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Soybean cyst nematode may cause soybeans to mature early

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Soybean cyst nematode may cause soybeans to mature early

Abstract

Soybean cyst nematode (SCN) is a widespread and serious pest of soybeans in Iowa. But the nematode often does not cause obvious above-ground symptoms, at least not until population densities become extremely high. One fairly consistent, albeit somewhat indirect, symptom of SCN parasitism that is apparent at this time of the year is early senescence of the soybeans. The early senescence of soybean caused by SCN is illustrated in the diagram on page 227. The squares in the map in the diagram represent 3-foot by 3-foot (9 ft²) square areas of the field. Three 1-inch diameter, 8-inch deep soil cores were taken from each square in May.

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

Finding five $\frac{3}{4}$ -lb size ears would equal a loss of 5 bushels per acre. If losses are excessive, check a similar unharvested area ahead of the combine for ears already lying on the ground and not attached to stalks. These would be preharvest losses that would be unlikely to be able to be picked up by the head regardless of adjustment. Kicking through cornstalks on the ground may help to find dropped ears hidden by stalks and leaves.

Slowing combine travel speed may reduce the amount of missed ears. Harvesting “against the grain” (e.g., harvesting toward the west in east-leaning cornstalks) also may reduce losses. Evaluate possible improvements by measuring losses. Make sure ear savers on the corn head are in good condition. Keep gathering snouts as low as practical to pick up downed ears. Gathering chains may need to be more aggressive. Place stripper bars closer together if ear butt-shelling occurs on the stalk rolls.

If many acres of severely lodged corn are present and the window of time for harvest is anticipated to be short, consider procuring a corn head reel or other attachments such as crop dividers or lifters. Several after-market manufacturers market reels that can be mounted over the corn head to help lift and guide stalks into the head. Check availability through dealers or the Internet. Even if a reel does not decrease losses, it may allow

faster combine travel speed with similar losses, allowing harvest to proceed in a more timely manner. Crop dividers mounted on each side of the head help to lift ears into the head that might otherwise escape.

Most important for a successful and safe harvest, develop the right attitude. Recognize that harvest will not be business as usual, but more time and effort will be required in areas with lodged crop. Do not let the inherent safety hazards involved compound field problems with the loss of your time during harvest. Stalk rolls pull in crop at about 12 ft/sec, much faster than reaction time to release the grip on a stalk. Do not attempt to unplug stalks from the corn head before disengaging power to the head and stopping the combine engine. Remove the operator’s key if there is any chance that another person will be in the cab. Take the time to have a safe and efficient harvest. Rushing through activities, particularly early in the season before any weather-related pressures have developed, can be counterproductive.

Mark Hanna is an extension agricultural engineer in ag and biosystems engineering with responsibilities in field machinery.



Plant Diseases

Soybean cyst nematode may cause soybeans to mature early

by Greg Tylka, Department of Plant Pathology

Soybean cyst nematode (SCN) is a widespread and serious pest of soybeans in Iowa. But the nematode often does not cause obvious aboveground symptoms, at least not until population densities become extremely high.

One fairly consistent, albeit somewhat indirect, symptom of SCN parasitism that is apparent at this time of the year is early senescence of the soybeans. The early senescence of soybean caused by SCN is illustrated in the diagram on page 227. The squares in the map in the diagram represent 3-foot by 3-foot (9 ft²) square areas of the field. Three 1-inch diameter, 8-inch deep soil cores were taken from each square in May. The aerial photograph shows the sampled area on September 10. The map of egg population densities

has an “M”-shaped pattern of higher egg counts that corresponds fairly well with the “M”-shaped pattern of maturing plants in the September 10 aerial photograph.

Growers and agronomists should consider checking for the presence of SCN in fields that have areas that mature earlier with no apparent reason. To check fields in the fall for the presence of SCN, soil samples should be collected and sent to a qualified laboratory for analysis. Soil samples should be comprised of well-mixed soil obtained from soil cores collected from 15 to 20 different locations within an area of 20 acres or so. Each core should be collected from a total depth of 6 to 8 inches. Large fields should be divided up into smaller areas from which a 15- to 20-core soil sample should be collected.

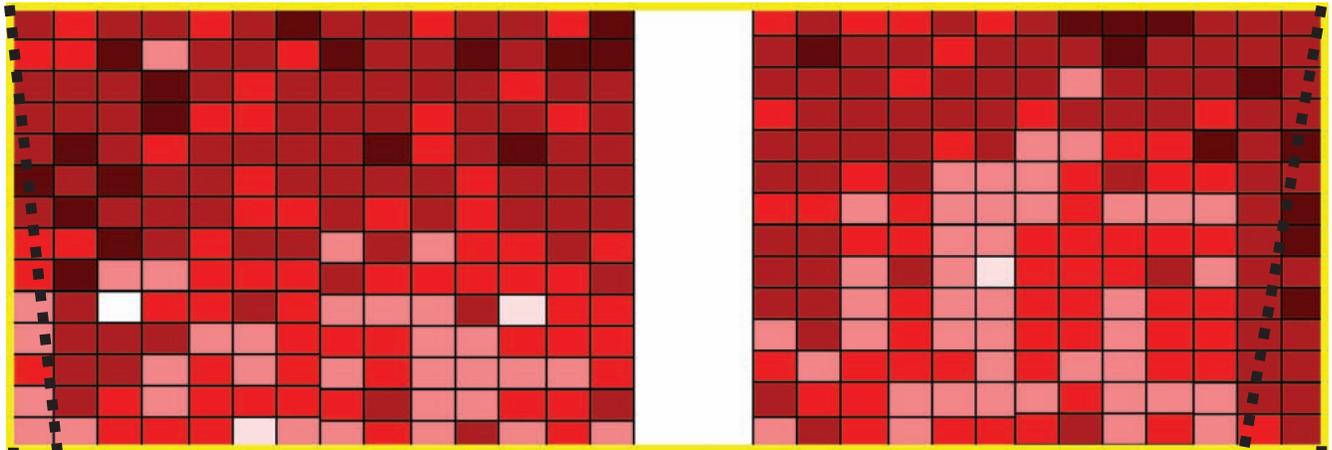
Soil samples can be tested for SCN by the ISU Plant Disease Clinic. Samples should be accompanied by a completed *Plant Nematode Sample Submission Form* (ISU Extension publication PD 32). Currently, there is a \$15 per sample charge for processing each sample from Iowa, \$20 per sample for out-of-state samples. Detailed instructions on how to collect a representative soil sample for detection of SCN can be found on the back of PD 32. Single copies of this publication are available

free of charge from county extension offices or from the Extension Distribution Center by calling (515) 294-5247. Additional information about SCN can be found on the Web at www.soybeancyst.info.

Greg Tylka is a professor of plant pathology with extension and research responsibilities in the management of plant-parasitic nematodes.

Effect of Soybean Cyst Nematode on Senescence of Soybeans

Eggs per 100 cm³ soil—sampled at planting (May)



Aerial photograph taken September 10

