

Leafhopper control requires alfalfa regrowth monitoring

UNIVERSITY PARK — Spraying alfalfa stubble to control the potato leafhopper — the most serious pest in Pennsylvania alfalfa — may be uneconomical or ineffective, says Arthur A. Hower, research entomologist at Penn State.

Hower said leafhopper activity on one crop does not provide an accurate estimate of numbers on subsequent crops. Only 50 to 59 percent of fields harboring damaging populations before harvest retained that pressure after harvest in studies carried out in Pennsylvania and Virginia.

"The recommended

management strategy is to determine leafhopper numbers early in regrowth following each harvest," Hower affirmed.

Leafhopper buildup should be monitored every three or four days after harvest, he said, and insecticides should be applied only when the number of insects per sweep with a net across the field is large enough to cause economic loss.

Use spray table

Hower indicated alfalfa growers can best determine whether or not to spray leafrollers by using Table 2 in Penn State's Special Circular

#284, "A Pest Management Program for Alfalfa in Pennsylvania." This circular is available from county agents or from the Mailing Room, 112 Agricultural Administration Building, University Park, PA 16802.

He gave an example of how the table works. Plants in a field are 1 to 3 inches high, hay is valued at \$100 per ton, cost of spray is \$10 per acre, and the grower has 35 leafhoppers in 100 sweeps, an average of .35 per sweep. The chart in the table shows that the leafhopper population in the field is slightly above the injury threshold (0.3) so a spray will be profitable.

The Penn Stater cautioned that sweeps with an insect net may overestimate survival of nymphs right after harvest. In a 20-acre field over two years, the percentage of nymphs surviving harvest was high the day hay was removed. Four to seven days later, the number of nymphs was down to 10 percent.

5-year study
Hower and associates have

completed a five-year study on the effectiveness of alfalfa stubble sprays and the biology of the potato leafhopper. Stubble sprays were evaluated on third cuttings in a four-cutting system. The sprays were assessed on alfalfa yield, quality, and insect population change.

"Residual nature of an insecticide should be a major consideration when deciding whether or not to treat stubble," he stated. "Nonsystemic insecticides, those lacking the ability to distribute into new growth, generally will not persist long enough for adequate control," he added.

The experiments tested systemic insecticides such as Advantage in 1981 when potato leafhopper pressure was very heavy. Yields were significantly higher than the untreated and regrowth treatments. Advantage prevented damage to regrowth and continually protected the crop during its first weeks of development. This was the only time a stubble spray improved yield.

On the other hand, non-systemic insecticides such as Trithion lost their protection early in the crop's development. Insecticides applied as preventive sprays on stubble did not control potato leafhoppers sufficiently. Insect numbers generally reached damaging levels at least two weeks before harvest.

Plots treated at 4-to-8 inches regrowth always harbored less than damaging numbers at harvest. Leafhopper numbers in untreated plots, however, always exceeded damaging levels at harvest. The only effective stubble sprays were Advantage and Furadan, both having systemic activity, and Lorsban. These reduced pest numbers significantly throughout crop development.

Over a two-year period, Advantage as a stubble spray was the only compound giving control equal to regrowth sprays. Lorsban was comparable to Advantage the one year it was tested and Furadan was effective one of two years tested.

Lower wheat production predicted for 1984

HARRISBURG — Pennsylvania's 1984 production of winter wheat is expected to be below 1983 production based on May 1 conditions, according to the Pennsylvania Crop Reporting Service.

Acreage to be harvested is forecast at 220,000 with a yield of 38 bushels per acre. The resulting production, at 8,360,000 bushels, is three percent below the 1983 level.

Total 1983 tobacco production for Pennsylvania was 22,415,000 pounds. Southern Maryland, Type 32 acres harvested were 4,300 with an average yield per acre of 1,900 pounds and total production of 8,170,000 pounds. Pennsylvania, Type 41 acres harvested were 7,700 with an average yield of 1,850 and production of 14,245,000 pounds.

Hay stocks on Pennsylvania farms as of May 1 totaled 554,000 tons, the lowest level since 1966.

United States winter wheat production is forecast at 1.98 billion bushels, one percent less than last year's production of 1.99 billion bushels. total 1983 U.S. tobacco production was 1.43 billion pounds, 28 percent below 1982

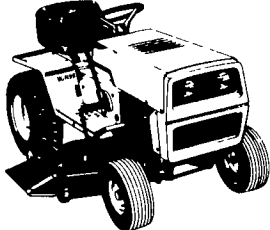
production. All hay stocks on farms as of May 1 totaled 20.56 million tons, 29 percent below that stored on May 1, 1983.

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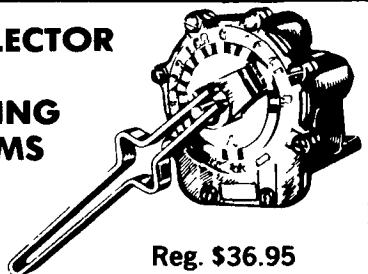
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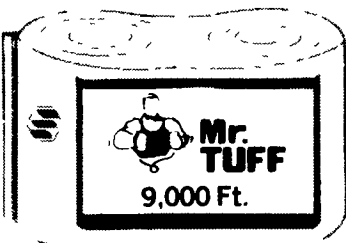


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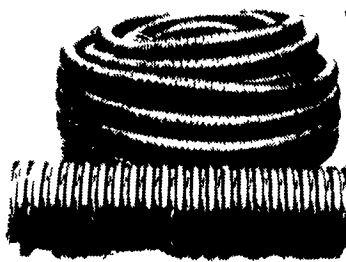
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