

## POSTER SUMMARY

**DEMONSTRATION PLOTS DOUBLE AS SEEDCANE NURSERIES  
FOR SMALL-SCALE GROWERS IN THE NOODSBERG AREA**GILLESPIE WA<sup>1</sup>, MITCHELL FJ<sup>2</sup>, WAY MJ<sup>1</sup> and WEBSTER TM<sup>3</sup><sup>1</sup>South African Sugarcane Research Institute, Private Bag X02, Mount Edgecombe, 4300, South Africa<sup>2</sup>KZN Department of Agriculture and Environmental Affairs, Private Bag X9059, Pietermaritzburg, 3200, South Africa<sup>3</sup>Midlands North Pest and Disease and Variety Control Committee, PO Box 581, Wartburg, 3233, South AfricaWilliam.gillespie@sugar.org.za felicity.mitchell@kzndae.gov.za  
mike.way@sugar.org.za mnpd@sai.co.za**Abstract**

Many small-scale sugarcane growers fail to prosper due to poor production practices, lack of resources, a shortage of technology and information, ageing ratoons and lack of access to low cost, disease-free seedcane. For these and other reasons, progress is slow and they remain trapped in economically non-viable activities, while they remain highly vulnerable to risk and suffer severe or on many occasions total economic losses. In the Noodsberg Mill supply area in the KZN Midlands, it was noticeable that a lack of access to information had hindered economic returns for small-scale growers in the area. Limited access to finance for suitable seedcane has become important because spatial expansion in the area has increased and has resulted in inappropriate cane from neighbouring fields being used as seedcane. Demonstration plots were introduced as sites for training and technology transfer while demonstrating the potential of the area to produce cane and evaluating varieties under local conditions. Small growers were reluctant to replant due to the expense of purchasing and transporting seedcane. Since the introduction of demonstration plots as seedcane nurseries, one new variety, N37, has been widely accepted. Demonstration plots have served as a technical training facility with numerous on-site training days held and attended by local growers. The relationship between local growers and technicians has been strengthened. Demonstration plots are of significant value in motivating small-scale growers to adopt better farming practices and offer greater access to cheaper disease-free seedcane. The demonstration plots also act as a catalyst for development and potentially higher economic returns, resulting in sustainable and improved livelihoods.

*Keywords:* sugarcane, demonstration plots, disease free seedcane, improved small grower viability

**Introduction**

Many small-scale growers remain trapped in economically non-viable activities and are highly vulnerable to risk. Reasons include poor production practices, lack of resources, technology and information, ageing ratoons and lack of access to low cost disease-free seedcane. In the Noodsberg Mill supply area (KZN Midlands), a lack of access to finance for suitable seedcane is an important limitation to sustainability and the potential of the area has not been realised. Demonstration plots were used for training, technology transfer, farmers

support (Bembridge, 1997), evaluating varieties under local conditions and seedcane nurseries. Small growers were reluctant to replant due to the expense of purchasing and transporting seedcane. The demonstration plots offer an economically viable opportunity to fill the seedcane supply gap.

### Methodology

- Step 1: Consultation with growers and leadership to select a co-operator and role-players.
- Step 2: Acquire finance for the project.
- Step 3: Selection of co-operator who must be a successful grower as this is a business; he/she now becomes a seedcane merchant.
- Step 4: Site selection - uniform and representative in soil type, accessible by car, volunteer free field, two hectares in size and fenced.
- Step 5: Field days must be organised around each step of developing the site (as outlined in steps 6-9).
- Step 6: Land assessment must be carried out to ensure compliance with legislation, and the field soil sampled (Camp, 2001).
- Step 7: Arrange for suitable seedcane and transport, land preparation and planting of the site.
- Step 8: Agricultural Extension Officer (AEO) and the grower agree to a site management plan including weed control, fertiliser topdressing, firebreaks, fencing, and they sign an agreement of undertaking and cost allocation.
- Step 9: The AEO's programme of work will revolve around the planting of the demonstration plots and the future issuing and pricing of seedcane. In addition, AEOs must ensure the expansion of local growers and technology transfer regarding, for example, good agricultural practices, business skills, forward planning, environmental stability.
- Step 10: The selected site will only be used as a seedcane nursery for the plant and first ratoon crop, after which it reverts to commercial cane (Gillespie and Mitchell, 2006).
- Step 11: A new seedcane merchant is identified each year.

### Results and Discussion

#### Development

Ten demonstration plots have been planted in the Noodsberg area serving 675 growers. An effective programme of work has been developed and implemented in the area. Field training days (65) were held at the 10 demonstration plots.

#### Impact

*Increased awareness:* AEO's and growers aware of the production potential of the local natural resource base and site specific varieties. Demonstration plot yields indicated clearly the potential of the area to produce under local levels of management, e.g. the plot at Ekhuipoleni achieved a yield of 120 t/ha at 18 months using variety N31 (comparable with commercial production).

*Adoption of new technologies:* land use planning, field layout, conservation, business skills, use of herbicides and new varieties, the value of soil sampling and correct fertilisation, pest and disease control as well as the value of pest and disease inspections has been adopted.

### **Economic implications**

*Seedcane savings:* availability of locally produced seedcane with limited or no transport costs results in a minimum of 40% savings in input cost.

*Transport and savings:* transport cost per ton for commercial seedcane is 50% more expensive than locally produced seedcane (varied between R10 and R50 /ton).

*Weeding costs:* herbicide application cost was 60% cheaper than hand-hoeing (10 labourers for 10 days at R30 per day). This excluded additional savings in time and reduced loss of yield from poor weed management.

*Yield:* In four grower areas, since the introduction of seedcane nurseries and technical training and support, yields have shown an increase of between 30% and 46%. However, on the site where there is no seedcane nursery (Win) and training has been sporadic, the yields have not improved, showing the value of the demonstration plot to regularise training days and improve management of sugarcane.

*Practical considerations:* Payments can be made according to each grower's resources, an important consideration for financially challenged communities. Seedcane can be obtained as and when labour and land is prepared and available. Small delivery vehicles can reach sites that large tip trucks often cannot reach. Future planning becomes simpler and growers can produce their own seedcane for future plantings.

### **Conclusions**

Demonstration plots have significant value in identifying and optimising natural resource potential in Noodsberg Mill supply area. Used as seedcane nurseries, the plots have motivated small-scale growers to adopt better farming practices, offer greater access to cheaper disease-free seedcane and have the potential to significantly increase sugarcane supply to the mill. The plots have increased awareness of new varieties and served as a technical training facility. Relationships between local growers, technicians and the miller, as well as the link to scientific research results, have been strengthened. Valuable natural resource base data have also been obtained. The demonstration plots act as a catalyst for development and higher economic returns, resulting in sustainable and improved livelihoods.

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