

STATISTICS COMMITTEE REPORT - AETA 2017

Changes were made to the 2016 survey in order to adjust what we must report to the IETS and to allow practitioners to report their own OPU's. Please contact me if you had any problems or if you have any suggestions for next year's survey.

Currently only AETA members can access the survey after login. I'd like to see if there is a possibility for non-members to access the survey as a GUEST to have a better number representing the US data.

I'd also like to see if there would be any interest in creating an AETA software that would easily generate ABC forms in the field and automatically summarize the data to AETA.

Thank you for taking the time to submit your data.

Sincerely,

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2016 SURVEY SUMMARY

The submitted data from 194 members, from 135 companies (125 certified ETB's) is summarized below.

TABLE 1: 2016 BOVINE EMBRYO TRANSFERS

	IN VIVO				IN VITRO				TOTAL		
	<i>FRESH</i>	<i>FROZEN</i>	TOTAL	<i>% in vivo</i>	<i>FRESH</i>	<i>FROZEN</i>	TOTAL	<i>% in vitro</i>	<i>FRESH</i>	<i>FROZEN</i>	TOTAL
DAIRY	29,759 53%	26,457 47%	56,217	47%	45,488 73%	16,777 27%	62,266	53%	75,248 64%	43,234 36%	118,482
BEEF	46,076 30%	108,038 70%	154,113	74%	23,712 43%	31,735 57%	55,447	26%	69,787 33%	139,773 67%	209,560
TOTAL	75,835	134,495	210,330	64%	69,200	48,512	117,712	36%	145,035	183,007	328,042

It is known that *in vitro* produced embryos have increased in the last years. In the USA 64% of the transferred embryos are still produced *in vivo*. In 2016 there was a slight shift to IVF for dairy embryos (47% *in vivo* and 53% *in vitro*).

TABLE 2: 2016 BOVINE IN VIVO EMBRYO PRODUCTION (SUPERVOVULATION/FLUSH)

	<i>COLLECTIONS</i>	<i>TOTAL OVA</i>	<i>VIABLE</i>	<i>FRESH</i>	<i>FROZEN</i>
DAIRY	11,596	113,982 9.8	65,628 5.7 58%	29,759 45%	35,869 55%
BEEF	26,696	348,070 13.0	188,736 7.1 54%	46,076 24%	142,660 76%
TOTAL	38,292	462,052 12.1	254,364 6.6 55%	75,835 30%	178,529 70%

TABLE 3: 2016 BOVINE IN VITRO EMBRYO PRODUCTION (IVF)

	OPUs	# of Oocytes OPU	# of Oocytes in Culture	Viable Embryos*	% of Embryos Frozen
DAIRY	22,823	392,273 17	364,721 16	121,317 33% 5.3	27%
BEEF	18,085	392,180 22	362,688 20	117,512 32% 6.5	66%
TOTAL	40,908	784,453 19	727,409 18	238,829 33% 5.8	46%

*Viable embryos – embryos sent from lab to practitioner on day 6, not necessarily will be transferred or frozen on day 7.

IVF embryos were part of the business for 121 AETA members:

- 22 companies performed OPUs (ovum pick up)
- 116 members transferred IVF embryos
- 6 IVF labs reported embryo production data

In this year's survey, only the labs were able to report how many IVF embryos were frozen. Some practitioners freeze their own embryos in the field. This will be corrected for 2017.

TABLE 4: 2016 BOVINE EMBRYOS EXPORTED BY COUNTRY

COUNTRY	DAIRY			BEEF			TOTAL
	In vivo	In vitro	TOTAL	In vivo	In vitro	TOTAL	
Argentina	163	108	271	19		19	290
Australia	164	218	382	195		195	577
Bolivia	133		133				133
Brazil	57	7	64	604		604	668
Canada	140	245	385	423	870	1293	1678
China	2134	51	2185	1028		1028	3213
Colombia	28		28				28
Costa Rica				84		84	84
El Salvador	8		8				8
France	253	94	347	14		14	361
Germany	1124	237	1361	519	16	535	1896
India	83		83				83
Ireland				45		45	45
Israel	5		5	14		14	19
Italy	3		3	51		51	54
Japan	1607	642	2249				2249
Korea	43	55	98				98
Mexico	11		11	22		22	33
Netherlands	740	1390	2130		10	10	2140
New Zealand	12	10	22				22
Pakistan	40		40				40
Paraguay				33		33	33
Poland				10		10	10
Puerto Rico		7	7				7
Russia	206	33	239				239
Scotland				15		15	15
South Africa				276		276	276
Spain		18	18				18
Sweden				12		12	12
Switzerland	43	157	200				200
Taiwan	15		15				15
Thailand				27		27	27
United Kingdom	106	422	528	249	81	330	858
TOTAL	7118	3694	10812	3640	977	4617	15429

The top 3 countries where the higher amount of embryos were exported are highlighted.

TABLE 5: 2016 BOVINE EMBRYOS EXPORTED BY BREED

DAIRY	TOTAL	BEEF	TOTAL
Holstein	10597	Angus	2298
Jersey	86	Simmental	823
Brown Swiss	72	Wagyu	669
Other	57	Other	827
TOTAL	10812	TOTAL	4617

TABLE 6: 2016 OTHER SPECIES IN VIVO EMBRYO PRODUCTION

Species	Collection data						Transfer Data			
	Collections	Total Ova	Viable	Ave Ova	Ave Viable	% Viable	Frozen	Fresh	Frozen	Total
Caprine	253	2,891	1,586	11.4	6.3	54.9%	443	1,151	665	1816
Ovine	153	623	342	4.1	2.2	54.9%	373	449	50	499
Cervidae	12	64	42	5.3	3.5	65.6%	19	31	12	43
Equine	2	0	0	0.0	0.0	0.0%	0	0	0	0
Porcine	2	35	19	17.5	9.5	54.3%	0	19	0	19

There is the need to contact other species associations to gather more data. Not many AETA members work with species other than bovine. *In vitro* embryo production in small ruminants was reported by one member (60 OPU, 947 oocytes, 693 into culture, 207 viable embryos, and 109 frozen).

Only one company reported to have manipulated *in vivo* beef embryos – 56 biopsied for genomics and 255 bisected.

The data per state was not included in this report. Since several companies work in different states, the numbers would not be accurate. An option for entering different states will be given on next year's survey and the table will return.