

# Making milk fat tests more accurate

NEWARK, Del. — The fat test level of milk in farm tanks has considerable economic importance not only for producers, but also for processors who buy this milk.

"Let's assume," says University of Delaware extension dairy specialist Dr. George Haenlein, "that you have a herd of 100 Holstein cows which produce an average 40 pounds of milk per cow, filling your 4,000-pound milk tank daily. You'll get 13 cents per pound for that milk if the fat content is 3.5 percent. This gives you a daily gross income of \$520, from which, of course, you must pay all your feed, labor, utilities, veterinarian, taxes and other expenses."

If that milk tested 4.0 percent instead, the producer would get an additional \$32 a day, because of the \$0.0016 differential paid for each tenth of a percent of milk fat per pound above the 3.5 percent standard. Assuming production costs didn't change, in a year this daily \$32 increase would amount to a handsome \$11,680.

"Considering the money involved," says Haenlein, "it's easy to understand why the issue of accurate fat tests has been a bone of contention and suspicion between the farmer and the processing plant for a long time."

The controversy is based on the fat that fat and milk don't normally mix, but continually separate. The fat, in the form of cream, rises because it has a lighter specific gravity. This means it must be mixed back into the rest of milk manually or by machine for even distribution and accurate sampling. It takes time to do this — at least five minutes for a full 4,000-pound tank.

Milk is hauled from the farm to the processor in a tank truck which pumps the farm tank empty. Before loading, the driver must accurately measure the volume of the milk and take a sample which will be analyzed later to determine its fat content.

That sample is collected manually, Haenlein says, just as drivers have been doing for the last 30 years.

First, a dipstick is placed in the still tank to record the exact amount of milk there.

Next, an agitator is turned on and the driver waits while the milk and fat are completely mixed. This takes at least five minutes. Then he lowers a dipper into the full tank and collects the sample.

Finally, the tank is emptied and the truck goes to the next farm, where the procedure must be repeated.

"It's obvious that this manual system of recording, sampling and testing has great potential for human error which can translate into substantial amounts of money lost by either the farmer-producer or the milk processor," the specialist says. Given the technical and electronic capabilities of this space age, he says such manual procedures are obsolete and need to be replaced. The technology already exists to do so.

Three industrial milk metering and flow-through sampling devices are now used in other parts of the world, Haenlein says. The Danish milk industry uses an orifice-type collecting device called "Patch." A cylindrical sampler with a diaphragm, called "Diessel," is made in Germany.

A third American-made type, called "Isolok," uses the syringe principle to draw out 3-milliliter samples from every 50 quarts of milk flowing through the pump hose from the farm tank to the truck. This device has been officially approved in the Canadian province of Quebec. In fact, Quebec Department of Agriculture regulations require such automatic sampling devices on all farm bulk milk pickup trucks.

Isolok is also widely used today in U.S. and Canadian milk processing plants, Haenlein says. Since its development in 1969, over 600 Isoloks have been installed in these plants and over 400 on milk tank trucks. The sampler has been tested extensively and is consistently accurate to within plus or minus 0.01 percent of the true fat test value. It is easy to clean with normal automatic CIP procedures,

and has successfully met federal and local sanitary standards.

"With systems like this," the specialist says, "it's no longer necessary to wait for farm milk tanks to be agitated for proper mixing before sampling. An automatic flow-through sampler takes accurate samples as the milk is being pumped into the hauler's truck, so it saves the driver waiting time. And it does away with disagreements over improper payment due to inaccurate milk fat sampling."

Haenlein believes the time has come for Delmarva to adopt this modern dairy industry development, which would ensure that both producers and processors are fairly paid.



## Va. farm tour planned

WINCHESTER, Va. — Seven of Virginia's top farms, as well as two apple processing plants, will be open to the public Saturday, July 21, for the 1984 Virginia Farm Management Tour.

For the first time in its eight-year history, the tour will be hosted by two counties. Clarke and Frederick counties, located in the northernmost tip of the state, have been preparing for the one-day event since late last year.

Tour participants will see crops ranging from apples and plums to small grains and no-till corn. Livestock will include both Jersey and Holstein dairy cattle, beef cattle, sheep and Thoroughbred horses.

Clarke County will be represented on the tour by Harvue

Farms, the Holstein dairy of John Hardesty and sons; Frankford Farm, a diversified beef/sheep/cash grain farm owned by the Arthur Weiss family; Audley Farm, a Thoroughbred horse operation; and P.T. McIntire and Sons Inc., an Angus beef cattle farm.

Frederick County farms scheduled to be featured include Waverly Farm, a Jersey dairy operated by brothers Tracy, Kenneth, Paul and Mike Stiles; Rinker Orchards, a third-generation apple and plum orchard operated by Dudley Rinker; and D.K. Russell and Sons Inc., a large family-owned orchard in the heart of Virginia's apple country.

