Top Crawford DHIA Cows By Protein For February 1994

The top producing cows by protein in Crawford DHIA for February are as follows:

OWNER - COW'S NAME	BREED	AGE	DAYS	MILK	% PROT	PRO-TEIN	% FAT	FAT
MORRELL FARMS								
MADDIE	RH	4-9	305	35,274	3.1	1076	3.4	1202
NELSON	RH	5-8	305	27,907	3.5	975	4.2	1175
RICHAR	GR-H	3-8	305	29,865	3.2	954	3.6	1088
WANDA	RH	7-1	305	31,855	3.0	945	3.4	1093
ELLA	RH	7-7	305	31,909	3.0	944	3.4	1077
LIANE	RH	4-3	305	28,518	3.3	933	4.4	1245
LACY	GR-H	3-5	305	25,874	3.4	867	3.6	940
BUBLER	RH	3-6	305	25,501	3.4	865	3.8	978
A-CARL	RH	9-9	305	26,920	3.2	855	3.7	994
MANIE	RH	7-2	305	29,722	2.8	819	3.9	1158
FIFI	RH	3-2	305	24,018	3.3	781	3.6	872
BLACK POND FARMS								
NICKLE	RH	4-5	305	29,871	3.3	974	3.9	1167
WIL-AIRE FARM								
SPOT	RH	4-3	305	29,376	3.2	932	2.9	856
ANDRER	RH	3-6	305	27,993	3.2	907	3.7	1048
BEAUTY	RH	3-1	305	27,970	3.2	892	3.7	1025
MAGNAR	RH	3-5	305	26,369	3.3	863	2.9	767
SHEILA	RH	2-9	305	26,446	3.1	819	2.3	601
CLARK S DUNCAN								
TEDDI	RH	7-5	305	26,295	3.3	872	3.5	932
JASMIN	RH	3-5	305	27,109	3.1	849	3.2	865
GARYKAREN FREYERNUTH								
LORAIN	RH	3-6	301	26,694	3.3	871	3.7	992
ALAN & RHONA CUSTEAD								
GINA	RH	8-0	305	27,066	3.2	861	3.3	886
ENCHAN	GR-H	6-3	305	26,031	3.1	806	3.6	950
MARK + CHRIS CORNELL								
VANESS	RH	5-11	305	30,582	2.8	855	2.5	753
RICHARD L FIELD								
BONNIE	GR-H	5-11	305	28,059	3.0	835	4.1	1142
ORANGE BUCKET LPFINC								
52	RH	5-1	305	26,759	3.1	826	4.0	1058
JAMES + JANET HUNTER								
BRENDA	RH	4-3	305	28,096	2.9	822	3.4	965
SELDOMREST"F"FARM								
CINDY	GR-H	5-4	295	23,799	3.3	775	3.6	854
DENNIS B HALFAST								
STARLA	RH	6-3	305	26,394	2.9	771	3.5	912

It's Time To Make Maple Syrup

ROBERT S. HANSEN
Extension Forester
Bradford County

As spring approaches and the days grow longer and warmer and the nights remain cold, it is time to make maple syrup.

In our area trees are tapped toward late February and early March.

Maple sugar products are truly a North American product. Native Americans were perhaps the first people to make sugar and syrup from the maple tree. Indians living in the Lake States and along the St. Lawrence River would tap maple trees and gather the sap into a hollowed log. Hot stones would be added to the log causing the water in the sap to evaporate and concentrate the sugar or syrup.

This sugar often became a very important food source for many Native Americans. Early white settlers learned how to make maple sugar from the Indians and soon developed methods of their own.

For many woodlot owners today, the making of maple syrup in the early spring is an important part of their activities. For some it has become a major cash crop from their woodlands. It is a unique crop in that it is often both produced and processed entirely on the farm.

The Province of Quebec by far leads North America in maple products production. In 1984, Pennsylvania ranked ninth in production behind Vermont, New York, Ontario, Ohio, New Hampshire, Michigan, and Wisconsin. States and Provinces producing less than Pennsylvania include New Brunswick, Massachusetts, Nova Scotia, Maine, and Minnesota.

The two tree species most often tapped for maple sugar production are the sugar maple (*Acer saccharum*), and black maple (*Acer nigrum*). Sugar maple is far more common in Pennsylvania than is black maple. Tapping generally does little harm to the tree if correct guidelines are followed.

Trees that have been defoliated by gypsy moth or have suffered foliage damage from pear thrips, should not be tapped. Trees less than 10 inches in diameter should not be tapped. Trees less than 15 inches should have only one tap. Trees greater than 20 inches can have four taps.

Tap holes are made by boring a 7/16 inch diameter hole at a slight upward angle into the tree to a depth of 2½ to 3 inches deep. A spout or spile is then gently tapped into the hole until it fits snugly. A galvanized bucket or special plastic bag can be attached to collect the sap. Many of the larger producers are using a plastic tubing system that collects sap and takes it straight to the sugar house or to large storage tanks.

