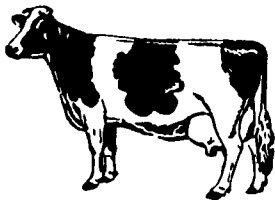


Major Dairy Sales And Dispersals Nationwide



Reports from seven sales for the week of May 15 to 22 showed 291 head averaging \$988.65. These sales were held in Vermont, Kentucky, and as far west as Oregon. The top prices at the sales ranged from \$19,000 to \$415. Here is a brief look at the results of these sales.

AYRSHIRES

The WESTERN NEW YORK CLUB SALE averaged \$705.88 on 57 head. The top price of \$1,625 was garnered by a bred heifer from Otter Creek Count Lancer. She is bred to Des Peupliers Rebel and her dam had a high record of 19,000 pounds of milk.

Second high in the bidding was bred heifer sired by Lincolnshire Red Baron. Her dam was classified EX-95.

The high selling calf was sired by Bur Aire Farms Buster. This calf selling for \$550 was junior sweepstakes calf, part of a program designed to help the junior members of the club.

Nine cows in the sale averaged \$1,033.33 and the 26 bred heifers averaged \$887.50. Auctioneer for the day was Victor Kent.

BROWN SWISS

The KENTUCKY NATIONAL SALE averaged \$966 on 40 head. Topping the sale was a male embryo sired by Bridgeview Combination with a price of \$4,000. The dam of this embryo was sired by Norvic Telestar and has records up to 20,360 pounds of milk with a 3.9 test. This entry's granddam is classified 3E and is an elite cow. She has a record of 32,160 pounds of milk with 1,251 pounds of fat.

A 4-year old sired by White Cloud Jason Elegant was next in the bidding with a price of \$3,100. She produced a 212-day record of 20,390 pounds of milk, 659 fat and 657 protein. Her dam classified excellent and has a record of 21,400 pounds of milk and 708 pounds of fat.

This sale was managed by Brown Swiss Enterprises and auctioneered by Garland Bastin of Kentucky.

JERSEY

The TOP OF VERMONT SALE averaged \$700 on 29 bred heifers, \$453 on four open heifers, and \$415 on seven calves. A bred heifer topped this sale, selling for \$1,150. She is bred to Schultz Performing Legend and her dam has a 4-year-old record of 12,351 M with a 6.7 percent test.

Second in the bidding was a July 1985 calf with a price of \$850. Her dam has seven records over 500 pounds of fat. Auctioneer for this sale was Tom Whitaker.

The OREGON STATE SALE averaged \$1,308 on 21 head. Topping this sale was a 3-year-old daughter by Favorite Saint.

Held in connection with this sale was the TILLAMOOK PROTEIN SALE. This sale averaged \$1,200 on 18 head. A springing heifer by Top Brass out of Mercury topped this sale with a price of \$3,000. Next in the bidding was a Shadewell Fascinator daughter out of a Favorite Juan daughter. She sold for \$1,650.

Both sales were auctioneered by Roy Benson and managed by the Oregon Cattle Club.

HOLSTEIN

The RICHMOND HERITAGE SALE held in Utah averaged \$2,100 on 44 head. A VG-85 daughter of Bell sold for \$19,000 for the high bid of the day. This 3-year old has a record of 23,660 pounds of milk and 885 pounds of fat.

Coming in with the second high bid was a yearling sired by Valiant, selling for \$10,000.

This sale was sponsored by the Utah Holstein Association and the auctioneer was Jim Ellis.

The LUCKY HILL DISPERSAL held in Wisconsin averaged \$1,050 on 71 head. An Elevation Pabst daughter topped the sale with a price of \$2,000. This 3-year old produced a record of 20,116 pounds of milk. Next in the bidding was a 5-year old sired by Straight Pine Elevation Pete with a price of \$1,700. This cow has a high record of 20,856 pounds of milk.

The auctioneer was Henry Bartel.

Test Tube Corn Research Offers Promise for Plant Breeders

ITHACA, NY — Corn and other crops that someday will grow on America's farms could be bred from plants that first took root in laboratory test tubes.

The groundwork for such an advance in plant breeding is taking place at Cornell University, where researchers are growing this "test-tube corn" as the result of a research breakthrough in the application of tissue culture techniques.

Vernon Gracen, a plant breeder, and Elizabeth Earle, a tissue culture specialist, both in the New York State College of Agriculture and Life Sciences at Cornell, have successfully created new corn breeding lines by using culture techniques. Tissue culture is a laboratory used to coax plant cells to grow into whole plants. Tissue culture research is not new. The work at Cornell, however, is notable because it brought the research out of the laboratory and proved it in test fields.

The development of Cornell test-tube corn begins in Earle's laboratory. Using a special blend of growth hormones and nutrients, Earle nurtures tiny pieces of corn embryo tissue into whole corn plants. These test-tube plants are transferred to a greenhouse, where they grow to maturity. After the plants mature in the greenhouse, Earle harvests the seeds and

hands them over to Gracen.

Gracen then plants those seeds in Cornell's research fields located in Aurora, NY, and Homestead, FL. Once those field plants mature, Gracen selects those with favorable characteristics and develops them into new breeding lines. Some of the traits developed in such test-tube corn plants include enhanced resistance to diseases, faster growth and maturity rates, and alterations of cytoplasmic male sterility, to name a few.

Gracen has tested these test-tube lines of corn for as many as six generations. His conclusion: "Tissue culture is a viable method of producing new or modifying existing corn varieties, and it has several advantages over traditional plant breeding methods."

A major advantage to test-tube corn breeding is speed. Gracen says he is able to produce new lines of corn in 18 months by selecting for variations that arise during culturing. When conventional techniques are used, it takes two or more years to accomplish the same task.

Another benefit of test-tube corn breeding is that it enables a breeder to engineer genetic changes into a plant without having to deal with the "dilution" of certain traits that occurs when plants are cross-bred.

"In layman's terms, it enables us to fine-tune a corn variety without the danger of disrupting favorable genetic characteristics," Gracen says.

Gracen and Earle have been studying corn tissue since 1980.

They became interested in using the technique for plant breeding because of a phenomenon that sometimes occurs when plants are grown in tissue culture — some offspring of the plants recovered from culture are genetically different from the original "parent" plant.

"Theoretically, if you take cells from one plant and grow them into whole plants in tissue culture, the new plants should be identical to the original," Earle explains. "In practice, that is not the case. Certain genetic changes occur when these corn plants are produced via tissue culture."

How and why such changes take place in tissue culture plants is not well understood, but the Cornell researchers are taking advantage of those changes, or "spontaneous variations," to improve corn crops.

"If this technique proves to have widespread applicability to other popular lines of corn, it could become a standard procedure for making genetic improvement to corn plants and, possibly, other agricultural crops," Earle says.

Field testing work by Gracen and Earle is attracting considerable attention from the American seed industry. The two scientists are currently testing 31 popular corn lines through a project funded by six commercial corn companies. The object of these tests is to determine whether the Cornell tissue culture technique will work on these corn lines. If it does work, seed companies may soon adopt the Cornell tissue culture approach into their own seed development programs.

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