock**

Common Stock means the common stock of the Company, no par value per share, or such other class or kind of shares or other securities resulting from the application of Article XVI, as applicable.

**1.12 Company**

Company means Intrexon Corporation, a Virginia corporation, and any successor thereto.

**1.13 Control Change Date**

Control Change Date means the date on which a Change in Control occurs. If a Change in Control occurs on account of a series of transactions, the "Control Change Date" is the date of the last of such transactions.

**1.14 Corresponding SAR**

Corresponding SAR means a SAR that is granted in relation to a particular Option and that can be exercised only upon the surrender to the Company, unexercised, of that portion of the Option to which the SAR relates.

**1.15 Disability**

Disability means any physical or mental condition that would qualify the Participant for a disability under any long-term disability plan maintained by the Company or any Affiliate that is applicable to such Participant, except as otherwise determined by the Committee and set forth in the applicable Agreement. Notwithstanding the foregoing, however, to the extent necessary for any 409A Award to be in compliance with Section 409A of the Code, Disability, with respect to the time or form of payment of a Participant's 409A Award (or as otherwise required for the 409A Award

to be in compliance with Section 409A of the Code), means the Participant is Disabled within the meaning of Section 409A of the Code.

**1.16 Dividend Equivalent**

Dividend Equivalent means the right, granted under the Plan, to receive cash, shares of Common Stock, other Awards or other property equal in value to all or a specified portion of dividends paid with respect to a specified number of shares of Common Stock.

**1.17 Exchange Act**

Exchange Act means the Securities Exchange Act of 1934, as amended.

**1.18 Fair Market Value**

Fair Market Value of a share of Common Stock means, on any given date, the fair market value of a share of Common Stock as the Committee, in its discretion, shall determine; provided, however, that the Committee shall determine Fair Market Value without regard to any restriction other than a restriction which, by its terms, will never lapse and, if the shares of Common Stock are traded on any national stock exchange or quotation system, the Fair Market Value of a share of Common Stock shall be the closing price of a share of Common Stock as reported on such stock exchange or quotation system on such date, or if the shares of Common Stock are not traded on such stock exchange or quotation system on such date, then on the next preceding day that the shares of Common Stock were traded on such stock exchange or quotation system, all as reported by such source as the Committee shall select. The Fair Market Value that the Committee determines shall be final, binding and conclusive on the Company, any Affiliate and each Participant. Fair Market Value relating to the exercise price, Initial Value, or purchase price of any Non-409A Award that is an Option, SAR or Other Stock-Based Award in the nature of purchase rights shall conform to the requirements for exempt stock rights under Section 409A of the Code.

**1.19 Full Value Award**

Full Value Award means an Award other than an Option, SAR or Other Stock-Based Award in the nature of purchase rights.

**1.20 Incentive Award**

Incentive Award means an Award stated with reference to a specified dollar amount or number of shares of Common Stock which, subject to such terms and conditions as may be prescribed by the Committee, entitles the Participant to receive shares of Common Stock, cash or a combination thereof from the Company or an Affiliate.

**1.21 Incumbent Board**

Incumbent Board means a Board of Directors at least a majority of whom consist of individuals who either are (a) members of the Company's Board at the beginning of any period of two consecutive years or (b) members who become members of the Company's Board subsequent to such time whose election, or nomination for election by the Company's shareholders, was approved by a vote of at least two-thirds (2/3) of the directors then comprising the Incumbent Board (either by a specific vote or by approval of the proxy statement of the Company in which that person is named as a nominee for director, without objection to that nomination), but excluding, for that purpose, any individual whose initial assumption of office occurs as a result of an actual or threatened election contest (within the meaning of Rule 14a-11 of the Exchange Act) with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board of Directors.

**1.22 Initial Value**

Initial Value means, with respect to a Corresponding SAR, the Option price per share of the related Option and, with respect to a SAR granted independently of an Option, the amount determined by the Committee on the date

of grant which shall not be less than the Fair Market Value of one share of Common Stock on the date of grant, subject to Sections 14.06 and 16.03 with respect to substitute Awards

**1.23 Non-409A Award**

Non-409A Award means an Award that is not intended to be subject to Section 409A of the Code.

**1.24 Option**

Option means a stock option that entitles the holder to purchase from the Company a stated number of shares of Common Stock at the price set forth in an Agreement.

**1.25 Other Stock-Based Award**

Other Stock-Based Award means an Award granted to the Participant under Article XII of the Plan.

**1.26 Participant**

Participant means a member of the Board or Board of Directors of an Affiliate (who is not an employee), a Person who provides services to the Company or an Affiliate in a capacity other than as an employee and any entity which is a wholly-owned alter ego of such member of the Board or Board of Directors of an Affiliate or Person who provides services and who satisfies the requirements of Article V and is selected by the Committee to receive an Award.

**1.27 Plan**

Plan means this Intrexon Corporation 2019 Incentive Plan for Non-Employee Service Providers, in its current form and as hereafter amended.

**1.28 Person**

Person means any individual, corporation, partnership, limited liability company, joint venture, incorporated or unincorporated association, joint-stock company, trust, unincorporated organization or government or other agency or political subdivision thereof or any other entity of any kind.

**1.29 Restricted Stock Award**

Restricted Stock Award means shares of Common Stock granted to a Participant under Article IX.

**1.30 Restricted Stock Unit**

Restricted Stock Unit means an Award, stated with respect to a specified number of shares of Common Stock, that entitles the Participant to receive one share of Common Stock (or, as otherwise determined by the Committee and set forth in the applicable Agreement, the equivalent Fair Market Value of one share of Common Stock in cash) with respect to each Restricted Stock Unit that becomes payable under the terms and conditions of the Plan and the applicable Agreement.

**1.31 Retirement**

Retirement means the termination of Participant's service with the Company and its Affiliates on or after (i) attaining age sixty-five (65) or (ii) attaining age fifty-five (55) and accumulating ten (10) years of service, except as otherwise determined by the Committee and set forth in the applicable Agreement. For this purpose, years of service shall be determined in accordance with the Company's written policies as determined by the Committee.

**1.32 SAR**

SAR means a stock appreciation right that in accordance with the terms of an Agreement entitles the holder to receive cash or a number of shares of Common Stock, as determined by the Committee and set forth in the applicable



Agreement, based on the increase in the Fair Market Value of the shares underlying the stock appreciation right during a stated period specified by the Committee over the Initial Value. References to "SARs" include both Corresponding SARs and SARs granted independently of Options, unless the context requires otherwise.

**1.33 Termination Date**

Termination Date means the day on which a Participant's service with the Company and its Affiliates terminates or is terminated.

**ARTICLE II.**  
**PURPOSES**

The Plan is intended to assist the Company and its Affiliates in recruiting and retaining individuals with ability and initiative by enabling such Persons to participate in the future success of the Company and its Affiliates by aligning their interests with those of the Company and its stockholders.

**ARTICLE III.**  
**TYPES OF AWARDS**

The Plan is intended to permit the grant of Options that are nonqualified stock options, SARs, Restricted Stock Awards, Restricted Stock Units, Incentive Awards, Other Stock-Based Awards, Dividend Equivalents and Cash Awards in accordance with the Plan and procedures that may be established by the Committee. The proceeds received by the Company from the sale of shares of Common Stock pursuant to this Plan may be used for general corporate purposes.

**ARTICLE IV.**  
**ADMINISTRATION**

**4.01 General Administration**

The Plan shall be administered by the Committee. The Committee shall have authority to grant Awards upon such terms (not inconsistent with the provisions of this Plan) as the Committee may consider appropriate. Such terms may include conditions (in addition to those contained in this Plan) on the grant, exercisability, transferability, settlement and forfeitability of all or any part of an Award, among other terms. Notwithstanding any such conditions, the Committee may, in its discretion, accelerate the time at which any Award may be exercised, become transferable or nonforfeitable or be earned and settled including, without limitation, (i) in the event of the Participant's death, Disability, Retirement or involuntary termination of service (including a voluntary termination of service for good reason) or (ii) in connection with a Change in Control. In addition, the Committee shall have complete authority to interpret all provisions of this Plan including, without limitation, the discretion to interpret any terms used in the Plan that are not defined herein; to prescribe the form of Agreements; to adopt, amend and rescind rules and regulations pertaining to the administration of the Plan; and to make all other determinations necessary or advisable for the administration of this Plan. The express grant in the Plan of any specific power to the Committee shall not be construed as limiting any power or authority of the Committee. Any decision made, or action taken, by the Committee in connection with the administration of this Plan shall be final and conclusive. The members of the Committee shall not be liable for any act done in good faith with respect to this Plan or any Agreement or Award. Unless otherwise provided by the Bylaws of the Company, by resolution of the Board or applicable law, a majority of the members of the Committee shall constitute a quorum, and acts of the majority of the members present at any meeting at which a quorum is present, and any acts approved in writing by all members of the Committee without a meeting, shall be the acts of the Committee.

**4.02 Delegation of Authority**

The Committee may act through subcommittees, in which case the subcommittee shall be subject to and have the authority hereunder applicable to the Committee, and the acts of the subcommittee shall be deemed to be the acts of the Committee hereunder. Additionally, to the extent applicable law so permits, the Committee, in its discretion, may delegate to one or more officers of the Company all or part of the Committee's authority and duties with respect to Awards to be granted to individuals who are not subject to the reporting and other provisions of Section 16 of the Exchange Act and who are not members of the Board or the Board of Directors of an Affiliate. The Committee may

revoke or amend the terms of any delegation at any time but such action shall not invalidate any prior actions of the Committee's delegate or delegates that were consistent with the terms of the Plan and the Committee's prior delegation. Notwithstanding the foregoing, however, if and to the extent deemed necessary by the Board, all Awards granted to any individual who is subject to the reporting and other provisions of Section 16 of the Exchange Act shall be made by a Committee comprised solely of two or more directors, all of whom are "non-employee directors" within the meaning of Rule 16b-3 under the Exchange Act, to the extent necessary to exempt the Award from the short-swing profit rules of Section 16(b) of the Exchange Act. However, any Awards granted to any individual who is subject to the reporting and other provisions of Section 16 of the Exchange Act shall not fail to be valid if made other than by a committee comprised solely of two or more directors, all of whom are "non-employee directors" within the meaning of Rule 16(b)-3 under the Exchange Act. An Award granted to an individual who is a member of the Committee may be approved by the Committee in accordance with the applicable Committee charters then in effect and other applicable law except that the Committee member must abstain from any action with respect to the Committee member's own Awards.

