

Penn State Ag

PROGRESS 1999

POTATO LEAFHOPPER-RESISTANT ALFALFA ON DISPLAY AT AG PROGRESS

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Potato leafhopper causes the greatest economic loss in alfalfa to Pennsylvania. Traditionally this insect has been controlled with the use of insecticides; however, alfalfa varieties that are resistant to potato leafhopper are available. The resistance is due to glandular hairs on the stem that exude a substance that kills leafhoppers and inhibits the ability of leafhoppers to reproduce.

However, potato leafhopper-

resistant varieties have had mixed success in the field.

Why?

First, most of the varieties first sold in Pennsylvania only had 20 to 40 percent resistance characteristics. That means that out of every 100 alfalfa plants in a field, only 20 to 40 had the resistant characteristics. Potato leafhopper resistant variety sold in 1999 had improved resistant levels from 40 to 60 percent. Varieties with higher (60 to 80 percent) resistance levels are supposedly going to be available in 2001.

If you would like to see varieties with different levels of resistance, they will be in plots

Cut Flower Business Can Be Profitable

ROCKSPRING (Centre Co.)

Farmers in search of an alternative crop or a blooming source of income can discover how to start a cut-flower farming operation by visiting Ag Progress Days, sponsored by Penn State's College of Agricultural Sciences, Aug. 17-19.

Experts from the college's department of horticulture and Penn State Cooperative Extension will be on hand at the Cut-Flower Demonstration/Ask The Experts tent on East 7th Street to answer questions and distribute literature on cut-flower operations. The event is held at the university's Russell E. Larson Agricultural Research Center at Rockspring, near State College.

"Cut flowers really have piqued the interest of farmers and other businessmen as a cash crop that can be sold at farmer's markets and other outlets," said Robert Berghage, assistant professor of horticulture. "The cash return on a small, well-managed plot of flowers is a lot more than you would get from an acre of corn."

The stall also will hold flower arranging demonstrations using flowers from the demonstration plots at 11 a.m. and 2 p.m. daily in the tent.

Berghage says the demonstration area will showcase more than 90 flower varieties, including zinnias, asters, celosia, sunflowers, strawflowers and other annuals, as well as several vari-

eties of woody plants used in the cut-flower market. "We also will display some unique flower varieties that are not widely known on the market,"

Berghage said.

Visitors can get fact sheets and information on business opportunities, weed control, budgeting and crop handling.

near the Penn State Crops and Soils Tent at Ag Progress Days.

Second, there is much we do not know about management of the new varieties. Historically, we would have done all the research first and had many answers on release of varieties with new traits, but now, in the rush to get new traits to farmers, much of this information must be developed after the release.

Third, the expression of the

resistance may be affected by the environment and not always be present to the same extent. In 1997, it appeared that resistance was not as effective until the plants were well established. Preliminary research findings have also shown that potato leafhopper feeding on new seedlings may cause yield reductions into the next two years.

Finally, the resistance may be primarily due to insect breeding

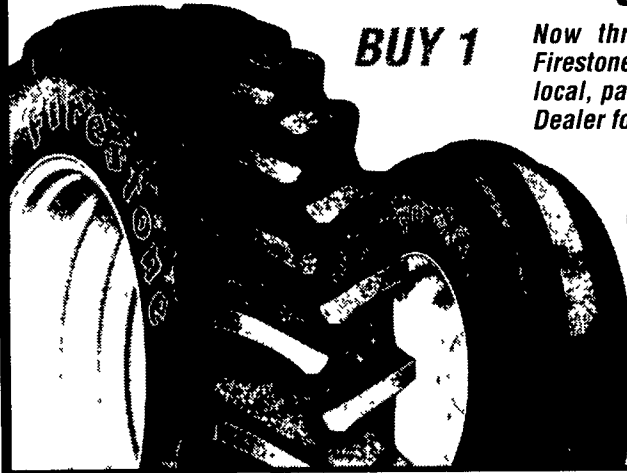
and reproduction and be less effective against the first infestation of adults that come from the South. This may mean that the thresholds for spraying are different and the number of sprayings are reduced for the season but not eliminated.

