Crops and Soils News Column
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Wildcat Extension Ag Report

Diagnosing Corn Emergence Problems

With warm temperatures forcing winter behind us, the new growing season begins with optimism for this year's crops. Once the corn seed goes into the ground, the potential for a productive corn crop has begun. From this point forward, many factors can contribute to the yield potential and health of the plant. Corn, like all crops, may suffer from a variety of insects, diseases, nutritional and environmental stresses. Careful and frequent observations throughout the growth stages of the plant will help to aid in the correct diagnoses of plant issues if they may arise. Look for these symptoms with possible causes:

Poor seedling emergence: First of all, look for patterns. Is there a uniform pattern of skips? Also, look for empty seed coats in holes where seeds were placed due to rodent damage. Insects may have fed on the germinating tissue of the planted seed, especially when cool temperatures delay germination. Seedlings may have experienced emergence issues if crusting was an issue.

Wilting and lodging: Sometimes plants may emerge fine but later die or look poor in spotty or wide spread areas of the field. Root damage may an issue. Wireworms and white grubs are two culprits who prune roots of new seeded plants. Black cutworms may feed on the leaves, and older larvae can cut plants near the soil surface. Herbicide carry over issues may also be a cause of stunting and poor growth.

Freeze or frost damage: Depending of the severity of the freeze, leaves may first appear water soaked then turn white within a few days. A late freeze will kill the leaves but may recover depending on if freezing temperatures penetrated the soil and had contact with the growing point. Frost damage may cause some damage to the leaves, but the roots should remain intact.

Discolored leaves or stems: Nitrogen deficiency will cause a pale green or yellowish discoloration. If yellowing is most pronounced in younger rather than older leaves, this could be a sign of sulfur deficiency. Phosphorus deficiency is visible in young plants with reddish-purple leaf tips and margins on older leaves; however, some hybrids and sunny days and cold nights can also lead to coloration similar to phosphorus deficiency. Potassium deficiency is seen as yellowing and necrosis of the leaf margins. If leaves exhibit a whitish band on the side of the midrib beginning at the base of the leaf and extending towards the tip, this may indicate zinc deficiencies.

Frequent field inspections are advised during stand establishment. In most cases, an accurate diagnosis of problems is more likely if the fields are inspected when the symptoms are readily visible and more clues remain to lead to a correct conclusion.

If you have questions or would like more information, please call me at the office (620) 331-2690 or email me at jlsigle@ksu.edu. To view this or any past articles or radio recordings from the Wildcat District Ag Agents, please visit the Wildcat Extension District website at www.wildcatdistrict.ksu.edu.
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