GROWTH AND FIBER MORPHOLOGY OF ABACA (*MUSA TEXTILIS* NEE) RATOONS AS INFLUENCED BY PLANT DENSITY AND N LEVEL

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ABSTRACT

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An old abaca plantation was subjected to butcher harvest as a rejuvenation process. The subsequent ratoons were evaluated in terms of growth and fiber dimensions as influenced by plant density and nitrogen level. Replants served as checks in determining the merits of ratooning.

Ratoons emerged approximately 13 days earlier than replants. Ratoons were not severely damaged by pests regardless of density and N levels of application. Slight damage caused by slug caterpillar and corm weevil was observed.

Generally, ratoons had more rapid vegetative growth than replants regardless of plant density and N level, although it appeared that the application of 100 kg N/ha favored height and girth increment after a period of 12 months.

Unlimited ratoons exhibited better performance over ratoons at controlled density. At advanced stages, however, a reduction in girth showing characteristics of "taguiltils" was observed in unlimited ratoons.

In other gross morphological characteristics like petiole length, leaf blade length and width, ratoons at any density manifested superior performance over the replants. Furthermore, ratoons also had significantly higher fresh and dry matter weight of stalk and leaves than the replants.

Leaf N content significantly increased with increased N application during the 6th month but not after 12 months. Plant density did not affect leaf N content.

Generally, N application did not significantly affect fiber cellular dimensions. However, the fiber dimensions of ratoons at any density were significantly bigger than those of replants.

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INTRODUCTION

Rehabilitation of old existing abaca plantations is preferable to increasing hectarage or establishing new ones (AIDA, 1979 and MA, 1979) in order to meet the increasing fiber demand. Such demand is a result of restored market outlets and the value placed on the varied uses of abaca. Qualitywise, abaca is referred to as "super pulp" and "super fiber".

Rejuvenation or rehabilitation of old plantations takes into consideration the incoming abaca suckers and immature stalks responsible for the continuity of the plantation. Existing old plantations experience a decline in their productivity period due to nutrient exhaustion by continuous cropping with the subsequent production of floating suckers or "taguiltils". Existence of these types of suckers will eventually lead to the diminution of the fiber productivity of the plantation. Once these conditions occur, rejuvenation by butchering old plants may be employed to allow dormant but vigorous suckers to arise. Ratooning the subsequent growth is regarded by Plucknett, et al. (1970) to be very important in abaca and banana growing since most of banana and abaca fields exist and are harvested over many years.