Research and Demonstration on Banana Production Technologies in Micronesia

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Title: Research and Demonstration on Banana Production Technologies in Micronesia

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A hand of bananas ripens on the plant

Situation:

Banana, the leading fruit crop in the Pacific islands, is a well-adapted subsistence crop in Micronesia typically grown in back yards for family consumption. Bananas are grown for commercial production in Guam and Korsae. While Palau has no consolidated area for banana production, its maritime climate is ideal, rainfall is fairly uniform throughout the year and the area is outside the Pacific typhoon zone.

Badeldaob Island in Palau, the second largest island in Micronesia, is near Guam, making it ideal for producing bananas not only for local consumption by Palau residents and tourists, but also for export to Guam and its larger population and tourist industry.

Planting materials are ready for the banana trials

Objectives:

1. Establish research and demonstration areas on producer farms to showcase traditional and appropriate technologies for small-scale banana production

2. Assist and guide the farmers in appropriate cultural management practices, post-harvest technology and marketing strategy to ensure successful banana production

3. Set up an experiment on producer farms to determine nutrient requirements

4. Produce a handbook on small-scale banana production in Palau

5. Train farmers and extension agents on best management practices for banana production

Seedlings are growing in the greenhouse

Actions:

Research and demonstration areas were established on farms of cooperators in Ngaremlengui, Airai and Melekeok states in Palau. Soils samples from the farms were submitted to a laboratory for analysis, and each demonstration farm was divided into four sections to demonstrate the effects of nutrients on the growth of "lacatan" banana:

Two types of trees were planted with seedlings acquired from a local nursery.

- no manure and fertilizer (control)
- manure and fertilizer at planting
- manure and fertilizer every two months
- manure every two months

Tissue-cultured "lacatan" planting materials, all timed to grow at the same pace, were laid out at a distance of 4 meters by 4 meters with 24-28 plants per treatment.

Workers plant the seedlings at 4 meter spacing in the field

Results:

Early results of the project show:

1. Soils, based on test results, are very low in phosphorus and potassium.
2. Lacatan bananas fertilized with manure and fertilizer at planting and every two months were significantly taller than those without fertilizer (control) and those with manure applied every two months.

Work to be completed:

1. Produce a banana production brochure
2. Train producers and extension agents in banana production techniques

Bananas are maturing in the field trials

Potential Benefits:

Although the banana production project has yet to be completed, it has the potential to produce these benefits:

1. The farmers' active participation in the demonstration project will give them hands-on experience and increase awareness, understanding and skills in appropriate cultural management practices.
2. The appropriate production technologies will be documented in a handbook detailing cultural practices, pest and disease control and cost and return analysis. The handbook will be distributed to farmers, extension agents, traditional leaders, government officials and interested individuals in Micronesia and elsewhere.
3. More farmers will be encouraged to produce bananas, with about 20 new acres of banana production expected.
4. With a projected yield of 13,114 pounds per acre, and at a current price of 70 cents a pound, gross income of $9,179.80 per acre could be possible. If new production of 20 acres materializes, farmers would be $183,596.

Bananas harvested in the field trials