

# Dairy Pipeline

(Continued from Page D13)

cell counts creep up to 1.5 million. But, that's a costly invitation! If you look at the table, you'll see that you may be losing 7.5 lbs. of milk per cow per day! That's almost \$1.00 per day per cow in lost production - and that's only about 70 percent of the cost. It's a cost you never see - just feel. The cost of treatment, culturing, discarding milk from treated cows and culling infected cows may represent 30 percent of the total costs. These are the costs you see.

Well then, what is an acceptable level - 500,000? Years ago we would have been fairly satisfied with that. However, recent research indicates that we should be aiming for much lower levels. Look at the table again. Notice that you start losing about 1.5 lbs. of milk per cow per day at about 100,000 cell count. Every time your cell count doubles, you lose another 1.5 lbs. (These losses are also printed on the back of your DHIA Herd Summary Sheet.) Use the figures in the table to help you establish levels (goals) that are acceptable for you.

### The Big Gainers

Notice too, when you reduce a 1,600,000 cell count by 800,000, down to the 800,000 level, you may eventually increase production only by about 1.5 lbs. per cow per day. Compare this gain to the really big gains you make when you reduce cell counts at the lower levels! For example, if you drop another 800,000 count, from an 800,000 level down to less than 100,000, you pick up six additional pounds of milk. That's four times as much gain as made previously. In other words if you're at the 1 to 1.5 million level and drop to 500-

800,000 level, keep going; the best is yet to come!

When it comes to recovering lost production, don't expect miraculous, overnight results. Depending upon the degree and type of infection, there may have been considerable damage done to secretory tissue in the udder. In milder cases, healthy secretory cells in the udder may be able to work harder to compensate for some of the damaged cells, and production may improve, even during the current lactation. In more severe cases, production may not respond much until the next lactation, because many of the damaged secretory cells will not be repaired until the dry period. Some of the more severely damaged cells may never be fully repaired, and that portion of production potential will be lost forever.

The return to money and effort you put in to treating and preventing mastitis is good, but don't expect a quick return. The first year, you might not see much profit from your efforts. The biggest response will be a year later, after most of the cows have gone through a dry period. So, be persistent. To many dairymen give up just about the time they're ready to start reaping the benefits; then the next time, they have to start all over again.

The DHIA SCC<sub>2</sub> codes are a valuable guide for giving you a clue that something is wrong in your herd. They can help you spot trends. For example, rising herd-average cell counts (or tank counts) may indicate that: inflations need changing, the regulator is dirty or needs servicing, lines and air inlets are

plugged, the pump is showing wear, the milking system is developing leaks, milking techniques are getting sloppy, sanitation in the barn and lots or at milking time is deteriorating, stray voltage is present, lots are getting muddy, etc.

High cell counts in individual cows soon after may indicate a need for: more sanitary maternity areas, more effective dry cow treatment, etc. If heifers come fresh with high cell counts, it may indicate they have been sucked. If heifer cell counts are good at calving time, but start rising soon after they enter the milking string, it may be a sign that you need to sharpen your milking techniques to reduce spread of infections at milking time, or a need to improve conditions around the barn to minimize the risk of infections.

### What To Do

If you are serious about correcting mastitis problems be prepared to do a complete job - and to be persistent. You'll discover that you'll have to do a lot of things properly, and all the same time, and for a long time.

Be sure to consult your veterinarian to have him help develop a mastitis prevention and treatment program for you. Also rely upon the experiences of a competent milking machine serviceman. And, don't forget to do your part, maintaining the equipment, using proper milking techniques, being clean and sanitary, keeping the herd healthy and providing them with a healthy environment. Treatment and prevention go hand-in-hand. Neither is much good without the other.

If you have a 1,600,000 cell count, almost half of the quarters in your herd may be infected, probably with a lot of Strep ag and some Staph aureus. See the table. This could involve 90 percent of your cows. You've got a serious and costly problem. Many of these quarters will be subclinical, and show no symptoms.