Two Winchester apple processing plants also will be open on tour day, allowing visitors a chance to learn what it takes to get an apple from the orchard to the

grocer's shelf. National Fruit Product Co. Inc., one of the oldest and largest apple processing companies in the United States, and Shenandoah Apple Cooperative Inc., a farmer-owned and operated business, will be open to visitors.

Tours and management discussions will be conducted throughout the day at each tour stop from 9 a.m. until 4 p.m. The tour is self-directed, allowing individuals to set their own pace.

The tour is being sponsored by the Virginia Cooperative Extension Service in cooperation with the Clarke-Frederick farm management committee.

For more information, contact a local Extension office or the Frederick County Extension Office, Courthouse Building, Winchester, VA 22601, or call (703) 662-8721.

## Fourth horse

(Continued from Page A32)

a cold sweat. She had two bullet holes in her side.

The 10-year-old mare lived for four hours. Although an autopsy was ordered, through error, it was never completed.

All four of the horses were tame and used frequently by family members in their trail riding hobby.

All the shootings have taken place during daylight hours. All are believed to be the result of firing a .22 caliber firearm, perhaps from sites 200 to 300 yards distant.

A blacktop road fronts the small farm, and several neighboring homes look down on the little pastured valley from the adjacent hill, so the property is not an isolated one. Fields curve around the pasture, where, until the shootings increased, up to nine horses regularly grazed.

Although the Schrum family has lived on the farm for 20 years, they say, up until the September shooting, no problems of any real property or personal threat had ever existed.

Since the first two horses shot were dark in color, the Schrums and Klings had speculated - even hoped - that perhaps careless groundhog hunters had mistaken their quarry.

"But a black and white horse, and then a white horse, can in no way be mistaken for a groundhog," Mrs. Kling said.

"We've heard shots the last two times. My husband had just walked into the house with our little girl this last time," she added, "and then we heard the shot."

Local deputy game warden Bob Fredericks wins praise from the two families for his support and hours given in helping to search for evidence.

Each of the past three shooting incidents has been reported to the Pennsylvania State Police and an officer has come to the scene each time to file a written report.

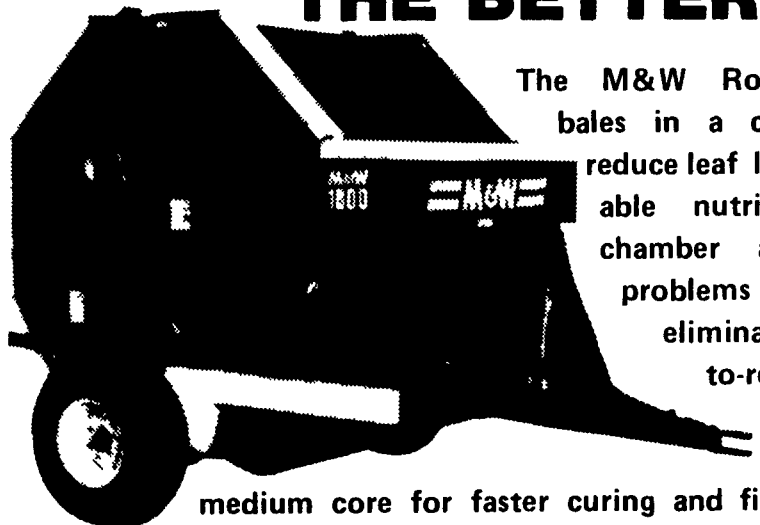
"They were all good horses, basically big pets," Mrs. Kling said. "I could see it better if they were taking them for meat, or to sell."

"But just to shoot them and let them lay?"

"You have to be afraid to be outside. You feel like you're being watched, and that's scarier than the guns. I grew up here. Now I run to the window every time a car goes past," she said.

Numerous friends and acquaintances have offered help, and the trail riding club to which the family belongs has added monies to a reward fund.

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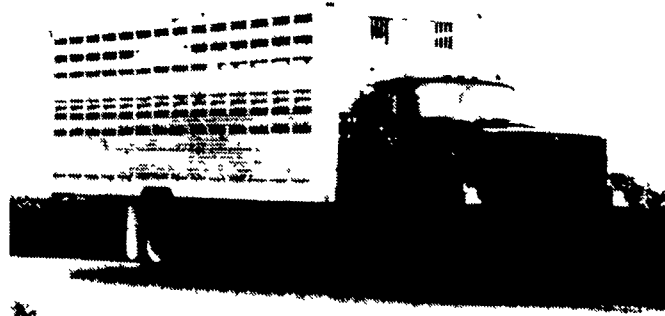
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