A different option for post-emergent guinea grass control

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**GUINEA GRASS CAN BE PROBLEMATIC IN:**
- Ex-pasture land planted to sugarcane
- Blocks where there has been poor weed management in fallow and plant cane
- Blocks with poor weed management programs in older ratoons
- Plough-out replant situations where there was guinea grass infestations in the previous crop

**Historically,** spot spraying mixtures of diuron or diuron/hexazinone were the main means of post-emergent chemical control of in-crop guinea grass stools. Herbicides containing both diuron and hexazinone, such as Velpar K4 DF, can still be used for spot spraying in all sugarcane districts at any time of the year, as per label instructions.

**Great Barrier Reef**
Diuron is the major contributor to PSII herbicide loads in the Great Barrier Reef inshore waters, and many growers are interested in other options for in-crop control of guinea grass and also in reducing the amount of residual herbicides used overall. PSII herbicides are Group C herbicides and work by inhibiting plant photosynthesis; hence are of concern in the marine environment as they also inhibit the photosynthesis of corals, algae and seagrasses.

Sugar Research Australia weed agronomist Emilie Fillols, has been testing alternative strategies to achieve both post-emergent control of guinea grass stools in-crop as well as reducing the reliance on residual herbicides.

**Manage in-crop**
Research trials in the Wet Tropics at Miriwinni and Gordonvale have been investigating strategies to manage guinea grass stools in-crop whilst reducing both the use of diuron and the overall reliance on residual herbicides.

Results have demonstrated by using a mixture of isoxaflutole (eg. Balance) at 100 g/sprayed hectare, MSMA (eg. Daconate 720) at 3 L/sprayed hectare sprayed and Activator at 125 mL/100 L to the row only used in conjunction with Glyphosate at 5 L/sprayed hectare (540 g/L formulation) and LI700 at 300mL/100L sprayed to the inter-row only.

Some phytotoxicity to the cane plants will occur but this is temporary. This result supports previous work by the Department...
of Agriculture, Fisheries and Forestry (DAFF) and Herbert Cane Productivity Services Limited that demonstrated an isoxaflutole/MSMA mixture was suitable for spot spraying guinea grass. Note that MSMA works best in hot and dry conditions with air temperatures above 25°C.

A dual circuit spray rig is needed to apply the different herbicides to the row and inter-row:
- Dual tank rig using spray hoods or shields fitted with side nozzles: The isoxaflutole/MSMA mix is sprayed through the side nozzles to the row while glyphosate is applied under the hood/shield to the inter-row.
- Dual tank rig using the DAFF dual spray bar: The isoxaflutole/MSMA mix is sprayed through the side nozzles to the row while glyphosate is applied through the middle nozzle to the inter-row.
- A user manual including engineering drawings for the DAFF dual herbicide manual is available from DAFF or by calling Allan Blair or Jack Robertson on 07 4064 1130.

**Use glyphosate with care**

Glyphosate use in-crop requires careful equipment set-up and operation. Incorrect nozzle setup under spray hoods and shields may result in a drip line of glyphosate under the sides of the hood or shield.

This has been proven to reduce cane yields. Drift from the hoods or shields will also cause crop injury.

Incorrect set-up or use of the DAFF dual spray bar will also reduce yield through crop injury. It should only be used when the sugarcane canopy is at least 600 mm in height. Avoid all contact with green cane tissue. Remember, glyphosate is a non-selective, systemic herbicide that will kill both weeds and sugarcane!

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