

# FOCUS

Pennsylvania  
Dairy Herd  
Improvement Association

Call 1-800-DHI-TEST for service or information.

## WATER — ARE YOU TAKING IT FOR GRANTED?

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On today's dairy farms, no area which could affect production levels should be overlooked. This includes water, one of the most important nutrients in dairy nutritional management.

For herds with lower production levels, water may not be as critical. But if your goal is 18,000 pounds of milk production or greater per cow, water becomes essential.

Water plays important roles in all body functions. Because 85 percent of milk is water, you cannot expect top production from your cows if they are not getting the quantity and quality of water required.

### Some background

No water can be called pure water. All water has different levels of various compounds, depending on the surface or underground source. The compounds range from minerals such as iron, calcium, and nitrates to microorganisms such as coliform bacteria to hydrogen sulfide, a natural occurring gas from bedrock which gives water a rotten-egg smell.

Realizing that there is no pure water, standards must be set, which may affect health and production. For humans they are called maximum contaminant levels (MCLs) and are determined by the Environmental Protection Agency (EPA). For this article, water will be addressed only from a dairy herd aspect, because levels that affect humans and animals can be very different. You can obtain information on water for humans from your county Extension office, local Department of Environmental Resources (DER) office, or local health authority.

Water standards for contaminants for dairy cattle and other animals have been determined through some research and a lot of on-farm experience. Though not "written in stone," these figures

can guide farmers in the right direction in solving a water problem.

But before discussing different contaminants which could affect production, let's look at ways to determine if you have a problem.

There are more water treatment systems on the market that can supposedly solve a water problem. You need to know what your problem is before looking for a solution. You cannot afford to make an investment which will not give returns.

### Are your animals drinking the correct amount?

Whenever production levels are not meeting expectations, everybody involved with your farm — from veterinarian and feed consultant to county agent and, of course, you — should become an investigator. Because of increased public awareness and some actual farm problems, water becomes one of the first potential culprits.

Obtaining information on the question, "Are your cows drinking normal levels of water?" is sometimes difficult. Lower milk production, lapping, not drinking at the bowls or fountains, and more solid consistency in the fecal material could all be signs of reduced water consumption. However, they could be signs of other problems.

The best way to determine water consumption is to have a meter put on the water line. Ideally, the meter should be placed on the line that goes just to the milk cows. When installing the meter, arrange for bypass piping so the meter only operates when you are checking consumed levels. This will extend the life of this piece of equipment.

Consumption should be 15-25 gallons per day normally and 25-30 gallons per day in the summer months for milking cows, depending on the breed and the moisture in feed and milk production. Record readings to establish base consumption. Also check on a monthly basis and whenever you suspect a problem.

As an investigator, if you find consumption is normal, then pro-

ceed to other potential culprits. If consumption is low, check for stray voltage, especially at the water bowls and fountains. Stray readings of 1 volt or higher can be jolting the cows enough that water consumption is affected.

While checking for stray voltage, also check for clogged pipes as well as bowls and fountains that are not working properly. Make sure your pump, pipes, and water system are capable of providing water to all bowls and fountains if all animals want to drink at the same time.

Also begin to analyze your water for contaminants. There are many potential contaminants which could be the problem and a complete water test could cost more than \$500. Begin by testing some of the basics, such as total bacteria, total coliform, fecal coliform, fecal strep, pH, nitrates, and iron. If you test for fecal strep and

fecal coliform, you do not need a total coliform reading.

If these turn up negative and you are still having a water intake problem, look to other minerals, heavy metals, pesticides, petroleum products, and organic pollution. The above contaminants are more expensive to test for. You may want to use water from a temporary source to see if water intake increases.

### Reading results

Tests should always be done at laboratories that have been approved by EPA and DER for the specific tests you want to have administered. Your local Extension and DER office should have a list of laboratories.

It is essential to have your tests read by an unbiased individual who will not benefit from equipment sales. Water treatment equipment is expensive to purchase and maintain. Just because the salesperson has seen the equipment increase production at your neighbors' farm doesn't mean it will do the same for you.

Help in reading your water test reports could come from your Extension agent, veterinarian, or feed company representative. Your Extension office will have pamphlets on water. Three specific background reading sources include "Recommended Testing Options for Water" by Richard Adams and Bill Sharpe; "Water

Intake and Quality for Dairy Cattle" by Richard Adams; and "Safeguarding Wells and Springs from Bacterial Contamination" Special Circular #345.

Before buying, consider renting or a lease-buy option. If improvement is to take place, results should occur within 30 days of installation. Unless other problems are aggravating your situation, results should be especially visible in cows that are freshening.

As you strive for higher production levels, all areas of your dairy cow machine must be fine-tuned. Don't take water for granted.

## Barn Meetings

WEST CHESTER (Chester Co.) — Eight barn meetings in Chester and Lancaster counties will focus on how dairymen can improve the quality of the milk they produce.