If these are Strep ag and Staph aureus infections, these non-clinical quarters are "seeds" for

spreading infection to other cows at milking time. Strep ag lives only in the udder. Staph aureus can survive in the udder, in udder tissue, and outside the udder. Both are spread from cow to cow at milking time.

At these real high levels, it would probably pay you to blitz treat the entire herd - all quarters - for several milkings (send the milk truck driver away for a few days vacation). Strep ag can easily be eradicated from the herd, and this is a serious attempt to do just that; you don't want to leave a single infected quarter behind that will start re-infecting the herd again with this same organism.

Be sure to follow up with teat dipping dry cow treatment, and sanitation at milking time. You may have to use the CMT paddle, and do some culturing and antibiotic sensitivity testing to locate, diagnose and effectively treat subsequent infections. And, be careful you don't bring new infections into the herd with new cows brought into the herd.

The SCC<sub>2</sub> codes are not intended to be used as a guide for treating infected cows. As I indicated earlier, they are a clue as to what is going on in the herd, and within individual cows.

At lower SCC<sub>2</sub> levels, blitz treatments may not be justified. You may need to rely upon treating clinical cases, upon using the CMT paddle on high SCC cows to locate problem quarters, upon culturing to identify the infecting organisms, and upon sensitivity testing to determine treatments of choice. Consult your veterinarian for his advice.

As mentioned earlier, Strep ag and Staph aureus can easily be spread at milking time. That's why milking sanitation is so critical. This involves: using a sanitizer in the udder wash solution, using individual cow towels, milking infected cows last, preventing "squeaking" inflations and air leaks around the teat and inflation, and teat dipping. Dry treating is also recommended.

Strep ag can be eradicated by treatment, but you have to prevent

reinfection. That's the reason for all the precautions mentioned above. Staph aureus, on the other hand, does not respond as well to treatment, especially during lactation. This organism can actually invade udder tissue, making it harder to control. You'll probably have greater success if you can identify it in its early stages of infection and treat it before it becomes deeply established. Staph infected cows that fail to respond to dry treatments are good candidates for culling; you don't want them to become the seed for spreading this harder-to-control organism to other cows. Where possible, isolate staph-infected cows from other cows, and milk them last.

We're seeing more and more environmental organisms, namely Strep Non-ag and a variety of coliforms. These can never be completely eradicated. They are ever present in the environment, and they vary in their response to treatment. Our challenge then, is to keep the population of these organisms in the cows' environment at the lowest possible level, and to protect cows from what is present. To help up accomplish the job at hand, we need to appreciate that in order to thrive, these environmental organisms need: warmth, moisture and filth.

To reduce environmental infections, we need to focus on cleanliness and sanitation - everywhere! Keep stall beds dry and clean. If necessary, replace sawdust bedding with sand, chopped straw, etc. Scrape alleys frequently. Fence off wet, sloppy areas. Keep barns dry; ventilation helps; open-front barns also allow sun penetration, which is good. Dry cows' udders before applying milker units; you don't want dirty water collecting around the top of the inflation, and being drawn into the inflation. Keep cows standing after milking; send them out to the feeder. In summer time, when infections are most prevalent, use a teat sealant, preferably one that also contains a bactericidal agent.

(Turn to Page D15)

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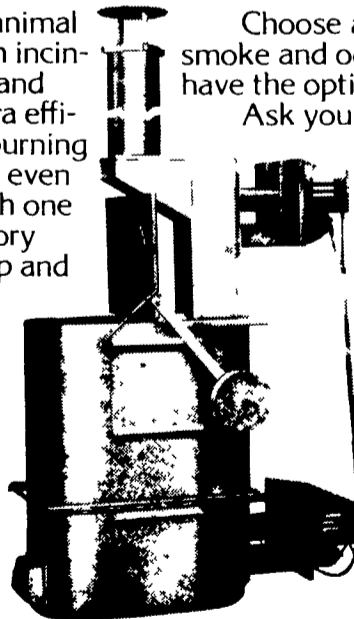
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