Sugar Research Australia

COMPARING TWO LOW-RISK RESIDUALS AT AFTER HARVEST AND PSII SPIKES AT WET SEASON ONSET

Grower: Dick Camilleri

Location: El Arish, Tully
Ratoon: 3rd Variety: Q250♁
Harvested: 18 July 2017
Row spacing: 1.8m

Known issues: Light to medium weed pressure

Image source: Terrain

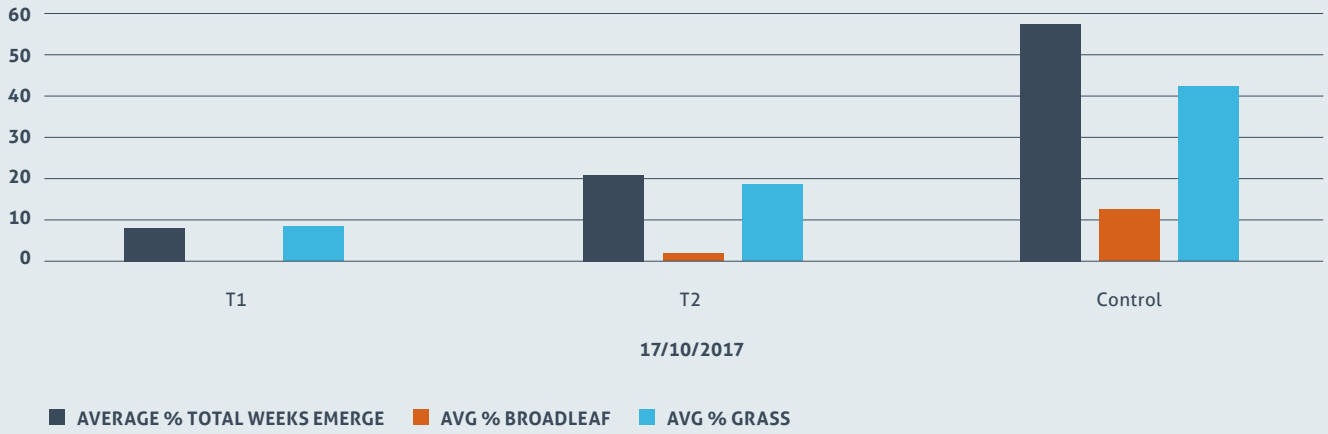
Treatments applied after harvest 20 July 2017

T1: IMAZAPIC	T2: FLUMIOXAZIN	CONTROL
Imazapic @ 400g/L (Flame, Spark etc.) Paraquat @ 1.2L/ha **COST: $15/ha**	Flumioxazin @700g/L (Valor) Paraquat @1.2L/ha **Cost: $145/ha**	No treatment applied/unsprayed until second pass
Second pass ***Applied December 18*** Whole block 2,4-D, Tordon (picloram + 2,4-D), Atrazine @ 500g/ha and Barrage @ 500g/ha **COST: $40/ha**		

Efficacy for after harvest: Monthly monitoring conducted from post spray through to October.
Both products controlled most weeds well; imazapic showed greater control of nutgrass.

T1: IMAZAPIC	T2: FLUMIOXAZIN	CONTROL
Best overall control of weed species *Broadleaf:* none present in monitoring *Grass:* none present *Nutgrass:* Some present – best control **January 2018 - some nutgrass present**	Good control of most weed species compared to control. *Broadleaf:* none present until October, very low numbers *Grass:* none present *Nutgrass:* present **January 2018 – nutgrass present (limited control)**	Dominated by nutgrass Limited broadleaf weeds present from September **January 2018 – nutgrass present (no control)**

2017 Dick Camelleri Weed Observations



Nutgrass: T1 August 2017

Nutgrass: T2 August 2017

Control August 2017

Nutgrass: T1 January 2018

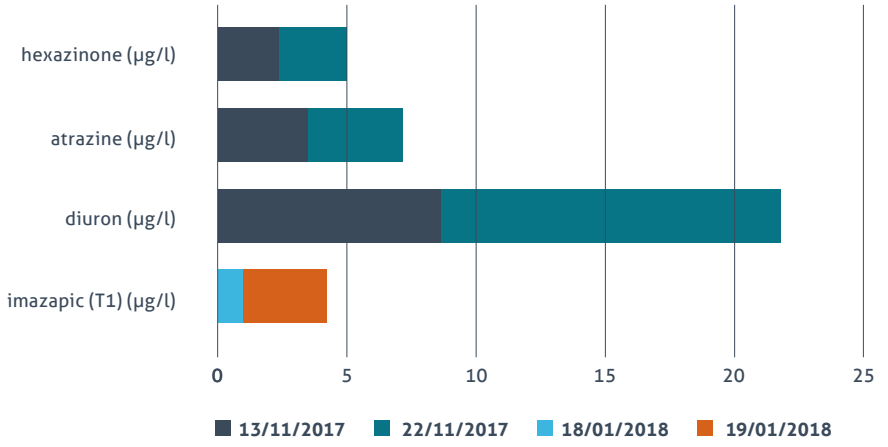
Nutgrass: T2 January 2018

Control January 20

What about water quality?

