

Knockdown Control of Rosette Common Sowthistle

Trial ID: **BD1813** Location: **Edgeroi** Trial Year: **2018**

| Pest Scientific Name Pest Name Description Assessment Date Assessment Type Assessment Unit Treatment-Evaluation Interval ARM Action Codes | | | | <i>Sonchus oleraceus</i> Common Sowthistle | | | |
|--|--|---|------------------|---|---|---|---|
| | | | | Kangaroo Grazing 6/06/2018 BIO REDUCTION % 14 DAA | 14/06/2018 BURNDOWN % 22 DAA AA | Regrowing 4/07/2018 COUNT /m ² 42 DAA AA T1 | Total Surviving 4/07/2018 COUNT /m ² 42 DAA AA T2 |
| Trt No. | Treatment | Product Rate | Appln. Code | | | | |
| 16 | Gp HC V Hasten Gramoxone | 600ml/ha 1% v/v 1600ml/ha | A A B | | 29ij | 0.11b-e | 0.29b-f |
| 17 | Gramoxone | 1600ml/ha | A | 47b-e | 77d-g | 0.21ab | 0.56ab |
| 18 | Gramoxone Gramoxone | 1600ml/ha 1600ml/ha | A B | | 87b-e | 0.12b-e | 0.38a-d |
| 19 | Sledge Hasten | 200ml/ha 1% v/v | A | 37cde | 28ij | 0.12b-e | 0.26b-f |
| 20 | Sledge Hasten Gramoxone | 200ml/ha 1% v/v 1600ml/ha | A A B | | 74d-g | 0.17abc | 0.48ab |
| 21 | Glyphosate CT Sledge Hasten | 1000ml/ha 80ml/ha 1% v/v | A | 33de | 43hi | 0.11b-e | 0.41abc |
| 22 | Glyphosate CT Sledge Hasten Gramoxone | 1000ml/ha 80ml/ha 1% v/v 1600ml/ha | A A A B | | 71efg | 0.02efg | 0.27b-f |
| 23 | Pixxaro Uptake | 400ml/ha 0.5% v/v | A | 33de | 57gh | 0.15bc | 0.39abc |
| 24 | Pixxaro Uptake Gramoxone | 400ml/ha 0.5% v/v 1600ml/ha | A A B | | 89bcd | 0.04c-g | 0.11e-h |
| LSD P= | | | | 31.7 | 12.5t | 1.266t | 1.495t |
| Treatment Prob.(F)= | | | | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

Assessment Type

BIO REDUCTION = % Biomass reduction

BURNDOWN = % Burndown/brown out

ARM Action Codes

AA = Automatic arcsine square root % transformation

T1 = Arcsine square root percent ([6])

T2 = Arcsine square root percent ([4])

DAA = Days after Application A

Knockdown Control of Rosette Common Sowthistle

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To evaluate options for the knockdown control of Common Sowthistle

Conclusions:

This trial was conducted to evaluate alternatives to glyphosate for the fallow control of rosette staged common sowthistle. All first knock treatments were evaluated alone and following a double knock of Gramoxone 1.6L/ha. Weed control may have been impacted by kangaroo grazing. All plots were affected by grazing damage with the exception of any plots where Sharpen had been applied.

Assessment of control after 6 weeks showed the phenoxy herbicides were the only treatments to provide improved control compared to glyphosate. Levels of control >95% were achieved from Zulu XT (2,4D), Tordon 75-D 1L/ha or Fallowboss Tordon when applied alone or followed with a double knock of Gramoxone. Similar levels of control were achieved from all three treatments. There was however a clear rate response with Tordon 75-D 0.5L/ha inferior to the 1L/ha rate.

Assessment of regrowing weeds at 6 weeks showed a similar pattern with improved weed suppression from all phenoxy herbicide treatments.

Overall double knock application of Gramoxone at 1.6L/ha provided an improvement in both the speed of brownout and in the suppression of regrowing weeds, however in this situation it did not significantly improve actual weed control.

Contrasting results were obtained from mixtures of Group G herbicides with Glyphosate CT 1L/ha. The addition of Sharpen + Hasten improved the speed of burndown but reduced the level of weed suppression and level of actual control. The double knock application of Gramoxone did not overcome this antagonism. The addition of Sledge + Hasten did not significantly increase the speed of burndown but did not cause any antagonism in actual control. Neither Group G product significantly improved weed suppression or actual control.

| Application Description | | |
|-------------------------|------------|-----------|
| | A | B |
| Application Date: | 23/05/2018 | 6/06/2018 |
| Application Start Time: | 10:00 AM | 2:00 PM |
| Application Stop Time: | 1:00 PM | 3:00 PM |
| Application Method: | SPRAY | |
| Application Placement: | FOLIAR | |
| Air Temperature, Unit: | 21.5 C | 23.7 C |
| % Relative Humidity: | 43 | 36.9 |
| Wind Velocity, Unit: | 1.2 m/s | 3.5 m/s |
| Wind Direction: | SW | |
| Dew Presence (Y/N): | No | |
| % Cloud Cover: | 0 | 80 |

| Pest Stage at Each Application | | | | |
|--------------------------------|-------------------|----------------|-----|----------------|
| | A | | B | |
| Pest: | Common Sowthistle | | | |
| Stage Majority, Percent: | 16 | 60% | 16 | 60% |
| Stage Minimum, Percent: | 14 | 20% | 14 | 20% |
| Stage Maximum, Percent: | 22 | 20% | 22 | 20% |
| Diameter, Unit: | 20 | cm | 20 | cm |
| Density, Unit: | 2.1 | m ² | 2.1 | m ² |

| Application Equipment | | |
|---------------------------|----------|---|
| | A | B |
| Application Equipment: | Polaris | |
| Equipment Type: | BOOM | |
| Operation Pressure, Unit: | 300 kPa | |
| Nozzle Type: | AIXR | |
| Nozzle Size: | 110015 | |
| Nozzle Spacing, Unit: | 50 cm | |
| Boom Length, Unit: | 4 m | |
| Boom Height, Unit: | 50 cm | |
| Ground Speed, Unit: | 7.2 km/h | |
| Spray Volume, Unit: | 100 L/ha | |