

DAIRY VETERINARY NEWSLETTER

November 2014

Teat Dips Containing Nonylphenol Ethoxylates (NPEs) Are Being Recalled

Apparently in response to European Union (EU) concerns and regulations, the Environmental Protection Agency (EPA) released a document in May 2012 called, “DfE Alternatives Assessment for Nonylphenol Ethoxylates”. Nonylphenol & Nonylphenol Ethoxylates (NPEs) are surfactants used in many cleaning products, and have been discovered to be harmful to aquatic life when concentrated in waterways. There have been a number of teat dip formulations that contained NPEs. When milk from cows dipped with such products is evaporated into milk powder, a commonly exported dairy product, the NPEs become concentrated. This led to a “voluntary recall” campaign of NPE-containing teat dips. Now some foreign milk buyers of U.S. milk are stating that they will buy no milk or dairy products coming from farms that use teat dips or other germicides containing NPEs.

In recent months, some milk buying companies have been asking dairy producers to stop using teat dips containing NPEs. Some field investigation data showed that 10% of dairy farms were using NPE-containing teat dip products. A review of the refereed literature finds one paper regarding NPEs in milk, by Lv, Zhao et al. in J Separation Sci, October 2014. There is no mention of specific concentrations affecting human or aquatic health in the paper, but the results show clearly that NPEs are more concentrated in milk powder than other dairy foods or soft drinks. It is not a problem to manufacture teat dips with surfactant alternatives to NPEs, but the other surfactants do cost more.

Now that I am looking into it, I see that many teat dip product advertisements are pointing out that the product is NPE-free. Some teat dip advertisements state that there are “ill effects - - to humans and wildlife” caused by NPE. It is always interesting that as happens in any industry, manufacturers often downplay the possible or asserted dangers of products until they decide that their product is safer than a competing product, and then the harmfulness of the alternative suddenly becomes magnified. Many well-known teat dip manufacturers are now formulating teat dip with no NPEs. It is recommended that dairy producers check with their teat dip suppliers to make sure that from now on, their farm’s teat dip will be one of the many formulations with no NPEs.

What Defines Dairy Cattle or Their Milk or Meat as “GMO” or “Non-GMO”?

There was an interesting television segment filmed at a “farmer’s market” recently for a late night talk show. Many people who stated without hesitation that they were opposed to GMO’s in their food had no idea what GMO stands for. There was probably some selection for the people who made the most entertaining respondents for TV, and possibly a higher percentage of all shoppers (only the person shown last answered correctly) who knew that GMO stands for genetically modified organism. However, there is other evidence that many consumers are not well informed despite stating that they are opposed to GMO’s in food.

A recent poll revealed that 79% of respondents in the U.S. said that they either knew “very little or nothing at all” about genetically modified foods (54%) or had never even heard of them (25%). At meetings of dairy and/or veterinary professionals, I have heard some presentations that make a good point that any livestock, domesticated plants (or most weeds as well), companion animals such as dogs and cats, and even ourselves as humans have been genetically modified for at least 12,000 years since modern agriculture and animal domestication began. The breeding that created English Setters, Jersey cattle, larger ears of corn, etc. for thousands of years was really the most dominant phase of GMO modification.

Last month, the yogurt manufacturer Chobani announced that it was going to “explore potential non-GMO alternatives for cattle feed”. Their website also stated, “- - over 90% of the cows in the U.S. are fed GMO feed and there is simply not enough non-GMO grain for farmers to feed their dairy cows.” As noted by L. Sjoström in an article for Dairy Herd Management on October 14, 2014, “- - according to USDA’s Economic Research Service (ERS), [the amount of organic fluid milk sold in the U.S.] was about 2.5 billion pounds less than Chobani would need at full capacity. Meanwhile, ERS reports that biotech corn and soybeans accounted for 93 and 94 percent of acreage in 2014, respectively.”

The article made me think about a few things that I had not considered before. Can cows not producing organic milk, described in the above article as “conventional dairy cows on non-biotech feeds”, be considered non-GMO even though their milk is not produced organically? Would many of the consumers who said they did not want GMO food even though they did not know what the term meant accept that non-organic milk can be considered GMO? What if the cows were fed non-GMO feed, but it had been sprayed with pesticides, herbicides, etc.? They would obviously no longer be defined as making organic milk, but would they still qualify as producing non-GMO milk? Are cows of any reasonably pure dairy breeding, any of whose ancestors were produced by Artificial Insemination, not already GMO animals? They have certainly been genetically modified. If Chobani pursues the goal above, this search for non-organic dairy herds that produce “non-GMO” milk will almost certainly affect dairy producers in Utah.

Are there treatments administered to dairy cows that are considered to affect their GMO status?

Besides the societal questions, for dairy veterinarians there is this question: are there treatment restrictions of any kind for treating non-organic dairy herds in order for the milk (and/or meat) from those herds to be considered GMO, despite the fact that it is not organic? This would not be very logical in my opinion, that treatments would affect “genetics”, but nevertheless I wonder what the “official answer” is.

