

TARKALSON, DAVID D.* and DAVE L. BJORNEBERG, USDA Agricultural Research Service, 3793 N 3600 E, Kimberly, ID 83341. **Effects of phosphorus placement and rate on sugarbeet production.**

The sugarbeet industry in Idaho is interested in strip tillage due to the potential savings in tillage costs and other production advantages. The effect of phosphorus (P) placement and rate on sugarbeet production factors were investigated in Kimberly, ID over a 2 year period (2009 – 2010) on a Portneuf silt loam. Treatments included eight P rates ranging from 0 to 205 lbs P₂O₅/acre and two placements (banded with strip tillage shank 6 inches below seed and broadcast). All P fertilizer was applied prior to planting. Nitrogen fertilizer was applied at the same rate over the entire study with placement treatments received equal proportions of N both surface applied and banded. In 2009, average initial Olsen soil test P in 2009 was 3.7 mg/kg over the study area. In 2009 band placement of P increased root yields by 1 ton/acre compared to broadcast averaged over all P application rates. Yield increases were realized at the lowest P application rate of 50 lbs P₂O₅/acre. When 2010 data has been collected and analyzed a complete short abstract will be provided.