

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

<u>Treatment</u>	<u>Yield per Acre</u>
Corn for ensilage	885 lb.
Spring wheat	933
Sudan grass	511
Sesbania	926
Cowpeas	1036
Summer fallow	1583
Difference required for significance -	357

Preceding Crops on Alfalfa Land

<u>Treatment</u>	<u>Yield Per Acre</u>
Alfalfa	1025 lb.
Cantaloupes	1670
Spring Wheat	1024
Corn for ensilage	1174
Summer fallow	2009
Difference required for significance -	341

CONCLUSIONS:

From the harvest results of the sugar beet seed crop several rather interesting comparisons can be made.

The preceding crops planted on cotton land as compared to summer fallow show rather conclusively the amount of plant food that they have taken away from the following sugar beet seed crop. Also in the case of the treatment of Sudan grass, in addition to utilizing plantfood, it has left the soil in a rather toxic condition, which is evidenced by the extremely low yield of sugar beet seed following Sudan grass.

The growing of the annual green manure crops on land previously in cotton did not increase sugar beet seed yields. It is believed that the reason for this is that the green manure crops were not turned under early enough to add their benefits to the sugar beet seed crop.

In the case of the preceding crops on alfalfa land, consideration must be given to the effect of the previous alfalfa history on the summer fallow treatment. This summer fallow treatment is in reality alfalfa turned under in the fall preceding the sugar beet seed crop, allowing the alfalfa to thoroughly decompose and give the soil the benefits of green manure. The alfalfa treatment was turned under several days before the beet seed crop was planted and therefore did not have time to thoroughly decompose and add its benefits to the sugar beet seed crop.

Cantaloupes, which is the second highest yielding crop on the alfalfa series, appears to be a very desirable preceding crop as it does not seem to be a highly soil-depleting crop and a large amount of green succulent material can be turned under after the cantaloupes are harvested.

SEED PRODUCTION CONSIDERATIONS IN CALIFORNIA

Irwin E. Farrar, Farrar-Loomis Seed Company

The observations made in this paper are limited to experience gained in the pure sugar beet seed district of Riverside County, California, a district set aside by law for the growing of seed from only those varieties of sugar beets resistant to curly-top. It is situated on the coastal side of the coast range of mountains near the foot of Mount San Jacinto, near Hemet. The elevation of this seed growing valley and its being surrounded by mountains