

ABSTRACT

AGRONOMIC EVALUATION OF SWEET POTATO CULTIVARS
(Ipomoea batatas) USING DIFFERENT SOIL AMENDMENTS ON THE
LONG STRETCH SOIL SERIES

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The performance of nine sweet potato cultivars was evaluated in terms of growth, development and yield on the Long Stretch Soil Series in Trinidad and Tobago. Performance of the cultivars 049 and A28/7 was also evaluated for response to various soil/amendments and levels of soil/amendments in bags and in the field. These soil/amendments were cattle, chicken and horse manures, coffee and rice hulls, sawdust, coconut coir, grass, bagasse and inorganic fertilizer with the unamended soil as the control.

Samples were taken from the amended and unamended soils and total N, organic C, available P, exchangeable K and Mg determined. The pH and bulk density were also measured.

Low tuber yields were given by the nine cultivars on the Long Stretch Series. Soil/amendments with initially low C/N ratios like chicken manure, cattle manure and coffee hulls as well as inorganic fertilizer

significantly increased plant growth and tuber yields. Soil/amendments with initially high C/N ratios like sawdust, bagasse, coconut coir and grass significantly decreased plant growth and tuber yields. Soil/amendments with very high C/N ratios like sawdust and bagasse gave extremely low yields. Additionally, plants grown in the bagasse medium were chlorotic and stunted. This study suggested that chicken and cattle manure, coffee hulls and inorganic fertilizer can be used to increase the yields of cultivars 049 and A28/7 on an infertile soil, the Long Stretch Soil Series. The trend presented increased yield for amendments of narrow C/N ratio.

Dr. De Gale and the staff of the research station at Centeno who contributed to this study. Mr. De Gale, in particular, gave tremendous support in the field work. In his own special way, Dr. Ronald Barrow urged me to complete this study and I thank him.

I also wish to thank my wife, Dolly and our children who demonstrated a tremendous amount of patience during this course of study.

Finally, I thank my Lord Jesus Christ for the wisdom and knowledge in this endeavour and in whom all things are possible. I humbly submit that the great God of Glory always strengthened and encouraged me when I felt discouraged. To God be the glory.