

## Penn State solves silo fire problem

UNIVERSITY PARK — In a discovery of major importance to farmers, Pennsylvania State University researchers have learned how to extinguish silo fires, reports James T. Knight, president of the International Silo Association, with headquarters in Des Moines, Iowa.

"Before William Arble and Dennis Murphy demonstrated it could be done, we really didn't know how to put out silo fires," says Knight. "In most cases, it was only possible to protect nearby structures and animals, and allow the silage to burn itself out."

"Since we described their technique last March in our Silo Operators Manual, it's been used at least five times to extinguish silo fires. Previously, there would have been but a remote possibility of dousing such fires."

The technique was developed over the last four years by Arble, a fire technology specialist, and Murphy, an Extension safety specialist and assistant professor of agricultural engineering.

"Silo fires are self-igniting," says Mr. Arble. "They result from heat build-up during fermentation of the silage. Unlike most fires, those in silos burn slowly. The silage—chopped corn or hay used as livestock feed—is packed firmly, leaving little air to fuel the fire."

"The problem: such fires begin somewhere below the surface of the silage. They spread slowly causing hot spots throughout the silage."

"We needed some way of pinpointing the hot spots, and of getting water in there."

"By trial and error—and, perhaps, an extraordinary run of luck—we learned what to do. Our technique is ridiculously simple. We don't know why someone didn't try it sooner."

Their innovation: a combination heat probe/water sprinkler.

A narrow one-and-one-half-inch-long perforated metal point is attached to a three-inch connector. This is attached to one or more sections of long, thin pipe. An electronic temperature sensing device, wired to an external digital indicator, is slipped down the pipe to the tip.

"The gadgets, several feet long, is thrust repeatedly into different parts of the silage, and temperature readings are recorded," says Murphy. "You keep probing, searching for temperatures above 140 degrees Fahrenheit. That appears to be the danger point."

When suspicious spots are located, the temperature probe is slid up the pipe. A hose is attached to the outermost end of the pipe. Sometimes, even a garden hose can be used, since little water

pressure is needed. Flowing from the perforated tip buried deep in the silage, water extinguishes localized fires in a few minutes. The procedure is repeated until all suspicious areas have been found and fires extinguished.

"Thus far," concludes Mr. Arble, "we've had a 100 percent success rate. Many of the fires we extinguished ourselves. For others, however, we gave directions over the telephone, and local firemen were able to put them out."

## Sheypuk

(Continued from Page B20)

a modern dairy operation, which proved to be quite interesting.

However, Dee says she became infuriated when watching a TV commercial which depicted a milkman promoting a non-dairy creamer. It almost seems that for every forward step dairy promotion takes, phony-food advertising sets it back another two.

But the Sheypuks — George, Dee and their two girls, Paul, Diane and their two boys — keep advancing — the DHIA record speaks for itself. And although the number 13 might be unlucky for some, it's a safe bet the Sheypuks won't be avoiding black cats or broken mirrors as they strive for the number one spot next year.

LEBANON — The Cedar Crest FFA participated in the Lebanon County FFA Corn Contest held November 19 at Cedar Crest High School. Those who participated from Cedar Crest were Bob Bomberger with fifth in yield and second in quality, Steve Wenger with third in yield and fourth in quality and Mark Patches with second in yield and seventh in quality.

The judge for the contest was

David Heagey, an area seed salesman and farmer. When Heagey judged the ten ears of corn from each entry, he was looking for the following characteristics — bright yellow color, uniformity of ears, straight rows, large size freedom from mold and other marks and full ears.

Jim Rudy of Northern Lebanon High finished first in yield with 170.5 bushels per acre, and in quality, too.

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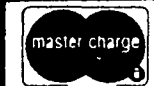

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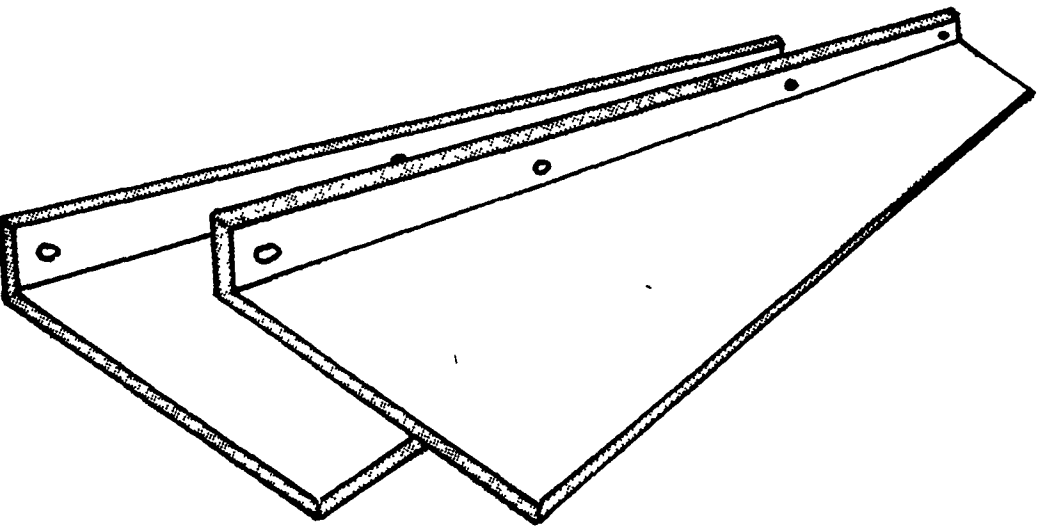
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