

DOMESTIC DAIRY SEMEN SALES (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
HOLSTEIN	17,968,092	19,196,821	-6.40%
JERSEY	3,276,210	3,435,468	-4.64%
HOLSTEIN-RED CARRIER	219,423	185,539	18.26%
R&W/RED HOLSTEIN	212,562	158,170	34.39%
BROWN SWISS	89,757	109,562	-18.08%
AYRSHIRE	28,225	32,639	-13.52%
GUERNSEY	27,868	27,134	2.71%
MILKING SHORTHORN	16,798	22,298	-24.67%
OTHER DAIRY	27,597	28,782	-4.12%
TOTAL	<u>21,866,532</u>	<u>23,196,413</u>	<u>-5.73%</u>

DAIRY SEMEN IMPORT SALES (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
NORWEGIAN RED	74,743	96,922	-22.88%
MONTBELIARDE	40,648	37,653	7.95%
SWEDISH RED	15,755	25,961	-39.31%
HOLSTEIN	8,869	140,317	-93.68%
JERSEY	4,309	828	420.41%
OTHER DAIRY	15,432	26	59253.85%
TOTAL	<u>159,756</u>	<u>301,707</u>	<u>-47.05%</u>

CUSTOM FROZEN DAIRY SEMEN (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
HOLSTEIN	2,008,126	2,090,787	-3.95%
JERSEY	354,257	268,298	32.04%
BROWN SWISS	119,492	227,668	-47.51%
R&W/RED HOLSTEIN	11,857	148	7911.49%
MONTBELIARDE	9,567	305	3036.72%
AYRSHIRE	6,042	12,031	-49.78%
GUERNSEY	5,499	8,982	-38.78%
MILKING SHORTHORN	579	6,109	-90.52%
OTHER DAIRY	3,605	133,605	-97.30%
TOTAL	<u>2,519,024</u>	<u>2,747,933</u>	<u>-8.33%</u>

DAIRY SEMEN EXPORT SALES (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
HOLSTEIN	22,383,335	20,065,808	11.55%
JERSEY	1,287,746	1,401,820	-8.14%
BROWN SWISS	218,843	214,341	2.10%
R&W/RED HOLSTEIN	437,831	220,269	98.77%
HOLSTEIN-RED CARRIER	141,906	64,976	118.40%
AYRSHIRE	58,642	45,300	29.45%
MONTBELIARDE	12,713	20,571	-38.20%
GUERNSEY	12,285	6,632	85.24%
MILKING SHORTHORN	2,012	3,978	-49.42%
OTHER DAIRY	5,103	3,540	44.15%
TOTAL	24,560,416	22,047,235	11.40%

DAIRY SEMEN EXPORT SALES (2)

UNITS OF SEMEN

	2018	2017	%+/-
WORLD TOTAL	24,339,896	22,174,296	9.77%

DAIRY SEMEN EXPORT SALES (2)

DOLLAR VALUE

	2018	2017	%+/-
WORLD TOTAL	\$186,666,694	\$163,017,873	14.51%

DOMESTIC BEEF SEMEN SALES (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
ANGUS	2,400,214	1,648,789	45.57%
SIMMENTAL	570,054	316,896	79.89%
LIMOUSIN	501,706	203,881	146.08%
RED ANGUS	142,192	139,238	2.12%
POLLED HEREFORD	81,883	78,313	4.56%
CHAROLAIS	78,353	23,167	238.21%
GELBVIEWH	37,364	38,023	-1.73%
WAGYU	27,788	22,635	22.77%
HEREFORD	25,229	29,453	-14.34%
AMERIFAX	23,919	0	0.00%
BRAHMAN	8,424	7,319	15.10%
MAINE ANJOU	6,219	7,908	-21.36%
BRANGUS	4,840	2,137	126.49%
CHIANINA	3,844	3,786	1.53%
SHORTHORN	2,817	3,141	-10.32%
GYR	2,715	1,374	97.60%
CHI-MAINE	2,543	1,479	71.94%
OTHER BEEF (a)	116,422	12,534	828.85%
TOTAL	<u>4,036,526</u>	<u>2,540,073</u>	<u>58.91%</u>

(a) Other Beef includes: Aberdeen, American Bucking Bull, Beefmaster, Belgian Blue, Belted Galloway, Black Hereford, Brahman (Red), Brangus (Red), Braunvieh, Crossbreed, Dexter, Dutch Belted, Indu-Brazil, Murray Grey, Nellore, Nellore, Normande, Piedmontese, Salers, Santa Gertrudis, Scotch Highland, Scotch Shorthorn, Senapol, Texas Longhorn, White Park, and Misc. Beef.

BEEF SEMEN IMPORT SALES (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
RED DANE	208	998	-79.16%
TEXAS LONGHORN	10	25	0.00%
OTHER BEEF (b)	42	490	-91.43%
TOTAL	<u>260</u>	<u>1,513</u>	<u>-82.82%</u>

(b) Other Beef includes: Angus, Limousin, Piedmontese, and Simmental-Fleckvieh.

