



The four heifers shown here with Galen Crouse all have the same outstanding mother. They were born, though, to grade heifers that had been implanted with embryos flushed from the mother

in her sixth day of pregnancy. Crouse has been one of the most active area dairymen in making the new embryo transplant technology a part of his business planning.



John Hasler, a reproductive physiologist, examines all the embryos he and EmTrain's two veterinarians bring back to Elizabethtown from throughout the Northeast. The embryos are flushed from top cows, then surgically implanted in recipient heifers that bear the embryos until they are born.

### *Flushing out the best of breed*

# ET: shortcut to super cows and super records

**BY DICK WANNER  
ELIZABETHTOWN** — Embryo transplants are no longer a laboratory curiosity. ET firms are routinely providing dairy farmers with a management tool that is slowly changing the face of the dairy industry, and rapidly multiplying the dollar value of top dairy cows.

One Lancaster County dairyman, Galen Crouse, has been putting the new technology to work. On his dairy farm near Schoeneck, Crouse so far has seen the birth of 20 ET calves on his farm, and has grade heifers carrying another 19 calves with outstanding genetic credentials.

The ET process takes two kinds of cows, a donor cow and a recipient. Most often, the recipient is a fairly average non-lactating heifer. When she is in the proper heat stage, she is cut

open, her womb is pierced, and a microscopic six-day-old embryo from a donor cow is placed in her uterus.

Although the recipient cow actually contributes nothing to the genetic makeup of the calf in her body, she carries it as a foster mother until the calf is born.

While some farmers provide both the donor cows and the recipients, Crouse sees his recipient animals for the first time only after they've received embryos.

The embryos have been coming from a handful of top cows in the Crouse herd, including one 10-year-old who can't carry a fetus to term, but who has been a dependable supplier of fertilized eggs, or embryos.

Windy Mont Matt Kathy, a five-year-old, is an example of the kind of cow Crouse and other dairymen using the ET method are looking for. Her production records have

been in the 22,000 to 24,000 pound range, she's earned an Ex-90 rating from the Holstein breed association, and her dam, grand-dam, and one daughter have all earned Excellent classifications.

For a donor cow, Crouse wants an animal with good type, production and pedigree. He has his donors bred to top AI bulls at least 1,000 pounds plus on production, and plus on type.

Crouse said he wants his ET calves - bulls or heifers - to have a value of \$3000 the instant they hit the ground, but Kathy's calves have been doing quite a bit better than that.

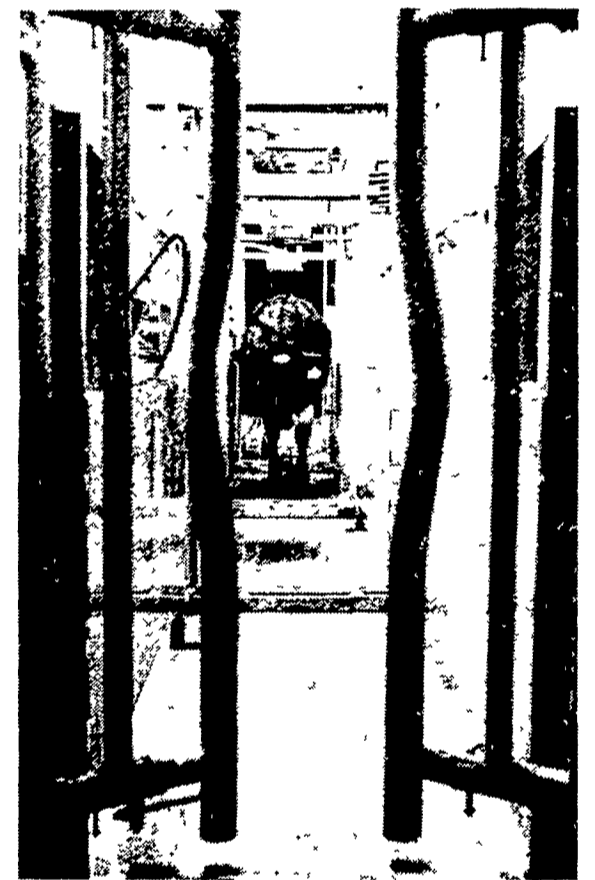
With the full-time help of his son, Phillip, Crouse milks 115 head out of a herd of some 325 animals. His animal numbers are high because he raises all his bulls, as well as his heifers. The bulls he raises for sale

generally go into the herds of dairymen who don't use AI. Because he sells many of his top milkers, Crouse's DER herd average last year was a fairly modest 15,600 pounds of milk.

His aim is to make half his income from milk, the other half from the sale of breeding stock. The ET process, he feels, will help him meet that goal. In Crouse's case, embryo transfers have moved off the pages of the farming publications and into his management philosophy.

Crouse buys his ET service from EmTrain, an Elizabethtown firm with ET clients throughout the Northeast. The firm is owned by Dr. Alan McCauley, a DVM, and Dr. John Hasler, whose Ph.D. is in reproductive physiology.

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A recipient heifer makes her way through a series of stalls which will hold her and seven other animals while live embryos are implanted in their wombs. The animals suffer minimal stress during the operation, and almost no infections as a result of the brief procedure.



By performing the embryo transplants swiftly, the incisions in the recipient's animals' sides are open only briefly. The short exposure helps to minimize the risks of infection.



Dr. Alan McCauley, nearest camera, Dr. Gregory Brooke, left, and animal technician Gary Bartlett can prepare eight heifers for surgery, implant live embryos in their wombs and have the animals sewed back up in less than half an hour. One day they performed this procedure on 47 different animals.