

## **Screening of Valencia Breeding Lines for Drought Tolerance**

**N. PUPPALA\***, M. OJHA, New Mexico State University, Clovis, NM 88101-9998; P. PAYTON, A. YOUNG J. MAHAN U.S.D.A. Cropping System Research Lab, Lubbock, Texas 79401; M. BUROW and H. PHAM, Texas A&M AgriLife Research, Lubbock, TX 79403, and Texas Tech University, Department of Plant and Soil Science, Lubbock, TX, 79409.

New breeding materials with high oleic traits were screened at three locations on a research farm of USDA, Cropping System Research Lab, Lubbock, Texas, on a commercial grower's field in Portales, New Mexico, and Morton – Texas. The plots were planted outside the center pivot irrigation span at Morton and Portales to mimic drought conditions with less water during each irrigation. At USDA, Cropping System research lab in Lubbock, the plots are not given any irrigation following 60 days after planting. Ten breeding lines and two check cultivars (a susceptible check – Valencia C and a tolerant check C76-16) were evaluated in a randomized complete block design with three replications. Among all ten breeding lines, three lines, namely V7, V21, and V4 were comparable in yield to the tolerant check C76-16. The average yield for the trial was 2500 kg per hectare. The yield for the susceptible check was 1959 kg per hectare, while for the tolerant check, C76-16 was 3056 kg per hectare. The yield for three breeding lines was above 3000 kg per hectare.