

Inbreeding Update - August 2018 -

Each year, based on official animal registration and pedigree information within its database, Canadian Dairy Network (CDN) computes current statistics related to the level of inbreeding within the Canadian cow population of each dairy breed. In this way, the average level of inbreeding for animals born in the most recent complete calendar year as well as trends in the level of inbreeding over time can easily be monitored. The following table is based on females born in Canada since 1970 up to and including registered heifers born in 2017.

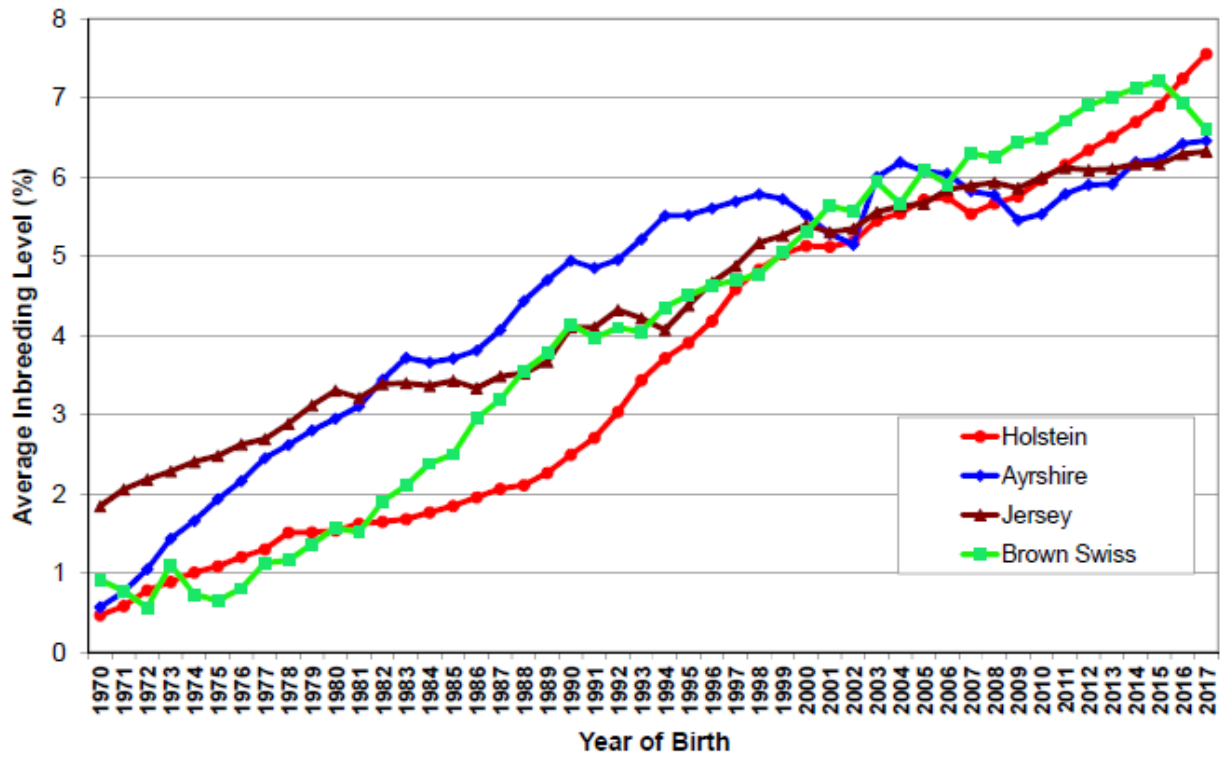
Current Inbreeding Level and Change in Average Inbreeding by Breed						
Breed	Average % Inbreeding for 2017	Average Annual Increase in Average Inbreeding Percentage by Time Period				
		1970-1980	1980-1990	1990-2000	2000-2010	2010-2017
Ayrshire	6.46	.24	.20	.06	.00	.13
Brown Swiss	6.60	.07	.26	.12	.12	.01
Canadienne	8.75	.16	.22	.30	.18	-.02
Guernsey	6.42	.06	.12	.15	.22	-.09
Holstein	7.76	.11	.10	.26	.08	.23
Jersey	6.33	.15	.08	.13	.06	.05
Milking Shorthorn	2.75	.01	.02	.28	-.14	.08

Among the four major dairy breeds in Canada, the average inbreeding level for heifers born in 2016 is highest for Holstein at 7.76%, followed by Brown Swiss (6.60%), Ayrshire (6.46%) and Jersey (6.33%). For two consecutive years now, the Brown Swiss breed has experienced a drop in the average inbreeding level of heifers born, most likely due to the increased use of semen from sires with more European pedigrees. The Jersey breed also continues to control well the rate of increase in inbreeding for females born since 2010, averaging +.05% per year, compared to rates of increase of +.13% and +.23% per year for the Ayrshire and Holstein breeds, respectively.

Among the breeds with the smallest populations in Canada, Canadienne continues to have the highest average inbreeding, now at 8.75% for females born in 2017, but the average rate of increase since 2010 is near zero. Guernsey heifers born in 2017 average 6.42% inbreeding and the average change since 2010 has been decreasing by -.09% per year. For Milking Shorthorn, heifers born in 2017 average 2.75% inbreeding based on available pedigree data for the breed and the rate of increase has been moderate at +.08% per year for heifers born since 2010.

Below is a graph showing the inbreeding trend for the four largest dairy breeds based on registered females born in Canada since 1970 as well as a specific graph for the Holstein population alone. For further information, please feel free to contact Canadian Dairy Network (CDN).

Inbreeding Trends in Canadian Dairy Breeds



Inbreeding Trend in Canadian Holsteins

