Catalyst Project Report – Final report

Reducing residual herbicide

Grower Information	
Grower Name:	Rodney Hindle
Entity Name:	Hindle and Company
Trial Farm No/Name:	F981B
Mill Area:	Plane Creek
Total Farm Area ha:	233
No. Years Farming:	
Trial Subdistrict:	Spider Creek
Area under Cane ha:	167

Background Information

Aim: Minimise the use of residual herbicides whilst maintaining adequate weed control.

Background:

The project seeks to demonstrate that strategic use of knockdown herbicides can provide effective weed control in ratoon sugarcane and replace the reliance on residual herbicide.

The use of knockdown herbicides is based on assessing weed pressure in fields, weed species present, competitive risk against the crop, impact on harvesting and sprayer application equipment available.

Replacing residual PSII herbicides with knockdown products will lead to reductions in these PSII herbicides leaving farms in runoff water. PSII herbicides also have limitations in regard to their application window while knockdown herbicides are more flexible.

Potential Water Quality Benefit:
Reduced residual herbicide runoff

Expected Outcome of Trial:
Lower use of residual whilst maintain adequate weed control

Service provider contact: Farmacist

Where did this idea come from: Farmacist/ Grower

Plan - Project Activities	Date : (mth/year to be undertaken)	Activities :(breakdown of each activity for each stage)
Stage 1	**October 2016**	Spray residual herbicide in locations according to trial plan.
Stage 2	**October -January 2016**	Spray knockdown herbicide as necessary
Stage 3	**September 2017**	Harvest production
Stage 4	**October 2017**	Re-apply treatments and install KP samplers
Stage 5	**Dec 2017 – Feb 2018**	Conduct visual weed assessment
Stage 6	**March 2018**	Conduct visual weed assessment
Stage 7	**September 2018**	Harvest production

Project Trial site details	
Trial Crop:	Sugarcane
Variety: Rat/Plt:	Q183 4R
Trial Block No/Name:	5-3
Trial Block Size Ha:	6.2
Trial Block Position (GPS):	149.388858, -21.876187
Soil Type:	Loam

Block History, Trial Design:

Hindle - Knockdown Herbicide Strategy trial

Location: F981B Block 5

Treatments:

1	Grower standard - Velpar K4 @ 3kg/ha blanket applied after harvest
2	Knockdowns applied in response to weed emergence

	Treatment	Width	Row Length	Strip Size ha
Replicate 1	T1	18 rows	640	1.84
	T2	9 ROWS	640	0.92
Replicate 2	T1	9 ROWS	640	0.92
	T2	9 ROWS	640	0.92
Replicate 3	T1	9 ROWS	640	0.92
	T2	9 ROWS	640	0.92

Figure 1 - Trial layout showing treatments and repetitions

The trial consisted of two treatments repeated three times across the paddock as shown in Figure 18.

Treatments:

1. **Grower standard – Velpar K4 @ 3kg/ha blanket applied after harvest**
2. **Knockdowns applied in response to weed emergence**

Results:

Rod Hindle stading between treatments

Very little weed growth on heavy trash blanket

Small amount of weed growth – no treatment

Figure 2 - Field observations at trial site

As shown in Figure 19, this block displayed relatively low weed pressure due to a heavy trash blanket. For this reason, both methods of treatment provided adequate weed control. By utilising knockdown treatments rather than residuals, such as Velpar, lower environmental impacts can be expected.

Conclusions and comments

In this situation, knockdown herbicide application provided adequate weed control compared to residual herbicide (Velpar). Although more labour may be involved in knockdown applications in certain seasons, this shift in practice could reduce herbicide costs as well as lower the environmental impact of herbicides on surrounding ecosystems.

Advantages of this Practice Change:
Use of more environmentally friendly pesticides.

Disadvantages of this Practice Change:
Potential for the need of an increased number of applications.

Will you be using this practice in the future: Yes

% of farm you would be confident to use this practice – Application will be dependent on site location, weed pressures and weed species

Site is complete