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## Endophytes

A natural and beneficial component to a lawn seed mixture

Greatly reduce the risk of insect infestation and the need for chemicals by growing an endophyte-enhanced mixture from Speare Seeds. Endophytes are present in Speare Seeds brand mixtures containing certified turf-type varieties of fescue and perennial ryegrass.

### What is an Endophyte?

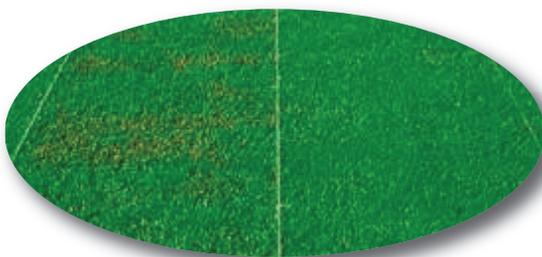
An endophyte is a natural fungus which grows inside a grass plant. This particular fungus lives within certain grass varieties, including components of specified Speare Seeds brand mixtures, and is transmitted through the seed. These endophytes, unlike disease causing fungi, do not cause any harm to the turfgrass plant, and do not disrupt the ecological balance of a healthy lawn. Endophytes live completely within the plant and are only visible under a microscope.

### What does an Endophyte do?

After the grass seeds germinate, endophytes create a natural compound within the plant which insects prefer not to feed on.

### Endophytes and Insect Tolerance

Many research reports on turfgrass species containing endophytes have shown that they enhance tolerance to surface feeding insects including sod webworm, billbugs and chinch bugs. The endophyte makes the plant produce a chemical which repels insects that feed on turf. Studies have shown that the amount of insect resistance is directly proportional to the percentage of endophyte living within the turfgrass plant.



The plot on the left is a non-endophyte enhanced cultivar showing insect feeding damage. The plot on the right is endophyte enhanced and is tolerant to insect feeding.

