for more information contact:

The Banana Board
10 South Avenue, Kingston 4
Tel: 876-922-2083, 967-3592
Fax: 876: 967-3680
Email: bbresearch@cwjamaica.com
FIELD MANAGEMENT
The ability of a banana field to tolerate wind damage also depend on the quality of cultural practices maintained.

Recommendations
1. **Crop Density**: Fields with higher than recommended plant density (1750 per hectare) tend to have taller plants that are more susceptible to wind damage due to greater plant height and leaf area index.

2. **Planting Material**: Fields established from tissue culture planting material have less uprooting of mats due to more extensive root system.

**Selection Of Shorter Stature Cultivar**
Fields with plants of shorter stature are noted to be more tolerant to wind damage. This strategy however, requires the selection of adaptable cultivars with accepted characteristics; therefore this must be a long term approach. Plants grow taller with each ratoon, justifies replanting generally after productivity begins to decline or replanting using the annual cropping process.

Recommendations
1. The Bodles Research Station has cultivars that are less prone to windstorm damage that are not common commercial varieties but are ideal for cooking and processing and can make these available.
2. The Research Department must also start the process of identifying more suitable cultivars with wider commercial acceptance.

**Communication And Educational Approach To Be Employed**
The recommendations for disaster mitigation in banana production must be packaged and effectively communicated to Growers.

**Recommendation**
**Communication of Mitigation Strategies must include the following media:**
1. Group Meetings
2. Farm Visitation
3. Bulletins and Leaflets
4. Electronic and Print Media (see attachment)
5. Agricultural shows.
6. Website information
ACKNOWLEDGEMENTS

This manual was produced as part of the collaboration between the Research Department of the Banana Board (on behalf of the Government of Jamaica) and the European Union Banana Support Programme (EUBSP). It was prepared to provide relevant information on methods to deal with disaster mitigation.

The information was documented based on the research and experiences of the staff of the Banana Board, as well as banana growers. The authors wish to thank the management of the European Union Delegation in Jamaica and The Banana Board for their support.

Keeping Fields Young: Annual Cropping Process (ACP)

In Columbia and Costa Rica and some other countries plantain is replanted each year after harvest to eliminate the high pesticide exposure required for leaf spot and nematode control. In the region organic bananas and plantains are grown using the annual cropping process (ACP) Costa Rica bananas plantains and harvested prior to the peak of hurricane season. This process can also be applied to conventional banana production in the hurricane belt but requires a drastic change in the banana culture among Jamaican banana farmers.

Recommendations

1. On a phased basis, 10-20% replanting of old fields each year. Farmers may replant lower or higher percentages than recommended of their farms based on available resources or their own risk-averseness
2. Replanting should start about May – June of each year for this annual cropping process.

Young banana fields survived Hurricane Ivan
INTRODUCTION

Banana plants are very vulnerable to wind damage and topple readily with wind speed above 40 km per hour. However, the percentage loss in a field depends greatly on the levels of proactive steps implemented. In damages, sustained by wind banana fields suffer losses principally from the breakage of pseudostem and up-rooting of mats associated with flooding and water logged conditions. Disaster mitigation in banana production requires the implementation of short, medium and long term measures. In this manual recommendations are made accordingly and therefore some strategies are expected to be given more urgent attention particularly in preparation for the hurricane season.

The principle of wind damage mitigation in banana production lies mainly in promoting a healthy root system and proper water management programme.

For a comprehensive mitigation and recovery programme the following measures are recommended:

1. Promoting a healthy root system
2. Water Management system
3. Good cultural practices
   - Maintaining Crop Density
4. Selection of short stature cultivars
5. Participation in a self support catastrophe programme
6. Communication and education of growers using appropriate methodologies.
7. Promoting an early recovery programme.
   - Techniques involved in resuscitation
8. Multiple production areas (where applicable).

The illustration (page 4) shows the impact of the interaction of agronomic and risk management actions in mitigating the risk of windstorm damage on banana and plantain production in Jamaica.
Banana plant is classified as a rhizome and the active growing points are hidden under ground. In the event of a heavy wind storm it is expected that the plant will break at the pseudostem while the active growing tissue remains intact underground. This is ideal for a speedy recovery of fields, as the farmer will just need to cut the damage pseudostem and encourage the growth of healthy sword suckers. In this case it is expected to have a return to production within 7 - 9 months.

On the other hand, fields with a poor root system will experience a higher rate of up-rooting of mats. This will necessitate replanting of mats instead of cutting back of damage pseudostem and may result in an extended recovery period to 9 - 12 months.

The following are recommended for healthy root system in banana production.

1. Nematode Control
2. Borer Treatment
3. Appropriate Water Management Systems
4. Good Plant Nutrition

Water Management Systems
Banana roots cannot tolerate water saturation in excess of 72 hours. This will predispose the roots to rot and wilting of plants and eventually die-back. Water log condition does not only negatively impact plant growth but will give rise to more up-rooting of mats.

Recommendations
Before the onset of rainy season the following must be done

1. Check head drains: drains must be cleaned to a depth of about 3 meters with the appropriate side-slope.
2. Main drain should be maintained to prevent on farm flooding
3. Communal Drain: In Portland many cases of flooding occurred not necessarily due to inadequate on farm drains but due to badly maintain communal drains, that prevent proper run off.