#### **4.03 Indemnification of Committee**

The Company shall bear all expenses of administering this Plan. The Company shall indemnify and hold harmless each Person who is or shall have been a member of the Committee acting as administrator of the Plan, or any delegate of such, against and from any cost, liability, loss or expense that may be imposed upon or reasonably incurred by such Person in connection with or resulting from any action, claim, suit or proceeding to which such Person may be a party or in which such Person may be involved by reason of any action taken or not taken under the Plan and against and from any and all amounts paid by such Person in settlement thereof, with the Company's approval, or paid by such Person in satisfaction of any judgment in any such action, suit or proceeding against such Person, provided he or she shall give the Company an opportunity, at its own expense, to handle and defend the same before he or she undertakes to handle and defend it on his or her own behalf. Notwithstanding the foregoing, the Company shall not indemnify and hold harmless any such Person if applicable law or the Company's Certificate of Incorporation or Bylaws prohibit such indemnification. The foregoing right of indemnification shall not be exclusive of any other rights of indemnification to which such Persons may be entitled under the Company's Certificate of Incorporation or Bylaws, as a matter of law or otherwise, or under any other power that the Company may have to indemnify such Person or hold him or her harmless. The provisions of the foregoing indemnity shall survive indefinitely the term of this Plan.

#### **ARTICLE V.** **ELIGIBILITY**

Any member of the Board or the Board of Directors of an Affiliate (including an entity that becomes an Affiliate after the adoption of the Plan) (who is not an employee), any Person who provides services to the Company or an Affiliate (including an entity that becomes an Affiliate after the adoption of the Plan) in a capacity other than as an employee and any entity which is a wholly-owned alter ego of such member of the Board or Board of Directors of an Affiliate or other Person who provides services is eligible to participate in this Plan if the Committee, in its sole discretion, determines that such Person or entity has contributed significantly or can be expected to contribute significantly to the profits or growth of the Company or any Affiliate or if it is otherwise in the best interest of the Company or any Affiliate for such Person or entity to participate in this Plan. With respect to any Board member who is (i) designated or nominated to serve as a Board member by a stockholder of the Company and (ii) an employee of such stockholder of the Company, then, at the irrevocable election of the employing stockholder, the Person or entity who shall be eligible to participate in this Plan on behalf of the service of the respective Board member shall be the employing stockholder (or one of its Affiliates). To the extent such election is made, the respective Board member shall have no rights hereunder as a Participant with respect to such Board member's participation in this Plan. An Award may be granted to a Person or entity who has been offered service by the Company or an Affiliate and who would otherwise qualify as eligible to receive the Award to the extent that Person or entity commences service with the Company or an Affiliate, provided that such Person or entity may not receive any payment or exercise any right relating to the Award, and the grant of the Award will be contingent, until such Person or entity has commenced service with the Company or an Affiliate.

**ARTICLE VI.**  
**COMMON STOCK SUBJECT TO PLAN**

**6.01 Common Stock Issued**

Upon the issuance of shares of Common Stock pursuant to an Award, the Company may deliver to the Participant (or the Participant's broker if the Participant so directs) shares of Common Stock from its authorized but unissued Common Stock, treasury shares or reacquired shares, whether reacquired on the open market or otherwise.

**6.02 Aggregate Limit**

The maximum aggregate number (the "Maximum Aggregate Number") of shares of Common Stock which may be subject to Awards under this Plan is [5,000,000] shares of Common Stock.

The Maximum Aggregate Number of shares of Common Stock that may be subject to Awards under the Plan may be subject to Options.

The Maximum Aggregate Number of shares of Common Stock that may be subject to Awards under the Plan and the maximum number of shares of Common Stock that may be subject to Options under the Plan shall, in each instance, be subject to adjustment as provided in Article XVI, provided, however, that (i) substitute Awards granted under Section 16.03 shall not reduce the Maximum Aggregate Number of shares of Common Stock that may be subject to Awards under the Plan (to the extent permitted by applicable stock exchange rules) and (ii) available shares of stock under a stockholder-approved plan of an acquired company (as appropriately adjusted to reflect the transaction) also may be used for Awards under the Plan and shall not reduce the Maximum Aggregate Number of shares of Common Stock that may be subject to Awards under the Plan (subject to applicable stock exchange requirements).

**6.03 Share Counting**

Except as set forth below, a share of Common Stock subject to any Award under this Plan shall reduce the Maximum Aggregate Number of shares of Common Stock available for Awards under this Plan, and the maximum number of shares of Common Stock available for Options under this Plan, by one. Except as otherwise provided herein, (i) any shares of Common Stock subject to an Award granted under this Plan which terminates by expiration, forfeiture, cancellation or otherwise, which is settled in cash in lieu of Common Stock or which is exchanged, with the Committee's permission, for Awards granted under this Plan not involving shares of Common Stock, (ii) shares of Common Stock not issued or delivered as a result of the net exercise or settlement of an outstanding Award granted under this Plan, (iii) shares of Common Stock tendered to pay the exercise or purchase price or withholding taxes relating to an outstanding Award granted under this Plan, (iv) shares of Common Stock repurchased on the open market with the proceeds of the exercise or purchase price of an Award granted under this Plan, and (v) shares of Common Stock under a stock-settled SAR that are not actually issued in connection with settlement of the stock-settled SAR, shall all again be available for Awards under the Plan.

**ARTICLE VII.**  
**OPTIONS**

**7.01 Grant**

Subject to the eligibility provisions of Article V, the Committee will designate each individual or entity to whom an Option is to be granted and will specify the number of shares of Common Stock covered by such grant and that the Option is a nonqualified stock option. An Option may be granted with or without a Corresponding SAR.

**7.02 Option Price**

The price per share of Common Stock purchased on the exercise of an Option shall be determined by the Committee on the date of grant, but shall not be less than the Fair Market Value of a share of Common Stock on the date the Option is granted, subject to Sections 14.06 and 16.03 with respect to substitute Awards.

**7.03 Maximum Term of Option**

The maximum time period in which an Option may be exercised shall be determined by the Committee on the date of grant, except that no Option shall be exercisable after the expiration of ten (10) years from the date such Option was granted.

**7.04 Exercise**

Subject to the provisions of this Plan and the applicable Agreement, an Option may be exercised in whole at any time or in part from time to time at such times and in compliance with such requirements as the Committee shall determine. An Option granted under this Plan may be exercised with respect to any number of whole shares less than the full number for which the Option could be exercised. A partial exercise of an Option shall not affect the right to exercise the Option from time to time in accordance with this Plan and the applicable Agreement with respect to the remaining shares subject to the Option. The exercise of an Option shall result in the termination of the Corresponding SAR to the extent of the number of shares with respect to which the Option is exercised.

**7.05 Payment**

Subject to rules established by the Committee and unless otherwise provided in an Agreement, payment of all or part of the Option price shall be made in cash or cash equivalent acceptable to the Committee. If the Agreement so provides, the Committee, in its discretion and provided applicable law so permits, may allow a Participant to pay all or part of the Option price (a) by surrendering (actually or by attestation) shares of Common Stock to the Company that the Participant already owns; (b) by a cashless exercise through a broker; (c) by means of a "net exercise" procedure by the surrender of shares of Common Stock to which the Participant is otherwise entitled under the Option; (d) by such other medium of payment as the Committee, in its discretion, shall authorize; or (e) by any combination of the aforementioned methods of payment. If shares of Common Stock are used to pay all or part of the Option price, the sum of the cash and cash equivalent and the Fair Market Value (determined as of the day preceding the date of exercise) of the shares surrendered must not be less than the Option price of the shares for which the Option is being exercised.

**7.06 Stockholder Rights**

No Participant shall have any rights as a stockholder with respect to shares subject to his or her Option until the date of exercise of such Option and the issuance of the shares of Common Stock.

**ARTICLE VIII.  
SARS**

**8.01 Grant**

Subject to the eligibility provisions of Article V, the Committee will designate each individual or entity to whom SARs are to be granted and will specify the number of shares of Common Stock covered by such grant.

**8.02 Maximum Term of SAR**

The maximum term of a SAR shall be determined by the Committee on the date of grant, except that no SAR shall have a term of more than ten (10) years from the date such SAR was granted. No Corresponding SAR shall be exercisable or continue in existence after the expiration of the Option to which the Corresponding SAR relates.

**8.03 Exercise**

Subject to the provisions of this Plan and the applicable Agreement, a SAR may be exercised in whole at any time or in part from time to time at such times and in compliance with such requirements as the Committee shall determine; provided, however, that a SAR may be exercised only when the Fair Market Value of the Common Stock that is subject to the exercise exceeds the Initial Value of the SAR and a Corresponding SAR may be exercised only to the extent that the related Option is exercisable. A SAR granted under this Plan may be exercised with respect to any number of whole shares less than the full number for which the SAR could be exercised. A partial exercise of a

SAR shall not affect the right to exercise the SAR from time to time in accordance with this Plan and the applicable Agreement with respect to the remaining shares subject to the SAR. The exercise of a Corresponding SAR shall result in the termination of the related Option to the extent of the number of shares with respect to which the SAR is exercised.

**8.04 Settlement**

The amount payable to the Participant by the Company as a result of the exercise of a SAR shall be settled in cash, by the issuance of shares of Common Stock or by a combination thereof, as the Committee, in its sole discretion, determines and sets forth in the applicable Agreement. No fractional share will be deliverable upon the exercise of a SAR but a cash payment will be made in lieu thereof.

**8.05 Stockholder Rights**

No Participant shall, as a result of receiving a SAR, have any rights as a stockholder of the Company or any Affiliate until the date that the SAR is exercised and then only to the extent that the SAR is settled by the issuance of Common Stock.

**ARTICLE IX.  
RESTRICTED STOCK AWARDS**

**9.01 Award**

Subject to the eligibility provisions of Article V, the Committee will designate each individual or entity to whom a Restricted Stock Award is to be granted, and will specify the number of shares of Common Stock covered by such grant and the price, if any, to be paid for each share of Common Stock covered by the grant.

**9.02 Payment**

Unless the Agreement provides otherwise, if the Participant must pay for a Restricted Stock Award, payment of the Award shall be made in cash or cash equivalent acceptable to the Committee. If the Agreement so provides, the Committee, in its discretion and provided applicable law so permits, may allow a Participant to pay all or part of the purchase price (i) by surrendering (actually or by attestation) shares of Common Stock to the Company the Participant already owns and, if necessary to avoid adverse accounting consequences, has held for at least six months, (ii) by means of a "net exercise procedure" by the surrender of shares of Common Stock to which the Participant is otherwise entitled under the Restricted Stock Award, (iii) by such other medium of payment as the Committee in its discretion shall authorize or (iv) by any combination of the foregoing methods of payment. If Common Stock is used to pay all or part of the purchase price, the sum of cash and cash equivalent and other payments and the Fair Market Value (determined as of the day preceding the date of purchase) of the Common Stock surrendered must not be less than the purchase price of the Restricted Stock Award. A Participant's rights in a Restricted Stock Award may be subject to repurchase upon specified events as determined by the Committee and set forth in the Agreement.

