The most interesting planting of an exploratory nature was one put in with the Branch Experiment Station of Oregon Agricultural College at Talent, Oregon. This planting had better care than most of our plantings in the northern area and responded accordingly. In this planting were included the following varieties: U. S. 12, U. S. 14, U.S. 33, U.S. 550 and A-600. Of this list #12 and #33 bolt fairly easily, the others, #14, #550 and A-600 are in their original stock comparatively refractory bolters. Under the conditions of this test these moderately difficult bolters responded about equally to U.S. 12 and 33. The yields of seed of these varieties, calculated to acre basis were as follows:

U.S. #12	-	2818#	-	88.75% germ
U.S. #14	-	3243#	-	85.50% "
U.S. #33	-	3412#	-	91.75% "
U.S. #550	-	2790#	-	81.75% "
A-600	-	3538#	-	82.25% "

GROWING SUGAR BEET SEED UNDER DIFFERENT CLIMATIC CONDITIONS

Bion Tolman, C. H. Smith and Albert Murphy, U.S.D.A.

Experiments conducted in southern Nevada, southern Utah, northern Utah, and Idaho, reveal considerable information with regard to the possibility of growing sugar beet seed under a wide variety of conditions.

In southern Nevada the mild winter climate is conducive to considerable winter and early spring growth, and while excellent results are secured with certain commercial varieties now being grown, experiments have shown that non-bolting varieties cannot be reproduced there. In northern Utah seed has been grown for the past four years at elevations ranging from 4300 to 5500 feet. Here the best results have been secured at the higher elevations where temperatures are lower and where seed maturity is more gradual. In some instances damage has resulted from winter injury, but during four years experience no planting has been completely lost. Generally the yields of seed have also been satisfactory.

A more serious problem, particularly in Utah Valley, Salt Lake and Tooele Valley, has been injury to seed development from heat and possibly other unknown factors. Experiments are being conducted to determine the cause of this injury to germination, but some phases of the problem are very puzzling. Until more information is available commercial expansion of the seed industry will undoubtedly be towards regions where good quality of the seedcan be depended upon.

DATE OF HARVEST OF SUGAR BEET SEED

Charles Price, U.S.D.A.

Tests were conducted at Hemet, California, in two seasons. The first test was preliminary. In the second test, extensively randomized plots were

used and seven cuttings were made at weekly intervals. At each harvest date the plants were divided into three classes on the basis of seed or flower development and yields and germination were studied.

Significant differences in viability were not found among the various dates of harvest. There was, however, a significant drop in seed yield in the last cutting attributable to shattering of seed. From these results, it would seem desirable to advance the harvest date slightly and avoid the common practice of allowing full maturity of seed on the lower portions of the spike before cutting is started.

THE EFFECT OF PRECEDING CROPS ON SUGAR BEET SEED PRODUCTION

From tests conducted by the N. M. State College
W. B. Morrow, Western Seed Production Corporation

The two major crops grown in the Las Cruces area are cotton and alfalfa. All land planted to sugar beet seed has been preceded at some time or another by cotton or alfalfa, consequently, two separate tests were conducted, one on cotton ground and the other on previously cropped alfalfa land. Preceding crops selected for land that had been planted to cotton were corn for ensilage, spring wheat, Sudan grass, sesbania and cowpeas. Preceding crops chosen for ground that had previous alfalfa history were cantaloupes, spring wheat, corn for ensilage, and some alfalfa was allowed to remain as a preceding crop. This is possible because several cuttings of alfalfa can be made before turning under prior to planting beets, and in this case alfalfa can rightfully be considered a preceding cash crop. All of the preceding crops were harvested at maturity, or, as in the case of sesbania and cowpeas, they were turned under and utilized as a green manure crop. Where alfalfa was used as a preceding crop, two cuttings were harvested and the third cutting was plowed under a few days before beet planting time.

The sugar beet seed crop was planted the middle of September and some difficulty was encountered in securing stands, due to rains. On November 4th a very severe freeze (15 degrees) killed a number of small beets, thereby reducing the stand. However, this reduction was uniform throughout and there were no great variations in stands between treatments. The sugar beet seed crop did not receive any commercial fertilizer other than 100 pounds per acre of treble superphosphate at seeding time.

The following table draws the results of the sugar beet seed harvest.

Preceding Crops on Cotton Land

Treatment	Yield per Acre
Corn for ensilage	885 lb.
Spring wheat	933
Sudan grass	511
Sesbania	926
Cowpeas	1036
Summer fallow	1583

Difference required for significance - 357