

4-27-1998

Alfalfa seedling diseases in 1998

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Recommended Citation

Munkvold, Gary P., "Alfalfa seedling diseases in 1998" (1998). *Integrated Crop Management News*. 2251.
<http://lib.dr.iastate.edu/cropnews/2251>

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Alfalfa seedling diseases in 1998

Abstract

Wet conditions have delayed new alfalfa seedlings in many parts of the state, and these conditions also may lead to problems with soilborne fungi. Several genera of fungi can attack alfalfa seedlings, including *Phytophthora*, *Pythium*, *Aphanomyces*, *Fusarium*, and *Rhizoctonia*. Traditionally, *Phytophthora* and *Pythium* have been considered the primary pathogens, but recently *Aphanomyces euteiches* has been more widely recognized. According to a survey we did in 1994, *Aphanomyces* is more common than *Phytophthora* in Iowa soils, and these two fungi should be considered equal threats to seedlings. Seedling diseases should be suspected when emergence is poor and/or there are obviously stunted, discolored, or dead seedlings.

Keywords

Plant Pathology

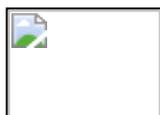
Disciplines

Agricultural Science | Agriculture | Plant Pathology

INTEGRATED CROP MANAGEMENT

Alfalfa seedling diseases in 1998

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Effect of *Aphanomyces* soil infestation on susceptible variety Vernal. Noninfested soil is on the right.

[1]



***Aphanomyces* symptoms on a susceptible variety (right). A resistant variety is on the left.**

[2]

The best way to avoid seedling diseases is to plant varieties with an R or HR resistance rating to both *Phytophthora* **and** *Aphanomyces*. We have found that there are some strains of *Aphanomyces* in Iowa that kill even the resistant varieties, but it is still wise to use *Aphanomyces* resistance (see photo on page 61). To protect against *Pythium*, a fungicidal seed treatment is needed. Apron seed treatment is effective against *Pythium* and *Phytophthora*, but there are no registered seed treatments that have been shown to be effective against *Aphanomyces*. Ridomil is a soil fungicide registered for use in establishing alfalfa. It contains metalaxyl, the same active ingredient as Apron. Some studies have shown that Ridomil applied at seeding can be beneficial, but Apron seed treatment appears to be a more cost-effective way to control *Pythium* and *Phytophthora*.

If an alfalfa seeding fails, it is usually safe to replant alfalfa because the compounds that cause autotoxicity do not accumulate in seedlings. A *Phytophthora*- and *Aphanomyces*-resistant variety (treated with Apron) is recommended for replanting failed seedlings. However, the timing is a factor because alfalfa seedlings that are done too late in the spring may fail because of inadequate moisture.

This article originally appeared on pages 60-61 of the IC-480 (7) -- April 27, 1998 issue.

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