**9.03 Vesting**

The Committee, on the date of grant of the Restricted Stock Award, shall prescribe that the Restricted Stock Award will become nonforfeitable and transferable subject to such conditions as are set forth in the Agreement. Notwithstanding any provision herein to the contrary, the Committee, in its sole discretion, may grant Restricted Stock Awards that are nonforfeitable and transferable immediately upon grant, including without limitation Restricted Stock Awards granted in payment of earned performance awards or other incentive compensation under the Plan or any other plans or compensatory arrangements of the Company or any Affiliate. By way of example and not of limitation, the Committee may prescribe that a Participant's rights in a Restricted Stock Award shall be forfeitable and nontransferable subject to (a) the attainment of objectively determinable performance conditions based on the criteria described in Article XV, (b) the Participant's completion of a specified period of service with the Company or an Affiliate, (c) the Participant's death, Disability or Retirement or (d) satisfaction of a combination of any of the foregoing factors. A Restricted Stock Award can only become nonforfeitable and transferable during the Participant's lifetime in the hands of the Participant.

#### **9.04 Maximum Restriction Period**

To the extent the Participant's rights in a Restricted Stock Award are forfeitable and nontransferable for a period of time, the Committee on the date of grant shall determine the maximum period over which the rights may become nonforfeitable and transferable, except that such period shall not exceed ten (10) years from the date of grant.

#### **9.05 Stockholder Rights**

Prior to their forfeiture (in accordance with the applicable Agreement and while the shares of Common Stock granted pursuant to the Restricted Stock Award may be forfeited and are nontransferable), a Participant will have all rights of a stockholder with respect to a Restricted Stock Award, including the right to receive dividends and vote the shares; provided, however, that during such period (a) a Participant may not sell, transfer, pledge, exchange, hypothecate or otherwise dispose of shares granted pursuant to a Restricted Stock Award, (b) the Company shall retain custody of any certificates evidencing shares granted pursuant to a Restricted Stock Award and (c) the Participant will deliver to the Company a stock power, endorsed in blank, with respect to each Restricted Stock Award. In lieu of retaining custody of the certificates evidencing shares granted pursuant to a Restricted Stock Award, the shares of Common Stock granted pursuant to the Restricted Stock Award may, in the Committee's discretion, be held in escrow by the Company or recorded as outstanding by notation on the stock records of the Company until the Participant's interest in such shares of Common Stock vest. Notwithstanding the preceding sentences, but subject to Section 14.07 below, if and to the extent deemed necessary by the Committee, dividends payable with respect to Restricted Stock Awards may accumulate (without interest) and become payable in cash or in shares of Common Stock to the Participant at the time, and only to the extent that, the portion of the Restricted Stock Award to which the dividends relate has become transferable and nonforfeitable. The limitations set forth in the preceding sentences shall not apply after the shares granted under the Restricted Stock Award are transferable and are no longer forfeitable.

### **ARTICLE X. RESTRICTED STOCK UNITS**

#### **10.01 Grant**

Subject to the eligibility provisions of Article V, the Committee will designate each individual or entity to whom a grant of Restricted Stock Units is to be made and will specify the number of shares covered by such grant.

#### **10.02 Earning the Award**

The Committee, on the date of grant of the Restricted Stock Units, shall prescribe that the Restricted Stock Units will be earned and become payable subject to such conditions as are set forth in the Agreement. Notwithstanding any provision herein to the contrary, the Committee, in its sole discretion, may grant Restricted Stock Units in payment of earned performance awards or other incentive Compensation under the Plan or any other plans or Compensatory arrangements of the Company or any Affiliate. By way of example and not of limitation, the Committee may prescribe that the Restricted Stock Units will be earned and become payable upon (a) the satisfaction of objectively determinable performance conditions based on the criteria described in Article XV, (b) the Participant's completion of a specified period of service with the Company or an Affiliate, (c) the Participant's death, Disability or Retirement or (d) satisfaction of a combination of any of the foregoing factors. Notwithstanding any provision herein to the contrary, the Committee, in its sole discretion, may grant Restricted Stock Units that are earned and payable immediately upon grant.

#### **10.03 Maximum Restricted Stock Unit Award Period**

The Committee, on the date of grant, shall determine the maximum period over which Restricted Stock Units may be earned, except that such period shall not exceed ten (10) years from the date of grant.

#### **10.04 Payment**

The amount payable to the Participant by the Company when an Award of Restricted Stock Units is earned shall be settled by the issuance of one share of Common Stock (or, as otherwise determined by the Committee and set forth in the applicable Agreement, the equivalent Fair Market Value of one share of Common Stock in cash) for each

Restricted Stock Unit that is earned. A fractional share of Common Stock shall not be deliverable when an Award of Restricted Stock Units is earned, but a cash payment will be made in lieu thereof.

#### **10.05 Stockholder Rights**

No Participant shall, as a result of receiving a grant of Restricted Stock Units, have any rights as a stockholder until and then only to the extent that the Restricted Stock Units are earned and settled in shares of Common Stock, nor shall any participant receive Dividend Equivalents solely as a result of receiving a grant of Restricted Stock Units. However, notwithstanding the foregoing, the Committee, in its sole discretion, may grant Dividend Equivalents in the Agreement in connection with a grant of Restricted Stock Units. By way of example and not limitation, such Dividend Equivalents may provide that, for so long as the Participant holds any Restricted Stock Units, if the Company pays any cash dividends on its Common Stock, then (a) the Company may pay the Participant in cash for each outstanding Restricted Stock Unit covered by the Agreement as of the record date of such dividend, less any required withholdings, the per share amount of such dividend or (b) the number of outstanding Restricted Stock Units covered by the Agreement may be increased by the number of Restricted Stock Units, rounded down to the nearest whole number, equal to (i) the product of the number of the Participant's outstanding Restricted Stock Units as of the record date for such dividend multiplied by the per share amount of the dividend divided by (ii) the Fair Market Value of a share of Common Stock on the payment date of such dividend. In the event additional Restricted Stock Units are awarded, such Restricted Stock Units shall be subject to the same terms and conditions set forth in the Plan and the Agreement as the outstanding Restricted Stock Units with respect to which they were granted. Notwithstanding the preceding sentences, but subject to Section 14.07 below, if and to the extent deemed necessary to the Committee, Dividend Equivalents payable with respect to Restricted Stock Units may accumulate (without interest) and become payable to the Participant at the time, and only to the extent that, the portion of the Restricted Stock Units to which the Dividend Equivalents relate has become earned and payable. The limitations set forth in the preceding sentences shall not apply after the Restricted Stock Units become earned and payable and shares are issued thereunder.

### **ARTICLE XI. INCENTIVE AWARDS**

#### **11.01 Grant**

Subject to the eligibility provisions of Article V, the Committee will designate each individual or entity to whom Incentive Awards are to be granted. All Incentive Awards shall be determined exclusively by the Committee under the procedures established by the Committee.

#### **11.02 Earning the Award**

Subject to the Plan, the Committee, on the date of grant of an Incentive Award, shall specify in the applicable Agreement the terms and conditions which govern the grant, including, without limitation, whether the Participant to be entitled to payment must be providing services to the Company or an Affiliate at the time the Incentive Award is to be paid. By way of example and not of limitation, the Committee may prescribe that the Incentive Award shall be earned and payable upon (a) the satisfaction of objectively determinable performance conditions based on the criteria described in Article XV, (b) the Participant's completion of a specified period of service with the Company or an Affiliate, (c) the Participant's death, Disability or Retirement or (d) satisfaction of a combination of any of the foregoing factors.

#### **11.03 Maximum Incentive Award Period**

The Committee, at the time an Incentive Award is made, shall determine the maximum period over which the Incentive Award may be earned, except that such period shall not exceed ten (10) years from the date of grant.

#### **11.04 Payment**

The amount payable to the Participant by the Company when an Incentive Award is earned may be settled in cash, by the issuance of shares of Common Stock or by a combination thereof, as the Committee, in its sole discretion,

determines and sets forth in the applicable Agreement. A fractional share of Common Stock shall not be deliverable when an Incentive Award is earned, but a cash payment will be made in lieu thereof.

#### **11.05 Stockholder Rights**

No Participant shall, as a result of receiving an Incentive Award, have any rights as a stockholder of the Company or any Affiliate on account of such Incentive Award, unless and then only to the extent that the Incentive Award is earned and settled in shares of Common Stock.

### **ARTICLE XII. OTHER STOCK-BASED AWARDS**

#### **12.01 Other Stock-Based Awards**

The Committee is authorized, subject to limitations under applicable law, to grant to a Participant such other Awards that may be denominated or payable in, valued in whole or in part by reference to or otherwise based on shares of Common Stock, including, without limitation, convertible or exchangeable securities, and other rights convertible or exchangeable into shares of Common Stock or the cash value of shares of Common Stock. The Committee shall determine the terms and conditions of any such Other Stock-Based Awards. Unless the Committee or the Agreement provides otherwise, Other Stock-Based Awards shall be vested, exercisable or earned and payable upon the date of grant. Common Stock delivered pursuant to an Other Stock-Based Award in the nature of purchase rights ("Purchase Right Award") shall be purchased for such consideration not less than the Fair Market Value of the shares of Common Stock as of the date the Other Stock-Based Award is granted (subject to Sections 14.06 and 16.03 with respect to substitute Awards), and may be paid for at such times, by such methods, and in such forms, including, without limitation, cash, shares of Common Stock, other Awards, notes or other property, as the Committee shall determine. The maximum time period in which an Other Stock-Based Award in the nature of purchase rights may be exercised shall be determined by the Committee on the date of grant, except that no Other Stock-Based Award in the nature of purchase rights shall be exercisable after the expiration of ten (10) years from the date such Other Stock-Based Award was granted.

