Lancaster Dairy Day I

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The rule of thumb advise given was that all new cattle brought onto the farm should be suspect of having contagious mastitis or whatever threatening disease until proven differently.

As a suggested practice, isolate new purchases and milk them last. (However, milking a cow last means that it has a greater chance of picking up an infection that already exists in the herd, so ideally, a separate milking unit could perhaps be used on only new cattle until a reasonable isolation period has passed and somatic cell count tests show no problem.)

Pre- and post-dipping with the a proper solution teat dip is always recommended, and both speakers emphasized the importance of following this practice.

Dry cow therapy, culling, cleaning machinery correctly, and maintaining a clean, dry environment for cattle will help prevent many incidence of mastitis.

Culturing milk samples from high SCC cows will also help farmers because they can start fighting any problems early and without wasting time using useless treatments.

According to Sardillo, high somatic cell counts not only result in losses of milk production and herd health, but correspond to increases in non-desirable components in milk, such as sodium, chloride and lipase.

At the same time, the production of desirable components such as lactose, casein and calcium is depressed in cows with high somatic cell counts.

Further, the experts said that a high somatic cell count is usually caused by contagious mastitis, instead of environmentally caused infections.

Sardillo also said that while the emphasis on preventative action plans for mastitis have focused on the environment, the pathogens, farmers have to consider that the cow is also a major influence in susceptibility to getting infections — if a cow is stressed and that stress reduces the cow's immunological response abilities, the mastitis is more likely to occur and become more devastating.

Sardillo also explained that mastitis is more damaging to the long term profitability of the cow than merely having a milk reduction during one lactation.

The milk-producing tissue in the mammary is damaged forever during infections, according to Sardillo. The capacity to make milk is never regained.

She explained that as the white blood cells attempt to pass from within the cow, past the milk-producing cells, in order to attack the invading bacteria, that the milk-producing cells are frequently destroyed. This results in lost milk-producing cells and scar tissue development.

She also said that tests have shown that as many as 90 percent of heifers have shown infections of mastitis bacteria before their first lactation.

Sardillo talked about some work being done on using dry cow treatment on first-calf heifers about 60 days before freshening.

However, while two area veterinarians said they have clients who are using the practice, Sardillo and Hutchinson explained that the majority of mammary tissue development in a cow occurs during the first lactation.

This is important because, while infusing with heifers with an antibiotic has been shown in some studies to reduce the amount of mastitis by half, there is still a question about how long antibiotic residues reside in this developing mammary tissue.

According to Sardillo, the possibility exists that farmers could end up with contaminated milk and that milk from heifers treated as such should be tested for residues before adding the milk to the bulk tank.

Further, unless a farmer uses artificial insemination, and can be certain of freshening dates, the farmer may end up dumping quite a bit of milk if the heifer calves earlier than expected.

Hutchinson, Sardillo and the practicing veterinarians — Brian Reed, with Hutchinson, Trayer and Reed; and Darcie Stolz, of Strasburg — also said that the use of dry cow treatment on heifers should not be done without the permission and guidance of an approved veterinarian, as the use of the antibiotic treatments is an "extra-label" use, and that it is illegal for lay people to use at their own disgression.

Especially with heifers, the insertion of the applicator tip should be restricted, and the teat clean so as to not destroy the natural teat canal protective structure, and so as to not introduce any bacteria into the mammary system.

Dr. Stephen Spencer, a well-known Penn State milking equipment expert, also discussed various aspects of equipment that can cause teat problems and how to deal with them.

According to Spencer, a common occurance with teats is the formation of a ring-like callous on the teat end.

Some people think, because of the appearance of the callous with a vacuum systems that the vacuum is actually pulling out some of the the inside of the teat end.

This is not true. The callous is formed because of the closing down on the end by the liner.

The key to preventing teat problems is to make sure equipment is clean and that vacuum settings, pipeline slope, pipe diameter, and liner type are all capatable. If the system was not designed correctly is will cause problems.

For more information on mastitis and milking equipment, contact a local extension office.