OBSERVATIONS OF KUDZU, PUERARIA THUNBERGIANA BENTH, SEEDLINGS*

A practical method of growing kudzu seedlings has been developed by the Soil Conservation Service nurseries in the southeastern United States. The first trial plantings were made during the spring of 1935. Since that time nearly 84 million kudzu seedlings have been produced in SCS nurseries in the southeastern United States. This number is believed to be approximately 90% of the total production to date in this country.

Kudzu seedlings have several advantages over kudzu "crowns," a common name for plants developed naturally from rooted nodes. The seedlings are produced in one growing season, the yield per acre is higher, and the lifting, storage, transportation, and planting are less difficult.

Securing good stands on non-irrigated land has been the most difficult part of kudzu seedling production. Kudzu seed are small, varying from 30 to 45 thousand per pound, and a large percentage are "hard." The seed skin is relatively thick and brittle. Ordinary mechanical scarification is helpful, but less efficient than desired. Scarification with commercial concentrated sulfuric acid requires extended exposures varying with temperature and lots of seed. An exposure of 1 hour at 65° F was required by one lot of seed. Unless perfect scarification is done the germination of many seed is delayed.

The hypocotyl of the young kudzu seedlings is more limited in power to elongate than that of most field crops. Shallow planting is necessary. A depth of 1/4 to 1/2 inch has been most successful.

Monthly mean air temperatures of 65° to 75° F have been optimum for field-grown kudzu seedlings. The young seedlings are not frost hardy. Kudzu seedlings are intolerant of water-saturated soils. The roots die below the level of a temporary water table in 1 to 3 days. This presumable intolerance to low oxygen tension may be one of the chief reasons for poor germination of deep-planted seed following hard rains.

Young kudzu seedlings are more tender than most field crops. They are easily injured by soluble commercial fertilizers and by mechanical disturbance. After four or five true leaves have developed, the susceptibility to mechanical injury is much less.

Transplanting kudzu seedlings in the fourth to sixth true leaf stage has been successfully done in one SCS nursery.

Kudzu seedlings have grown to plantable size in 80 days when the seed were placed in the soil during July. A plantable seedling has one or more roots at least 5/8 inches in diameter and at least 6 inches long. The root size indicates the amount of food storage, an essential to high survival of transplanted kudzu.

Early planting of kudzu seed encourages relatively heavy vine growth; late planting relatively light vine growth. Presumably long day length is favorable for vine growth and short day length to food storage in the roots.

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