#### **12.02 Bonus Stock and Awards in Lieu of Other Obligations**

The Committee also is authorized (i) to grant to a Participant shares of Common Stock as a bonus, (ii) to grant shares of Common Stock or other Awards in lieu of other obligations of the Company or any Affiliate to pay cash or to deliver other property under this Plan or under any other plans or compensatory arrangements of the Company or any Affiliate, (iii) to use available shares of Common Stock as the form of payment for compensation, grants or rights earned or due under any other compensation plans or arrangements of the Company or an Affiliate, and (iv) subject to Section 19.13 below, to grant as alternatives to or replacements of Awards granted or outstanding under the Plan or any other plan or arrangement of the Company or any Affiliate, subject to such terms as shall be determined by the Committee and the overall limitation on the number of shares of Common Stock that may be issued under the Plan. Notwithstanding any other provision hereof, shares of Common Stock or other securities delivered to a Participant pursuant to a purchase right granted under this Plan shall be purchased for consideration, the Fair Market Value of which shall not be less than the Fair Market Value of such shares of Common Stock or other securities as of the date such purchase right is granted.

### **ARTICLE XIII. DIVIDEND EQUIVALENTS AND CASH AWARDS**

#### **13.01 Dividend Equivalents**

The Committee is authorized to grant Dividend Equivalents to a Participant which may be awarded on a free-standing basis or in connection with another Award. Subject to Section 14.07 below, the Committee may provide that Dividend Equivalents shall be paid or distributed when accrued or shall be deemed to have been reinvested in additional shares of Common Stock, other Awards or other investment vehicles, subject to restrictions on transferability, risk of forfeiture and such other terms as the Committee may specify and set forth in the applicable Agreement. Notwithstanding the foregoing, no Dividend Equivalents may be awarded in connection with an Option, SAR or Other Stock-Based Award in the nature of purchase rights.



### **13.02 Cash Awards**

The Committee is authorized to grant to a Participant Cash Awards. The Committee shall determine the terms and conditions of any such Cash Awards. Cash Awards may be granted as an element of or a supplement to any other Award under the Plan or as a stand-alone Cash Award. The Committee, on the date of grant of Cash Awards, may prescribe that the Cash Awards will be earned and become payable subject to such conditions as are set forth in the Agreement. By way of example and not of limitation, the Committee may prescribe that Cash Awards will be earned and become payable upon (a) the satisfaction of objectively determinable performance conditions based on the criteria described in Article XV, (b) the Participant's completion of a specified period of service with the Company or an Affiliate, (c) the Participant's death, Disability or Retirement or (d) satisfaction of a combination of any of the foregoing factors. Notwithstanding any provision herein to the contrary, the Committee, in its sole discretion, may grant Cash Awards in payment of earned performance awards and other incentive compensation payable under the Plan or any other plans or compensatory arrangements of the Company or any Affiliate. Unless the Committee or the Agreement provides otherwise, Cash Awards shall be vested and payable upon the date of grant.

## **ARTICLE XIV.**

### **TERMS APPLICABLE TO ALL AWARDS**

#### **14.01 Written Agreement**

Each Award shall be evidenced by a written or electronic Agreement (including any amendment or supplement thereto) between the Company and the Participant specifying the terms and conditions of the Award granted to such Participant. Each Agreement should specify whether the Award is intended to be a Non-409A Award or a 409A Award.

#### **14.02 Nontransferability**

Except as provided in Section 14.03 below, each Award granted under this Plan shall be nontransferable except by will or by the laws of descent and distribution or pursuant to the terms of a valid qualified domestic relations order. In the event of any transfer of an Option or Corresponding SAR (by the Participant or his transferee), the Option and Corresponding SAR that relates to such Option must be transferred to the same Person or Persons or entity or entities. Except as provided in Section 14.03 below, during the lifetime of the Participant to whom the Option or SAR is granted, the Option or SAR may be exercised only by the Participant. No right or interest of a Participant in any Award shall be liable for, or subject to, any lien, obligation, or liability of such Participant or his transferee.

#### **14.03 Transferable Awards**

Section 14.02 to the contrary notwithstanding, if the Agreement so provides, an Award may be transferred by a Participant to immediate family members or trusts or other entities on behalf of the Participant and/or immediate family members or for charitable donations. Any such transfer will be permitted only if (a) the Participant does not receive any consideration for the transfer and (b) the Committee expressly approves the transfer. The holder of the Award transferred pursuant to this Section shall be bound by the same terms and conditions that governed the Award during the period that it was held by the Participant; provided, however, that such transferee may not transfer the Award except by will or the laws of descent and distribution. Unless transferred as provided in Section 9.05, a Restricted Stock Award may not be transferred prior to becoming non-forfeitable and transferable.

#### **14.04 Participant Status**

If the terms of any Award provide that it may be exercised or paid only during continued service or within a specified period of time after termination of continued service, the Committee may decide to what extent leaves of absence for governmental or military service, illness, temporary disability or other reasons shall not be deemed interruptions of continuous employment or service. For purposes of the Plan, employment and continued service shall be deemed to exist between the Participant and the Company and/or an Affiliate if, at the time of the determination, the Participant is a director, officer, employee, consultant or advisor of the Company or an Affiliate. A Participant on military leave, sick leave or other bona fide leave of absence shall continue to be considered an employee for purposes of the Plan during such leave if the period of leave does not exceed three (3) months, or, if longer, so long as the

individual's right to re-employment with the Company or any of its Affiliates is guaranteed either by statute or by contract. If the period of leave exceeds three (3) months, and the individual's right to re-employment is not guaranteed by statute or by contract, the employment shall be deemed to be terminated on the first day after the end of such three (3) month period. Except as may otherwise be expressly provided in an Agreement, Awards granted to a director, officer, consultant or advisor shall not be affected by any change in the status of the Participant so long as the Participant continues to be a director, officer, employee, consultant or advisor to the Company or any of its Affiliates (regardless of having changed from one to the other or having been transferred from one entity to another). The Participant's continued service shall not be considered interrupted in the event the Committee, in its discretion, and as specified at or prior to such occurrence, determines there is no interruption in the case of a spin-off, sale or disposition of the recipient of the Participant's services from the Company or an Affiliate, except that if the Committee does not otherwise specify such at or such prior to such occurrence, the Participant will be deemed to have a termination of continuous service to the extent the Affiliate to which the Participant provides services is no longer the Company or an entity that qualifies as an Affiliate. The foregoing provisions apply to a 409A Award only to the extent Section 409A of the Code does not otherwise treat the Participant as continuing in service or as having a separation from service at an earlier time.

#### **14.05 Change in Control**

Notwithstanding any provision of any Agreement, in the event of a Change in Control, the Committee in its discretion may (i) declare that some or all outstanding Options, SARs and Other Stock-Based Awards in the nature of purchase rights previously granted under the Plan, whether or not then exercisable, shall terminate on the Control Change Date without any payment to the holder of the Options, SARs and Other Stock-Based Awards in the nature of purchase rights, provided the Committee gives prior written notice to the holders of such termination and gives such holders the right to exercise their outstanding Options, SARs and Other Stock-Based Awards in the nature of purchase rights for at least seven (7) days before such date to the extent then exercisable (or to the extent such Options, SARs or Other Stock-Based Awards in the nature of purchase rights would have become exercisable as of the Control Change Date), (ii) terminate on the Control Change Date outstanding Restricted Stock Awards, Restricted Stock Units, Incentive Awards, Other Stock-Based Awards not in the nature of purchase rights and Dividend Equivalents previously granted under the Plan that are not then nonforfeitable and transferable or earned and payable (and that will not become nonforfeitable and transferable or earned and payable as of the Control Change Date) without any payment to the holder of the Restricted Stock Award, Restricted Stock Units, Incentive Awards, Other Stock-Based Awards not in the nature of purchase rights and Dividend Equivalents, other than the return, if any, of the purchase price of any such Awards, (iii) terminate on the Control Change Date some or all outstanding Options, SARs and Other Stock-Based Awards in the nature of purchase rights previously granted under the Plan, whether or not then exercisable, in consideration of payment to the holder of the Options, SARs and Other Stock-Based Awards in the nature of purchase rights, with respect to each share of Common Stock for which the Options, SARs and Other Stock-Based Awards in the nature of purchase rights are then exercisable (or that will become exercisable as of the Control Change Date), of the excess, if any, of the Fair Market Value on such date of the Common Stock subject to such portion of the Options, SARs and Other Stock-Based Awards in the nature of purchase rights over the purchase price or Initial Value, as applicable (provided that any portion of such Options, SARs and Other Stock-Based Awards in the nature of purchase rights that are not then exercisable and will not become exercisable on the Control Change Date, and Options, SARs and Other Stock-Based Awards in the nature of purchase rights with respect to which the Fair Market Value of the Common Stock subject to the Options, SARs and Other Stock-Based Awards in the nature of purchase rights does not exceed the purchase price or Initial Value, as applicable, shall be cancelled without any payment therefor), (iv) terminate on the Control Change Date outstanding Restricted Stock Awards, Restricted Stock Units, Incentive Awards, Other Stock-Based Awards not in the nature of purchase rights and Divided Equivalents previously granted under the Plan that will become nonforfeitable and transferable or earned and payable as of the Control Change Date (or that previously became nonforfeitable and transferable or earned and payable but have not yet been settled as of the Control Change Date) in exchange for a payment equal to the excess of the Fair Market Value of the shares of Common Stock subject to such Awards, or the amount of cash payable under the Awards, over any unpaid purchase price, if any, for such Awards (provided that any portion of such Awards that are not then nonforfeitable and transferable or earned and payable as of the Control Change Date (and that will not become nonforfeitable and transferable or earned and payable as of the Control Change Date) shall be cancelled without any payment therefor), or (v) take such other actions as the Committee determines to be reasonable under the circumstances to permit the Participant to realize the value of the outstanding

Awards (which Fair Market Value for purposes of Awards that are not then exercisable, nonforfeitable and transferable or earned and payable as of the Control Change Date (and that will not become exercisable, nonforfeitable and transferable or earned and payable as of the Control Change Date) or with respect to which the Fair Market Value of the Common Stock subject to the Awards does not exceed the purchase price or Initial Value, as applicable, shall be deemed to be zero). The payments described above may be made in any manner the Committee determines, including in cash, stock or other property. The Committee may take the actions described above with respect to Awards that are not then exercisable, nonforfeitable and transferable or earned and payable or with respect to which the Fair Market Value of the Common Stock subject to the Awards does not exceed the purchase price or Initial Value, as applicable, whether or not the Participant will receive any payments therefor. The Committee in its discretion may take any of the actions described in this Section 14.05 contingent on consummation of the Change in Control and with respect to some or all outstanding Awards, whether or not then exercisable, nonforfeitable and transferable or earned and payable or on an Award-by-Award basis, which actions need not be uniform with respect to all outstanding Awards or Participants. However, outstanding Awards shall not be terminated to the extent that written provision is made for their continuance, assumption or substitution by the Company or a successor or its parent or subsidiary in connection with the Change in Control except as otherwise provided in the applicable Agreement.

