

Hay preservatives

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available on the contents of the chemicals used in the 1940's. Manufacturers tended to hang onto their "secrets" and the formulas, if known, might not have been very exciting anyway.

Regardless of the formula, the late 40's and early 1950's hay chemicals didn't dent the market much. Damp hay treated with the "powders" may not have molded as badly as untreated hay but it was usually very dusty coming out of storage. There were a few fires, too.

Apparently, some of the chemicals had a real kick. Treated hay may have sometimes resulted in milk flavor problems. This was

described as "cardboard" flavor. And, depending on the chemicals used, the milk produced by cows fed the treated hay sometimes had very low bacteria counts.

Users reported some milk inspectors could pick it out at the milk plant. Inspectors would call up to ask if they'd been feeding powder-treated hay. The ultra-low bacteria count was the clue.

Whatever the reason, those early chemical hay preservatives didn't solve the wet weather haying problems, according to the New Holland employee.

Barn-dried hay was the one solution that worked. Unfortunately, the people who used the system to make

high-quality hay in spite of catchy weather really worked. It took a lot more effort to place 40 per cent moisture hay bales on a drying platform than to stack at random. The extra labor required made the "practical" solution an impractical proposition for labor-shy dairymen, says Reeves.

About then conditioners came along to crush thick-stemmed crops for faster curing. That development began about 50 years ago and came of age with the introduction of mower-conditioners in the mid 60's. Hay curing speeded up.

The speed-up in drying time barely kept pace with

the yield increases we were getting from better varieties and higher fertilization, says Reeves. A 2-ton an acre yield gives you a swath about twice as thick as a 1-ton yield. The thicker swath just takes more time to cure. That's the reason we still need about as many days between cutting and baling as during the Depression, he explains.

Then haylage came along. Fully mechanized, the haylage system let humid area hay growers get their first cutting off between showers because it didn't need to be dried down much under 50 or 60 per cent moisture.

Nevertheless, farmers continue to bale hay. Reeves predicts baling will be better than ever once we get some good preservatives that'll let us bale at the same moisture

content at which we like to chop for haylage.

Some are already on the market, the New Holland man advises. Among other possible choices, mixtures of propionic and acetic acid are getting moderately good reviews from farmers who have a season or two experience. (Propionic acid is the chemical that keeps bread "fresh" in the grocery store and acetic acid is what makes vinegar taste different from good hard cider.)

But research at Purdue University and elsewhere shows real promise for anhydrous ammonia, too. Investigation continues, but there's some indication the NH₃ applied at about one per cent will do the task. It might even be more economical than some other materials. A big question now is whether to treat as we bale or in the stack. With NH₃ gas, it may be easier in the stack, comments Reeves.

If this does become

practical, part of the economics might be the protein boost you'd get from ammonia-treated hay fed to dairy and beef cattle. The ammonia nitrogen would be expected to have the protein-substitution benefits of urea-based supplements. We already use it on silage.

The ammonia may even tend to improve the fiber digestibility of poorer quality forages. Ammonia-treated straw is being evaluated as a roughage at several research centers.

If the thought of tagging a nurse tank of ammonia around the alfalfa field behind the baler doesn't seem appealing, there may be an easier way.

Urea, applied dry, will change to ammonia as it reacts with the moisture in the hay. Apparently, this urease activity is fairly rapid. Converted to ammonia gas, the urea would have similar anti-mold preservative characteristics as the NH₃ gas. It might be easier to handle, he says.

Beekeeping contest winners named

UNIVERSITY PARK - Dennis Fulmer, Marion Center, has been named state winner of the American Beekeeping Federation's Annual 4-H Essay Contest.


According to Henry T. Moon, 4-H specialist at Penn State, the winning entry will be entered in national competition with winners to be announced after June 1. Dennis will vie for a \$250 cash award.

His essay, "Chemical Poisoning - A Threat to Honey Bees," deals with the misuse of toxic substances and their effects on bees and the honey they produce.

Second place winner in the contest was Andrew Paterson, Glen Mills. His topic was "Pesticides and the Honey Bee."

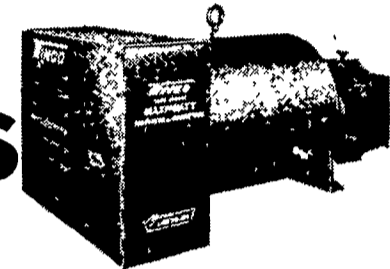
Other 4-H members participating in the essay program were Maria Cizek, Coudersport, Kevin Tasker, Saxonburg; Kim Sigmond, Evans City; and Jay Jelliff, Ocala and Caryn O'Brien of Cedars, Pa.

Contest judges were Dr. Clarence Collison and Mr. Richard Hackman of the Penn State Department of Entomology faculty.

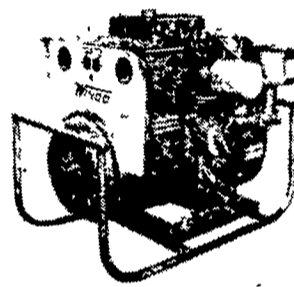


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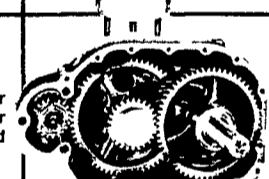
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