Jacques Releases Nematode-Resistant Soy Variety

PRESCOTT, Wis. — The newest weapon in the continuing fight against the yield-robbing soybean cyst nematode (SCN) is now available from Jacques Seed Company.

Jacques 380C is a Group III variety that combines resistance to SCN Races 3 and 4 with moderately high phytophthora field tolerance and very good yield potential.

"Jacques 380C's late Group III maturity makes it widely adapted to some major soybean-producing areas," said Jacques soybean breeder Tim Foley. "It also stands out for its very good shatter resistance."

The variety is rated very good for seedling vigor as well, and develops a medium-height, medium-canopy plant with very good standability. J-380C also has excellent row-width versatility and drouth stress tolerance.

Up to now, incorporation of SCN-resistance into previously susceptible varieties has resulted in a 5 percent to 10 percent reduction in yield potential compared to the susceptible variety, Foley said. However, even though yield data are preliminary, Foley reports that Jacques 380C appears to be a very competitive yielder compared to susceptible varieties of the same maturity grown in non-infested fields.

University of Kentucky research has shown that when cyst numbers are between 50 and 100 per pint of soil sample, yield decreases of 15 percent to 25 percent can occur. As cyst numbers increase to between 200 and 300 per sample, yield losses can reach 50 percent.

The only way to stay ahead of the pest, believes Dr. Greg Tylka, Iowa State University nematologist, is to get a soil analysis now, whether you've spotted visual symptoms or not.

"If the farmer doesn't have the cyst nematode, great! If the numbers are low, he can establish a management program to keep them under control. If the numbers are moderate to high, he's probably going to have to quit producing soybeans in those fields for awhile."

Since SCN was first found in North Carolina in 1954, it has been steadily pushing north and west. Thought originally to be a southern producer's problem, it has now been identified in more than 22 soybean-producing states and new areas are being reported every year. The nematode has been confirmed in 49 of Iowa's 99 counties, for example, and also in areas of Minnesota and Wisconsin.

SCN is a microscopic roundworm varying in length from 1/125" to 1/5". It feeds on the roots of the soybean plant, reducing its ability to absorb water and nutrients, thus lowering yield. Pregnant female cyst nematodes are visible as white cysts on the roots at the early flowering stage in late June or early July. Sixteen known races or types of the pest have been identified.

Visual symptoms include plant stunting and yellowing. Affected plants are usually found in circular patches or oblong areas that follow the direction of tillage.

Plants that are already under stress due to drouth or other diseases are also more prone to SCN damage. A management program that keeps plants as healthy as possible will minimize yield loss. "I liken it to the human body," said Tylka. "If you're already weak from a cold, the effects you'll feel from some other disease are much worse.

"If the soybean plant is suffering from the effects of drouth or iron deficiency chlorosis, for example, the effect of the nematode is much worse."

Once nematodes are identified as a problem, there are several management techniques farmers can utilize to keep yield loss as low as possible, said Dr. Dennis Byron, Jacques director of soybean research.

"The most effective method of controlling the pest, once it's present, is crop rotation," said Byron. "A four-year plan that has worked well is to plant a SCN-resistant soybean variety the first year, corn the next year, a susceptible soybean variety the third year, and then back to corn the fourth year. Three out of the four years you are growing a crop that is a non-host."

It's good advice, cautions Byron, to have another soil sample analyzed to determine the remaining levels of SCN before planting the susceptible variety in the third year.

Unfortunately, farmers can't avoid SCN damage by planting just one resistant variety, said Byron.

"Research has shown the nematode can quickly shift from one race to another. So if you plant the same resistant variety year after year, it can actually promote increased infestation of another nematode race that can attack the resistant variety."

There can also be advantages to planting a resistant/susceptible soybean seed blend, said Byron. Under SCN pressure, the grower can expect a higher level of overall field yield. The high-yielding susceptible component of the blend will maintain high yields in non-infested and low cyst infested areas of the field, while the resistant component will contribute reasonable yields in moderately infested areas.

The Jacques Seed Company blend, 440C Brand, is an early-to-mid Group IV containing the Races 3 and 4 resistant component. 440C shows improved yield performance under low-to-moderate SCN pressure. It produces medium-height plants that display very good lodging resistance and very good shatter resistance.

Even if you think you don't have a SCN problem, the only way to tell for sure is to have a soil analysis done, said Tylka. And regardless of where you farm, the geographic expansion the pest has shown in the last 30 years means that if you grow soybeans, you'll eventually have to make room in your management program for fighting soybean cyst nematode.

Pointsettia Update

DOYLESTOWN (Bucks Co.) —"Poinsettia lovers can shop with confidence this holiday season," says Tim Malone, executive director of the newly-formed Poinsettia Growers Association. "Rumors of any infestation problems in poinsettias are simply untrue."

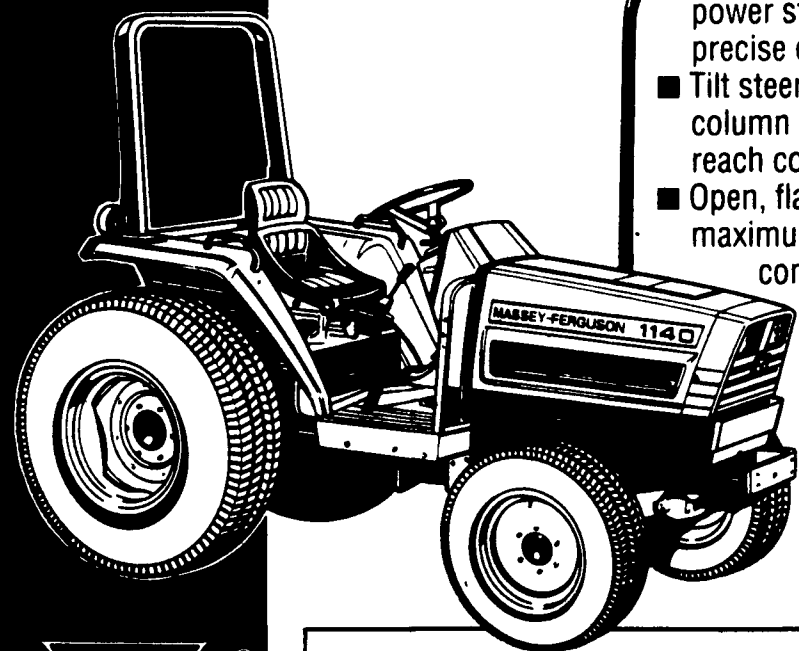The vegetable and fruit industry in California has received national attention focused on their whitefly problem. Unfortunately, the insect in question, called the Poinsettia Whitefly by the press, is really the Sweetpotato Whitefly, according to Penn State entomologist Paul Heller.

This year, poinsettias are as least as pest free as in the past. Also, poinsettias are not poisonous, which is another erroneous rumor.