

Colorado Dairy News

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What About This New Teat Dip?

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How many times over the last few years have you approached one of your trusted advisors and asked that question? There is a dizzying array of teat dips available. The most reliable dips are those which have claims that are backed by extensive research and years of on-farm experience. The National Mastitis Council (NMC) publishes a summary of peer-reviewed publications on teat dip efficacy; since 1980, forty-two studies have been published which show the efficacy of different teat dips. The NMC website with a list of teat dips and related articles can be found at <http://www.nmconline.org/docs/Teatbibl.pdf>. Use caution in interpreting these tables, since each trial is unique, and may not represent the same challenge that is faced by your own cows on your facility, in your climate.

We prefer to recommend dips that have been proven over many years of field experience, as opposed to the dips that have passed the "experimental challenge" trials, but may not have been used by more than a select few dairies during the trial period. Dips that have recently appeared on the market may be so new that they are lacking research data. In that case, you may be taking a chance by switching from a proven dip to an unproven one, just because it's new and different, and potentially less expensive. How do you make decisions about which dip to use? In this article we will focus exclusively on the selection of *post-milking teat dips*.

Proper application of an effective postmilking teat dip is the single most important method for control of "Contagious mastitis pathogens". By proper application we mean that, immediately after machines are removed, all four teats must have every surface of the teat that was in contact with the machine covered completely with post-milking teat dip.

What Kind of Mastitis Do You Have?

If you are struggling with a contagious mastitis problem due to the all-too-familiar *Staphylococcus aureus* (S. aureus), *Mycoplasma*, or *Streptococcus agalactiae* (Strep ag), **don't mess around.** Your choice is simple, and many experts would agree on the post-dip recommendation for such herds is year round use of 1.0% iodine with 10% glycerin produced by a major reputable manufacturer. All experiments and cost cutting measures go right out the window when it comes to dips for herds with contagious mastitis. There are other products available that may also work in contagious mastitis herds, but we have the most experience with the iodine products. Herds that routinely purchase heifers or cows should also consider using 1.0% iodine with 10% glycerin **year round**, since introduction of new animals is the number one method for bringing contagious pathogens to your home herd. As always our **(Please continue on page 3, under Teat Dip)**

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Colorado's Voluntary JD Control Program

In April the Colorado Agricultural Commission adopted the The Colorado Voluntary Bovine Johne's Disease Control Program. The main objective of this program which officially begins this summer is to educate livestock producers about Johne's Disease and give them the tools to prevent, control and even eliminate the disease from a livestock operation. Participation in the program is completely voluntary and the confidentiality of test results will be maintained within the limits of Colorado law.

The goal is to have all Colorado dairy producers participate in the program at some level. Since participation is voluntary, you can decide at which level you will participate: education, management, or herd testing/classification.

A brochure which provides an overview of the program in a question and answer form, recommended management practices for preventing and controlling JD and a risk assessment for you to perform on your operation will be available soon. For more information contact the Colorado State veterinarian Dr. Wayne Cunningham at (303) 239-4161 or on-line at: [<wayne_cunningham@ag.state.co.us>](mailto:wayne_cunningham@ag.state.co.us)

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A Message From Your Extension Dairy Specialist.....

Important Dates:
Mark Your Calendar

July 22-26, 2002

Annual Meeting of the American Dairy Science Association, Quebec City, Quebec, Canada. For more information contact William R. Wailes, CSU Dairy Specialist, 970/491-5390.



**Integrated
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In Title 1 (commodity section) of the new farm bill signed by President Bush, the dairy program will maintain a permanent \$9.90 milk price support program. A three and a half year national dairy program will be established to provide assistance to all US producers. The program will provide a federal payment each month equal to 45% of the difference between \$16.94 and the Boston Class I price. Payments will be made on up to 2.4 million pounds of annual production. In Colorado most producers will qualify approximately 100 cows to make up the 2.4 million lbs. of production.

Aspects of the farm bill are not consistent with the lobbying efforts of dairy producers. These inconsistencies will be the topic of much future discussion: Discrimination among producers by limiting payments based on herd size. Competitive disadvantages or advantages among dairy producers. Potential over production that might eventually erode the farm gate price.

Good news about the farm bill includes authorization of a new National Johne's Disease Control Program with funding for testing and education; extension of the Dairy Export Incentive Program (DEIP); increase of Market Access Programs (MAP) funds; fixation of the statutory mandatory inventory and price reporting language; and requirement of dairy importers to pay into the national dairy board.

Animal agriculture fared well in area of conservation. Environmental Quality Incentive Program (EQUIP) achieved a 1.3 billion annual funding level; priority levels were eliminated; and funds were split 60:40 between livestock and crop producers. At the same time, all caps have been dropped so that any concentrated animal feeding operations will qualify for EQUIP allocations. For answers to your questions regarding the farm bill, please call my office (491-5390).