All meetings will run from 10:00 a.m. to 12:00 noon. The programs will cover topics such as bonus money, somatic cell counts, P.I. counts, off flavors, and drug storage regulations, for dairy fieldman and local veterinarians.

Feb. 9: Jonas B. Stoltzfus, (Rt. 340) Whitehouse, PA; Feb. 16: William L. Stoltzfus, Atglen, PA; Mar. 2: Erwin Oberholtzer, Lititz, PA; Mar. 13: Stephen S. Stoltzfus, Honeybrook, PA; and Mar. 16: Benuel S. Fisher, Strasburg, PA.

## Prostaph Testing Introduced By DHIA

UNIVERSITY PARK (Centre Co.) — PA DHIA offers a new milk quality tool for Pennsylvania dairy producers, announces General Manager, Dick Barth. The DHI Prostaph Test, marketed by Pro Science Corporation is designed to operate in central DHIA laboratories and uses the standard DHIA milk sample to determine the Staphylococcus aureus antibody level. A two month phase-in period began January 15 and will be complete on March 15, 1990. PA DHIA members and supervisors have been mailed a letter explaining the test and when it will be available in their county. To arrange for the test simply contact the DHI supervisor in your area. Non-members may call 1-800-DHI-TEST to make arrangements.

The Prostaph test, designed to detect cows infected with Staph aureus mastitis uses the regular milk sample routinely collected for component testing. The test provides significant advantages

over bacteriological culturing in speed, ease of use and cost. Most importantly, the test can be obtained with no additional work on the part of the dairy producer; they simply tell their supervisor on test day.

Staph aureus mastitis is a contagious udder infection and is responsible for approximately \$1 billion of economic losses to dairy producers in the United States each year. It is often sub-clinical and persists in udders of infected dairy animals, not in the environment. Most transmission occurs during the milking process when Staph aureus contaminated milk comes in contact with the teats of uninfected animals. Therefore, it is necessary to identify the infected animals to begin eradicating the problem.

Staph aureus is extremely resistant to antibiotics and can rarely be effectively treated or cured. To control mastitis caused by Staph

aureus, producers must identify infected animals, separate them and milk them last until they can be culled from the herd.

Although identify, separate and cull appears to be the recommended course of action concerning infected animals, PA DHIA makes no recommendations and strongly urges dairymen to involve a veterinarian in all herd management decisions based on test results. Skilled interpretation of Prostaph test results requires an in-depth knowledge of mastitis control. Two veterinarians working closely with this program are doctors Robert Eberhart and Larry Hutchinson at Penn State.

Staph aureus is the newest option available to producers through Pa DHIA. There are nearly 250 DHIA supervisors providing services to approximately 6,000 producers each month. A member services number is available 24 hours a day.

## How Does Your Herd Compare?

STATE COLLEGE (Centre Co.) — This data is pulled from Pennsylvania DHIA's mainframe computer each week. It is a one-week summary representing approximately one-fourth of the herds on test, as they are tested monthly.

These data are valuable from a business management standpoint and can be used for comparing your operations to the averages from almost 1,400 herds across the state.

DHIA Averages for all herds processed between 1/15/90 and 1/22/90

Number of Herds Processed	1,463
Number of Cows Processed	82,296
Number of Cows Per Herd	56.2
Milk Per Cow (Lbs)	16,982
%-Fat	3.69
Fat Per Cow (Lbs)	628
%-Protein	3.19
Protein Per Cow (Lbs)	541
Average Days in Milk Per Cow	315
*Value for CWT Milk(\$)	13.63

*Value for CWT Grain(\$)	8.38
*Value for CWT Hay(\$)	4.18
*Value for CWT Silage(\$)	1.49
*Value for Pasture Per Day(\$)	.30
*Value for Milk Per Cow Per Year(\$)	2,315
*Feed Consumed Per Cow Per Year(Lbs)	
A: Grain	6,711
B: Hay	2,908
C: Silage	14,374
D: Day Pasture	65
*Feed Cost Per Cow Per Year(\$)	
A: Grain	563
B: Hay	121
C: Silage	215
D: Pasture	20
*Total Feed Cost Per Cow Per Year(\$)	920
*Income Over Feed Costs Per Year(\$)	1,395
*Grain to Milk Ratio	1:2.5
*Feed Cost Per CWT Milk(\$)	5.42
Avg Level For 836 SCC Herds	323,756
*Member generated figures	

## Average Farm Feed Costs For Handy Reference

To help farmers across the state to have handy reference of commodity input costs in their feeding operations for DHIA record sheets or to develop livestock feed cost data, here's this week's average costs of various ingredients as compiled from regional reports across the state of Pennsylvania. Remember these are averages so you will need to adjust your figures up or down according to your location and the quality of your crop.

Corn, No. 2y	- 2.76
Wheat, No. 2	- 3.94
Barley, No. 3	- 2.14
Oats, No. 2	- 1.74
Soybeans, No. 1	- 5.47
New Ear Corn,	- 74.74
Alfalfa Hay	- 128.75
Mixed Hay	- 108.00
Timothy Hay	- 98.75