Is there an accepted definition of what GMO food means, including for milk?

According to an online “medical dictionary”, the definition of GMO is: “An organism whose genetic characteristics have been altered by the insertion of a modified gene or a gene from another organism using the techniques of genetic engineering.” According to that, it is not clear to me that any animal or bird eating GMO food is itself GMO, or that meat, milk or eggs from that animal or bird would be GMO.

Nevertheless, there are several on line sources, none of them regulatory or with apparent governmental authority, that state that food from animals fed GMO feed is itself GMO. Comment sections reveal that many consumers buy this idea. However, the FDA, that regulates GMO foods, does not state this. FDA says that GMO plants such as tomatoes that are converted into any food product result in that being a GMO food. However, the only FDA information concerning GMO food produced from animals clearly states that the issue is whether the animals themselves have been genetically manipulated by gene insertion. I can find no evidence that FDA considers livestock having eaten GMO foods as producing GMO milk, etc.

FDA also avoids the term GMO animals, calling them genetically engineered (GE) animals. There are indeed a number of GE animals in existence, including livestock species such as goats that secrete valuable compounds into their milk, but none have been licensed as food animals. I did not realize that FDA regulates all GE animals, and their products such as insulin from milk of transgenic goats, “under the new animal drug provisions of the Federal Food, Drug, and Cosmetic Act (FFDCA), and FDA’s regulations for new animal drugs.” The FDA states on its website that “GE animals are not drugs.” The FDA goes on to state, “This [new animal drug] guidance is intended to help industry understand the statutory and regulatory requirements as they apply to these animals, including those of the National Environmental Policy Act (NEPA), to inform the public about the process FDA is using to regulate GE animals, and to gather input from the public and the regulated industry.”

Thus, the only clear definition of GMO milk (or meat) from dairy animals that I could find was when such product came from animals that were themselves GE. It has nothing to do with whether they eat GMO feeds or not.

It is stated in various publications and websites that organic milk production requires non-GMO feed. As is often the case with government regulations, I found any evidence of this hard to find in the National Organic Program (NOP) rules that regulate organic milk production. I finally found the statement, “ - - genetic engineering may not be used” in order to be organic certified by NOP. If feed is not sprayed with pesticides, herbicides, etc. but is itself GMO, it still does not qualify as organic feed in terms of producing organic milk. Any consumption of GMO feed means that (I could find no evidence as to how this is regulated; more on that later) milk from such dairy cows cannot be labeled as organic milk. I could also find no guidelines regarding this scenario: because of scarcity or emergency, an organic herd must be fed GMO feed for a short time, for example for one week. How long is the “withdrawal” time after non-GMO feeding is resumed until the herd is now considered organic again? Is every cow non-organic for the rest of her lactation, as is the case with antibiotic treatment? If any readers know, please let me know.

This still leaves the question regarding whether cows not considered to be producing milk under organic regulations, but eating only non-GMO feed, can be considered as producing non-GMO milk. These would be the “conventional dairy cows on non-biotech feeds” mentioned earlier as a source of milk for yogurt. Does antibiotic or hormonal therapy or vaccine administration make cows’ milk non-GMO?

This started me on what I have found in the past without exception to be an exercise in frustration and an illustration of how large government programs operate: the process of trying to get an answer from the FDA. I called three different regional FDA offices and talked to at least a half dozen people at FDA. Between phone numbers that apparently were disconnected, phone menus designed so that no one could be reached, and obfuscation from the people I actually talked to, I could get no answer regarding an FDA position on the above. Everyone kicked the can to someone else. After one week, the reply I got from a source at FDA referred to as being able to answer was an email saying “we will get back to you”.

I did learn a couple of interesting things from one FDA person who spent time talking with me. The paltry number of FDA inspectors who regulate organic dairies has shrunk since I wrote about that in March 2012. There are now more than 323 organic farms per inspector, possibly more than 365. The FDA person remarked to me that they did not think the inspectors could visit every organic farm once per year. They also commented,

5600 Old Main Hill
Logan UT 84322-5600

unprompted, that they are now urging more unannounced inspections but their experience has been that almost no inspections of organic dairies are unannounced. We addressed that 2 years ago also. They stated that if an organic dairy feeds GMO feeds, they don't see how anyone could tell.

They also speculated, making clear that they did not know the official answer, about cows' GMO status. Their opinion was that if cows were administered antibiotics, hormones, or vaccines as described above, and withdrawal times were observed and no residues resulted, they did not think that this would affect non-organic cows' non-GMO status. As stated earlier, that seems logical to me, but it is not an official FDA position. If Chobani proceeds with their non-GMO milk marketing plans, clarification will be a necessity.

Thanks for reading the newsletter. I hope the rest of 2014, the holidays, and the New Year find you well.

Please let us know your comments and also suggestions for future topics. I can be reached at (435) 760-3731 (Cell), (435) 797-1899 M-Tues, (435) 797-7120 W-F or David.Wilson@usu.edu.



David Wilson, DVM

Extension Veterinarian

"Utah State University is an affirmative action/equal opportunity institution."