

Extension Responds: Flood

Evaluating Alfalfa Stands for Water Damage

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Excessive rainfall over several weeks has resulted in wet soils and in some areas standing water. These conditions can affect the health of alfalfa in a number of ways. If flooding excludes oxygen from the soil for 2 to 3 weeks, roots may die and saprophytic microorganisms will them. These plants will break off and easily pull from the soil. Roots will be water soaked and rotten. In this case, the disease is secondary and the primary cause of death is suffocation of the root (anoxia).

Rhizoctonia and Phytophthora are two diseases that increase in wet soil conditions. *Rhizoctonia* destroys feeder roots and ultimately invades the taproot, producing dark, oval lesions. Crown buds are killed, and surviving buds give rise to stunted, unthrifty shoots. Dead plants may be scattered throughout a field, but usually occur in large patches. In the stem rot phase, irregular brown to black lesions with somewhat indistinct margins are produced at the base of stems. Such lesions may eventually girdle and kill stems. A yellow, red, or purple discoloration of leaves is the most characteristic above-ground symptom of Phytophthora root rot. Stems may wilt or remain upright. Phytophthora on taproots produces dark brown to black lesions that frequently girdle the taproot.

Taproots are often pruned off within the top 6 inches of taproot immediately below the crown region. In the case of both of these diseases, infected plants may survive and produce adventitious lateral roots. These roots are less efficient during droughty periods than normal taproots since they do not reach deep into the soil profile. Therefore yield will be reduced. Phytophthora, pythium and aphanomyces are diseases that may affect seedling alfalfa under prolonged wet soil conditions. Check fields that have been wet for prolonged periods for these disease problems. Extension publication A3620 Alfalfa Stand Assessment <http://cecommerce.uwex.edu/pdfs/A3620.PDF> is a helpful tool for deciding whether to keep a damaged stand of alfalfa.

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