COMPONENT 2

FARMER PARTICIPATORY EVALUATION OF VARIETIES

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Objective: To create awareness of distinguishing features and potential of newer released varieties

BACKGROUND

Although the Jamaican cane grower tends to actively seek newer varieties with the hope of increasing earnings, his knowledge of varieties is at best rudimentary and he tends to ignore the official designation and affixes his own variety name. Thus the variety BJ7504 is known by some farmers as "Lottery" while B51129 is known in some areas as "Purple Giant" The issue is further complicated by growers in another zone giving the same name to a totally different variety.

Also, canes are grown in distinctly different cane growing zones in Jamaica. Each presents unique environmental characteristics which affect variety adaptability. These differences are reflected in the five major ecological zones into which the island is divided, for convenience - the Wet West, Dry North Coast, Central Uplands, Irrigated South and Wet East. But sugar cane is grown on over 100 different sol types in Jamaica so the ultimate test for a varieties suitability is to actually observe its growth on the particular farm site and make comparisons against performance of others in the same field.

From time to time, the Sugar Industry Research Institute (SIRI) releases newer, high yielding, disease resistant varieties emerging from its variety development process. Although the Jamaican grower is reputed for his eagerness to get hold of newer varieties, there is also a competing tendency to hold on to the tried and tested. Often it is necessary to convince the grower that it would be to his advantage to change. When the superiority of the new variety can be demonstrated, the task of convincing him and others within that community becomes much easier.

Approach

The approach taken under this component of the CFC project was to involve sugar cane growers in the evaluation and selection of elite varieties suited for their farms. The farmers' presence and involvement in many tasks relating to the project would enable him to become familiar with the growing habits and productive capability of the new varieties on his particular farm. With this increased knowledge, the farmer with the assistance of the Variety specialist, would be able to identify the varieties most suited for his conditions.

The site was usually selected by SIRI Extension agents and the Component coordinator. Growers assisted with the establishment of plots of two or three recently released elite varieties planted in contiguous strips running the entire length of the field. They were also involved in maintenance - weed control, fertilizer application, irrigation (where possible), drainage etc.

Achievements

Since the launch of the project in 2004, a total of 26.1 ha (Table 1) comprising 11 plots were planted. Six were established in rain-fed areas and 5 in irrigated areas. All plots planted between 2004 and 2007 were adequately maintained but no planting was undertaken in 2007due to constraints outlined below. These nurseries were sited within communities of small holders and functioned as demonstration plots for exhibiting features of the new varieties.

Main Constraints

The realization of project targets was affected by the following factors;

- Severe drought during the planting seasons of 2004, 2005 and 2006 restricted both land preparation and planting
- Many Component 1 nurseries (from which seed cane was to have been taken) were severely damaged by the passage of hurricane Ivan in 2004, thereby limiting availability of seed cane for demonstration plots in 2005

Table 1: Names , location and area planted in farmer evaluation plots (2004-2007)

(Seed cane yield estimated at 7-8 months)

Name of Grower	Location	Area (ha)	Variety	Estimated Yield (tc/ha)
Allen	Bogue (Rain-fed)	1.0	BJ8532 BJ78100	66 72 factory processed
C Keddo (Rain-fed)	Little London	2.0	BJ8532 BJ7504	67 70 Factory processed
Westmoreland Development Committee	Galloway (rain-fed area)	2.5	BJ8532 BJ81256 BJ78100	71 76 75 Factory Processed
A. Sangster	Deans Valley (Rain-fed)	2.5	BJ82156 BJ78100	72 74 Factory processed
W. Cheddisingh	Barham (Rain-fed)	2.0	BJ8532 BJ78100	74 68 Factory processed
L. Salmon	Elim/Braes River (Rain-fed)	2.5	BJ8532 J9501	69 77 Factory processed
Mrs Spencer	Elim (Rain-fed)	2.0	BJ78100 BJ8532	68 74 Reaped as seed cane
Mrs Umraugh	Elim(Rain-fed)	2.0	BJ8534 BJ78100	62 64 reaped as seed cane
N Charroo	Content (Irrigated)	6.0	BJ8532, BJ8783 BJ78100	62 60 67 factory processed
D Ledford	Rhymesbury (Irrigated)	1.0	BJ8532 J9501	65 68 factory processed
Noel Lowe	Rhymesbury (Irrigated)	2.6	BJ82156 BJ78100 BJ7938	78 77 79 factory processed
Total		26.1		

