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|---|
| <b>Knockdown Control of Common Sowthistle</b> |
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|                         |                                   |                         |
|-------------------------|-----------------------------------|-------------------------|
| Trial ID: <b>BD1831</b> | Location: <b>Boggabri</b>         | Trial Year: <b>2018</b> |
|                         | Investigator: <b>Branko Duric</b> |                         |

|  |   |                            |
|--|---|----------------------------|
| <b>Objective:</b>                      | To evaluate alternatives to glyphosate for the knockdown control of common sowthistle |                            |
| <b>Situation:</b>                      | Fallow  |                            |
| <b>Application:</b>                    | A<br>First Knock  | B<br>Second Knock          |
| <b>Application Date:</b>               | 19/12/2018  | 26/12/2018                 |
| <b>Application Timing:</b>             | Late post emergent  | 7 days after Application A |
| <b>Weed:</b>                           | Common Sowthistle   |                            |
| <b>Weed Stage at Application:</b>      | 70% population with 30% flowers open  |                            |
| <b>Weed Range:</b>                     | First flower to full flower   |                            |
| <b>Weed Population at Application:</b> | 0.5 /m <sup>2</sup>   |                            |
| <b>Nozzles:</b>                        | AIXR110015  |                            |
| <b>Volume:</b>                         | 100 L/ha  |                            |
| <b>Keywords:</b>                       | Common sowthistle, knockdown, double knock, fallow                                    |                            |

The second knock treatment was Gramoxone 1.6 L/ha + Sharpen 9 g/ha + Hasten 1%

NB: Only data from first knock performance presented. Due to dry conditions all weeds were dead, whether or not a second knock was applied.

## Knockdown Control of Common Sowthistle

Trial ID: BD1831

Location: Boggabri

Trial Year: 2018

| Pest Scientific Name          |             |                     |            | <i>Sonchus oleracus</i> |
|-------------------------------|-------------|---------------------|------------|-------------------------|
| Pest Name                     |             |                     |            | Common Sowthistle       |
| Assessment Date               |             |                     |            | 26/12/2018              |
| Assessment Type               |             |                     |            | BURNDOWN                |
| Assessment Unit               |             |                     |            | %                       |
| Treatment-Evaluation Interval |             |                     |            | 7 DAA                   |
| ARM Action Codes              |             |                     |            | AA                      |
| Trt No.                       | Treatment   | Product Rate        | Appl. Code |                         |
| 1                             | Roundup CT  | 1000ml/ha           | A          | 7d                      |
| 3                             | Roundup CT  | 4000ml/ha           | A          | 65abc                   |
| 5                             | Sharpen     | 17g/ha              | A          | 84ab                    |
|                               | Hasten      | 1% v/v              | A          |                         |
| 7                             | Roundup CT  | 1000ml/ha           | A          | 57bc                    |
|                               | Sharpen     | 17g/ha              | A          |                         |
|                               | Hasten      | 1% v/v              | A          |                         |
| 9                             | Tordon 75-D | 500ml/ha            | A          | 16cd                    |
| 11                            | Roundup CT  | 1000ml/ha           | A          | 39bcd                   |
|                               | Tordon 75-D | 500ml/ha            | A          |                         |
| 13                            | Gp HC V     | 600ml/ha            | A          | 19cd                    |
|                               | Hasten      | 1% v/v              | A          |                         |
| 15                            | Roundup CT  | 1000ml/ha           | A          | 25cd                    |
|                               | Gp HC V     | 600ml/ha            | A          |                         |
|                               | Hasten      | 1% v/v              | A          |                         |
| 17                            | Pixxaro     | 400ml/ha            | A          | 7d                      |
|                               | Uptake      | 0.5% v/v            | A          |                         |
| 19                            | Roundup CT  | 1000ml/ha           | A          | 35bcd                   |
|                               | Pixxaro     | 400ml/ha            | A          |                         |
|                               | Uptake      | 0.5% v/v            | A          |                         |
| 21                            | Gp HC T     | 500ml/ha            | A          | 39bcd                   |
|                               | Adigor      | 0.5% v/v            | A          |                         |
| 23                            | Roundup CT  | 1000ml/ha           | A          | 55bcd                   |
|                               | Gp HC T     | 500ml/ha            | A          |                         |
|                               | Adigor      | 0.5% v/v            | A          |                         |
| 25                            | Basta       | 2000ml/ha           | A          | 57bc                    |
| 27                            | Roundup CT  | 1000ml/ha           | A          | 44bcd                   |
|                               | Basta       | 2000ml/ha           | A          |                         |
| 29                            | Gramoxone   | 1600ml/ha           | A          | 99a                     |
|                               | Sharpen     | 9g/ha               | A          |                         |
|                               | Hasten      | 1% v/v              | A          |                         |
|                               |             | LSD P=.05           |            | 33.5t                   |
|                               |             | Treatment Prob.(F)= |            | 0.0153                  |

Means followed by same letter do not significantly differ (P=.05, LSD)

t=Mean descriptions are reported in transformed data units, and are not de-transformed.

Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.

### Assessment Type

BURNDOWN = % Burndown/brown out

### ARM Action Codes

AA = Automatic arcsine square root % transformation

DAA = Days after Application A

## Knockdown Control of Common Sowthistle

Trial ID: **BD1831**Location: **Boggabri**Trial Year: **2018**

### Conclusions:

The trial was conducted to evaluate alternatives to glyphosate for the knockdown control of flowering Common Sowthistle. The 1<sup>st</sup> knock was applied on 19 December with a 2<sup>nd</sup> knock of Gramoxone 1.6 L/ha + Sharpen 9 g/ha + Hasten 1%, applied 7 days later.

Burndown was assessed 7 days after the 1<sup>st</sup> knock application. Gramoxone 1.6 L/ha + Sharpen 9 g/ha + Hasten 1% provided 99% burndown and was significantly greater than all other treatments except Sharpen 17 g/ha + Hasten 1%.

Assessment of control at 42 days after the 1<sup>st</sup> knock application showed all common sowthistle had died, in all treatments. Hot and very dry weather conditions appeared to be the primary cause. No useful data was generated on alternatives to glyphosate for the knockdown control of common sowthistle.

| Application Description |             |            |
|-------------------------|-------------|------------|
|                         | A           | B          |
| Application Date:       | 19/12/2018  | 26/12/2018 |
| Application Start Time: | 10:30 AM    | 9:00 AM    |
| Application Stop Time:  | 1:30 PM     | 12:00 PM   |
| Application Method:     | SPRAY       |            |
| Application Timing:     | RECOMMENDED |            |
| Application Placement:  | FOLIAR      |            |
| Air Temperature, Unit:  | 31 C        | 27 C       |
| % Relative Humidity:    | 47          | 36         |
| Wind Velocity, Unit:    | 1.1 m/s     | 1.5 m/s    |
| Wind Direction:         | W           | SW         |
| Dew Presence (Y/N):     | No          |            |
| % Cloud Cover:          | 2           | 0          |

| Application Equipment     |          |   |
|---------------------------|----------|---|
|                           | A        | B |
| Applicant 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 |   |
| Carrier:                  | WATER    |   |
| Spray Volume, Unit:       | 100 L/ha |   |