

# Somatic cell count testing benefits widespread

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NEWARK, DE — Our main concern and emphasis in dairy cattle management has shifted in recent years from mastitis treatment to somatic cell count testing (SCC) for good reasons.

SCC testing makes it possible to detect subclinical mastitis before it becomes mastitis. For every cow with visible mastitis, there are at least three with subclinical mastitis. The need to focus on SCC as an indicator of the status of subclinical mastitis is obvious.

As a result, in recent years DHIA programs have promoted wide participation in SCC testing. In Delaware, we now have almost 100 percent participation in SCC.

Somatic cells are primarily leucocytes or white blood cells which increase in number to fight infections when they occur within the udder. In subclinical mastitis there are usually no visible signs of disease nor of abnormal condition of the milk.

However, the infection causes decreased milk secretion by the cow and lost milk income for the farmer. Only elevated SCC can identify the problem, and the problem cow.

Beginning on July 1, 1986, milk marketing rules are going to be tougher for dairy producers by 33 percent. Allowable maximum somatic cell levels in milk sold by farmers will be lowered from 1,500,000 to 1,000,000 SCC per milliliter.

This will affect producers regardless of whether or not they are on DHIA and participate in SCC testing. Fortunately, DHIA's SCC program enables dairymen to monitor each cow every month, besides checking on milk tank levels.

Electronic cell counting machines analyze the same milk sample which is tested for fat and/or protein contents and the usual sample preservative, potassium dichromate, does not interfere with the SCC. The cost

per cow per month to screen for SCC varies among state DHIA programs. It is usually between 10 cents and 20 cents in addition to, or as part of, the fat-protein tests.

Somatic cell count is expressed in 1,000s of cells or in a so-called linear score from 0 to 10. Healthy cows have less than 100,000 cells per milliliter of milk or scores of 0, 1, 2 or 3. These scores stand for cell ranges of less than 18,000; 19,000 to 35,000; and 36,000 to 71,000 cells, respectively.

With a score of 3 (72,000 to 141,000 cells) cows suffer an average daily depression in production of 1.5 pounds of milk. Scores of 4, 5, 6 and 7 mean ranges from 142,000; 284,000; 566,000; and 1,131,000 to 2,262,000, respectively. Every score point above 3 means an additional 1.5 pounds of milk loss per cow per day, up to 7.5 pounds lost at 7, with even greater losses at scores above 7.

At current milk prices, the daily 1.5 pound yield difference per cow per month will easily pay for the cost of the monthly SCC testing.

Dairy farmers who participate in the DHIA screening program receive monthly reports on SCC tests on each cow and usually up to 9 previous months for comparison. Chronic cases are thus easily noticed for segregation, special treatment or culling.

Early and late stages of lactation often normally produce high somatic cell counts in cow milk. To keep the tank SCC test low, these animals can be temporarily separated from those that provide milk for sale.

As a producer, you have several management options for reducing SCC levels. Equipment and labor improvements are obviously a

high priority on most farms. Today's more sophisticated milking equipment is reducing one of the main labor-related causes of elevated cell counts. At the Delaware Agricultural Experiment Station, we've found that our new electronic milking machines--which include automatic take-off--reduce SCC in our dairy herd because they eliminate overmilking.

New research evidence also indicates that we should pay more attention to nutrition as a means of holding down udder infections and SCC. Dry cows daily fed extra vitamin E and selenium (one 50

milligram injection) three weeks before calving had less SCC and mastitis when milking again.

Cows fed daily supplemental vitamin A during the dry period had increased cell counts, but those receiving additional beta-carotene (300 milligrams) had significantly lower SCC levels when milking again. Studies also show that daily supplementation of dietary zinc in the form of zinc oxide or zinc methionine during the entire lactation markedly reduced SCC.

It appears prudent to calculate feed rations for today's high milking cows not only for protein,

energy, fiber, calcium and phosphorus but for certain vitamins and trace minerals as well to assure against deficiencies that can be reflected in elevated SCC levels.

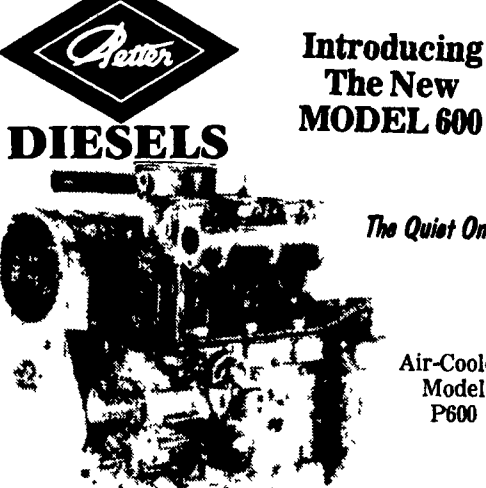
The availability of monthly SCC testing programs on individual cows, the direct link between SCC scores and losses in daily milk sales and payment, and the bonus programs for low SCC contents in milk offered by milk marketing organizations mean producers can increase their net income by focusing close attention on SCC testing. In other words, somatic cell count testing pays.



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