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K**QUALITY MILK: A VETERINARIAN'S VIEWPOINT****S****David A. Reid¹****U**

Introduction

I would like to thank the organizers of this program for the opportunity to speak to you today on a subject that I feel is of the utmost importance to the dairy industry in the U.S. The problem to which I am referring is not the current devastating drought that has affected many of the dairy-producing areas in our country, but rather the repercussions of the dairy industry's inability to market a wholesome uncontaminated product that is viewed as such by a majority of the consumers in the U.S. I am sure that most of us here can remember the problems that occurred several years ago with contaminated Tylenol products that reached various market areas in the U.S. With the recent revelations that approximately 70% of the milk samples in several metropolitan areas, including Boston and Seattle, were contaminated with sulfamethazine, I fear that we in the dairy industry also could be faced with much more adverse publicity than what we have seen in the recent past. There has been at least one segment on *60 Minutes* dealing with the potential contamination of milk products, along with articles in the *Wall Street Journal*. This publicity is definitely not what the dairy industry needs today. Currently, what publicity has been generated has not shaken the confidence that American consumers have in dairy products as a source of wholesome, uncontaminated, nutritional components of their diet. However, those of us that are involved in the dairy industry need to realize the potential devastation that could occur to our complete marketing system, if adulterated, contaminated milk is not removed from the market place.

Residue Testing in Milk

For years, many of us have known that the dairy industry has operated on the principle that we can be saved by dilution. We take in some milk that might have low levels of contamination, we dilute it with vast amounts of uncontaminated milk, and we end up with no detectable residues in our milk products. The introduction of what is commonly referred to as the "Charm II" test will change all of this. The "Charm II" test is many times more sensitive than any of the current methods of detecting antibiotic or sulfa residues in milk. The publicity that has been generated with this test will necessitate more milk cooperatives and milk marketing plants to use this advanced technology to detect antibiotic and sulfa residues in farm bulk-tank milk. In order for the dairy industry to survive, it is imperative that we understand how some of these residues can be avoided in our milk at the farm level. Unfortunately, at this point in time, there are no inexpensive farm tests that we can use to detect the extremely low levels of residues that the "Charm II" and the FDA tests are capable of detecting. This creates a real problem because we may feel that there is no contamination on a particular farm. However, in fact, there may be a contaminated feed source, an inadvertent use of antibiotic, or an unobserved withdrawal time for certain drugs on the farm. However, these farms do not have residues that are red-flagged with the conventional tests that are now being utilized. Therefore, this milk is mixed into the processing channels, and it may not be until the product is actually on the shelf in consumer form before the

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contamination is found. At that point, it is too late because the damage has been done, with the product already in the marketplace. There lies the problem, as I see it for the dairy industry.

What Must We Do?

We certainly could stand here and complain about the adoption of these new sensitive tests by those in the industry who can afford the technology. However, before we make our complaints very loud and vocal, I think there are many things that we as dairy producers and dairy veterinarians can do to help ensure that we are not contributing to antibiotic contamination of milk because of sloppy, on-farm, medication procedures.

There is a fundamental change in the attitudes of both dairy producers and veterinarians that I see as necessary to help resolve the potential nightmarish problems that we face with antibiotic residues. It is simple and easy to understand the change that we need. We need to change our attitudes when it comes to disease problems in cows. Diseases need to be prevented and not treated. I stand here today as a veterinarian who offers a service to clients in southwest Wisconsin, northern Illinois, and eastern Iowa that I call Quality Milk Production Management and Consultation. Basically, I go to farms and I analyze milking equipment, milking procedures, and other aspects of dairy management that contribute to quality milk production. What is astounding to me is to look back in the literature and see that 25 and 30 yr ago approximately 50% of the cows in the U.S. were infected with mastitic organisms in one or more quarters. The National Mastitis Council (NMC) currently estimates that the percentage is nearly the same today as it was then. There is also a very conservative estimate on the part of the NMC indicating that the average dairy cow in the U.S. is losing \$181 per yr because of mastitis. The technology, research, and the data are at hand to help control mastitis. However, the adoption of this information has been very slow to trickle down and become a part of everyday management on most dairy farms. So, the first step that we can take to help reduce the residue problems is to prevent disease rather than relying on the treatments available to cure the disease once it is diagnosed.

