

# Blue Water 2 Project

## Weed Management on Sandy Soils

*Field trial*

### Introduction

Sandy soils with low cation exchange capacity (CEC) are often problematic for growers to manage herbicides and weeds effectively. Some herbicides are not registered for use on sands while others have a risk of phytotoxicity to sugarcane.

A trial was carried out on a low CEC soil (Munbura sand, CEC 1.6 to 3.9) to compare four residual herbicides applied at 2 rates for weed control and crop phytotoxicity.



Figure 1. David Axiak, Racecourse Projects farm manager, inspects the demonstration site.

### Trial design

- Location – Racecourse Projects Marwood farm, Sandy Ck catchment
- Soil Type: Munbura soil type – an acid sand to loam topsoil over a brown clay loam at depth.
- History – Late cut in 2020, moderate to high weed pressure with a light trash blanket
- Application – All products were applied as a directed spray in 300L water per hectare on the 3<sup>rd</sup> February 2021.
- Sampling – event samplers installed to compare herbicide runoff

Table 1. Herbicide treatments

No	Product	Product Rate Applied	Product Active Ingredient Concentration	Active Ingredient g/ha applied	Cost \$/ha	Aquatic Risk ÷ 1000*
1	Valor®	400g/ha	500g/kg flumioxazin	200	74	3,011,613
2	Impose®	250ml/ha	240g/kg imazapic	60	6.75	45,552
3	Balance®	80g/ha	750g/kg isoxaflutole	60	12.80	50,066
4	Bobcat I-Maxx SG®	400g/ha	750g/kg hexazinone + 150g/kg imazapic	300 + 60	46.42	242,940
5	Valor®	600g/ha	500g/kg flumioxazin	300	111	4,517,420
6	Impose®	300ml/ha	240g/kg imazapic	72	8.10	54,662
7	Balance®	100g/ha	750g/kg isoxaflutole	75	16	62,583
8	Bobcat I-Maxx SG®	600g/ha	750g/kg hexazinone + 150g/kg imazapic	450 + 90	69.63	364,409

















\* Calculated from the Pesticide Decision Support Tool

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Observations – 16 weeks after application

<p><b>Valor 400g/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>		<p><b>Valor 600g/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>	
			
<p><b>Impose 250ml/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>		<p><b>Impose 300ml/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>	
			
<p><b>Balance 80g/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>		<p><b>Balance 100g/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>	
			
<p><b>Bobcat I-MAXX 400g/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>		<p><b>Bobcat I-MAXX 600g/ha</b> <i>Light cane &amp; trash v heavy cane &amp; trash</i></p>	
			

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## Findings to date

### 16 weeks After Application

- No phytotoxicity was observed in any treatment. Little rainfall following application is likely to have assisted this result.
- All treatments provided commercially acceptable weed control to 16 weeks after treatment, where the previous cane crop left a thick trash blanket and the ratoon crop was quick to shade the inter-row.
- All treatments had breakouts of broadleaf weeds where the trash blanket was thin and the ratooning crop slow to shade in – even at the highest application rates. A knockdown herbicide treatment (e.g. paraquat + 2,4-D) would be required to prevent these weeds causing crop yield loss.
- Weeds observed included ipomoea vines, blue top, milkweed, leucas, crowsfoot grass and awnless barnyard grass.
- A low rate of pre-emergent herbicide supported by a timely knockdown application is likely to be the most effective and economic weed control strategy on late cut ratoons with low yield potential on sandy, low CEC soils.

### Acknowledgement

Special thanks to the Racecourse Projects spraying team for their dedicated assistance with this trial.