#### **14.06 Stand-Alone, Additional, Tandem and Substitute Awards**

Subject to Section 19.13 below, Awards granted under the Plan may, in the discretion of the Committee, be granted either alone or in addition to, in tandem with or in substitution or exchange for, any other Award or any Award granted under another plan of the Company or any Affiliate or any entity acquired by the Company or any Affiliate or any other right of a Participant to receive payment from the Company or any Affiliate; provided, however, that a 409A Award may not be granted in tandem with a Non-409A Award. Awards granted in addition to or in tandem with another Award or Awards may be granted either at the same time as or at a different time from the grant of such other Award or Awards. Subject to applicable law and the restrictions on 409A Awards and repricings in Section 19.13 below, the Committee may determine that, in granting a new Award, the in-the-money value or Fair Market Value of any surrendered Award or Awards or the value of any other right to payment surrendered by the Participant may be applied, or otherwise taken into account with respect, to any other new Award or Awards.

#### **14.07 Form and Timing of Payment; Deferrals**

Subject to the terms of the Plan and any applicable Agreement, payments to be made by the Company or an Affiliate upon the exercise of an Option, SAR or Other Stock-Based Award in the nature of purchase rights or settlement of any other Award may be made in such form as the Committee may determine and set forth in the applicable Agreement, including, without limitation, cash, shares of Common Stock, other Awards or other property and may be made in a single payment or transfer, in installments or on a deferred basis. The settlement of an Award may be accelerated, and cash paid in lieu of shares of Common Stock in connection with such settlement, in the discretion of the Committee or upon the occurrence of one or more specified events set forth in the applicable Agreement (and to the extent permitted by the Plan and Section 409A of the Code). Subject to the Plan, installment or deferred payments may be required by the Committee or permitted at the election of the Participant on the terms and conditions established by the Committee. Payments may include, without limitation, provisions for the payment or crediting of reasonable interest on installments or deferred payments or the grant or crediting of Dividend Equivalents or other amounts in respect of installment or deferred payments denominated in shares of Common Stock. In the case of any 409A Award that is vested and no longer subject to a substantial risk of forfeiture (within the meaning of Sections 83 and 409A of the Code), such Award may be distributed to the Participant, upon application of the Participant to the Committee, if the Participant has an unforeseeable emergency within the meaning of Section 409A of the Code, if determined by the Committee and set forth in the applicable Agreement. Notwithstanding any other provision of the Plan, however, no dividends payable with respect to an Award or Dividend Equivalents may be paid in connection with any Awards or Dividend Equivalents that are to become nonforfeitable and transferable or earned and payable based upon performance conditions unless and until the performance conditions are satisfied, and, if determined by the Committee and set forth in the applicable Agreement, any such dividends and Dividend Equivalents will accumulate (without interest) and become payable to the Participant at the time, and only to the extent that, the applicable Awards or Dividend Equivalents have become non-forfeitable and transferable or earned and payable upon satisfaction of the relevant performance conditions.

#### **14.08 Time and Method of Exercise**

The Committee shall determine and set forth in the Agreement the time or times at which Awards granted under the Plan may be exercised or settled in whole or in part and shall set forth in the Agreement the rules regarding the exercise, settlement and/or termination of Awards upon the Participant's death, Disability, termination of service or ceasing to be a director. Unless the Agreement provides otherwise, an Award may be exercised by delivering notice to the Company's principal office, to the attention of its Secretary (or the Secretary's designee) no less than one (1) business day in advance of the effective date of the proposed exercise. Such notice shall be accompanied by the applicable Agreement, shall specify the number of shares of Common Stock with respect to which the Award is being exercised and the effective date of the proposed exercise and shall be signed by the Participant or other person then having the right to exercise the Award. Such notice may be withdrawn at any time prior to the close of business on the business day immediately preceding the effective date of the proposed exercise. Unless the Committee otherwise permits through the applicable Agreement or otherwise, no partial exercise of an Award shall be for an aggregate exercise or purchase price or a base value of less than One Thousand Dollars (\$1,000). Notwithstanding any other provision of the Plan, however, if an Award is to become exercisable, nonforfeitable and transferable or earned and payable on the completion of a specified period of service with the Company or any Affiliate, without the achievement of any performance conditions being required, and the Award is not being granted in lieu of any other cash compensation the Participant is to receive that would be payable over a shorter period of time, then unless the applicable Agreement provides otherwise, the Award shall become exercisable, non-forfeitable and transferable or earned and payable with respect to twenty-five percent (25%) of the underlying shares of Common Stock (or any amounts payable thereunder for Awards denoted in dollars) on each of the first, second, third and fourth anniversaries of the date of grant (subject to acceleration of vesting, to the extent permitted by the Plan and the Committee, in the event of a Change in Control or the Participant's death, Disability, Retirement or involuntary termination of service (including a voluntary termination of service for good reason). Notwithstanding any provision of the Plan providing for the maximum term of an Award, in the event any Award would expire prior to exercise, vesting or settlement because trading in shares of Common Stock is prohibited by law or by any insider trading policy of the Company, the term of the Award shall automatically be extended until thirty (30) days after the expiration of any such prohibitions to permit the Participant to realize the value of the Award, provided such extension with respect to the applicable Award (i) is permitted by law, (ii) does not result in a violation of Section 409A with respect to the Award, and (iii) does not otherwise adversely impact the tax consequences of the Award. An Agreement may provide that the Award will be automatically, and without any action by the Participant, deemed exercised, by means of a "net exercise" procedure, immediately prior to the expiration of the Award if the then Fair Market Value of the underlying shares of Common Stock at that time exceeds the exercise or purchase price or base value of the Award, in order to permit the Participant to realize the value of the Award. With respect to an Option and its Corresponding SAR, the Agreement may provide which Award will be deemed exercised. If the Agreement does not so provide, the Option shall be deemed exercised and the Corresponding SAR shall expire unexercised.

#### **14.09 Effect of Termination Date on Options, SARs and Other Stock-Based Awards in the Nature of Purchase Rights**

(a) If a Participant incurs a Termination Date due to death or Disability, any unexercised Option, SAR or Other Stock-Based Award in the nature of purchase rights granted to the Participant may thereafter be exercised by the Participant (or, where appropriate, a transferee of the Participant), to the extent then exercisable, (i) for a period of twelve (12) months after the Termination Date or (ii) until the expiration of the stated term of the Option, SAR or Other Stock-Based Award in the nature of purchase rights, whichever period is shorter, unless specifically provided otherwise in the applicable Agreement (in which case the terms of the Agreement shall control). Any portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights that remains unexercised after the expiration of such period, regardless of whether such portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights is vested or unvested, shall terminate and be forfeited with no further compensation due to the Participant.

(b) If a Participant incurs a Termination Date due to Retirement, any unexercised Option, SAR or Other Stock-Based Award in the nature of purchase rights granted to the Participant may thereafter be exercised by the Participant (or, where appropriate, a transferee of the Participant), to the extent then exercisable, (i) for a period of twelve (12) months after the Termination Date or (ii) until the expiration of the stated term of the Option, SAR or Other

Stock-Based Award in the nature of purchase rights, whichever period is shorter, unless specifically provided otherwise in the applicable Agreement (in which case the terms of the Agreement shall control). Any portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights that remains unexercised after the expiration of such period described above, regardless of whether such portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights is vested or unvested, shall terminate and be forfeited with no further compensation due to the Participant.

(c) If a Participant incurs a Termination Date, other than on death, Disability or Retirement, as a result of termination of service by the Company and its Affiliates involuntarily and without Cause, any unexercised Option, SAR or Other Stock-Based Award in the nature of purchase rights granted to the Participant may thereafter be exercised by the Participant (or, where appropriate, a transferee of the Participant), to the extent then exercisable (i) for a period of ninety (90) days after the Termination Date or (ii) until the expiration of the stated term of the Option, SAR or Other Stock-Based Award in the nature of purchase rights, whichever period is shorter, unless specifically provided otherwise in the applicable Agreement (in which case the terms of the Agreement shall control). Any portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights that remains unexercised at the expiration of such period described above, regardless of whether such portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights is vested or unvested, shall terminate and be forfeited with no further compensation due to the Participant.

(d) If a Participant incurs a Termination Date for any reason, other than death, Disability or Retirement, other than as the result of termination of service by the Company and its Affiliates involuntarily and without Cause, and other than as the result of termination of service by the Company and its Affiliates involuntarily and with Cause, any unexercised Option, SAR or Other Stock-Based Award in the nature of purchase rights granted to the Participant may thereafter be exercised by the Participant (or, where appropriate, a transferee of the Participant), to the extent exercisable as of the Termination Date, (i) for a period of ninety (90) days after the Termination Date, or (ii) until the expiration of the stated term of the Option, SAR or Other Stock-Based Award in the nature of purchase rights, whichever period is shorter, unless specifically provided otherwise in the applicable Agreement (in which case the terms of the Agreement shall control). Any portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights that remains unexercised after the expiration of such period, regardless of whether such portion of the Option, SAR or Other Stock-Based Award in the nature of purchase rights is vested or unvested, shall terminate and be forfeited with no further compensation due to the Participant.

#### **14.10 Non U. S. Participants**

The Committee may grant Awards to Participants located outside of the United States of America. Notwithstanding any other provision of the Plan (other than the limitations of Section 6.02 and Section 19.13) the terms of such Awards shall be as the Committee, in its sole discretion, determines as appropriate and permitted under the law that applies to any Award granted to Participants located outside of the United States of America.

### **ARTICLE XV. PERFORMANCE-BASED COMPENSATION**

#### **15.01 Performance Conditions**

In accordance with the Plan, the Committee may prescribe that Awards will become exercisable, nonforfeitable and transferable, and earned and payable, based on performance conditions established by the Committee. An Award may become exercisable, nonforfeitable and transferable or earned and payable contingent on the Participant's continued service, and/or service at the time the Award becomes exercisable, nonforfeitable and transferable or earned and payable, in addition to the performance conditions described above. The Committee shall have the sole discretion to select one or more periods of time over which the attainment of one or more of the foregoing performance conditions will be measured for the purpose of determining a Participant's right to, and the settlement of, an Award that will become exercisable, nonforfeitable and transferable or earned and payable based on performance conditions.

### **15.02 Establishing the Amount of the Award**

The amount of the Award that will become exercisable, nonforfeitable and transferable or earned and payable if the performance conditions are obtained (or an objective formula for, or method of, computing such amount) also must be established at the time set forth in Section 15.01 above. Notwithstanding the preceding sentence, the Committee may, in its sole discretion, reduce the amount of the Award that will become exercisable, nonforfeitable and transferable or earned and payable, as applicable, if the Committee determines that such reduction is appropriate under the facts and circumstances. In no event shall the Committee have the discretion to increase the amount of the Award that will become exercisable, nonforfeitable and transferable or earned and payable.

