

## Mother Calves By Computer

NEWARK, Del. — Calf management is labor intensive. But a new piece of computerized equipment, designed and manufactured by a West German firm, provides a way to manage calves while saving precious time and labor.

The nursing machine by Westfalia is central to the calf management system employed by the University of Delaware's Agricultural Experiment Station farm.

"It is revolutionary," said Dr. George F.W. Haenlein, extension dairy specialist. "This is the only one in the country."

Computer management is not new to the Experiment Station dairy herd. The cows have been under computer management since 1984. It was a small step to install a nursing machine for the calves.

The calf system, in operation since last December, works much like the cow system. Each animal wears a transponder on a collar that signals the computer, housed in the farm office, when the animal reaches the feeding station.

"The computer recognizes the individual calf by an identification number and reads the calf's personal program," Haenlein said. "It knows how much milk to allow a particular calf during any 24-hour period."

Traditional rearing involves removing the calves from their mothers and putting them in calf hutches where they are fed free-choice grain and hay and given milk in buckets twice a day.

The calves readily adapt to the nursing machine. Not only does the equipment feed the calves, it has the effect of producing more contented calves by allowing them to fulfill their urge to suck, something that bucket feeding of milk does not do, said Jim Wolfer, superintendent of the Experiment Station farm.

"Within 24 hours after birth, the calves are in the feeding station," he said. "The new machine also allows group housing of the calves and increased socialization. A major problem with calves in free-running situations is that they suck on each others' tails and ears. This sucking may result in hairballs in the stomach which can block digestion and potentially cause death. But because of nursing at the machine, the calves don't need to suck on each other."

The nursing machine, which contains a store of powdered milk, is housed in a shed apart from the calves. A tube runs from the machine through a wall of the shed and out into a feeding stall to which the calves have access. When the calf comes to suckle and is recognized by the computer, the machine is signalled to release a measured amount of powder and warm water, which is blended to produce a pound of milk that is then released into the feeding tube.

Haenlein said replacement calves require about 10 percent of their body weight in milk per day. The amount of milk each calf receives can be changed by computer in the farm office to meet the calf's needs as it grows. Haenlein added that medicines or supplements can also be mixed with the milk and administered when the calves feed.

The nursing machine also prevents overeating -- a major cause of calf sickness. No matter what the calf's total allotment, it can only get a pound of milk at a time.

"Calves will gorge themselves, if we don't stop them," Haenlein explained. "The result is scours or diarrhea. The machine is set up to give about six feedings per day. A calf cannot get all of its allotment in the first hour of any 24-hour period. However, it can have more frequent feedings later in the day

if it hasn't gotten its full milk allotment."

Drinking all the allotment is an indicator of health, Haenlein said. Through a daily printout, the computer lets the manager know which calves are not drinking their daily allowance of milk. This cues the manager to check these particular calves, thus borderline sickness is detected at an early stage.

The new system also has allowed for some interesting observations of social behavior among the calves, said Wolfer. The calves from groups and sometimes share hutches.

"The calves catch on quickly," Wolfer said. "They figure out that the new computer day starts in the morning. By 9:30 most of the calves have had their first feeding."

The nursing machine can supply two nipples and each nipple

can feed about 25 calves a day. The University's unit can handle up to 120 calves a year, but for maintaining the herd of about 80 cows, 35 replacement calves will be raised. However, Haenlein said that all the bull calves produced on the farm could be raised for veal under this system very easily.

"The cost of the nursing machine is reasonable when divided by number of calves, especially if a farmer already has a computer," Haenlein said. "For large operations, where calves are traditionally fed twice a day by hand, it makes sense as a big labor saver."

## Meeting Covers Municipal Weed Control

LEESPORT (Berks Co.) — Penn State cooperative extension and the Pennsylvania Dept. of Agriculture are co-sponsoring a meeting on weed control for applicators who apply herbicides on public lands on Monday, April 30 at the Berks Co. Ag Center.

Registration is set for 9:00 a.m. Some of the topics include "Basic Classifications of Weeds and Herbicides," "Brush and Total Vegetation Control," and "Calibrating a Backpack Herbicide Sprayer," by Dr. Larry Kuhns, Penn State professor of ornamental hor-

ticulture; "Municipal Leaf Composting," by Judith L. Schwank, county agent; "Pennsylvania Pesticide Regulations," by Jim Lorah, Pa. Dept. of Ag; and "Noxious Weeds of Pennsylvania," by Wilbur Mountain, botanist, Pa. Dept. of Ag.

The meeting is important to municipal applicators who need information on municipal vegetation control. Cost of the meeting is \$10.00 per person and will provide pesticide license update credits. Reservations will be taken by the extension office until April 25, 1990.

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## Educator Honored

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man, representing Zi-We's Dairy Farm, donated a calf to the chapter to establish a "chain calf" program. The calf will be raised by an FFA member, and its first heifer calf given to another FFA member to raise.

Tracy Balthaser, Pennsylvania FFA vice president, was the speaker for the event.

Advisors to the Mifflinburg FFA are David Woodling, Glenn Spangler, Timothy Weller (on leave), and Michael Sanders.

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