

Velocity® and Precept® selective herbicide demonstration



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Aim

To determine the effect of stubble management (standing, slashed or burnt) on the crop safety of pre-sowing herbicides, and their efficacy against Group A-resistant annual ryegrass.

Take home messages

- *Velocity and Precept selective herbicides are based on a new active pyrasulfotole*
- *This is a new mode of action on broadleaf weeds in cereals in Australia (Group H)*
- *Velocity and Precept showed excellent crop safety*
- *Broad spectrum and reliable broadleaf weed control.*

Method

Two strip trials were established at Manangatang and Curyo and sprayed with the treatments in Table 1 and 2.

Locations: Manangatang and Curyo

Replicates: 1 (Demonstration)

Sowing date: 28 May

Crop type: Wheat at Manangatang, barley at Curyo

Date sprayed: 21 June at Manangatang, 23 July at Curyo

Phytotoxicity assessments (described in Table 1) were taken on the 30 July (39 days after application) at Manangatang and 7 August at Curyo (14 days after application) (Tables 2 and 3). At both sites, the herbicides were applied during mid-tillering (GS24).

At Manangatang, the site was chosen based on the burden of weeds rather than the area of crop. The weeds present at Manangatang included wild turnip and medic both up to 2-6-leaves in size. The trial was not harvested as it was situated on a headland in which uneven sowing would not give a true reflection of crop damage.

At Curyo, the site was extremely clean and the demonstration was placed in an even part of the paddock.

Table 1. Crop/weed discolouration/phytotoxicity assessments

| Score | Description |
|-------|--|
| 0 | No discolouration evident |
| 10 | Negligible, discolouration barely seen |
| 20 | Slight, discolouration clearly seen |
| 30 | Moderate discolouration, recovery expected |
| 40 | Substantial discolouration, some effects probably irreversible |
| 50 | Majority of plants discoloured, highly likely irreversible effects |
| 60 | Nearly all plants discoloured, mostly irreversibly |
| 70 | Severe discolouration |
| 80 | Increasing level of discolouration |
| 90 | Increasing level of discolouration |
| 100 | Total discolouration of crop |

A rating of 40 or above is commercially unacceptable.

Results

Table 2. Phytotoxicity scores for crop and weeds at Manangatang (39 days after application).

| Treatment | Product | Rate | Crop safety phytotoxicity score | Weed control phytotoxicity score |
|-----------|---|----------------------------|---------------------------------|----------------------------------|
| 1 | Untreated | | 0 | 0 |
| 2 | Precept Hasten | 1L/ha 1% | 15 | 62.5 |
| 3 | Precept Hasten | 1.5L/ha 1% | 10 | 65 |
| 4 | MCPA LVE metsulfuron-methyl BS 1000 | 0.35L/ha 5g/ha 0.25% | 20 | 60 |
| 5 | Velocity Hasten | 0.5L/ha 1% | 0 | 100 |
| 6 | Velocity Hasten | 0.67L/ha 1% | 0 | 95 |
| 7 | Velocity MCPA LVE Hasten | 0.5L/ha 0.5L/ha 1% | 10 | 80 |

Table 3. Phytotoxicity scores and grain yield at Curyo (14 days after application).

| Treatment | Product | Rate | Crop safety phytotoxicity score | Grain yield t/ha |
|-----------|--------------------------------|--------------------------|---------------------------------------|---------------------|
| 1 | Untreated | | 0 | 1.55 |
| 2 | Precept Hasten | 1L/ha 1% | 0 | 1.50 |
| 3 | Precept Hasten | 1.5L/ha 1% | 0 | 1.51 |
| 4 | Velocity Hasten | 0.5L/ha 1% | 0 | 1.51 |
| 5 | Velocity Hasten | 0.67L/ha 1% | 0 | 1.57 |
| 6 | Velocity MCPA LVE Hasten | 0.5L/ha 0.5L/ha 1% | 0 | 1.49 |

There was no visual effect of the herbicides on the crop (Table 2) at Curyo.

Interpretation

As this was an unreplicated demonstration, it is important to be cautious when interpreting results. Velocity showed the greatest efficacy at Manangatang with the majority of weeds nearly completely dead 39 days after application (Table 1). Early applications of Velocity on some weeds will achieve burn down within three weeks.

Both Precept and Velocity have exceptional crop safety and when compared to metsulfuron-methyl they seem to show a greater level of crop safety at Manangatang.

Table 2 shows that the Precept and Velocity plots had little crop effect, and the yields without weeds are comparable. Velocity was slightly safer without the MCPA LVE than with it, but use of MCPA LVE is warranted if older weeds are present.

Application

Weeds are best sprayed early before they have the time to do yield damage, ideally within six weeks after sowing or as early as possible considering the conditions and the crop stage.

Velocity and Precept are new options with different modes of action (Group H).

Precept is a better option on oats and situations with larger radish.

Velocity is active on a very wide range of broadleaf weeds and is better than Precept on some weeds such as capeweed, doublegee, bindweed and some volunteer legumes. Velocity is not registered at the time of writing but is due for registration before the 2009 post-emergent spraying season.

Please read the Precept and Velocity labels for more detail before applying them.

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