

## Musa Mutation Breeding in Taiwan(香蕉突變育種之研究)

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### Introduction

In Taiwan , banana production is mainly for export .Because of the subtropical climate and the market demands, the banana production system in Taiwan is different from those in other banana exporting countries. The important features of this system are:(a)smallholders: most of the banana orchards are small with an average size of 0.3 ha;(b) seasonal: most of the bananas are harvested between March and June due to the better fruit quality and the demands of the export markets; and (c) annual cropping : most of the farmers in the southern region replant their banana fields every year.

The main reasons for this system are to ensure that harvesting time will fall in the export season, and to avoid damage by strong wind during the typhoon season in summer (Tang . Liu 1993).In addition to the suckers-the conventional planting material used by most banana growers — about 1 million tissue-culture plantlets are produced every year for the annual planting of banana orchards. These unique features of the production system dictate the breeding methodology as well as the objectives of the improvement program. Mutation breeding by selection among somaclonal variants is the major approach for banana improvement in Taiwan. By these methods somaclonal variants with resistance to race 4 of Fusarium wilt (*Fusarium oxysporum* f. sp. *cubense*) , shorter plant stature , early flowering , or higher bunch weight were selected . The following reports the progress of banana mutation breeding in Taiwan .