

## U.S.D.A. Tries Irradiation On Corn Borers

Research entomologists encouraged by successful eradication and control of the screwworm and melon fly through the mass release of flies made sterile by radiation are investigating this tactic as a potential weapon against another serious agricultural pest, the European corn borer.

Although corn borer damage in recent years has taken a consistent downward trend, it still is substantial enough to keep this pest high on the list of agriculture's insect enemies. Last year corn borer damages were estimated at \$94 million.

USDA insect experts, J. R. Walker and T. A. Brindley, conducted irradiation tests, using X-rays on laboratory populations, at the Corn Borer Research Laboratory, Ankeny, Iowa, in cooperation with the Iowa Agricultural Experiment Station. After irradiation, the corn borers were placed into egg-laying cages for study. The entomologists found that —

Adult male corn borers were

sterilized by doses of 32,000 roentgens of X-rays applied one day after emergence.

At this dosage level, only 1 percent or less of the eggs hatched when the sterile males were mated with untreated females.

Sterile males competed successfully with normal males for untreated females.

Sterile males lived about as long as untreated males, suggesting that their survival in the field might compare favorably with that of natural males.

However, there was an indication that sterile males of the European corn borer might not be as successful as sterile male screwworms in competing with normal males. For example, when sterile corn borer males outnumbered untreated males 2 to 1, about 40 percent of the eggs resulting from matings with untreated females hatched. However, in experiments involving the screwworm, the same ratio reduced the egg hatch to 35 percent.

Tests were also run on the breeding performance of corn borers irradiated as pupae. These showed that the percentage of egg hatch varied with the age of pupae at time of treatment, the younger pupae

## Good Cider Is All-Year Drink

HARRISBURG — Cider and Hallowe'en traditionally go together.

But it's time, the Pennsylvania Department of Agriculture feels, to take off the mask and reveal cider for what is really it, or can be — a delicious year-round drink for many occasions.

A particular occasion is breakfast, according to Delmar K. Myers, acting director of the department's Bureau of Foods and Chemistry.

being more susceptible to irradiation. And while the fertility of both sexes decreased as radiation dosage increased, female pupae were affected more.

Deformities were a problem — reaching a rate of 50 percent — when pupae under 24 hours old were irradiated with 5,000 roentgens. This problem was remedied by withholding treatment until pupae were 48 hours old.

The scientists used X-rays as the source of radiation for these studies, rather than the cobalt-60 treatment employed against the screwworm and the melon fly.

"Cider fortified with vitamin C is an ideal breakfast juice, tasty and healthful," Myers said. "And it adds variety to the morning menu for it can be served cool and sweet, or spicy hot."

Steps already have been taken to expand Pennsylvania's cider industry. Twelve rules for producing better cider and apple juice have been drawn up as a guide for apple growers. They probably will become requirements of a cider mill sanitation program that may be introduced next year, Myers said. The object, he explained, is to encourage production of quality cider for year-round marketing.

Pennsylvania growers last year used 835,000 bushels of apples, 8.9 per cent of the crop, for making apple juice, cider and vinegar. A bushel of apples will yield 2½ to 3½ gallons of juice or cider, depending on the variety.

Cider and apple juice are very much alike, but cider may contain very fine particles of the fruit that impart a distinctive, tangy flavor, while apple juice is clarified by filtering. Approved preservatives or pasteurization will prevent fermentation and maintain cider in its sweet, natural state.

Only firm, clean apples are used for making quality cider, Myers said.

## Manheim H.S.

(Continued from Page 1) Township H. S. in Lacawana County prior to going to Mansfield.

At Mansfield Hess saw 36 of his students receive the Keystone Farmer degree, and four of them went on to become American Farmers in the FFA.

Mansfield, one of the oldest Vocational Agriculture departments in the state, being organized in 1914, received top award five times in state dairy project competition under Hess' guidance.

He was awarded the Honorary Keystone Farmer degree in 1949, and received the coveted Honorary American Farmer Degree in 1959.

Hess plans to move his wife to Manheim in the near future. His daughter is married and teaching school in a Philadelphia suburb, and his two sons are students of theology at out of state seminaries.

## Farm Women 4 See Collection Of Buttons

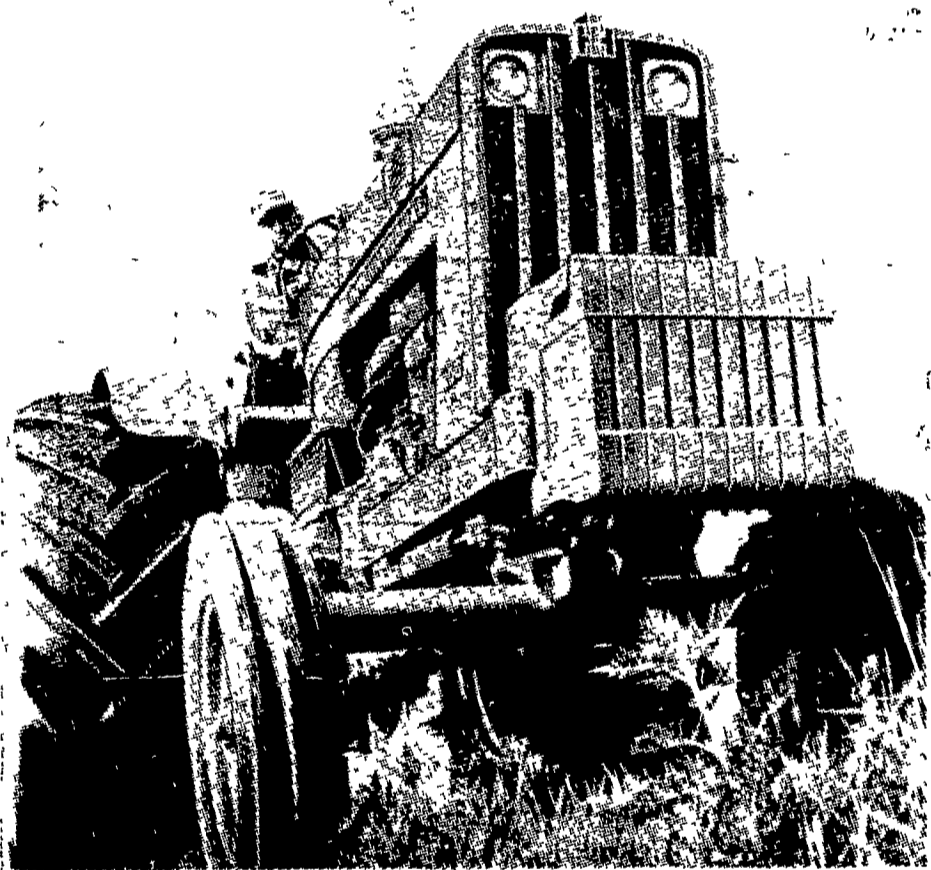
Interesting stories about button collections was a feature of the recent meeting of Farm Women Society 4 in the home of Mrs. Marie Nissley, Salunga.

The president Mrs. Daniel Will opened the meeting Devotions were led by Mrs. Ira Frantz Roll call was answered with "An interesting experience that I had last week"

Miss Debra McFarland played a piano solo for the group Mrs. Henry Hiestand, a member of both the Farm Women Society 4 and the Red Rose Button Club, presented a program on buttons, telling stories about numerous buttons in her collection of 22,000

The next meeting of the group will be held Sept 28 at the home of Mrs. Ira Neff, 2146 Columbia Ave, Lancaster At that time a book review will be presented by Mrs. Lloyd Nolt.

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