

One company's experience . . .

Will the A.I. industry turn to "dry" shippers?

By David M. Wilhelms
Information Specialist
21st Century Genetics

"Dry" or vapor shippers have earned the confidence of 21st Century Genetics for fast, economical and, most important, reliable door-to-door transportation of Angus semen.

Due to widely-reported problems with the first dry shippers, the company conducted an extensive trial with new models. Shippers were sent from its Shawano, Wi., headquarters to cooperative employees living in states ranging from Virginia to Missouri to South Dakota.

Based on that initial success, dry shippers became a vital part of 21st Century Genetics' expanded Angus marketing program.

Ken Hartzell, Beef Programs manager for 21st comments: "Dependability was one of my primary concerns when we started talking about utilizing a vapor shipper program. After all, getting cows bred is tough enough without having to worry about damage to semen during shipment.

"Our trials have proven the containers used at this time have become much more reliable than those shippers used in many of the early trials," Hartzell continued.

The important part of dependability in Hartzell's view was the carrier used to deliver the shippers to the customers. "Again, our trials involving the vapor shippers and United Parcel Service (UPS) have proven the program to be very satisfactory," the beef programs manager noted.

21st Century Genetics includes a "call tag" with its UPS shipments, providing automatic return of the shippers from the recipient. The door-to-door service has eliminated the often long and inconvenient trips to the nearest bus station. Using UPS is also

cheaper, Hartzell said.

The cooperative has now made 142 shipments using the Minnesota Valley Engineering XDS-5 dry shipper, reports Glen Gilbert, 21st Century Genetics Director of Production. The shippers have a capacity of 90 units of semen.

Of that number, only one shipper has failed and one shipment was excluded from the trial for technical reasons. With a reliability over 98 percent, Gilbert said, "That's as good or better than any of the alternative forms of semen shipment."

Before going further into the whys and wherefores of the company's shipper program, it's best to define what is meant by a "dry" or "vapor" shipper.



Dry shipper used by 21st Century Genetics inside protective outer shell.

What is a dry shipper?

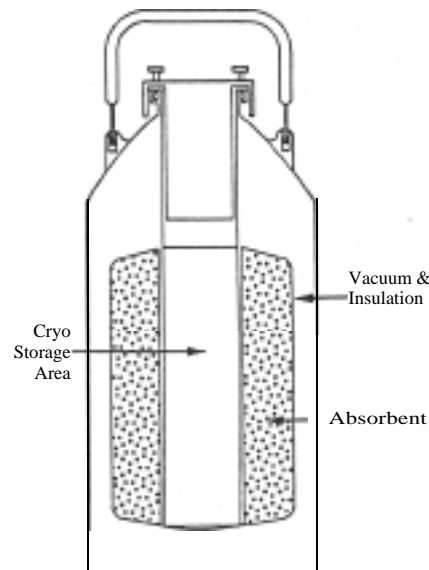
The term "dry" shipper is actually not technically accurate. "Dry" shippers and conventional semen storage refrigerators both have similar design. Both have metal shells and an insulated middle layer that is sealed under a vacuum for additional insulation value. Both have an inner storage canister for semen. Both use liquid nitrogen as the cooling agent.

"Dry" shippers, however, are lined with a special absorbent material that acts like a sponge. This absorbent material soaks up and holds the liquid nitrogen, preventing its spillage if the container is tipped.

As there is no liquid nitrogen to spill, the shippers qualify for UPS and avoid "hazardous materials" restrictions.

"Dry" shippers rely on the liquid nitrogen vapor for cooling. The temperatures in the storage canister are exactly the same as a conventional "wet" shipper.

To further demonstrate the temper-



ature of the shipper, there is a holder with two temperature monitors included with every 21st Century Genetics shipper. The monitors accurately reflect the temperature should there ever be a failure. Complete instructions come with the shipper on how to handle and read the monitors.

The "dry" shipper will hold the semen at the right temperature for well beyond most shipping periods.

Flexibility makes more bulls available

Hartzell also likes the flexibility of the dry shipper program "not only for the shippers but also for our sire lineup."

The dry shipper program "allows us to have a relatively small inventory and still make a sire available to the marketplace," he says.

"Our individual salesmen have the convenience of being able to sell bulls as soon as they arrive in our central inventory, as well as allowing our marketing and distribution people to move semen quickly and inexpensively. In short, the semen is in the right place at the right time.

"The use of vapor shippers allows us to handle semen on a larger number of sires. Previously, we would have built a sizeable inventory on a given bull before releasing the semen to our sales people nationwide," Hartzell said.

21st Century Genetics can also use younger sires due to the small inventories required, "thereby making the newer genetics available sooner."

