

# Research Continues On Advantages Of Waxy Corn

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Lancaster Farming Staff  
REISTVILLE (Lebanon Co.) — Waxy corn is apparently getting a new look by some people after being put on the back shelf for a number of years with regards to use as livestock feed.

A few different universities are in the process of investigating the 100 percent amylopectin strain of maize as to its feed and nutritional appropriateness for livestock.

However, except for one report on a study done in the Midwest on hogs, no data, save farmer testimonials, is readily available on the benefit of feeding 100 percent amylopectin, versus the current use of feeding normal dent corn, which is 75 percent amylopectin and 25 percent amylose.

Research on plant pectins is ongoing at Cornell by graduate student Mary Beth Rymph, who is doing the work as part of her pursuit of a doctorate degree.

However, Rymph said that the name "amylopectin" is a misnomer. She said it is not a true pectin, but really a starch. She also said that there is great lack in information about amylopectin as it is digested by cattle.

Pectins have some hope, however. She said that it has been found that the digestion of pectins is apparently fast and produces no lactic acid, which could eventually earn it a place in a research-supported recommended diet for high producing dairy cattle.

"Amylopectin is a bad name," she said. "It really is another starch."

Amylose is a sugar, or starch, which occurs in a straight molecular chain. Amylopectin is a multi-branched chain starch.

Rymph said she started out researching starches, then switched to pectins, which most people are familiar with in making jam and jelly, but also used in some glues, etc.

She is currently looking at pectins produced by alfalfa.

While she said she couldn't guess how long it might be until adequate information on pectins is available, the same is true of most non-structural elements of dairy feed.

"We need a lot more information, plus an assay on it and other feeds," she said, adding that there is currently a lack of an inexpensive, quick, and reliable method for testing of pectins and starches in the rumen. That's being worked on too.

But that doesn't mean that nothing has changed from 1990 when the status of waxy corn was reported as being improved in yields to almost equal to yellow dent.

At that time, though crop yields were up to where they are now — about equal to regular dent — there were no studies to validate any farmer and seed company claims that waxy corn had an advantage over yellow dent.

A lack of scientific data to support those claims doesn't mean that those providing testimonial evidence are not truthful.

What it means is, the lack of objective control over all influences on any herd makes any claim about a product, either in support or against, invalid.

In other words, when a decision to change a ration is based on testimonial evidence alone, there are no guarantees and the risk of damaging existing milk production is higher than with researched and substantiated claims.

However, a number of salesmen

and farmers for an Elizabethtown seed and soil-amendments products company are promoting some varieties of waxy corn and, on the basis of testimonials, are claiming higher yields, better acceptance by cattle and swine, and better feed conversion.

Results of one recently completed feed trial study at the University of Wisconsin, shows a maximum 10 percent advantage to using waxy corn over yellow dent for feed efficiency and a high of 8.9 percent advantage in daily weight gain.

Devon Howe, salesman for PARS Inc., Elizabethtown, in a letter said that the data which universities, such as Penn State, are putting out is based on trials with old varieties of waxy corn, not with the varieties developed by Custom Farm Seed, based in Illinois. That's the brand he and his area farmer-dealers promote.

Howe said that CFS has spent 20 years developing hybrids for the industrial starch business (it used

in various powders, etc.). He has pointed out a Wisconsin hog study as evidence of the advantage of CFS waxy corn.

No other research is available to support Howe's claims of an advantage.

Gary Apel, CFS director of agronomy services, also cited the University of Wisconsin hog study, which showed a slight advantage over a variety of dent.

As far as its use in dairy animals, Apel could not point to substantive research, but said he had a number of dairymen who were willing to provide strong testimonials as to its benefit on their herd's production.

There is currently some trial work being done at Wisconsin with dairy cattle, but both professors actively involved were unavailable for comment, one was out of state and the other was out of the country and also not due back soon.

Paul Carter, agronomy professor at University of Wisconsin's

College of Agricultural and Life Sciences, and with its extension program, recently wrote on waxy corn.

Carter said in the article that, other than the percentage of amylopectin, the chemical constituents of waxy corn are similar to those in yellow dent. In other words, the varieties are currently not too far apart in makeup and characteristics.

"Because corn hybrids have often been on the market for several years before seed companies change the genetic make-up of normal hybrids to include the waxy gene, many waxy hybrids are older than the newest normal hybrids and consequently may have lower yield potential," Carter wrote.

"Growers must isolate fields to prevent pollen contamination from normal corn.

"Some feeding trials suggest that finishing lambs, pigs and beef have slightly greater feed efficiencies and average daily weight

(Turn to Page 47)



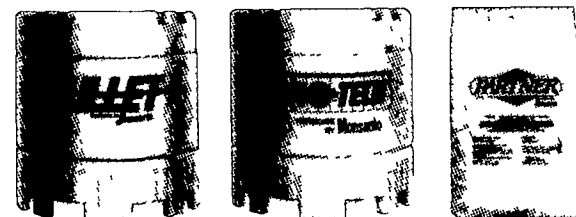
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