- Farmers' counterpart contribution was less than expected forcing the PEA to expend more on individual plots than projected. The assumption that the farmer would be able to satisfactorily complete land preparation or conduct routine field maintenance in timely fashion was often not met
- The hurricane also disrupted the schedule of planting so that there was a lack of coincidence between availability of seed cane and availability of prepared land for demonstration plots
- Field activities were impeded in 2006 because of widespread flooding in many areas which made access roads to plots impassable.
- The inability of growers to finance essential field operations necessary for proper growth and development of plots, probably had the most telling impact on the achievement of project targets
- Unavailability of tillage equipment in some areas limited field activities

Table1 shows the performance in the respective farmer particpatory evaluation plots established. Varieties in most plots were replicated twice. However, in a nursery at Lowe's farm and another at Sangster's farm varieties were replicated three times. The level of productivity of the varieties was quite good in most cases. Table1 also shows the yield in tonnes cane per hectare obtained from each variety per plot and growers had the opportunity to express their preference for particular varieties based on the growth characteristics and yield obtained. In most plots BJ78100 and BJ7938 were the best performers. Fig. 4 and Fig. 5 show plots in Rhymesbury and Galloway respectively.

The results derived from these nurseries were discussed with participating farmers as well as several others farmers in the communities where they are located. Most of these plots were taken to maturity and sent to factories.

Lessons learned

The establishment of nurseries around the country created challenges in obtaining seed cane and transporting it over long distances to planting sites. The cost incurred in doing so was enormous.

The size of each plot could also be reduced, so as to reduce the need for large amount of seedcane

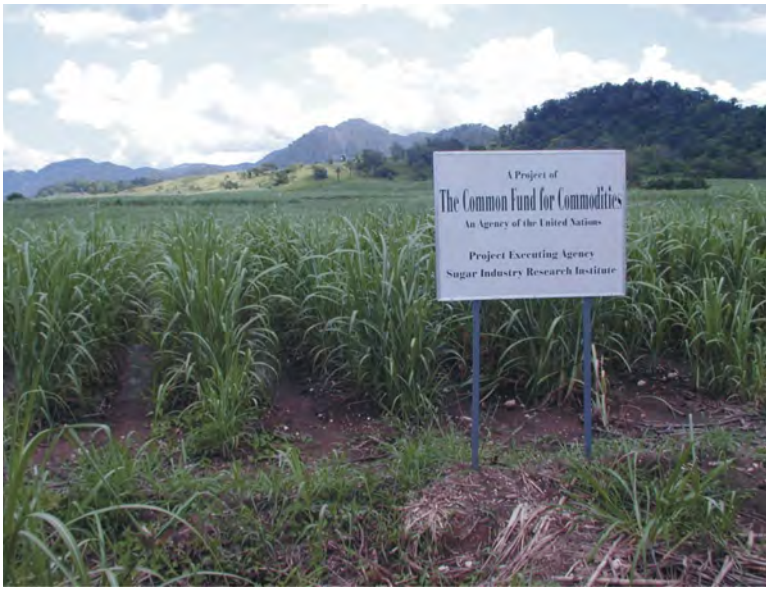

Fig 1: Farmer Participatory Evaluation Plot, Westmoreland

Fig. 2: Farmer Participatory Evaluation Plot, Westmoreland

Fig. 3: Farmer Participatory Evaluation plot, Clarendon

Any programme, that allows for the full participation of cane growers, in the decision making process, will receive excellent support and endorsement by the entire farming community.

The Ministry of Agriculture should have been invited as collaborator in the implementation

One of the main constraints to production amongst small cane farmers is inadequate financial resources

CONCLUSIONS

- The establishment of these comparative variety plots in various areas has resulted in the democratization of variety selection in most areas.
- Growers were afforded the opportunity for the first time to observe and participate in the selection of varieties for their farms.
- The establishment of these plots facilitated more equitable distribution of new varieties amongst small sugarcane growers.
- There were observable improvements in agronomic and cultural practices on some farms geographically contiguous to projects farms.

RECOMMENDATIONS

This is the type of programme that should be of great assistance in getting farmers to appreciate differences in varieties and choose ones more appropriate for their specific locations. A way should be found to make this a continuous exercise. Since future funding may be an issue, it may be useful to incorporate medium and large farms which may be in a better position to absorb some of the cost. ☆

Fig. 4 Farmer participatory evaluation plot in Rhymesbury, Clarendon

Fig. 5: A replicated nursery at Galloway