

# 400 plant bug species exist in Pa.

UNIVERSITY PARK — Over 400 species of plant bugs occur in Pennsylvania, according to entomologists at Penn State. These plant bugs are the only group of insects that both scientist and laymen can properly call "bugs," says Alfred G. Wheeler, adjunct entomologist with the College of Agriculture.

Plant bugs suck sap by means of a beak or proboscis, Wheeler explained. They're relatively tiny insects, 1/8 to 5/8 inches long. Some species damage crops, but not all are plant feeders. In fact, a surprisingly large number feed on other insects. The 400 are technically known as the insect family Miridae.

Wheeler has studied the biology of the more common species of plant bugs in his dual role as entomologist with the Bureau of Plant Industry, Pa. Department of Agriculture. Cooperating on the research was Thomas J. Henry, now with the Systematic Entomology Laboratory of the U.S. Department of Agriculture in Washington, D.C.

When Dutch elm disease began eliminating many American elms, a search began for other kinds of shade trees. In the 1950's and 1960's, a number of thornless and seedless varieties or cultivars of honeylocust were developed.

For several years, ornamental honeylocusts were considered nearly pest free. However, one yellow or golden-leaved cultivar, Sunburst, proved attractive to the honeylocust plant bug when the tree was grown along city streets and in home plantings. Plant bugs feeding on new growth discolor and distort the leaflets. Large numbers of bugs can cause premature defoliation of entire trees.

"This is an example of an insect that rarely damages its host plant in its normal habitat but has become a pest under urban conditions," Wheeler said. "It is well known that ash plant bugs prefer

native trees growing in open areas. They have now become common pests of ornamental ash in street plantings."

The sycamore plant bug, Henry indicated, is another example of an insect that only recently has become a pest. This insect normally does not injure native sycamore (American plane tree), but often becomes a problem when this plant and the related London plane tree are grown in nurseries or along city streets.

Sycamore plant bugs suck juices from tender, expanding foliage and apparently inject a poisonous substance into the leaves. Plant tissue that has been "fed on" turns brown and drops out, leaving many small holes in the leaves. At one

time, the "shot-hole" appearance of the foliage was blamed mistakenly on frost, chewing insects or a disease.

Most plant bugs insert their eggs deep into plant stems, making detection nearly impossible, it was pointed out. In this way, bugs move long distances with plants. A number of Europe species have entered the U.S. with nursery stock and have become established. While most "imports" have remained harmless or economically unimportant, a serious pest could enter, Wheeler cautioned.

Not so long ago, a pest of ornamental ash in the western states was brought into a Pennsylvania

plant nursery with dormant, bare-rooted young trees or "whips" grown in Oregon. Only prompt detection prevented this potential pest from becoming established in the Commonwealth, it was noted.

"Our studies have shown that several species may be important biological or natural predators of ornamental pests," Wheeler said. "We have studied one plant bug that is common on white oak where it destroys populations of aphids, lace bugs and spider mites. Two other species, referred to as jumping tree bugs, feed on obscure scale."

He added that Christmas tree growers are aided by several kinds of plant bugs that feed on aphids on

Scotch pine and on gall aphids on spruces and Douglas fir. Spider mites on spruce trees are eaten by another plant bug. This mite predator, Wheeler reported, was accidentally brought in from Europe — a rare example of a beneficial insect entering the country unbeknown to scientists.

Further work is needed to determine the "friend or foe" status of plant bugs in the Commonwealth, Wheeler said. With species already known to be injurious, control has been made easier, he said, by correlating egg hatch of the bug with stage of growth of the host plant. In this way, insecticide sprays can be timed with best accuracy.

## Forage 'Superbowl' offers super prizes

MADISON, Wisc. — Dairymen participating in the World's First Forage Analysis Superbowl will aim for prizes valued in the thousands of dollars. Agricultural firms whose products are used in alfalfa production have contributed many valuable merchandise prizes.

The World's First Forage Analysis Superbowl is co-sponsored by the World Dairy Expo, Holstein World, Wisconsin DHIA, and the University of Wisconsin-Extension. Two divisions, field-dried hay and haylage, will be judged by the University of Wisconsin-Extension with their near-infrared spectroscopy process.