Hartzell said bulls on the show circuit often do not have the time to stand in a stud to collect the amounts of semen needed for previous delivery

and marketing systems. With lower inventory requirements in a dry shipper program, Angus breeders will have increased access to some of the elite sires in the country.



Temperature monitors as they are checked upon receipt of a dry shipper. The two monitors show they are "un-tripped" and the temperature of the shipper has not changed. Thirty units on three canes are a typical shipment.

A.I. success is more than grasping straws

To improve the "finesse" of working with straws, concentrate on the following:

1. Clipping end of straw-

- Wipe straw completely dry with paper toweling
- Wipe scissors completely dry with paper toweling
- Cut off straw as recommended for the type of insemination gun and sheath that is being used.

2. Warming the insemination gun-

- Warm by friction, rub gun vigorously five to six strokes with paper toweling before loading.

3. Expelling the semen-

(Concentration and good techniques will result in semen being deposited at the proper point of deposition.)

- Reproductive tract should be in

By Don Deckert
Field Training Manager
Tri-State Breeders Cooperative

the center of pelvic area.

- Determine point of deposition and maintain this until all semen is deposited.

- Push plunger of insemination gun slowly while depositing semen.

4. Transferring canes-

- When transferring semen from one tank to another, set both tanks side by side so this can be done within five seconds.

5. Controlling water temperature and thawing-

- Use a one-pint, insulated, wide-mouth thermos and a dial thermometer (this should be checked annually for accuracy).
- Proper water temperature for thawing semen is 95 degrees F.
- Time allowed for proper thawing is 45 seconds.

Consider these A.I. tips from a "Top Achiever"

The possibility of A.I. technician Don Beck artificially inseminating 200,000 cows looms as his next milestone. He is the first A.I. tech in North America to hit the 150,000 cow-mark. As of November 30, 1986, his first-service record was 193,370 cows.

Of course, Beck serves a clientele farming in the dairy-rich state of Wisconsin and southern Dane County. He's a 38-year veteran of the A.I. industry and has been a member of the Tri-State Breeders Cooperative team at Baraboo, Wi. since 1960. He makes his home in Madison.

Tri-State annually recognizes its technicians with a variety of awards, and Don Beck has led the company's sales/technician force as a "Top Achiever" in 1979, 1982, and 1984, also. He jokes his blue station wagon gets about eight miles to the cow.

Beck is one of five technicians in North America topping the 150,000 cow figure. Don and his Tri-State colleague Ray Honer gained the honor in 1980 and 1983 respectively. As of the last count there were 95 technicians of all companies and cooperatives that have passed the 100,000 cow yardstick.

Trying to do the best he can for the herd and client is an attitude responsible for such success, his customers agree. "Don walks into a herd and looks it over as if it were his own," says Ole Lien, Brooklyn, Wi. dairy-

man.

Don Beck began his career in 1948 working for two years with an artificial breeding program at the University of Wisconsin. This fledgling became Southern Wisconsin Breeders and, in 1960, merged with Tri-State Breeders Cooperative, Don's home port ever since.

He witnessed the rapid transition from fresh to frozen semen—"probably the most significant change I've seen in the animal breeding industry," he says. Converting largely from ampules to straws was another breakthrough.

Over the years, he's encountered those valuable but troublesome cows, and one piece of advice he's found helpful is to practice day-late breeding—"If the reproductive organs are in normal condition," he qualifies. "Also, an injection of Cystorelin accelerates ovulation." Consulting your veterinarian is always a wise step, he cautions, when considering any kind of drug therapy. He also recommends pre-breeding checks by the vet in those cases where value or history may dictate.

While his practice and experience is based almost entirely on dairy animals, Beck's suggestions for heifers merit consideration. He's found over the years that smaller heifers which have not been well fed can be serviced shortly after the onset of stand-

ing heat with good results. Highly conditioned heifers, in contrast, can be serviced by the next-day breeding method. He's had excellent results following this approach.

Cattlemen should watch for heats at least twice a day, he thinks. During the summer's heat, Beck has found watching cattle at dusk to be most productive. "Kamar detectors and Heat Mark help detect after dark."

Beck doesn't have any specific advice on heat synchronization products or techniques but does offer broad approval for them if tailored to the producer's management level, labor, and breeding objectives. "Synchro-Mate-B worked well on one group of heifers. A dairyman treated 19 heifers with the product and 16 settled on first service."

Beck lists the two most common mistakes producers commit in their A.I. efforts: 1) guessing at heats; 2) and breeding too early after calving.

And a single item that would help improve conception from his observations?

"Better nutrition," he says simply, a story as old as the time it takes to A.I. 190,000-plus cows.

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(Tri-State's Karen Schultz and Beth Heinzen contributed to this Part 1 report. Additional material on heat synchronization will be appearing in Part II and a future issue.)