

Agronomic Directions

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Stalk rots are being reported, especially where leaf diseases occurred and in fields with high yield potential. Extended periods of wet weather prior to pollination, followed by sudden changes in stress including; lack of moisture, foliar disease, hail damage, and prolonged cool, cloudy weather conditions all favor the development of most stalk rot fungi. Our conditions after blister (R2) onwards have favored grain fill. Since kernel abortion is unlikely after dough (R4), the corn plant will do everything to finish off the grain at the expense of using carbohydrates stored in the stalk, consequently leading to increased risk of stalk rots.

Diplodia Stalk Rot

Adapted from *ISU Integrated Crop Management News and Monsanto's Agronomic Spotlight*



Diplodia stalk rot appears as numerous black dots about the size of a pinhead or smaller that are embedded in the lower internodes of infected stalks. These tiny, dark fungal structures are called pycnidia and are difficult to remove and cannot be easily scraped off. Splitting the stalk lengthwise will reveal a shredded pith. Under very wet conditions, a white mold may develop on the stalk surface.

Tiny black specks (pycnidia) embedded in the rind are diagnostic for Diplodia stalk rot.

Gibberella Stalk Rot

Adapted from *ISU University Extension Corn Field Guide*

Much like other stalk rots, Gibberella will cause pith tissue to disintegrate, leaving only vascular strands intact. Split the stalk lengthwise to evaluate the rotted pith. Gibberella's distinction is the light to dark pink coloring on the shredded pith. Black dots may also develop at the nodes and can easily be scraped off. These superficial black dots are called perithecia and form on the surface of the lower stalk.



Fusarium Stalk Rot

Adapted from *ISU University Extension Corn Field Guide*

Fusarium stalk rot is difficult to distinguish from other stalk rots in the field. It is often diagnosed by the absence of the distinguishing characteristics, dark dots on or near the stalk surface, of the other stalk rots (i.e. Diplodia and Gibberella). When stalks are split, a whitish-pink to salmon discoloration may be visible and disintegration of internal stalk tissues begins at the nodes.



Anthracoze Stalk Rot

Adapted from *ISU Extension Corn Field Guide and Monsanto's Agronomic Spotlight*

Sometimes a portion of the corn plant above the ear blanches and dies prematurely, as reported last week as Anthracnose top dieback. More often though, the entire plant is killed and several nodes are rotted (Anthracoze stalk rot). Symptoms include narrow, water-soaked lesions that grow together to form large, shiny, black blotches or streaks on the stalk surface, especially on lower internodes. The interior stalk tissue may be blackened and shredded. Typically lodging occurs higher on the stalk than with other stalk rots.



HOW TO SCOUT: Walk a zigzag pattern through the field and test stalk firmness by squeezing or pinching each stalk a couple of nodes above ground level. Healthy stalks are firm and cannot be compressed. If a stalk feels soft, it is rotted and likely prone to lodging. Check at least 100 plants per field. If more than 10-15% of the stalks in a field are rotted, significant lodging is possible.

A second method for determining potential stalk lodging is to randomly select ten plants in a row and push each stalk 45 degrees (or about 5 to 8 inches) from upright. Repeat at ten different locations within a field. If more than 10-15% of the stalks are lodged or feel spongy, then the field should be slated for early harvest.