Date of planting affects root rot and production in Castor Beans

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The findings from castor bean time-of-planting trials at the University of Arizona Agricultural Experiment Station at Mesa may have immediate commercial value to those considering castor beans as a crop for acres to be taken out of cotton.

The experiments suggest that June 1 planting leads to greatest yield of beans, with a moderate amount of root rot. They also indicate that a winter green manure crop prior to the planting of beans increases bean yield and reduces root rot.

At Mesa, castor beans were grown in 1951 and 1952 on land severely infested with the Texas root-rot fungus, but not a plant died nor even looked sick. The beans followed a winter crop of safflower and were planted late, about August first.

In 1953 a planting was made at the time early cotton was seeded, April 18, and the plots following safflower were planted August 4. (These plantings were replicated for sound research procedure.) The early planted castor beans proved to be as susceptible to root-rot as cotton, while the adjoining late plantings again escaped.

In 1954, intermediate dates of planting were added to determine whether early castor beans can be planted on root-rot-infested land without appreciable loss from the disease.

The early (May 1) planting again developed much root-rot, the June 1 planting a moderate amount, and the June 15 planting a slight infection. The August planting was free from root-rot for the fourth consecutive year.

The yield of castor bean seed from each planting date would in the end determine the best date of planting after eliminating the early date because of severe damage from root rot. The largest yield (3230 pounds per acre) was from the June 1 planting, which gave 22 percent more seed than the May 1 and June 15 dates.

Of special interest is the fact that root-rot was greatly reduced (from 80 percent to 30 percent in one case) in the three earliest plantings following a green manure crop of Papago peas. The rotation developed from these same experiments has made possible good yields of cotton every year on land heavily infested by the root-rot fungus, with little loss from root-rot.