Field Observations

I find myself in a position of being on many dairy farms in the course of my routine work. It is appalling to see some of the drugs and products that are available on many dairy farms in the upper midwest. I am sure that if we were to visit every dairy farm in Kansas, we certainly could find some real problems with the medications that are on the farms, along with the conditions under which these antibiotics and treatment products are stored. I will admit that the few approved drugs for use in lactating animals in many cases are certainly not the most effective antibiotics to use. My point is to not discourage or condemn the extra-label use of antibiotics, but to use extra-label antibiotics in a reasonable and well thought-out treatment program that hopefully will ensure that contaminated milk is not mixed into the normal processing channels. My advice to you is to work closely with your veterinarian and to observe the withdrawal times that he recommends. All of us here know that in many cases veterinarians come to your farm and use drugs in an extra-label manner and leave written directions to hold the milk for x number of milkings. If you, in fact, send that milk to your milk-processing plant and request an antibiotic test on it, you will find that, in many cases, within a matter of 2 days, the milk test will be negative for antibiotics, even though the withdrawal time may have been 12 days. What do you do? You sell the milk. This is certainly a problem that we face today. The tests that we have available at the local level will have nowhere near the sensitivity of some of the newer tests about which we are speaking. Without adequate cow-side or milk-plant tests of the same sensitivity, we really

have a problem in maintaining an uncontaminated milk product for the consumer. There certainly is no way that the use of antibiotics can be eliminated from the average dairy farm in this country. However, drugs could and should be used in a wise and well thought-out manner. You should not use drugs without a label that tells both the milk withdrawal and the meat withdrawal times that must be observed prior to marketing these products. If your veterinarian mixes a specific prescription-type item for use in a certain individual cow on your farm, be sure to find out exactly what is the necessary withholding time. In many cases, the veterinarian may not have an accurate answer, and the time interval that he recommends may, in fact, be more than is necessary, but it needs to be observed. Do not cut corners in sending the product to market prior to the recommended holding time.

Product Availability for Lactating Cows

As a practicing veterinarian, I have many concerns about the availability of approved drugs with which to treat lactating animals. It is my opinion that we need to have milk and tissue residue withdrawal times established for products, even if they are not approved in lactating animals. It is common knowledge that many products are being used in food-producing animals to treat certain specific illnesses, but we do not have good clinical data to give us accurate withdrawal times. Many times veterinarians are faced with the unenviable task of coming up with a withdrawal time when there are no adequate data available. Most veterinarians tend to adopt recommended withdrawal times for which there is some evidence to suggest what is correct. Withdrawal time is a problem that veterinarians face after having had considerable training in the use of drugs and the preparation of drugs for use in animals. What about the mixtures that I see put together on the desk in the barn office? There may be as many as four or five active ingredients, including a corticosteroid and possibly some other products that would help the diffusion of the drug through the mammary tissues. What kind of a withdrawal time do we put on that type of a product? To me, the obvious answer is that we shouldn't use this type of a product. We should limit the use of intramammary drugs to the minimal amount of extra-label use with which one can get by. Dairy men would be well advised to use commercially prepared mastitis tube treatments and not to rely on either homemade products or even products that are routinely manufactured or put together for that use by practicing veterinarians. The potential problems with the contamination of these products with yeast and fungi and then the concurrent contamination of mammary tissues with these organisms warrant great concern. But of even greater concern is how do we arrive at effective withdrawal times for what I would call "bath-tub mixtures." I do not feel there is any way to come up with an adequate withdrawal time for this type of product.

The Bottom Line

The production of quality, uncontaminated milk demands that: 1) drugs be used only when necessary; 2) the treatments used have a prescribed withdrawal time; and 3) these treatment products be stored on the farm in a manner such that they cannot contaminate the milk supply. The ultimate responsibility for uncontaminated milk leaving the farm lies with the dairy producer and his veterinarian. I realize that the technology in some areas is way ahead of the technology that is available on the farm. However, rational, well thought-out drug-treatment programs can reduce dramatically the amount of adulterated milk that enters the marketplace. I firmly believe that producing uncontaminated milk remains the most important issue facing the dairy industry today.

I would like to close with a quotation from a talk presented recently by John Adams at the National Mastitis Council's summer meeting in Tampa, Florida. "We cannot fail in this challenge, for the failure will be reflected in adverse consumer and government reaction. Our

failure will lead to the loss of needed drug products and loss of consumer confidence in our product. Let us all continue to work together so that we are able to continually reassure consumers that our milk supply is the safest it can possibly be! Our number one business as cooperatives is marketing milk for the highest return for our dairy farmer members. We cannot market contaminated products!"

