

Status and Control of Alfalfa Stem Nematode in Arizona

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Abstract: The stem nematode, Ditylenchus dipsaci Kuhn, continues to be a chronic pest of alfalfa in the desert valleys of Arizona. A state survey from Fall, 1985 through Spring 1987 has confirmed the pest to be presently restricted to Maricopa, Graham and Yuma counties. In these three geographic areas over 1250 samples were taken from 344 fields representing a total of more than 26,000 acres of alfalfa. Seventeen percent of the areage and 31% of the fields were infested with the stem nematode. Pinal and Pima counties previously with two localized infested areas were found to be free of the nematode. Suspected infested alfalfa with shortened and smaller stems and buds can be cut or shredded into fine pieces, placed in water in a small tube or jar and the adult and larval forms readily come out of the tissue where they may be observed with a 20X hand lens. Their movement distinguishes them from the leaf hairs which are approximately the same size and color. Infested fields are easily diagnosed by this method. Infestations usually appear with cooler weather and increased humidity with resulting dew in late October with feeding and reproduction continuing until the cooler months of January and February. Cold weather and frost cause inactivity or hibernation with warming trends usually in March bringing reproduction and feeding activity until April. High summer temperatures of the desert valleys again are responsible for inactivity until the following fall. Unseasonably warm weather such as occurred in 1985 may permit the nematode to feed and reproduce from October through April with up to 75% reduction in forage and 90% stand decline. Presently available resistant or tolerant cultivars appear to be ineffective in reducing losses from the pest. Research is in progress to genetically identify the factor(s) for resistance. Insecticide-nematicides now registered in alfalfa can be economically effective if applied early in the fall or spring before population levels become too high. Apply these pesticides immediately after cutting and prior to the next irrigation.