SHORT NON-REFEREED PAPER

THE TICKETING SYSTEM: DEVELOPMENT OF A MANAGEMENT AND MONITORING TOOL FOR SMALL-SCALE GROWERS

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Abstract

Attention to detail and lack of timeliness of post-harvest and ratooning operations have been identified as major constraints to small-scale grower sugarcane production management. To find management solutions to address the issue, a system was devised to monitor and manage post-harvest activities. The system makes use of the fact that post-harvest and ratooning activities follow a specific recipe and timing. By monitoring and scoring these activities, a management tool was developed. By using the results obtained with the tool, problems could be identified and corrective actions taken. The Extension Officer could then take actions include advising, training and/or replacing field management, to address the management problems.

The system makes use of a traffic light scoring system which is well known to growers. The green ticket implies good performance, while yellow indicates problems and red indicates a failed or grossly overdue action. The Extension Officer monitors post-harvest and ratooning activities weekly, and then tickets activities on a score board placed in the project office. The project committee accompanies the Extension Officer from time to time to verify the issuing of tickets.

The publicly displayed scoring system leads to self-regulating activities and also some competition between growers to achieve ‘all greens’. Added benefits include a way to ensure that Extension Officers pay attention to their growers on a regular basis, and scoring enables the replacement of chronic poor performers with better growers through the community project management structures. The system has been operational for two seasons, with good results and improvement in individual fields being recorded.

Keywords: sugarcane, small-scale grower, ratoon management, scoring system, monitoring system, ticketing system, extension

Introduction

From 2006 onwards, small scale grower (SSG) yields decreased significantly year-on-year despite favourable growing conditions. There are several reasons for this, of which the degradation of the irrigation infrastructure remains a major issue. If other factors involved with the decline in production are taken into consideration, it is clear that the timing and detail management of ratoon actions also contribute to the generally poorer growth.

Working on the premise of what is measurable is managable, the Tsb SSG extension service highlighted the issues that had to be addressed to improve SSG productivity. As the result of a study of the routine actions, the sequence of the actions and the timing of the actions to be followed for acceptable ratoon management, a system was developed to measure SSG ratoon management performance.

The aims of what had to be achieved through the system were varied, but the system had to find ways to:

- Ensure that ratoon actions take place on time
- Ensure that ratoon actions were carried out with the correct attention to detail
- Ensure that defaulters could be identified easily
- Create an awareness with the Extension Officer of the topics which need to be addressed in training and advice
- Keep track of grower performance over time to ensure that corrective actions could be taken if a grower defaulted regularly
- Enforce regular interaction between the Extension Officer and grower.

With this in mind, the 'ticketing' system was devised. Table 1 gives an example of a portion of the system.

Table 1. A portion of a ticketing exercise at a project.

Grower Code	ha	Variety	Irrigation Type	Ratoon	TPH 2011	TPH 2012																	
100463A	7.4	N36	Drag Line	0																			
102800A	7.4	N36	Drag Line	0	90.58	50.0				06/07/12													
103145A	8.9	N49	Drag Line	0	38.88																		
106588A	7.0	N25	Drag Line	5	69.73																		
108759A	7.4	N25	Drag Line	4	62.85																		
110477A	7.3	N25	Drag Line	9	48.58																		
113503D	6.7	N25	drip	4	123.92	81.2				06/07/12													
114720A	8.3	N25	Drag Line	3	79.52	75.7				05/07/12													
115627A	7.2	N25	Drag Line	3	78.32					10/08/12													
115627B	8.0	N14	Drag Line	0	40.96																		
117018A	7.6	N46	Drag Line	0	54.54																		
117241A	7.0	MIXED	Drag Line	2	71.10	60.0				27/05/12													
118064A	7.1	N25	Drag Line	6	57.65	52.7				06/07/12													
118708A	7.3	N19	Drag Line	14	65.72					10/08/12													
118708B	7.1	MIXED	drip	2	132.52	85.0				26/05/12													

The required actions are shown as pictograms at the top of the board. The grower details are entered on the right and the scores are then entered against the grower for each action. A green ticket shows good performance in terms of timing and details per ratoon activity. A yellow ticket implies some issues with either timing of technical detail, and the red ticket indicates a failure to apply an action or gross delays in applying actions.

Material and Methods

The ticket boards were manufactured from pegboards and the relevant details were printed on the boards as shown in Table 1. Ratoon graphics were used to accommodate illiterate growers. As the season progressed, golf pegs of appropriate colours (red, yellow, green (or white)) were put into the pegboard to record the timing and accuracy of actions undertaken by a grower.

Prior to launching the system an awareness campaign was conducted at the 36 SSG projects in the Komati and Malelane mill production areas. The aim was to get buy-in from early adopters or influential growers in order to facilitate the roll-out of the system. The concept was accepted and practical demonstration in the fields was conducted to illustrate how the system would work. The committee members of a project were involved with the process of issuing tickets on a regular basis to ensure that corrective actions could be recommended by and enforced through the formal management structure at a project.

Results and Discussion

Figure 1 shows a ticketing board in operation at the community centre at a project. The board is updated weekly by the Extension Officer and, on a regular basis, committee members accompany the Extension Officer to collaborate and agree on the issuing of a ticket.

Figure 1. An Extension Officer illustrating the working of a ticket board to project visitors.

The system has been in operation at 14 projects since 2012 and early results indicate that the following has been achieved:

- A healthy competition has developed among participants to aim for ‘all greens’
- Regular defaulters were identified and in some cases managers were appointed by the committee to manage the regular defaulters’ farms on their behalf
- Issues that were coming up regularly with yellows and reds highlighted training needs that were attended to through grower information days
- The system highlighted issues at poorly performing projects where there were major issues with common infrastructure such as dilapidated irrigation systems or other forms of service delivery. Attention could then be paid to the specific need and funding sought for repairs and revitalisation.

There was a direct correlation between ‘all greens’ and eventual yield performance, enhancing the ability of the Extension Officer to advocate that good farming led to good results.

Conclusion

Many growers of the SSG group require more direct and regular intervention in day-to-day activities. The ticketing system as a management measure and tool ensures that action taken is specific and directed. The ticketing system has proved to be a valuable tool in sugarcane farming in Mpumalanga and forms the basis for identifying training needs, turnaround strategies and successful timing and quality of advice. It can be used by Extension Officers to ensure that they give quality, relevant advice when required. It can also be used as a tool to motivate growers to change and also to enhance competition between growers with the aim of improving yield and better production results. It can also be used by management to see whether subordinates are operating as requested and to assist when necessary.

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