This graph combines the analysis of first two runoff events after post-harvest application of residual herbicides (approx. 4 months after application) and the first two runoff events after out of hand spray of knock downs with spike rates of diuron, hexazinone and atrazine. Note that no imazapic was detected in samples collected on November 13. No flumioxazin was detected.

Chemical detected in runoff from four rainfall events



Rainfall: 13 November - 30mm, 22 November - 65mm, 18 January - 91mm, 19 January - 72mm.
Note: known degredates for flumioxazin are currently unable to be analysed for, samples were analysed for the active flumioxazin with no detection for either event.

Proposed freshwater eco-toxicity thresh-holds

ACTIVE	TRADE NAME	99% PROTECTION IN µg/l	95% PROTECTION IN µg/l
Diuron	Diurex, Barrage, Bobcat Combi	0.08	0.23
Hexazinone	Barrage, Bobcat Imaxx	0.31	1.1
Imazapic	Flame, Spark	0.036	0.41

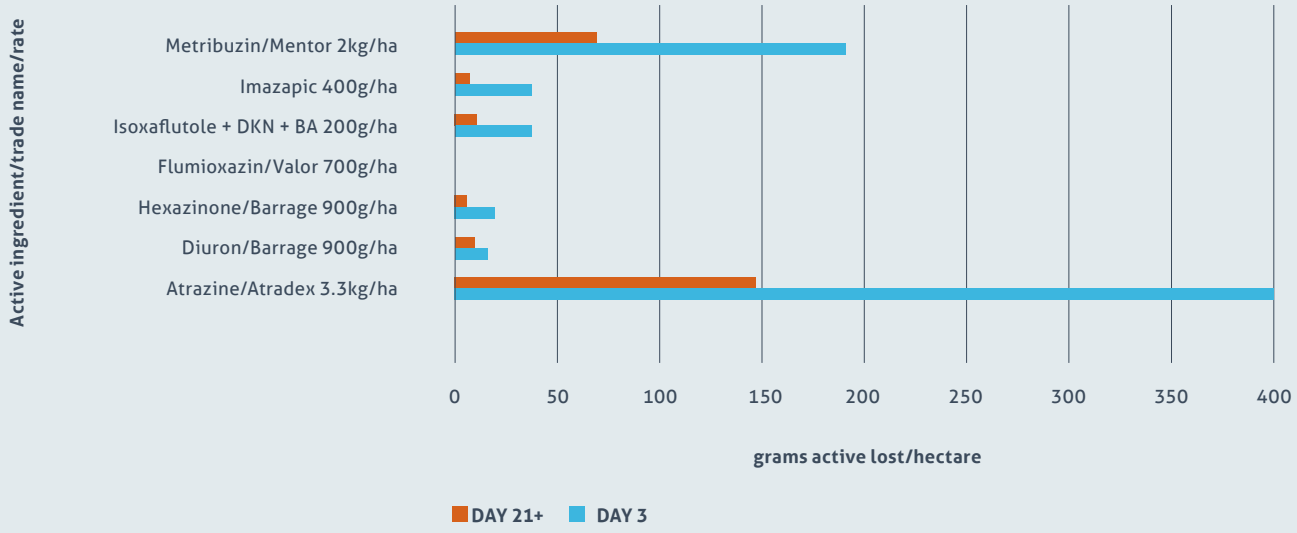
Waterhouse et al, 2017 Scientific Consensus Statement 2017: A synthesis of the science of land-based water quality impacts on the Great Barrier Reef, Proposed ecotoxicity thresh-holds King, O et al. 2017

Key messages:

Timing is key:
More time between application of herbicide and rainfall that runs off the paddock results in less product lost to runoff.

Compare these results with Tully Protecting our Chemicals for the Future Rainfall simulation – the same result happens for all chemicals.

Tully Timing and Product Ratoon



Protecting our Chemicals for the Future Through the Acceleration of Best Management Practices.

For more information

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