Winner of the hay division will receive a season's use of a Sperry New Holland Model 499 Haybine Mower-Conditioner. The haylage division winner will be awarded a Clay Ring Drive Silo Unloader. Second-place winners in both divisions will receive a Brillion Sure-Stand Seeder to use for one season. In addition, all entrants will have their sample analyzed

and a balanced ration formulated.

Winning forage samples will be displayed during the World Dairy Expo, October 3-7, at the Dane County Coliseum in Madison, WI. Dairymen from across the United States are eligible to participate and winners will be honored at a special luncheon Oct. 8. Besides displaying the winning forage samples, a special forage program will be held each morning in the Expo's new educational display area.

Other companies supporting the promotion include:

Gehl Company, forage box (one year's use); Dairyland Seed Co., six bags of alfalfa seed; Funks Seed Co., six bags of alfalfa seed; Jacques Seed Co., six bags of alfalfa seed; Kaltenberg Seed Co., four bags of alfalfa seed; North American Plant Breeders, four bags of alfalfa seed; O's Gold Seed Co., six bags of alfalfa seed; and Pioneer Hi-Bred International, six bags of alfalfa seed.

Also Pride Seed Co., six bags of alfalfa seed; FMC Corp., 10 units of Furadan; Stauffer Chemical

Co., five units of Eptam; Domain Inc., "Alive" silo additive and applicator; Miles Laboratories, "Ag-Master" forage inoculant and applicator; Madison Farm Structures, forage Tester; Northwest Ag Consultants, 10 hay coring tools; Garst Seed Company, six bags of alfalfa seed; and

Oakfield Apparatus, Inc., four hay coring units.

Dairymen wishing to enter the contest should write to World Dairy Expo, P.O. box 9113, 919 Applegate Road, Madison, WI 53713, for an entry blank. Local county extension agents can also be contacted for more information.

## Retail market tour June 29

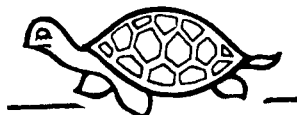
SCRANTON — The Northeast Retail Marketing Tour of farmers markets, roadside stands and pick-your-own markets in Berks, Lancaster and Dauphin Counties has been set for Friday, June 29.

Arranged by the Lackawanna County Cooperative Extension Service, the bus will leave the Clarks Summit area at 6 a.m. and

return there about 9 p.m. or 10 p.m. with a stop on the way back for a family style dinner. Donation for the bus is \$3 per person.

Reservations must be received by June 25 and can be made by sending in your check to the Lackawanna County Cooperative Extension, 200 Adams Avenue, Scranton 18503 or calling 961-4761.

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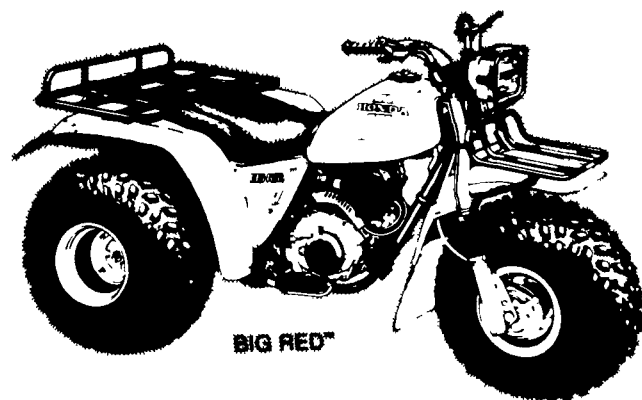


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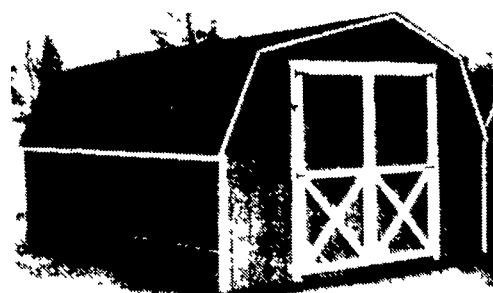
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