Sincerely,

William R. Wailes, Colorado Extension Dairy Specialist

Commodity Price Quotes

By-Product Feeds	Price/Ton Spot Loads	Price/Ton June-Sept
Bakery Waste	\$93.00	\$93.00
Blood Meal	\$340.00	NA
Corn Gluten Feed	\$80.00	\$80.00
Corn Gluten Meal	\$260.00	\$260.00
Corn Hominy	\$83.00	\$83.00
Flaked Corn	\$103.00	\$103.00
Whole Corn	\$87.00	\$87.00
Cottonseed Meal	\$160.00	\$165.00
Whole Cottonseed	\$150.00	\$150.00
Distillers Grains	\$110.00	\$98.00
Pork - Meat & Bone Meal	\$200.00	NA
Tallow	\$0.12/lb.	NA
SBM - 48%	\$182.00	\$185.00
Wheat Middlings	\$72.00	\$67.00
Soybean Hulls	\$67.00	\$72.00
Canola Meal	\$150.00	\$150.00

These price quotes are delivery at Greeley, Co

Determining Your Johne's Risk

Jason Lombard, DVM
ILM, Colorado State University

Johne's Disease (JD) is quickly being recognized as an important disease of cattle and with good reason. In the dairy industry, JD is estimated to cost US producers \$1.5 billion annually due to reduced milk production, reduced body weight of cull animals and increased culling. The National Animal Health Monitoring System's 1996 dairy study estimated a cost of \$227 per head in a herd that had at least 10% of the animals infected with JD.

Controlling and preventing Johne's Disease requires education, refinement of management procedures, and herd testing/culling of infected animals. Each herd should develop a plan depending on their goals. The more aggressive the plan, the more likely a producer is to reduce or eliminate the disease. The first step in preventing and controlling the disease is to participate in the Colorado Voluntary Bovine Johne's Disease Control Program. Part of the management portion of the program involves a Johne's Disease risk assessment for your farm. This allows your veterinarian to make specific recommendations to prevent and control Johne's disease within your herd.

The Committee that devised the Colorado Voluntary Bovine JD Control Program also devised an assessment protocol for producers to evaluate their operation and estimate the risk of JD in their herd. The risk assessment questions concern basic management of calves, heifers and cows. The form for the risk assessment is enclosed as an insert in this issue.

Management procedures that result in separating adult cows and young stock and minimizing fecal contamination are paramount to minimizing the spread of JD because the most common method of infection is ingestion of contaminated feed, water, or milk. Infected animals shed large numbers of bacteria in their feces, which leads to contamination of feed and water sources, and can also shed the bacteria in their colostrum and milk.

JD can spread from apparently healthy cows shedding the organism in feces to newborn and pre-weaned calves easily. This type of transmission will often be inapparent to the producer but result in lower milk production and only the occasional "Johne's" appearing cow with chronic weight loss and diarrhea.

Infection usually occurs in calves within the first few months of life. Occasionally, fetuses can be infected during pregnancy by their dam. Calf handling procedures that keep newborns from being exposed include removal of the calf soon after birth, feeding of colostrum from JD-free cows, and feeding clean milk or pasteurized milk thereafter.

If the risk of JD in your herd is high, you may wish to test your herd to assess the actual prevalence of infection. Repeat testing is a tool to evaluate the success of your attempt to eliminate and prevent further spread of JD. If the risk of JD is low in your herd, testing will document your status as a low risk JD herd which will bring economic benefits when heifers are sold. Testing is not necessary to be part of the Voluntary Control Program.

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(Teat Dip, continued from page 1)

recommendation in open herds that purchase animals is to culture individual cows as they arrive or freshen, and to monitor the bulk tank at a **minimum** of once per month.

What Kind of Disinfectant is in the Dip?

Organic iodine compounds (iodophors) have become the basis for many popular dips and their benefits are extremely well documented with research and years of field experience. Iodine dips are available in a variety of concentrations from 0.10% to 1.0%, but the critical issue is the amount of "free" available iodine to achieve rapid kill of bacteria. Most experts recommend 1.0% in herds with contagious mastitis. Concerns have been expressed regarding the effect of iodine vapors on milker health, as well as the level of iodine in bulk milk.

Less well-known disinfectants include chlorhexidine, sodium chlorite/lactic acid, and lauricidin. The efficacy of these dips is usually reported to be similar to that of the iodines. These dips may be less irritating to milkers and avoid the iodine residue issue; however, they are less frequently used and we do not have as much field experience with them.

Does the Dip Contain Proven Skin Emollients such as Glycerine, Collagen or Lanolin?

