

ACKNOWLEDGMENTS

ABSTRACT

The effect of various levels of shade on the early growth and development of sweet potato cultivars was compared in experiments in which potted plants were grown either in full sunlight or in shade houses. Additionally, the suitability of sweet potato cultivars for intercropping with corn was evaluated in field trials.

At eight weeks after planting, plants grown in 73 per cent shade had up to 80 per cent less total dry matter (TDM) than those grown in full sunlight, tuberization was negligible and shoot:root ratios increased dramatically. However, while TDM production was not significantly affected in 55 per cent shade, tuberization was markedly reduced. Cultivars differed in their abilities to increase LAR and to tuberize in shade and thereby exhibited varying degrees of shade tolerance.

In the field experiments, cultivars also differed in their abilities to withstand intercropping with corn. Apparently, these differences were due to differences in the time of onset of tuber bulking and in their ability to tolerate competition for environmental factors.

It is suggested that light was not always the major factor limiting sweet potato growth and yield in mixtures; different environmental factors became limiting in different seasons. Hence, the suitability of individual sweet potato cultivars for intercropping with corn would vary with season.