

## Inbreeding Update - August 2006 -

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 2005.

<b>Current Inbreeding Level and Change in Average Inbreeding by Breed</b>					
Breed	Average % Inbreeding for 2005	Average Annual Increase in Average Inbreeding Percentage by Time Period			
		1970-1979	1980-1989	1990-1999	2000-2005
Ayrshire	6.19	.23	.19	.05	.14
Brown Swiss	4.89	.05	.19	.11	.15
Canadienne	7.11	.08	.28	.20	.21
Guernsey	5.28	.04	.08	.20	.12
Holstein	5.55	.08	.05	.25	.14
Jersey	5.59	.13	.05	.15	.08
Milking Shorthorn	2.41	.02	.01	.26	-.11

Amongst the five major dairy breeds in Canada, it appears that the Ayrshire and Jersey breeds maintain the average level of inbreeding for registered heifers born in 2005 compared to 2004 and 2003. During the past year, however, the Holstein breed continues to creep up by +.17 percentage points to reach 5.55% for heifers born in 2005. The Guernsey and Brown Swiss breeds increase as well to reach the 5.28% and 4.89% levels respectively. In terms of overall trend for registered heifers born since 2000, the Canadienne breed has the highest average rate of increase, now reaching over 7% for heifers born in 2005, while those for Ayrshire, Brown Swiss, Guernsey, Holstein and Jersey breeds are moderate. Milking Shorthorns are showing a decreasing trend relative to the average inbreeding level in 2000. 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.