### **15.03 Earning the Award**

If the Committee, on the date of grant, prescribes that an Award shall become exercisable, nonforfeitable and transferable or earned and payable only upon the attainment of one or more performance conditions, the Award shall become exercisable, nonforfeitable and transferable or earned and payable only to the extent that the Committee certifies that such conditions have been achieved.

## **ARTICLE XVI. ADJUSTMENT UPON CHANGE IN COMMON STOCK**

### **16.01 General Adjustments**

The maximum number of shares of Common Stock that may be issued pursuant to Awards and the terms of outstanding Awards shall be adjusted as the Committee shall determine to be equitably required in the event (a) there occurs a reorganization, recapitalization, stock split, spin-off, split-off, stock dividend, issuance of stock rights, combination of shares, merger, consolidation or distribution (stock or cash) to stockholders other than an ordinary cash dividend; (b) the Company engages in a transaction Code Section 424 describes; or (c) there occurs any other transaction or event which, in the judgment of the Board, necessitates such action. In that respect, the Committee shall make such adjustments as are necessary in the number or kind of shares of Common Stock or securities which are subject to the Award, the exercise price or Initial Value of the Award and such other adjustments as are appropriate in the discretion of the Committee. Such adjustments may provide for the elimination of fractional shares that might otherwise be subject to Awards without any payment therefor. Notwithstanding the foregoing, the conversion of one or more outstanding shares of preferred stock or convertible debentures that the Company may issue from time to time into Common Stock shall not in and of itself require any adjustment under this Article XVI. In addition, the Committee may make such other adjustments to the terms of any Awards to the extent equitable and necessary to prevent an enlargement or dilution of the Participant's rights thereunder as a result of any such event or similar transaction. Any determination made under this Article XVI by the Committee shall be final and conclusive.

### **16.02 No Adjustments**

The issuance by the Company of stock of any class, or securities convertible into stock of any class, for cash or property, or for labor or services, either upon direct sale or upon the exercise of rights or warrants to subscribe therefor, or upon conversion of stock or obligations of the Company convertible into such stock or other securities, shall not affect, and no adjustment by reason thereof shall be made with respect to, the maximum number of shares that may be issued pursuant to Awards.

### **16.03 Substitute Awards**

The Committee may grant Awards in substitution for Options, SARs, restricted stock, Restricted Stock Units, Incentive Awards or similar Awards held by an individual who becomes an employee of the Company or an Affiliate in connection with a transaction described in the first paragraph of Section 16.01. Notwithstanding any provision of the Plan (other than the limitation of Section 6.02), the terms of such substituted Awards shall be as the Committee, in its discretion, determines is appropriate.

#### **16.04 Limitation on Adjustments**

Notwithstanding the foregoing, no adjustment hereunder shall be authorized or made if and to the extent the existence of such authority or action (a) would cause a Non-409A Award to be subject to Section 409A of the Code, (b) would violate Code Section 409A for a 409A Award, or (c) would adversely affect any exemption under Rule 16b-3 of the Exchange Act, unless the Committee determines that such adjustment is necessary and specifically acknowledges that the adjustment will be made notwithstanding any such result.

### **ARTICLE XVII. COMPLIANCE WITH LAW AND APPROVAL OF REGULATORY BODIES**

#### **17.01 Compliance**

No Option or SAR shall be exercisable, no Restricted Stock Award, Restricted Stock Unit, Incentive Award, Other Stock-Based Award, Dividend Equivalents or Cash Awards shall be granted or settled, no shares of Common Stock shall be issued, no certificates for shares of Common Stock shall be delivered and no payment shall be made under this Plan except in compliance with all applicable federal and state laws and regulations (including, without limitation, withholding tax requirements), any listing agreement to which the Company is a party and the rules of all domestic stock exchanges on which the Company's shares may be listed. The Company shall have the right to rely on an opinion of its counsel as to such compliance. Any stock certificate evidencing shares of Common Stock issued pursuant to an Award may bear such legends and statements as the Committee may deem advisable to assure compliance with federal and state laws and regulations and to reflect any other restrictions applicable to such shares as the Committee otherwise deems appropriate. No Option or SAR shall be exercisable, no Restricted Stock Award, Restricted Stock Unit, Incentive Award, Other Stock-Based Award, Dividend Equivalents or Cash Awards shall be granted or settled, no shares of Common Stock shall be issued, no certificate for shares of Common Stock shall be delivered and no payment shall be made under this Plan until the Company has obtained such consent or approval as the Committee may deem advisable from regulatory bodies having jurisdiction over such matters.

#### **17.02 Postponement of Exercise or Payment**

The Committee may postpone any grant, exercise, vesting or payment of an Award for such time as the Committee in its sole discretion may deem necessary in order to permit the Company (i) to effect, amend or maintain any necessary registration of the Plan or the shares of Common Stock issuable pursuant to the Award under the securities laws; (ii) to take any action in order to (A) list such shares of Common Stock or other shares of stock of the Company on a stock exchange if shares of Common Stock or other shares of stock of the Company are not then listed on such exchange or (B) comply with restrictions or regulations incident to the maintenance of a public market for its shares of Common Stock or other shares of stock of the Company, including any rules or regulations of any stock exchange on which the shares of Common Stock or other shares of stock of the Company are listed; (iii) to determine that such shares of Common Stock in the Plan are exempt from such registration or that no action of the kind referred to in (ii)(B) above needs to be taken; (iv) to comply with any other applicable law, including without limitation, securities laws; (v) to comply with any legal or contractual requirements during any such time the Company or any Affiliate is prohibited from doing any of such acts under applicable law, including without limitation, during the course of an investigation of the Company or any Affiliate, or under any contract, loan agreement or covenant or other agreement to which the Company or any Affiliate is a party or (vi) to otherwise comply with any prohibition on such acts or payments during any applicable blackout period; and the Company shall not be obligated by virtue of any terms and conditions of any Agreement or any provision of the Plan to recognize the grant, exercise, vesting or payment of an Award or to grant, sell or issue shares of Common Stock or make any such payments in violation of the securities laws or the laws of any government having jurisdiction thereof or any of the provisions hereof. Any such postponement shall not extend the term of the Award and neither the Company nor its directors and officers nor the Committee shall have any obligation or liability to any Participant or to any other person with respect to shares of Common Stock or payments as to which the Award shall lapse because of such postponement.

### **17.03 Forfeiture or Reimbursement**

A Participant shall be required to forfeit any and all rights under Awards or to reimburse the Company for any payment under any Award (with interest as necessary to avoid imputed interest or original issue discount under the Code or as otherwise required by applicable law) to the extent applicable law or any applicable claw-back or recoupment policy of the Company or any of its Affiliates requires such forfeiture or reimbursement.

## **ARTICLE XVIII. LIMITATION ON BENEFITS**

Despite any other provisions of this Plan to the contrary, if the receipt of any payments or benefits under this Plan would subject a Participant to tax under Code Section 4999, the Committee may determine whether some amount of payments or benefits would meet the definition of a "Reduced Amount." If the Committee determines that there is a Reduced Amount, the total payments or benefits to the Participant under all Awards must be reduced to such Reduced Amount, but not below zero. It is the intention of the Company and the Participant to reduce the payments under this Plan only if the aggregate Net After Tax Receipts to the Participant would thereby be increased. If the Committee determines that the benefits and payments must be reduced to the Reduced Amount, the Company must promptly notify the Participant of that determination, with a copy of the detailed calculations by the Committee. All determinations of the Committee under this Article XVIII are final, conclusive and binding upon the Company and the Participant. As result of the uncertainty in the application of Code Section 4999 at the time of the initial determination by the Committee under this Article XVIII, however, it is possible that amounts will have been paid under the Plan to or for the benefit of a Participant which should not have been so paid ("Overpayment") or that additional amounts which will not have been paid under the Plan to or for the benefit of a Participant could have been so paid ("Underpayment"), in each case consistent with the calculation of the Reduced Amount. If the Committee, based either upon the assertion of a deficiency by the Internal Revenue Service against the Company or the Participant, which the Committee believes has a high probability of success, or controlling precedent or other substantial authority, determines that an Overpayment has been made, any such Overpayment must be treated for all purposes as a loan, to the extent permitted by applicable law, which the Participant must repay to the Company together with interest at the applicable federal rate under Code Section 7872(f)(2); provided, however, that no such loan may be deemed to have been made and no amount shall be payable by the Participant to the Company if and to the extent such deemed loan and payment would not either reduce the amount on which the Participant is subject to tax under Code Sections 1, 3101 or 4999 or generate a refund of such taxes. If the Committee, based upon controlling precedent or other substantial authority, determines that an Underpayment has occurred, the Committee must promptly notify the Company of the amount of the Underpayment, which then shall be paid promptly to the Participant but no later than the end of the Participant's taxable year next following the Participant's taxable year in which the determination is made that the Underpayment has occurred. For purposes of this Section, (a) "Net After Tax Receipt" means the Present Value of a payment under this Plan net of all taxes imposed on Participant with respect thereto under Code Sections 1, 3101 and 4999, determined by applying the highest marginal rate under Code Section 1 which applies to the Participant's taxable income for the applicable taxable year; (b) "Present Value" means the value determined in accordance with Code Section 280G(d)(4); and (c) "Reduced Amount" means the smallest aggregate amount of all payments and benefits under this Plan which (i) is less than the sum of all payments and benefits under this Plan and (ii) results in aggregate Net After Tax Receipts which are equal to or greater than the Net After Tax Receipts which would result if the aggregate payments and benefits under this Plan were any other amount less than the sum of all payments and benefits to be made under this Plan.

## **ARTICLE XIX. GENERAL PROVISIONS**

### **19.01 Effect on Service**

Neither the adoption of this Plan, its operation nor any documents describing or referring to this Plan (or any part thereof), shall confer upon any individual or entity any right to continue in the service of the Company or an Affiliate or in any way affect any right and power of the Company or an Affiliate to terminate the service of any individual or entity at any time with or without assigning a reason therefor.



#### **19.02 Unfunded Plan**

This Plan, insofar as it provides for Awards, shall be unfunded, and the Company shall not be required to segregate any assets that may at any time be represented by Awards under this Plan. Any liability of the Company to any Person with respect to any Award under this Plan shall be based solely upon any contractual obligations that may be created pursuant to this Plan. No such obligation of the Company shall be deemed to be secured by any pledge of, or other encumbrance on, any property of the Company.

