

Rating Corn Rootworm Larval Damage: The 0 to 3 node-injury scale

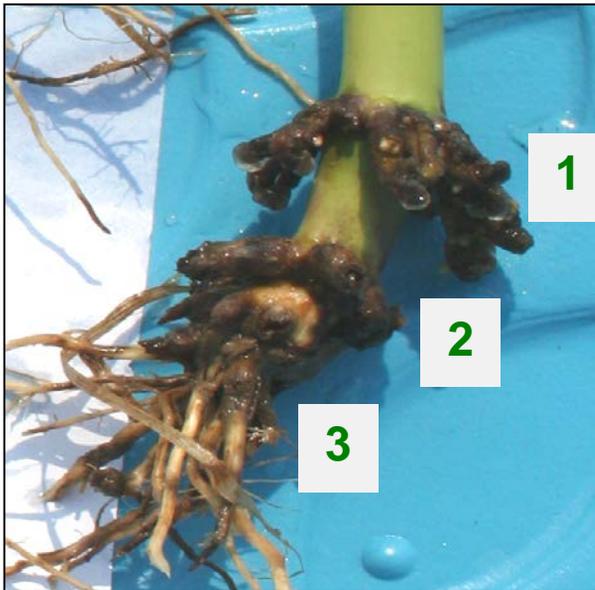
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Corn root larval damage is measured by digging and washing roots, then rating the feeding using a 0 to 3 scale. Ratings, explained below, are in the form of 'X.Y' or '0.0Z'. Note that healthy root tissue (right) is smooth and white.



X . Y

The number of whole nodes (or their equivalent ~ 10 roots) severely pruned or gone
Values: 0, 1, 2, or 3



The number of roots pruned (0 to 9) if less than a full node is gone
Values: 0, 0.1, 0.2...to...0.9



Pruning: root chewed to within 1.5 inch of plant

Scale in inches

0.0Z

An estimate of feeding scars or tracks (i.e. root discoloration & browning) on root masses that are not pruned
Values: 0, 0.01, 0.025, 0.05, 0.075, 0.09



Aboveground symptoms and impact of rating levels



Node-injury Scale: 0.00

No apparent feeding

Node-injury Scale: 0.01-0.09

Feeding scars and tracks. No pruning

Symptoms and Yield Impact: None. Ratings done to this level of detail do not have practical significance, but do indicate the presence of rootworm in the field.



Node-injury Scale: 0.1-0.9

One to nine roots pruned (less than a full node)

Symptoms: May notice some lodging

Yield Impact: Some economic loss could occur at or above a 0.5 rating, especially under dry conditions.



Node-injury Scale: 1.0-1.9

At least one node, or its equivalent, destroyed

Symptoms: Lodging and goosenecking.

Yield Impact: Probably an economic loss in grain, unless conditions are favorable for regrowth & lodging is minimal. Note, regrowth can obscure damage, so care must be taken when rating roots later in the season



Node-injury Scale: 2.0-3.0

Two or more nodes gone

Symptoms: Severe lodging & goosenecking. Usually Wilting. Numerous adult beetles may be present, feeding on leaves and silks.

Yield Impact: Severe. Loss in grain, in addition to poor ear fill, if silks are fed-on. Difficulty in harvesting both grain and silage. In Bt corn, this level of feeding is a potential sign of resistance.