BETWEEN THE ROWS

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As corn planters begin to roll it's important to understand pests and diseases which may show up in the early stages of the corn plant's life cycle. Early recognition and identification of the problem can help you be more confident, and timely, in making management decisions to protect your yield potential.

Seedling Blight – A common problem in the spring is seedling blight. It is usually not widespread, but often shows up in some areas every year. A few prevalent examples of blights that affect corn include *Pythium, Fusarium, Rhizoctonia,* and *Asperilligus*. Even though they're all unique the best practices to prevent them are often the same.

Left: Shriveled mesocotyl from Seedling Blight. Right: Healthy mesocotyl

A number of factors influence germination each year. During a slow and challenging germination period seed seedlings are much more vulnerable to seedling blight pathogens. Corn germinates very well in soil temperatures above 68^{0}F, but in soil temperatures below 55^{0}F germination is greatly delayed. Seedling disease is more likely to be found in early-planted or high residue fields because of the higher likelihood of cooler soil temperatures.

Seedling blight can be identified by digging up stunted plants, or plants that have not emerged, and examining the seed and mesocotyl. If the seed is soft and rotten, or the mesocotyl appears brown and shriveled up, it's most likely the result of seedling blight. Damage to the mesocotyl or kernel before the establishment of the nodal roots can often result in unproductive or dead plants.

All Wyffels seed is treated with the Acceleron® Seed Treatment System which includes a mixture of three fungicides with unique modes of action to help battle pathogens that cause seedling blight. These are very effective. But to ensure your best chance of avoiding seedling blight, be sure to plant in favorable conditions. Be mindful of the upcoming forecast, and be sure it shows favorable conditions for optimum soil temperature.

Black Cutworm – There are several species of cutworm that attack corn in the Midwest, but the Black Cutworm poses the most serious threat. Depending on the size of corn plants when they attack, one black cutworm larvae can cut up to five corn plants in its lifetime. Black cutworms do not overwinter in the Corn Belt, but the moths move up from the south with springtime winds and storms. The time and area in which cutworms will be most prevalent varies from year to year, but they most commonly move into the Midwest March through June. The moths are most attracted to, and will lay their eggs, in early spring vegetation - making no-till and fields with dense plant growth most susceptible.

Newly hatched larvae feed on weeds and/or young corn plants leaving small irregular holes in leaves. This early feeding does little to affect yield of young plants, but it is a good indicator of the potential for severe damage by later instars of the cutworm. Larger larvae may notch the stems of corn plants below the soil surface causing them to wilt and die, or they can completely cut through stalks causing major stand reductions.

Black Cutworm, Courtesy of University of Illinois Extension

Economic thresholds vary based on the size of larvae and the stage of corn. For specific thresholds please refer to your local university IPM guidelines. Hybrids containing the Genuity® Smartstax® trait are labeled for black cutworm protection. Control can also be achieved with pre-plant or planting-time applications of soil applied insecticides. Rescue treatments are available if damage is identified after infestation occurs.

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White Grub – There are several species of white grubs in the Midwest. The most common species are the immature forms of May/June beetles and Japanese beetles. The grubs of May/June beetles have a three year life cycle, so if damage was noted the previous year, it could be seen again in those fields. Grubs of Japanese Beetles only have a one year life cycle and it's unlikely they will pose a problem after mid-June.

White Grubs

There is no rescue treatment for white grubs. However, if a high population is discovered during tillage, or you are forced to replant because of white grubs, a soil applied insecticide can be used to control the population and protect young seedlings from feeding.

Wireworm - Wireworms are the larval stage of the click beetle. They overwinter in the soil as both larvae and beetles. A larvae life cycle can span two to six years, so if you have fields with known infestations, even minor, they are more likely to have problems in following years. Wireworms will attack corn in a couple of ways. In freshly planted corn they will hollow out the seed, preventing germination. After emergence they will attack the plant by burrowing into the stalk, and sometimes all the way through it.

The first sign of wireworm damage is lack of germination, and you will find areas with only a few plants germinated. Continued evidence will be wilted seedlings from feeding that occurs after germination. Finally, on larger plants, you will see the center leaves of plants begin to wilt from wireworms that have burrowed though the middle of the young plant. Damage is most prevalent in cool, wet conditions. As soil temperatures warm and become drier larvae migrate deeper into the soil to find cool moist soil, which means little damage will occur after mid-June.

Wireworm, Courtesy of University of Illinois Extension

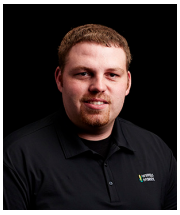
Damage is more likely found in fields with poorly drained soils, and also occurs more routinely in fields following small grasses like wheat, double-crop soybeans and fields previously in hay or pasture.

There are no rescue treatments for wireworms. But if you have a known infestation prior to planting, the use of soil applied insecticide can help control the population. If you are replanting because of wireworm damage it would be warranted to use a soil insecticide to control any pests still in the soil profile when replanting.

Summary

Success starts at planting. Ensure corn is planted into a favorable environment to maximize its chance of successful germination. Knowing the most susceptible fields will help you focus your scouting program. And timely scouting throughout May and June to detect early signs of pests and diseases will equip you with the information you need to make the appropriate management decision. Small reductions in stand and stunted plants can add up to significant yield reduction.

From the desk of



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