#### **19.03 Rules of Construction**

Headings are given to the articles and sections of this Plan solely as a convenience to facilitate reference. The reference to any statute, regulation or other provision of law shall be construed to refer to any amendment to or successor of such provision of law.

#### **19.04 Tax Withholding and Reporting**

Unless an Agreement provides otherwise, each Participant shall be responsible for satisfying in cash or cash equivalent any income and employment (including, without limitation, Social Security and Medicare) tax withholding obligations, if applicable, attributable to participation in the Plan and the grant, exercise, vesting or payment of Awards granted hereunder (including the making of a Code Section 83(b) election with respect to an Award). In accordance with procedures that the Committee establishes, the Committee, to the extent applicable law permits, may allow a Participant to pay any such applicable amounts (a) by surrendering (actually or by attestation) shares of Common Stock that the Participant already owns and, if necessary to avoid adverse accounting consequences, has held for at least six (6) months (but only for the minimum required withholding); (b) by a cashless exercise, or surrender of shares of Common Stock already owned, through a broker; (c) by means of a "net exercise" procedure by the surrender of shares of Common Stock to which the Participant is otherwise entitled under the Award (but only for the minimum required withholding); (d) by such other medium of payment as the Committee, in its discretion, shall authorize; or (e) by any combination of the aforementioned methods of payment. The Company shall comply with all such reporting and other requirements relating to the administration of this Plan and the grant, exercise, vesting or payment of any Award hereunder as applicable law requires.

#### **19.05 Code Section 83(b) Election**

The Committee must approve in advance whether a Participant may make an election under Section 83(b) of the Code with respect to any Award (to include in gross income in the year of transfer the amounts specified in Code Section 83(b)) or under similar laws may be made. In any case in which a Participant is permitted to make such an election in connection with an Award, the Participant shall notify the Company of such election within ten (10) days of filing notice of the election with the Internal Revenue Service or other governmental authority, in addition to any filing and notification required pursuant to regulations issued under Code Section 83(b) or other applicable provisions.

#### **19.06 Reservation of Shares**

The Company, during the term of this Plan, shall at all time reserve and keep available such number of shares of Common Stock as shall be sufficient to satisfy the requirements of the Plan. Additionally, the Company, during the term of this Plan, shall use its best efforts to seek to obtain from appropriate regulatory agencies any requisite authorizations needed in order to issue and to sell such number of shares of Common Stock as shall be sufficient to satisfy the requirements of the Plan. However, the inability of the Company to obtain from any such regulatory agency the requisite authorizations the Company's counsel deems to be necessary for the lawful issuance and sale of any shares of Common Stock hereunder, or the inability of the Company to confirm to its satisfaction that any issuance and sale of any shares of Common Stock hereunder will meet applicable legal requirements, shall relieve the Company of any liability in respect to the failure to issue or to sell such shares of Common Stock as to which such requisite authority shall not have been obtained.

#### **19.07 Governing Law**

This Plan and all Awards granted hereunder shall be governed by the laws of the State of Delaware, except to the extent federal law applies.

#### **19.08 Other Actions**

Nothing in the Plan shall be construed to limit the authority of the Company to exercise its corporate rights and powers, including, by way of illustration and not by way of limitation, the right to grant Options, SARs, Restricted Stock Awards, Restricted Stock Units, Incentive Awards, Other Stock-Based Awards or Dividend Equivalents for proper corporate purposes otherwise than under the Plan to any Person, firm, corporation, association or other entity, or to grant Options, SARs, Restricted Stock Awards, or Restricted Stock Units, Incentive Awards, Other Stock-Based Awards or Dividend Equivalents to, or assume such Awards of any Person in connection with, the acquisition, purchase, lease, merger, consolidation, reorganization or otherwise, of all or any part of the business and assets of any Person, firm, corporation, association or other entity.

#### **19.09 Repurchase of Common Stock**

Subject to Section 19.13 below, the Company or its designee may have the option and right to purchase any Award or any shares of Common Stock issued pursuant to any Award in accordance with the terms and conditions set forth in the applicable Agreement. However, shares of Common Stock repurchased pursuant to an Agreement will still be deemed issued pursuant to the Plan and will not be available for issuance pursuant to future Awards under the Plan (not counting for this purpose any shares of Common Stock repurchased in connection with the lapse or forfeiture of any Restricted Stock Award).

#### **19.10 Other Conditions**

The Committee, in its discretion, may require the Participant on or before the date of grant, exercise, payment or settlement of an Award to enter into (i) a confidentiality, non-solicitation, non-competition, non-disparagement or other similar agreement with the Company or any Affiliate, which may become effective on the date of termination of service of the Participant with the Company or any Affiliate or any other date the Committee may specify and shall contain such terms and conditions as the Committee shall otherwise specify, (ii) an agreement to cancel any other service agreement, fringe benefit or compensation arrangement in effect between the Company or any Affiliate and such Participant and/or (iii) a shareholders' agreement with respect to shares of Common Stock to be issued pursuant to the Award. If the Participant should fail to enter into any such agreement at the Committee's request, then no Award shall be granted, exercised, paid or settled and the number of shares of Common Stock that would have been subject to such Award, if any, shall be added to the remaining shares of Common Stock available under the Plan. In the event the Participant should enter into any such confidentiality, non-solicitation, non-competition, non-disparagement or other similar agreement with the Company or any Affiliate, as a condition to the grant, exercise, payment or settlement of the Award, and the Participant subsequently breach or violate any provision of such agreement, then the Participant shall forfeit any and all further rights under such Award and the Clawback Requirement shall be triggered.

#### **19.11 Forfeiture Provisions**

Notwithstanding any other provisions of the Plan or any Agreement, all rights to any Award that a Participant has will be immediately discontinued and forfeited, and the Company shall not have any further obligation hereunder to the Participant with respect to any Award and the Award will not be exercisable (whether or not previously exercisable) or become vested or payable on and after the time the Participant is discharged from service with the Company or any Affiliate for Cause.

#### **19.12 Legends; Payment of Expenses**

The Company may endorse such legend or legends upon the certificates for shares of Common Stock issued upon the grant or exercise of an Award and may issue such "stop transfer" instructions to its transfer agent in respect of such shares as it determines, in its sole discretion, to be necessary or appropriate to (i) prevent a violation of, or to perfect an exemption from, the registration requirements under the Exchange Act, applicable state securities laws or

other requirements, (b) implement the provisions of the Plan or any Agreement between the Company and the Participant with respect to such shares of Common Stock, or (c) as may be appropriate to continue an Award's exemption or compliance with Section 409A of the Code. The Company shall pay all issuance taxes with respect to the issuance of shares of Common Stock upon the grant or exercise of the Award, as well as all fees and expenses incurred by the Company in connection with such issuance.

### **19.13 Repricing of Awards**

Notwithstanding any other provisions of this Plan, except for adjustments pursuant to Article XVI or to the extent approved by the Company's stockholders and consistent with the rules of any stock exchange on which the Company's securities are traded, this Plan does not permit (a) any decrease in the exercise or purchase price or base value of any outstanding Awards, (b) the issuance of any replacement Options, SARs or Other Stock-Based Awards in the nature of purchase rights which shall be deemed to occur if a Participant agrees to forfeit an existing Option, SAR or Other Stock-Based Award in the nature of purchase rights in exchange for a new Option, SAR or Other Stock-Based Award in the nature of purchase rights with a lower exercise or purchase price or base value, (c) the Company to repurchase underwater or out-of-the-money Options, SARs or Other Stock-Based Awards in the nature of purchase rights, which shall be deemed to be those Options, SARs or Other Stock-Based Awards in the nature of purchase rights with exercise or purchase prices or base values in excess of the current Fair Market Value of the shares of Common Stock underlying the Option, SAR or Other Stock-Based Award in the nature of purchase rights, (d) the issuance of any replacement or substitute Awards or the payment of cash in exchange for, or in substitution of, underwater or out-of-the-money Options, SARs or Other Stock-Based Awards in the nature of purchase rights, (e) the Company to repurchase any Award if the Award has not become exercisable, vested or payable prior to the repurchase or (f) any other action that is treated as a repricing under generally accepted accounting principles.

### **19.14 Right of Setoff**

The Company or an Affiliate may, to the extent permitted by applicable law, deduct from and setoff against any amounts the Company or Affiliate may owe the Participant from time to time, including amounts payable in connection with any Award, owed as wages, fringe benefits or other compensation owed to the Participant, such amounts as may be owed by the Participant to the Company or Affiliate, including but not limited to any amounts owed under the Plan, although the Participant shall remain liable for any part of the Participant's obligation not satisfied through such deduction and setoff. By accepting any Award granted hereunder, the Participant agrees to any deduction or setoff hereunder.

### **19.15 Fractional Shares**

No fractional shares of Common Stock shall be issued or delivered pursuant to the Plan or any Award. The Committee shall determine whether cash, other Awards or other property shall be issued or paid in lieu of such fractional shares or whether such fractional shares or any rights thereof shall be forfeited or otherwise eliminated.

## **ARTICLE XX. CLAIMS PROCEDURES**

### **20.01 Initial Claim**

If a Participant has exercised an Option or SAR or if shares of Restricted Stock have become vested or Restricted Stock Units, Incentive Awards, Other Stock-Based Awards or Dividend Equivalents have become payable, and the Participant has not received the benefits to which the Participant believes he or she is entitled under such Award, then the Participant must submit a written claim for such benefits to the Committee within ninety (90) days of the date the Participant tried to exercise the Option or SAR, the date the Participant contends the Restricted Stock vested or the date the Participant contends the Restricted Stock Units, Incentive Awards, or Other Stock-Based Awards of Dividend Equivalents became payable or the claim will be forever barred.

## **20.02 Appeal of Claim**

If a claim of a Participant is wholly or partially denied, the Participant or his duly authorized representative may appeal the denial of the claim to the Committee. Such appeal must be made at any time within thirty (30) days after the Participant receives written notice from the Company of the denial of the claim. In connection therewith, the Participant or his duly authorized representative may request a review of the denied claim, may review pertinent documents and may submit issues and comments in writing. Upon receipt of an appeal, the Committee shall make a decision with respect to the appeal and, not later than sixty (60) days after receipt of such request for review, shall furnish the Participant with the decision on review in writing, including the specific reasons for the decision written in a manner calculated to be understood by the Participant, as well as specific references to the pertinent provisions of the Plan upon which the decision is based.

