

YONTS, C. DEAN*, JOHN A. SMITH, ROBERT G. WILSON, GARY L. HEIN, ROBERT M. HARVESON and KAREN L. PALM, University of Nebraska, 4502 Ave. I, Scottsbluff, NE 69361. **Regional sugarbeet variety trial.**

Abstract

Each year, sugarbeet growers must select a variety that best fits the growing conditions of a particular field. A good decision can be rewarded while a wrong decision can be disastrous. Based on declining sugarbeet yield and questions on variety performance in the Nebraska, Colorado and Wyoming growing region, a regional sugarbeet variety trail was conducted for a three year period beginning in 1998. A total of 28 varieties were planted at five locations in 1998, 38 varieties at eight locations in 1999, and 42 varieties at seven locations in 2000.

The purpose of the trial was to develop information on sugarbeet variety performance that would assist growers in making the best variety selections based on planting and growing conditions experienced by the grower. Pest and climatic factors that were encountered during the course of this trail included the following: 1) disease(Aphanomyces root rot, Rhizoctonia root rot, rhizomania, Cercospora leaf spot, and powdery mildew), 2) insects(root aphid and root maggot), 3) crusting, 4) weeds, 5) desiccation of seed or seedling, 6) wet harvest conditions, 7) cyst nematode, 8) hail, and 9) pesticide injury.

All seed was pelleted and planted to stand in 56 cm (22in.) rows. Varieties were replicated six times in a randomized complete block design. Stand counts were taken at the 2 - 4 leaf stage of growth to determine percent emergence for each variety. Yield components, tare, percent sugar, and root yield were measured at the end of the season for each variety. In those fields having insect and/or disease pressure, ratings were taken at harvest time to determine varietal response.

As a result of the pressures encountered, specific variety evaluations were made to assist growers that might experience the same type of problem of problems in their field or growing area.

There were seventeen varieties that were common each year during the three year trial. The relative performance of the varieties for tare, percent sugar, root yield and sugar yield was nearly consistent over the sites and years tested. Sugarbeet variety trial handbooks were distributed at the conclusion of each year to assist growers in making their variety selection(s) the following year.