

Inbreeding Update - August 2005 -

Each year, based on official animal registration and pedigree information within its database, Canadian Dairy Network 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 animals born since 1970 up to and including registered animals born in 2004.

Current Inbreeding Level and Change in Average Inbreeding by Breed					
Breed	Average % Inbreeding for 2004	Average Annual Increase in Average Inbreeding Percentage by Time Period			
		1970-1979	1980-1989	1990-1999	2000-2004
Ayrshire	6.01	.23	.16	.05	.21
Brown Swiss	3.92	.04	.16	.11	.09
Canadienne	6.39	.08	.28	.20	.11
Guernsey	4.15	.04	.06	.18	-.01
Holstein	5.28	.08	.05	.25	.12
Jersey	5.04	.12	.04	.12	.08
Milking Shorthorn	2.29	.02	.01	.25	-.14

Amongst the five major dairy breeds in Canada, all but Brown Swiss experience an increase in the average level of inbreeding for registered heifers born in 2004 compared to 2003. During this one year, the Holstein breed increased the most at +.28 percentage points to reach 5.28% while the Ayrshire breed increased by +.19 to surpass the six percent level. More moderate increases were experienced in Guernseys (+.12) and Jerseys (+.13) with the average for Jersey passing the five percent mark. Registered Brown Swiss born in 2004 have an average inbreeding of 3.92%, which is a decrease of .22 compared to heifers born in 2003. In terms of overall trend for registered heifers born since 2000, the Ayrshire breed has the highest average rate of increase while those for Brown Swiss, Canadienne, Holstein and Jersey are moderate. The Guernsey breed has remained very stable during this period and Milking Shorthorns are showing a decreasing trend. Due to their small population size, annual changes in inbreeding levels for especially the Canadienne and Milking Shorthorn breeds are more sporadic from year to year so overall trend information is more informative.

The graphs below show the 30-year trend in inbreeding for the five main dairy breeds in Canada as well as a specific graph for the Holstein population alone. For further information, please feel free to contact Canadian Dairy Network.

