greater with the single seed planter. The number increased from 15 singles per hundred inches at the 5 pound seeding rate to 21 for the 15 pound rate and then decreased with further increases in seeding rate. This decrease beyond the 15 pound rate is to be expected because the average number of seed balls is greater than one per inch with seeding rates over 15 pounds per acre. The maximum number of singles per hundred inches obtained with the conventional planter averaged approximately 15 at the 15 pound seeding rate. Not only did the single seed planter produce a greater number of singles but the percentage of beet-containing inches which were singles was also higher.

After-thinning stand counts showed that reasonably satisfactory stands were obtained with seeding rates as low as 5 pounds per acre with the single seed planter while the after-thinning stands obtained with the conventional planter at that seeding rate were not satisfactory.

## TEN YEARS RESULTS OF FERTILIZER EXPERIMENTS ON SUGAR BEETS NEAR LOGAN, UTAH

D. W. Pittman Utah Agricultural Experiment Station

Ten years results of using various combinations of nitrogen, phosphorus and potash fertilizer and manure on sugar beets at the Greenville Experiment Farm near Logan, Utah have shown that manure and superphosphate separately or together have given marked increases in the yield of sugar beets.

The average, yields were:

No Nitrogen	fertilizer	10.39	tons	per acre
Phosphate	11	14.46	11	tf
Nitrogen & Phosphate	11	15.38	11	17
Manure	- 11	17.04	11	11
Manure & Phosphate	11	18.74	H	11

There has been no significant differences in the sugar content or the purity of the juice. The continued use of the manure has slightly increased the organic content of the soil and both the manure and the superphosphate has increased the available phosphate in the soil.