

## POSTER SUMMARY

## **CALCULATORS TO ASSIST WITH CALIBRATIONS FOR HERBICIDE APPLICATION IN THE SOUTH AFRICAN SUGARCANE INDUSTRY**

CAMPBELL PL AND TWEDDLE P

*South African Sugarcane Research Institute, P/Bag X02, Mount Edgecombe, 4300, South Africa  
Peta.Campbell@sugar.org.za Peter.Tweddle@sugar.org.za*

### **Abstract**

Calibration calculators were developed on spreadsheets, designed to complement the SASRI Herbicide Selector that is accessible on the SASRI website ([www.sasri.org.za/weed-control](http://www.sasri.org.za/weed-control)). These calculators are available to all sugarcane farmers and Extension specialists and are designed to provide assistance in achieving the correct application of products, irrespective of the scale of operations for weed management. They are therefore suitable for both small- and large-scale sugarcane growing operations. The objective of this poster is to demonstrate the functionality of the tool.

The tool consists of a collection of calculators for calibrating knapsack and boom sprayers, comprising: a) the amount of spray water, litres per sprayed hectare; b) the required product amounts per spray tank of each product (i.e. herbicide/buffer/salt/surfactant) per selected chemical treatment, irrespective of tank size (15 to 1000 L); c) the area covered for different spray tank sizes; and d) the number of spray tanks required per field. Results can be saved in a printable report format. To assist emerging farmers to manage weeds in small, sometimes dispersed one hectare areas, a calculator is also available to calibrate standard-sized drums (210 and 220 L), suited to herbicide treatment of half hectare units. In addition, there is a calculator for revenue loss via estimated weed competition in the event of no weed control. The major advantages of automated calculations include: a) saving time; b) reducing errors; c) allowing flexibility to manage field operation/equipment changes; and d) to provide an opportunity for more frequent calibrations during the season, with less reliance on agricultural consultants.

*Keywords:* herbicide calculations, sugarcane, emerging farmers