Many of the farmers using resistant varieties have some level of potato leafhopper infestations, but still achieve a yield benefit.

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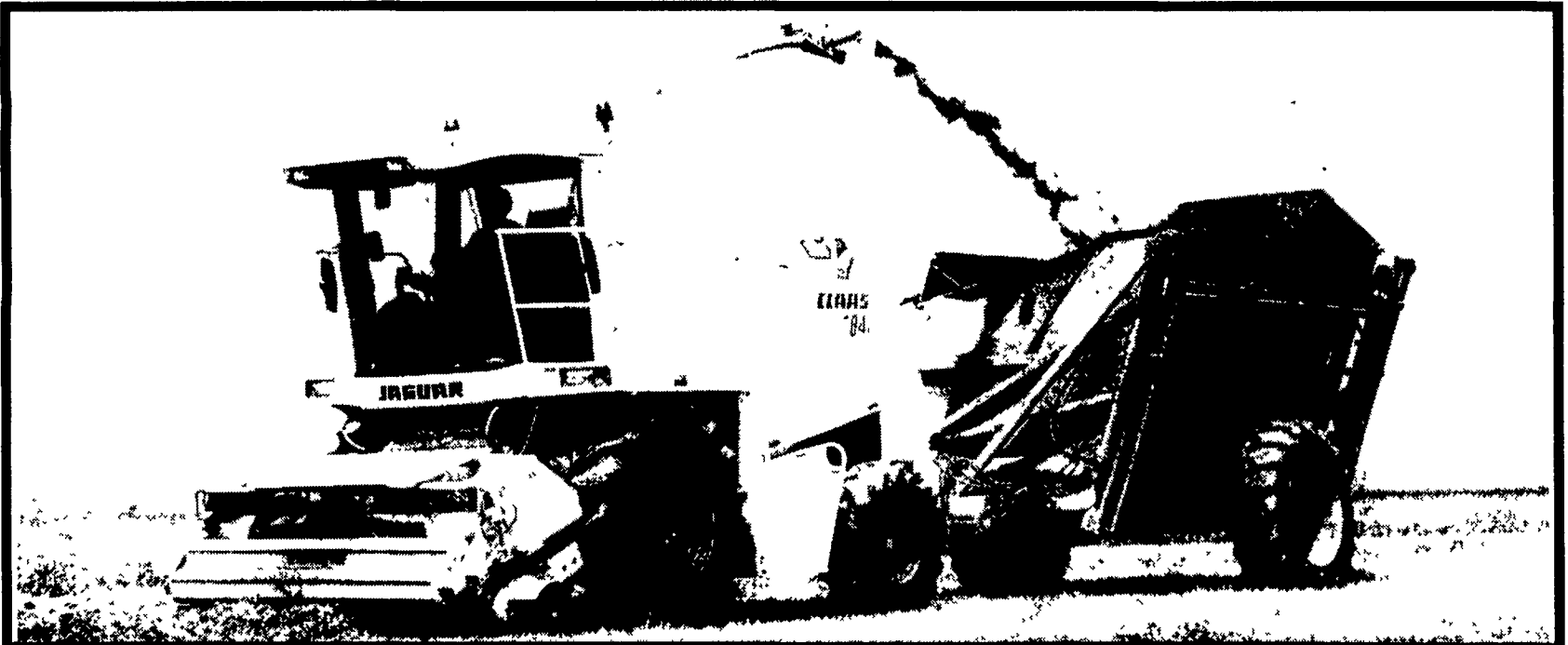
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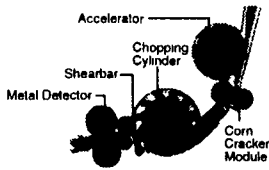
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