

breaking the transmission cycle of the organism through sanitation is presently the most effective and safe method of control. Limited success in getting producers to use disinfectant solutions especially in the winter months resulted in recommending the following methods of sterilizing calf pens:

1. *Propane flame.* Wooden, concrete or metal calf pens or hutches can be flamed with a propane burner. One can flame the pens by applying the flame much like a paint brush. The ground the pens are on can be literally cooked. Occasionally the wooden pens will be scorched and one must use caution when working around flammable materials.

2. *Fumigation and formaldehyde gas.* Fiber glass hutches that cannot be flamed and small airtight buildings can be sterilized with formaldehyde gas. The gas is produced by placing one pound of potassium permanganate in a stainless steel container to which is added one liter of commercial formaldehyde solution. The volume of gas produced is enough to fumigate 500 feet³. The hutch or building should remain closed for three to four hours for maximum effect. One should avoid breathing the fumes. This gas is relatively effective in the presence of organic material. Dead flies inside the building during the fly season are a good indication of an adequate volume of gas being produced.

Embryo Transfer Tips

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While I tried to make this presentation a light-hearted one, borrowing an idea or two from the television shot *Dragnet*, I did present two ideas that have been helpful to me in my embryo transfer work.

The *first*, and the one on which the presentation dealt entirely, was a simple idea designed to hold a cow's tail out of the way during embryo transfer or any other procedures in the perineal area of a cow. A black rubber tie-down strap that is usually used to hold a tarpaulin on a truck bed plus a handle from the end of a set of battery jumper cables are fastened together and attached to the chute in which you are working. It can be positioned so that when attached to the tail there is some tension on the rubber strap. This will keep the tail cleanly out of the way even when the cow moves forward or backward. In the event the tail is left attached when the cow leaves the chute, the handle will automatically be pulled off when the rubber strap stretches to the limit without amputating the tail as happens many times when rope is used to tie the tail. Battery handles and rubber tie-down straps can be found at all automotive supply stores or at your local flea market.

The *second* tip involves a homemade disposable embryo filter that can be made for under about 20 cents. Materials needed include flexible plastic drinking cups (2) with their bottoms cut out, and a piece of 80 micron nylon screening material. A 4"x4" piece of the 80 micron filter is laid on top

of one of the cups and the second cup is then placed on top of the screen and pushed downward into the first cup—sandwiching the screen between the two cups. The second cup (or inside one) should be cut so that it is only one-half as tall as the outer cup to facilitate removal of the screen for rinsing.

The flush media containing the embryos is poured through the cups. Then the filter screen is removed and held over an embryo transfer dish. The debris and embryos are washed off the filter surface and into the embryo transfer dish for searching. The filter is rinsed with PBS by a syringe and a 20 gauge needle. The filter is then thrown away and the cups are saved and resterilized.

I sterilize the filters by placing ten of the 4"x4" sheets into a zip lock sandwich bag, adding a 4"x4" piece of cardboard to keep the filters flat, and then sterilize with Ethylene Oxide. The cups are sterilized the same way with ETOH. I have found that the cups can be protected very well by putting about twenty sets of them (one set equals one long and one short cup) into a piece of clear PVC 3" tubing with caps on each end and sterilizing them in that tube. Plastic or paper wrapping does just as well. The address to obtain the 80 micron material by the yard is: Tetko, Inc., 420 Saw Mill River Road, Elmsford, New York 10523, telephone (914) 592-5010. Product #HC3-80.

Using Peak Milk as a Monitor of Dairy Herd Production

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An emerging area of the veterinarian's involvement on a dairy farm is production management consultation. As a production consultant you are expected to monitor herd production and make recommendations that keep produc-

tion at a profitable level. I have found that monitoring peak milk yield on individual cows and on the herd average gives me a quick and accurate assessment of the dry cow program and the fresh cow production level.