BEEF SEMEN EXPORT SALES (1)

UNITS OF SEMEN

<u>BREED</u>	<u>2018</u>	<u>2017</u>	<u>%+/-</u>
ANGUS	3,329,223	2,805,569	18.66%
RED ANGUS	284,788	302,106	-5.73%
BRANGUS	78,736	78,766	-0.04%
POLLED HEREFORD	66,926	87,869	-23.83%
SIMMENTAL	65,444	91,378	-28.38%
CHAROLAIS	28,179	56,487	-50.11%
BRAHMAN (RED)	23,390	26,184	-10.67%
BRAHMAN	19,343	26,040	-25.72%
LIMOUSIN	19,022	8,936	112.87%
GYR	17,909	11,514	55.54%
AMERIFAX	16,396	0	0.00%
BRANGUS (RED)	6,891	20,093	-65.70%
WAGYU	8,702	13,385	-34.99%
HORNED HEREFORD	2,076	3,147	-34.03%
OTHER BEEF (c)	10,110	7,476	35.23%
TOTAL	<u>3,977,135</u>	<u>3,538,950</u>	<u>12.38%</u>

(c) Other Beef includes: Brahmousin, Braunvieh, Chianina, Chi-Maine, Crossbreed, Galloway, Gelbvieh, Guzerat, Maine-Anjou, Nellore, Normande, Polled Shorthorn, Scotch Highland, Scotch Shorthorn, Senapol and Misc. Beef.

BEEF SEMEN EXPORT SALES (2)

UNITS OF SEMEN

	<u>2018</u>	<u>2017</u>	<u>%+/-</u>
WORLD TOTAL	<u>3,741,667</u>	<u>3,546,767</u>	<u>5.50%</u>

BEEF SEMEN EXPORT SALES (2)

DOLLAR VALUE

	<u>2018</u>	<u>2017</u>	<u>%+/-</u>
WORLD TOTAL	<u>\$13,292,981</u>	<u>\$12,327,282</u>	<u>7.83%</u>

CUSTOM FROZEN BEEF SEMEN (1)

UNITS OF SEMEN

BREED	2018	2017	%+/-
ANGUS	1,088,935	1,232,393	-11.64%
LIMOUSIN	737,037	75,975	870.10%
SIMMENTAL	426,924	220,490	93.63%
RED ANGUS	205,249	152,172	34.88%
WAGYU	128,365	94,313	36.11%
BEEFMASTER	104,841	61,166	71.40%
POLLED HEREFORD	85,149	84,398	0.89%
AMERIFAX	75,140	100	75040.00%
GELBVIEWH	72,821	41,769	74.34%
BRANGUS	71,729	34,851	105.82%
BRAHMAN	60,009	68,425	-12.30%
CHAROLAIS	58,538	76,452	-23.43%
HEREFORD	56,210	66,211	-15.10%
MAINE ANJOU	40,323	34,071	18.35%
CHIANINA	36,701	19,609	87.16%
SHORTHORN	26,157	35,256	-25.81%
BELGIAN BLUE	16,135	3,473	364.58%
TEXAS LONGHORN	15,333	16,681	-8.08%
BLACK HEREFORD	13,114	3,741	250.55%
SANTA GERTRUDIS	12,920	11,167	15.70%
SHORTHORN (SCOTCH)	12,894	6,638	94.25%
AMERICAN BUCKING BULL	11,493	18,575	-38.13%
CHI-MAINE	10,892	15,760	-30.89%
ABERDEEN	8,898	17,458	-49.03%
DUTCH BELTED	8,737	26,625	-67.18%
SOUTH DEVON	6,500	4,352	49.36%
MASHONA	6,200	3,805	62.94%
BRAHMAN (RED)	5,006	15,367	-67.42%
PIEDMONTESE	4,981	612	0.00%
IRISH BLACK	4,447	9,847	-54.84%
SALERS	3,883	4,218	-7.94%
BEEFALO	3,760	1,264	197.47%
SIMBRAH	3,711	7,600	-51.17%
BRAUNVIEWH	3,247	5,534	-41.33%
RED BRANGUS	2,979	4,510	-33.95%
OTHER BEEF (d)	244,797	223,506	9.53%
TOTAL	<u>3,674,055</u>	<u>2,698,384</u>	<u>36.16%</u>

(d) Other Beef includes: Ankole Watusi, Barzona, Belted Galloway, Bonsmara, Braford, British White, Chi-Angus, Corriente, Crossbreed, Devon, Dexter, Galloway, Gelbray, Guzerat, Gyr, Indu-Brazil, Marchigiana, Murray Grey, Nellore, Normande, Pinzgauer, Red Poll, Romagnola, Scotch Highland, Tarentaise, White Park and Misc. Beef.

(1) Based on Quarterly Reports of Semen Sold and Custom Frozen

(2) Based on Quarterly Survey of Semen Sold for Export