Eventually the sap is brought to the sugarhouse where a large evaporator reduces the sap to syrup. The sap is stored in a covered tank and is slowly let into the evaporator. The evaporator is made up of a series of pans for boiling water from the sap.

Sap is added in at one end of the pan until a predetermined level is reached. As the water evaporates from the sap, the sap becomes more concentrated and moves into other pans. Sap is constantly added to the sap pan to maintain a constant level. The sap moves along the different compartments losing more water to evaporation along the way.

Finally, the finished syrup is drained from the syrup pan at the end of the process. The syrup is strained to remove "sugar sand" and other impurities and sealed in containers.

The amount of sap needed to make a gallon of syrup varies with the percent sugar of the sap. Sugar contents of sap varies from tree to tree from less than 1 percent to sometimes 10 percent. The normal is about 2 to 3 percent.

Approximately 40 gallons of sap with a 2 percent sugar content is needed to produce one gallon of syrup. Maple producers are often concerned with maintaining healthy trees as healthy trees have a higher sugar content in their sap. Producers also favor trees with known higher sugar contents in thinning and timber stand improvement.

Maple syrup can be made into other treats. Maple sugar, maple fudge, and maple cream are just a few. A great place to sample maple products and have a good time is at the Endless Mountain Maple Festival at the Troy Fairgrounds in Troy on April 23 and 24.

If you would like additional information on making maple syrup, you can contact a local maple producer or the county extension office.

Nashville Recording Star To Appear At Banquet

GEORGETOWN, Del. — Singer, songwriter, and comedian Johnny Russell will provide entertainment for poultry industry personnel at the 1994 Delmarva Poultry Booster Banquet on Tuesday, April 26, in Salisbury, Md.

The announcement was made by Walter Moorhead, president of Delmarva Poultry Industry, Inc. (DPI), the 4,000-member trade association working for the continued progress of Delmarva's more than $1.25 billion-a-year poultry industry.

Russell has written songs for many of country music's most popular artists, has recorded a number of songs, and has won numerous awards. He has appeared on many television and radio programs as a singer, storyteller, and comedian. Guests at the banquet are sure to enjoy his show.

Singer, songwriter, and comedian Johnny Russell will provide entertainment at the Delmarva Poultry Industry, Inc., (DPI) Booster Banquet April 26 at the Wicomico Youth & Civic Center, Salisbury, Md.

The Booster Banquet marks the end of the annual DPI Fund Drive and close to 2,000 DPI investors are expected to attend. One ticket for the dinner is provided for each $125 investment.

In addition to the entertainment and announcement of the Fund Drive results, a number of awards will be presented. Delmarva's outstanding poultry growers will be recognized, as will the recipients of the DPI Medal of Achievement and the Delmarva's Distinguished Citizen Award.

Membership in DPI is available for any person or company wishing to support the local poultry industry's trade association. For more information, contact the DPI office at R.D. 6 Box 47, Georgetown, DE 19947-9622, (302) 856-9037.

Plants Tailored To Resist Viruses

WASHINGTON, D.C. — For sale: plants immune to disease-causing virus.

That's what gardeners and farmers can look forward to, say U.S. Department of Agriculture scientists who have built virus immunity into laboratory test plants.

Plant pathologist John Hammond of USDA's Agricultural Research Service says immunity can be bred into future plants—from ornamental flowers like orchids and gladiolus to peas, beans and other farm crops. A virus outbreak can be costly — one virus reduced the $13 million-a-year market value of commercially grown gladiolus in Florida by 15 to 20 percent.

Hamond and colleagues at ARS's Beltsville, Md., research center used a genetic technology — antisense — to create immunity. "We reserved the coding sequence of a piece of genetic material taken from a plant virus to create an antisense gene," he said. "When we inserted this gene in some experimental tobacco plants, we found it 'disarmed' invading plant viruses."

Antisense technology is a form of genetic engineering in which cells are instructed to do the opposite of what one of their genes is telling them to do. Antisense is now new, but this is "the first time it's been used successfully to create virus-resistant plants," Hammond said.

Plants with the antisense gene will churn out antisense RNA — the chemical cousin of DNA — as genetic material that binds to an invading virus's RNA. This binding apparently prevents the virus from reproducing itself in the plant. If the virus can't reproduce and spread, then it can't harm the plant, the scientist explained.

Hammond found that the antisense gene that was taken from bean yellow mosaic virus protected the engineered tobacco plants from the virus. A desert species of the tobacco plant, Nicotiana benthamiana, was used because it's very susceptible to potyviruses — the largest group of viruses attacking crops in this country.

Hammond worked about two years with plant pathologist Kathryn Kamo and plant geneticist Robert Greisbach on perfecting the anti-virus gene technology at their Beltsville labs.

He estimates that the antisense gene might be ready in two to five years for breeders of floral and other crops to use. Similar antisense genes should work in the future to combat related viruses that infect fruit trees.