

Brown root rot -- a potentially serious forage crop disease -- is found throughout the Northeast

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Alfalfa roots with various degrees of brown root rot.

Cornell plant pathologists have detected brown root rot -- a potentially serious forage crop disease -- in the northeastern United States. It is widespread in New York, Vermont and New Hampshire and has been detected in Pennsylvania and Maine.

The findings are published in the October issue of the journal *Plant Disease*.

Brown root rot (*Phoma sclerotoides*) affects dairy farmers, as it attacks forage crops alfalfa and clover.

"It's pervasive. These were arbitrarily chosen fields, and it is present in a majority of alfalfa fields tested in the Northeast," said Gary Bergstrom, Cornell professor of plant pathology. "At this point, we have not identified effective controls for it," he added, explaining that scientists are exploring disease-resistant varieties that are adapted to the Northeast.

Brown root rot was detected in eight of 10 fields sampled in New York state, six of seven fields sampled in Vermont and five of six fields sampled in New Hampshire.

The disease's lesions begin as reddish-brown to dark brown areas of external discoloration. As the lesions progress into the internal plant tissues, they can take on corky texture, with a dark border separating the healthy and diseased tissue. Lesions that do not immediately kill the plant can vary in appearance, making it difficult to identify the disease without laboratory analysis.

"It was found in a high percentage of plants in many fields, and most lesions had advanced to the internal tissues of roots and crowns," says Bergstrom. "This suggests that it may be a serious factor in the health and persistence of alfalfa in the region."

Spatial patterns within fields suggest the pathogen was not recently introduced in the Northeast, says Michael Wunsch, Cornell graduate student in plant pathology and the lead author of this research. In North America, brown root rot has been a problem in Alaska and in Alberta, Saskatchewan, Manitoba and the Yukon Territory of Canada. In eastern North America, it had been reported only in Nova Scotia. The disease was first observed in the contiguous United States in 1996 in Wyoming and then subsequently in Idaho, Montana, Minnesota and Wisconsin.

Other authors of the study are Robert Schindelbeck, research support specialist, and Harold van Es, professor, both of crop and soil sciences.

New York farmers with questions about brown root rot in their fields should contact Cornell Cooperative Extension field crops educators for their county. Outside of New York, farmers should contact their local cooperative extension offices.

Source: Cornell University

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