## **20.03 Time to File Suit**

The Committee has the discretionary and final authority under the Plan to determine the validity of a claim. Accordingly, any decision the Committee makes on a Participant's appeal will be administratively final. If a Participant disagrees with the Committee's final decision, the Participant may sue, but only after the claim on appeal has been denied. Any lawsuit must be filed within ninety (90) days of receipt of the Committee's final written denial of the Participant's claim or the claim will be forever barred.

## **ARTICLE XXI.** **AMENDMENT**

### **21.01 Amendment of Plan**

The Board may amend or terminate this Plan at any time; provided, however, that no amendment to the Plan may materially adversely impair the rights of a Participant with respect to outstanding Awards without the Participant's consent. In addition, an amendment will be contingent on approval of the Company's stockholders, to the extent required by law or any tax or regulatory requirement applicable to the Plan or by the rules of any stock exchange on which the Company's securities are traded or if the amendment would (i) increase the benefits accruing to Participants under the Plan, including without limitation, any amendment to the Plan or any Agreement to permit a repricing of any outstanding Awards under Section 19.13, (ii) increase the aggregate number of shares of Common Stock that may be issued under the Plan, (iii) modify the requirements as to eligibility for participation in the Plan, or (iv) change the performance conditions set forth in Article XV of the Plan for Awards that intended to constitute "qualified performance-based compensation" within the meaning of Section 162(m) of the Code. Additionally, to the extent the Board deems necessary to continue to comply with the performance-based exception to the deduction limits of Code Section 162(m), the Board will resubmit the material terms of the performance conditions set forth in Article XV to the Company's stockholders for approval no later than the first stockholder meeting that occurs in the fifth (5th) year following the year in which the stockholders previously approved the performance objectives. Notwithstanding any other provision of the Plan, any termination of the Plan shall comply with the requirements of Code Section 409A with regard to any 409A Awards.

### **21.02 Amendment of Awards**

The Committee may amend any outstanding Awards to the extent it deems appropriate; provided, however, that no amendment to an outstanding Award may adversely impair the rights of a Participant without the Participant's consent.

## **ARTICLE XXII.** **SECTION 409A PROVISION**

### **22.01 Intent of Awards**

It is intended that Awards that are granted under the Plan shall be exempt from treatment as "deferred compensation" subject to Section 409A of the Code unless otherwise specified by the Committee. Towards that end, all Awards under the Plan are intended to contain such terms as will qualify the Awards for an exemption from Section

409A of the Code unless otherwise specified by the Committee. The terms of the Plan and all Awards granted hereunder shall be construed consistent with the foregoing intent. Notwithstanding any other provision hereof, the Committee may amend any outstanding Award without Participant's consent if, as determined by the Committee, in its sole discretion, such amendment is required either to (a) confirm exemption under Section 409A of the Code, (b) comply with Section 409A of the Code or (c) prevent the Participant from being subject to any tax or penalty under Section 409A of the Code. Notwithstanding the foregoing, however, neither the Company nor any of its Affiliates nor the Committee shall be liable to a Participant or any other Person if an Award that is subject to Section 409A of the Code or the Participant or any other Person is otherwise subject to any additional tax, interest or penalty under Section 409A of the Code. Each Participant is solely responsible for the payment of any tax liability (including any taxes, penalties and interest that may arise under Section 409A of the Code) that may result from an Award.

#### **22.02 409A Awards**

The Committee may grant Awards under the Plan that are intended to be 409A Awards that comply with Section 409A of the Code. The terms of such 409A Award, including any authority by the Company and the rights of the Participant with respect to such 409A Award, will be subject to such rules and limitations and shall be interpreted in a manner as to comply with Section 409A of the Code.

#### **22.03 Election Requirements**

If a Participant is permitted to elect to defer an Award or any payment under an Award, such election shall be made in accordance with the requirements of Code Section 409A. Each initial deferral election (an "Initial Deferral Election") must be received by the Committee prior to the following dates or will have no effect whatsoever:

(a) Except as otherwise provided below, the December 31 immediately preceding the year in which the compensation is earned;

(b) With respect to any annual or long-term incentive pay which qualifies as "performance-based compensation" within the meaning of Code Section 409A, by the date six (6) months prior to the end of the performance measurement period applicable to such incentive pay provided such additional requirements set forth in Code Section 409A are met;

(c) With respect to "fiscal year compensation" as defined under Code Section 409A, by the last day of the Company's fiscal year immediately preceding the year in which the fiscal year compensation is earned; or

(d) With respect to mid-year Awards or other legally binding rights to a payment of compensation in a subsequent year that is subject to a forfeiture condition requiring the Participant's continued service for a period of at least twelve (12) months, on or before the thirtieth (30th) day following the grant of such Award, provided that the election is made at least twelve (12) months in advance of the earliest date at which the forfeiture condition could lapse.

The Committee may, in its sole discretion, permit Participants to submit additional deferral elections in order to delay, but not to accelerate, a payment, or to change the form of payment of an amount of deferred compensation (a "Subsequent Deferral Election"), if, and only if, the following conditions are satisfied: (a) the Subsequent Deferral Election must not take effect until twelve (12) months after the date on which it is made, (b) in the case of a payment other than a payment attributable to the Participant's death, disability or an unforeseeable emergency (all within the meaning of Section 409A of the Code) the Subsequent Deferral Election further defers the payment for a period of not less than five (5) years from the date such payment would otherwise have been made and (c) the Subsequent Deferral Election is received by the Committee at least twelve (12) months prior to the date the payment would otherwise have been made. In addition, Participants may be further permitted to revise the form of payment they have elected, or the number of installments elected, provided that such revisions comply with the requirements of a Subsequent Deferral Election.

#### **22.04 Time of Payment**

The time and form of payment of a 409A Award shall be as set forth in an applicable Agreement. A 409A Award may only be paid in connection with a separation from service, a fixed time, death, disability, Change in Control or an unforeseeable emergency within the meaning of Section 409A of the Code. The time of distribution of the 409A Award must be fixed by reference to the specified payment event. Notwithstanding the foregoing, if the time of distribution of the 409A Award is not set forth in the applicable Agreement, then the time of distribution of the 409A Award shall be within two and one-half months of the end of the later of the calendar year or the fiscal year of the Company or Affiliate that employs the Participant in which the 409A Award becomes vested and no longer subject to a substantial risk of forfeiture within the meaning of Code Section 409A. For purposes of Code Section 409A, each installment payment will be treated as the entitlement to a single payment.

#### **22.05 Acceleration or Deferral**

The Company shall have no authority to accelerate or delay or change the form of any distributions relating to 409A Awards except as permitted under Code Section 409A.

#### **22.06 Distribution Requirements**

Any distribution of a 409A Award triggered by a Participant's termination of service shall be made only at the time that the Participant has had a separation from service within the meaning of Code Section 409A. A separation from service shall occur where it is reasonably anticipated that no further services will be performed after that date or that the level of bona fide services the Participant will perform after that date (whether as an employee or independent contractor of the Company or an Affiliate) will permanently decrease to less than fifty percent (50%) of the average level of bona fide services performed over the immediately preceding thirty-six (36) month period. A Participant shall be considered to have continued employment and to not have a separation from service while on a leave of absence if the leave does not exceed six (6) consecutive months (twenty-nine (29) months for a disability leave of absence) or, if longer, so long as the Participant retains a right to reemployment with the Company or Affiliate under an applicable statute or by contract. For this purpose, a "disability leave of absence" is an absence due to any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than six (6) months, where such impairment causes the Participant to be unable to perform the duties of Participant's position of employment or a substantially similar position of employment. Continued services solely as a director of the Company or an Affiliate shall not prevent a separation from service from occurring by an employee as permitted by Section 409A of the Code.

#### **22.07 Key Employee Rule**

Notwithstanding any other provision of the Plan, any distribution of a 409A Award that would be made upon a separation from service within six (6) months following the separation from service of a "specified employee" as defined under Code Section 409A and as determined under procedures adopted by the Board or its delegate shall instead occur on the first day of the seventh month following the separation from service (or upon the Participant's death, if earlier) to the extent required by Section 409A of the Code. In the case of installments, this delay shall not affect the timing of any installment otherwise payable after the requisite delay period.

#### **22.08 Distributions Upon Vesting**

In the case of any Award providing for a distribution upon the lapse of a substantial risk of forfeiture, if the timing of such distribution is not otherwise specified in the Plan or the applicable Agreement, the distribution shall be made not later than two and one-half (2 1/2) months after the calendar year in which the risk of forfeiture lapsed.

#### **22.09 Scope and Application of this Provision**

For purposes of this Article XXII, references to a term or event (including any authority or right of the Company or a Participant) being "permitted" under Code Section 409A means that the term or event will not cause the Participant to be deemed to be in constructive receipt of compensation relating to the 409A Award prior to the distribution of cash,

shares of Common Stock or other property or to be liable for payment of interest or a tax penalty under Code Section 409A.

**ARTICLE XXIII.**  
**EFFECTIVE DATE OF PLAN**

The Plan is effective on the date of its adoption by the Board, contingent on the approval of the Plan by the Company's stockholders within twelve (12) months after such date. Awards, other than Restricted Stock or outright grants of shares on Common Stock, may be granted under this Plan on and after the effective date, provided that no Award shall become exercisable, vested, earned or payable unless the Company's stockholders approve the Plan within twelve (12) months after the Board's adoption of the Plan. Restricted Stock and outright grants of shares of Common Stock may only be granted after the Company's stockholders approve the Plan.

**ARTICLE XXIV.**  
**DURATION OF PLAN**

No Award may be granted under this Plan on and after ten (10) years following the effective date of the Plan. Awards granted before that date shall remain valid in accordance with their terms.

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Randal J. Kirk, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Intrexon Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2019

/s/ RANDAL J. KIRK

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Randal J. Kirk

*Chairman and Chief Executive Officer*  
(Principal Executive Officer)



**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Rick L. Sterling, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Intrexon Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2019

/s/ RICK L. STERLING

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Rick L. Sterling

*Chief Financial Officer*

(Principal Financial Officer)

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350  
AS ADOPTED PURSUANT TO SECTION 906  
OF THE SARBANES-OXLEY ACT OF 2002**

I, Randal J. Kirk, Chairman and Chief Executive Officer of Intrexon Corporation (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2019 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 9, 2019

/s/ RANDAL J. KIRK

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Randal J. Kirk

*Chairman and Chief Executive Officer*

(Principal Executive Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350  
AS ADOPTED PURSUANT TO SECTION 906  
OF THE SARBANES-OXLEY ACT OF 2002**

I, Rick L. Sterling, Chief Financial Officer of Intrexon Corporation (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2019 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 9, 2019

/s/ RICK L. STERLING

Rick L. Sterling

*Chief Financial Officer*

(Principal Financial Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.