

ABSTRACT

Cassava plants grown at 10,000 plants per hectare yielded approximately forty five 15cm stem cuttings after one year's growth. Because of this the propagation of new varieties is slow. A series of experiments was performed to identify new methods for the rapid propagation of cassava under field conditions. Softwood stem cuttings do not establish under field conditions, however by using short two-node hardwood stem cuttings planted at low planting densities to promote the production of more cuttings per plant, a sixfold increase in the commercial multiplication rate was achieved.

A series of experiments performed under mist showed that shoots develop before roots from hardwood stem cuttings, and the time to appearance of the shoots and roots is under the influence of the temperature of the rooting medium. Planting position of the cutting had no effect on dry weight of shoot produced but did affect the position from which the stem developed. Cuttings planted in the inverted position produced roots from the base of the developing shoots to compensate for reduced nodal and basal shoot production.

Two node hardwood stem cuttings planted in a propagation frame can be used to produce 8 cm shoots which root after three weeks in a similar propagation frame. Shoot regrowth develops from buds in the nodes of scale leaves at the base of the first formed shoot, and shoots continue to develop until the soluble carbohydrate reserves in the cutting are exhausted. The application of NPK fertilisers to the rooting medium increases the number of shoots produced. This method allows the multiplication of cassava twenty-four times as rapid as current commercial methods.