

SRBC Decides Ag Should Pay For Using Susquehanna Water

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representatives at the meeting, relayed its decision regarding the exemption of agriculture from consumptive use, which took place in May of last year and expired this week. They unanimously passed Resolution 93-01 at the meeting, which extends the exemption until May 13, 1994.

Until that time, Peter J. Bush, New York Commission member, said that the SRBC's Ag Advisory Committee must work on ways to register all users in the basin and to work on a proposal for fees for all users.

Before the SRBC's decision was announced, Keith Masser, president of the Pennsylvania Cooperative Potato Growers and a spokesperson for the Ag Use Advisory Committee for the SRBC, told the Commission that most farmers in the basin are unaware of the SRBC regulations.

(The regulations state that Commission approval is required for groundwater withdrawals that exceed an average of 100,000 gallons per day for any consecutive 30-day period. Also, approval is required for consumptive uses that exceed an average of 20,000 gallons per day for any consecutive 30-day period. The resolution, which carries through from last year for another year, suspended application of the consumptive use makeup regulation, now still in

effect until May 1994. However, the groundwater regulations remain in full force and effect for all types of withdrawals, according to the SRBC).

Masser affirmed the opinion of the ag advisory committee that there is more water available in the basin than the farmers could use, and that agriculture continues to remain in competition with federally subsidized water, which is allocated to the utilities.

Also, ag use does not affect the water in the basin during low flow rates, said Masser. Farmers continue to implement and follow conservation plans which help to retain water in the basin.

He also questioned why municipalities continue to remain exempt from approval and monitoring fees, especially in such steadily growing urbanized areas such as Baltimore, Md.

Masser told the SRBC that support should be provided to the farmers to obtain ways to build and maintain water storage structures if they must be charged with consumptive use and are required to replenish the water they remove from the basin for ag use.

The five-member Commission which met on Thursday agreed that a plan for regulating all water users in the basin must be implemented. However, according to John R. McCarty, representative at the fed-

eral level, more input is needed. State commission member Caren Glotfelty said that the 20 percent ag consumptive use is "quite a bit. If we fail to deal with it, we're failing citizens in the basin as a whole." She said she is not comfortable with making agriculture completely exempt.

Bush said that there has been discrimination and "special and beneficial treatment to ag users." Maryland member Catherine P. Stevenson said that in her state, it wasn't until the last decade that ag use of basin water came into play, but that farmers began to take interest early on and were willing to cooperate with the SRBC.

Masser said he was taken completely by surprise with the SRBC's decision. Up until this time the ag representatives believed that the SRBC was working within their interests, and would continue to keep agriculture exempt until a gradual registration program for farmers who use basin water could be implemented.

Leon Ressler, Lancaster County environmental agent, said that the SRBC should not instruct farmers not to draw water when they need it the most. What is needed is better overall water management that takes into account when the utilities and agriculture are using it and make sure ag is given high enough priority.

Research Shows Milk Has Many Proteins

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Milk Protein — Confusion
Or Opportunity?

NEWARK, Del. — Milk hasn't just one protein, but many.

In addition to milk's being a principal source of calcium, it has protein for healthy muscle growth, nutrition and human health. But there seems to be little common interest in the many protein constituents of milk's total protein.

Now, after decades of research, the protein content in milk is partially used in payment to dairy farmers. Consumers presumably are more concerned with protein than with the traditional milk fat content differences.

Because the trait for milk protein content is inherited, cows and bulls can be selected for these differences. New cow strains with higher protein content are possible if that's what the consumer wants.

Which consumer?

If food taste preference research can be believed, consumers prefer milk with a higher protein content. Market trends, however, show only that the consumer is interested in less milk fat, not in more protein.

Years ago, there were milks on the market that had higher solids and/or protein contents. All-Jersey and Golden Guernsey are two such examples, but they lost market share. So where's the logic in offering the dairy farmer a price incentive for protein content? Is it an attempt to reverse a market trend by educating consumers to drink more milk with higher protein contents?

Increasing milk consumption is of primary interest to dairy farmers, who receive a higher income when milk is used as fluid milk. They receive less money for milk

that goes into manufacturing cheese, yogurt and powder. At least this is the conventional wisdom of dairy-management experts. More indirectly, and probably more correctly, in the long run this isn't true.

In an indirect way, the price of milk goes up or down more with market trends in cheese sales. The percentage of fluid milk sales varies less and, therefore, has less influence on price.

When more cheese in Wisconsin and Minnesota is sold, the overall milk price to dairy farmers in our region goes up. So our primary consumer is not really the milk drinker, it seems, but the cheese eater, and more specifically, the pizza eater, because a lot of cheese consumed is on pizza.

A colleague with much insight into market dynamics used to chuckle that dairy farmers should offer a prayer of thanks every time they pass a pizza shop!

Our main consumer, then, the one who is interested in the protein content of milk, is the cheese maker. In fact, the cheese maker is aware that there is more to protein than a single entity.

In making cheeses, the cheese maker separates casein (the major protein constituent in total milk protein) from the others, which are in the whey.

Casein can make up 80 percent, but research here at the University of Delaware and at other experiment stations has shown that this percentage can drop by as much as half when mastitis occurs in the udder. This variation, of course, is of considerable interest to cheese makers. Their cheese yields can be disastrously less when they use milks with different mastitis histories.

So cheese makers are taking an interest in research that elucidates

the characteristics of the different protein constituents in total milk protein, not that this is new research. Information on the subject has been hidden in the literature for years, but the economic implications are just beginning to surface.

While physical and chemical research in milk proteins has been going on for years, only scientists were excited about it.

Our own USDA regional research laboratory in Philadelphia is a world leader in this field. We at the University of Delaware College of Agricultural Sciences engaged in a collaborative project with them until national budget cuts reduced these and related efforts drastically in recent years. Now new research in this field comes from Canada, Europe and India.

The information is not only making order out of a multitude of milk protein constituents, but is also attaching some economic opportunities to them.

In research 25 years ago here at the university, we identified five principal protein groups in milk, each with several genetically and chemically different members.

The casein group subdivided into four categories, with a total of 27 members, and the other protein groups, with seven different genetic members.

This seems confusing only until one gets caught up by the laws of genetics with which one can trace and predict the milk protein types in offspring.

We determined the occurrence and frequency in more than 3,000 Holsteins and Guernseys and found distinct differences between families of cows and between breeds.

Furthermore, we found significant relationships between some

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genetic members and differences in milk contents of total protein, casein, fat and solids-not-fat.

Recently, Canadian research demonstrated that there are economic advantages associated with some of these genetic members in the cheese-making process, and not just in terms of different milk composition.

If one realizes that protein differences are the result of the presence or absence of specific amino acids that make up proteins and that these amino acid presences and sequences are genetically fixed, then it is clear why some protein members act differently in cheese making and, of course, in digestion and human nutrition.

It's been established that certain specific milk protein genetic members have faster or slower curd coagulation time, different degrees of curd firmness or softness, more or less heat stability in processing, smaller or larger curd size, and higher or lower cheese yield. Sooner or later, all this will be proven to be similar in different digestibility levels for people, not just in cheese making.

This news generates real excitement, considering the opportunities in human nutrition and health, as well as future market trends for milk and milk products.

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