

Keller, Alvin L., and Del Traveller, The Amalgamated Sugar Company, P.O. Box 100, Idaho 83447. The effect of soil temperature and planting date on Rhizomania

Rhizomania identified in Idaho fields in 1992 resulted in less yield and sugar losses than expected. The average yield was 18.93 tons with an average sugar content of 18.88%. Cropping history and the number of infested fields lead us to believe the problem had been around for a number of years but was minimized by conditions in our area. We believe that soil moisture and temp. combined with planting date play a major role in disease severity. Palmyra

BABB, THOMAS A.*, TOM JOHNSON, JEFF KIMMELL, and JAMES D. SCHULKE, Spreckels Sugar Company, Inc., 4256 Hacienda Drive, Pleasanton, CA 94588-8625. - Grower experience with rhizomania tolerant varieties in California.

A progression of strategies have been used to "manage" rhizomania since its introduction to California in 1983. A preplant soil bioassay was used to detect the presence of rhizomania and allow growers to avoid infested fields. This strategy was slowly replaced by soil fumigation using 1,3-dichloropropene and eventually to the use of soil fumigation in conjunction with new tolerant varieties in the late 1980's. The Cal-EPA use suspension of 1,3-dichloropropene in 1990 left the industry with tolerant varieties as the only management strategy. Grower acceptance of these new varieties has increased since initial testing began in 1988. Grower/Processor variety trials in severely infested rhizomania fields in 1992 resulted in a 86 to 616% improvement in sucrose/acre between susceptible variety USH-11 and the best semi-commercial variety at two locations in California. Variety trials in seven fields with varying rhizomania severity (visual evaluation) resulted in four commercial tolerant varieties producing an average of 53% more sucrose/acre than a susceptible check. Grower large scale plantings, 0.5 to 70 acres, have produced similar results despite widely varying conditions. Currently there are 17 varieties approved in California as rhizomania tolerant.