NATIONAL LEGUME AND CASSAVA PROGRAMME

No.3

THREE ROW CASSAVA PLANTING MACHINE

INTER-AMERICAN INSTITUTE OF AGRICULTURAL SCIENCES - OAS

SIMON BOLIVAR FUND

GEORGETOWN, GUYANA

JUNE, 1978

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P.F. ROBINSON

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Contents

1. INTRODUCTION

Cassava is changing in status in Guyana from a traditional minor crop to a commercial plantation crop. The Government of Guyana recently established three cassava mills with a total capacity of 95 tons per day. A fourth mill with a capacity of 15 tons per day is expected to be established shortly.

Assuming a yield of 5 tons per acre and a three hundred day working year a total of 6,600 acres of cassava will be required to keep these mills fully operational.

It was felt that some form of mechanisation would be advantageous with plantings of such magnitude. Efforts to mechanise this operation have resulted in the design of a three row planting machine (a).

(a) A.H. Wahab P.F. Robinson and I. Hassan (1977) Mechanised planting of cassava (Manihot esculenta Crantz) stem cuttings on Guyana's light peats and peaty clays. Turrialba 27: 137-141.

2. DESCRIPTION OF EQUIPMENT

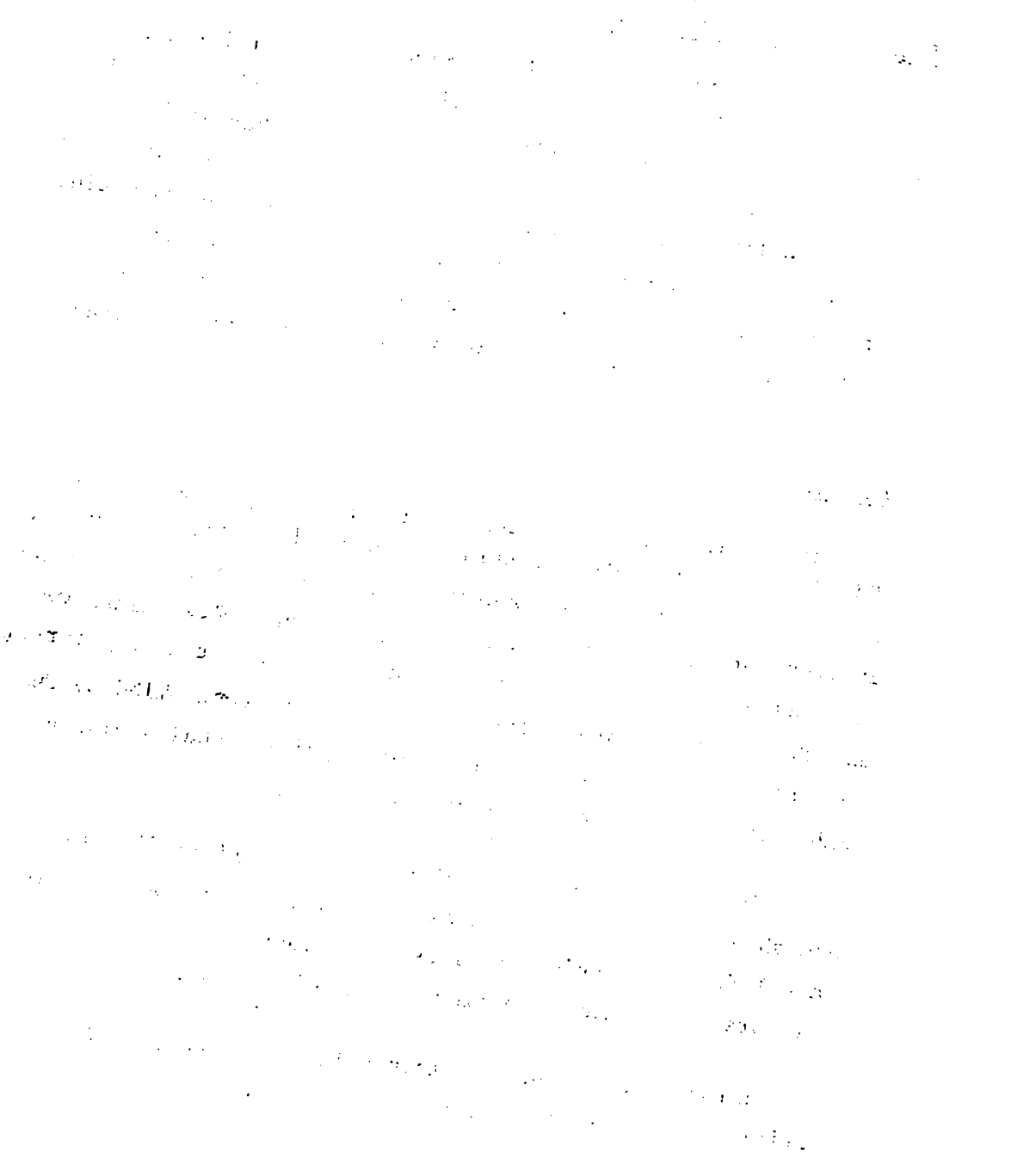
The equipment consists of a horizontal parallel frame 10' x 3' which is welded on to a vertical "A" frame for attachment to the three point linkage of a tractor. The parallel frame supports a hopper which is divided into four compartments by three hollow planting tines at 3' centres. Behind each tine is a seat and foot rest so positioned to permit each person planting a clear view of the opened furrow. A looped chain fixed to the rear of each hollow tine gives effective coverage of the cassava sticks.

3. OPERATION

In use the planting machine with three operators and 800 - 900 lbs of pre-cut stem cuttings is drawn by a tractor in the 60 - 75 H.P. range. Each operator takes sticks from the hopper in front of him and drops them singly via the hollow tines into the open furrow. The sticks lie more or less flat in the furrow and the spacing between sticks can be easily controlled by the forward movement of the machine. The trailing chains give a light covering of the sticks in the furrow.

Planting depth is controlled by adjustment of the skids. Care should be taken in marking out the first run only as the track left by the skids provides sufficient guidance for the operators to continue planting in a uniform manner.

Maximum output can be obtained from the machine if sufficient cuttings are prepared before hand.



4. SPECIFICATIONS

Hopper Size	10'0 x 3'0 x 1'6" deep
Hopper Capacity	800 - 900 lbs
Tractor Speed	1 M.P.H.
Row Spacing	3'0"
Machine Output	.75 acres/hour

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