

## ABSTRACT

WANG, SHAOKE,<sup>1</sup> BARRY J. JACOBSEN,<sup>2</sup> SEBASTIAN KIEWNICK,<sup>2</sup> AKIO SUZUKI,<sup>1</sup> and DALE YEAROUS,<sup>1</sup> Seedex, Inc. 1350 Kansas Avenue, Longmont, CO 80501, and <sup>2</sup>Montana State University, Bozeman, MT 59719. The response of sugarbeet germplasm to fusarium yellows under field and greenhouse condition:

Fusarium Yellows is a fungal disease on sugar beets in several beet growing areas throughout the Western United States. To determine the response of sugar beet germplasm to this disease, both greenhouse and field nurseries were conducted in 1996. All beet germplasm were evaluated by inoculation in the greenhouse at early seedling stage and by planting beets in the field which showed severe disease on sugar beet for many years. The results indicated that most germplasm were susceptible to the disease at various degrees. Those germplasm lines with tolerance to the disease did not show any sign of single gene inheritance (dominate or recessive). In general, Tetraploid materials showed better tolerance than their equivalent diploid lines, and higher ploidy materials, showed more tolerance than diploidy ones. The data analysis suggested that the tolerance of sugarbeets to this disease is quantitatively inherited. The correlations between greenhouse and field evaluation will also be discussed.