Aside from the germicidal activity of a postmilking teat dip, the most important characteristic of a dip is its emollient capability. It is well documented that chapped, cracked, and irritated teat skin leads to increases in mastitis, particularly due to *S. aureus*. Dips must contain skin softeners and protectants to keep the teat skin and teat ends soft and healthy. Check skin condition of your cows today: are they free of scabs, cracks, and peeling flakes of skin? First make sure milkers are applying teat dip in the correct manner following every milking. If milkers are doing their job, and any of these skin abnormalities are present,

(Please cont. on pg 4, under Teat Dip)

(Teat Dip, continued from page 3)

consider switching to a dip that has more emollients, or superior emollients. Not all emollients are beneficial to the skin of cows' teats, so "more" is not always better. There are different grades of emollients, some of which can actually remove essential oils from the skin. One of the reasons we prefer to see teat dip that has been purchased from a major reputable manufacturer is that we feel confident that the dip has been used successfully over time, and that the ingredients used are of consistently high quality.

One other important characteristic of a postmilking dip is its color on teat skin. A dark brown iodine dip or other dark colored dip can easily be seen on teats as the cows exit the parlor and move to the feed bunk. Managers should be able to walk behind cows and quickly determine whether all teats of each cow were dipped appropriately.

Do You Know Anyone Else Who Has Used the Dip?

Ask reliable neighbors and trusted advisors what dips they have used with good results. Keep in mind that different dairies have different bacteria and environmental conditions that challenge cows on a daily basis. Try to learn what your specific requirements are, based on the climate, housing, and type of bacteria present in your herd. Remember, proper use of a good post-dip is the *single most important method for control of contagious mastitis*. You may find yourself in serious trouble in a short time with a unique, trendy, inexpensive (or expensive~!) dip that turns out to be ineffective at controlling mastitis on your dairy.

Has The Dip Been Tested in University (Unbiased) Trials?

If a new dip is being promoted to you, it is absolutely essential that you ask about published research comparing the new dip to established products. Be aware that trials conducted by a university are not guaranteed to be unbiased (free of flaws favoring the product), but usually they will be honest about providing positive and negative findings. A well-designed trial showing positive results has the potential to benefit your operation, but again you must keep in mind where the study was performed, type of climate, numbers of cows, etc. The type of research study most applicable and scientifically valid does the following:

Uses natural exposure: Cows are enrolled in their farm environment, and exposure to mastitis organisms is only during the natural day-to-day life of milking cows. The teats are not dipped in a bacterial-enriched broth of challenge organisms.

Uses a control group: Infection rates must be compared between the group of cows using the new dip and either an un-dipped group or a group using an established proven dip. Both groups must be monitored under similar if not identical conditions: same time of year, same environmental conditions, similar age and stage of lactation.

Conducts the trial over multiple seasons: This should assure us that the dip is effective under a variety of conditions, including cold and/or muddy weather.

Includes an evaluation of teat condition: This is not provided on the NMC website. You need to find the original article to see if teat condition was evaluated.

How Much Does It Cost?

Obviously this must be a consideration in any decision-making process on dairies, but simply choosing the least expensive dip can lead to disaster in no time. Well-tested, effective, long proven post-dips are not going to be the least expensive. We consider a high quality teat dip to be an investment in the future of your cows, especially if there are any contagious bacteria in the bulk tank.

(Johne's Disease, contd from pg 3)

There are two types of diagnostic tests. Each test has advantages and disadvantages. The two main types of tests used are the ELISA blood test, which is a screening test and the fecal culture, which is considered an official test. Results of the ELISA blood test are available in 24-72 hours but animals that test positive with the ELISA should be confirmed positive with the fecal culture. Interpretation of the screening test is not always clear cut. The results of the fecal culture take 4-6 months. Fecal culture positive animals are considered infected and should be managed to eliminate exposure to other animals, or be culled. Federal regulations restrict interstate (between state) movement of fecal culture positive cattle.

The Colorado Voluntary Bovine JD Control Program suggests that animals eligible for testing are cows greater than 3 years of age (>1st lactation) and bulls over 2 years of age. According to the protocol of the program suggests that a total of 30 animals are tested with the ELISA blood test on the initial screening. If your herd has less than 30 animals in these age ranges, you must include enough animals in their 1st lactation to satisfy the minimum of 30 test animals, or your complete herd. Samples must be submitted to a lab approved by NVSL. Colorado State University's Diagnostic Laboratory and the Rocky Mountain regional Animal Health laboratory are approved labs.

If all animals test negative, herds enter the Herd Status Program—Standard track. Annual testing moves these herds (assuming they maintain a test-negative herd) from a Status 1 to a Status 4. Status 4 herds have been tested four times in three years without any positive animals.

Test-Positive herds enter the Preventive Management Program. Based on herd prevalence, the herd is assigned a score of A through D. Subsequent testing can improve the score and herds testing negative at later dates can enter the Herd Status level if all cows are negative.