

### Day Degree accumulation to the 5<sup>th</sup> Dec 07 .

District	Season 07/08	Season 06/07	Season 05/06	Cold Days	Hot Days
Emerald from 15/09	1040	1058	1125	3	13
Theodore from 25/09	902	885	959	2	13

### Flaxleaf Fleabane

In recent years flaxleaf fleabane (*Conyza bonariensis*) has become one of the most persistent & difficult to control weeds in the northern grains no-till fallow. Its weediness has been exacerbated by its moderate tolerance to glyphosate. Internationally, Canadian fleabane ('horseweed' or 'mares-tail') & flaxleaf fleabane have developed resistance to glyphosate.

Flaxleaf fleabane is an annual herb up to 1m high. It typically has numerous main branches that arise from the base of the plant with many small pale green to whitish fluffy flower heads located at the end of each branch. It is a prolific seed producer & seeds are readily dispersed by wind & water. It generally emerges in autumn & winter, matures in spring, & flowers from spring to autumn. Individual plants are capable of producing over 100,000 seeds. To be fully effective, fleabane control strategies should be timed to prevent the use of stored soil moisture & prevent all plants from setting seed.

In research jointly funded by the Cotton CRC, CRDC, GRDC & the Weed CRC, weeds researcher with the QDPI&F, Jeff Werth, evaluated the double-knock spray technique that is being used successfully in the southern states to manage herbicide resistant ryegrass. The basis of the technique is to apply a systemic herbicide, allow sufficient time for the weeds to fully translocate the product, then come back & apply a contact product that will desiccate all the above ground material, leaving the systemic product to completely kill the root system.

In October 2006, an on-farm trial was conducted west of Dalby at "Myola" to compare nine double knockdown strategies with an application of Roundup CT® alone. In the double-knock treatments, Roundup CT® or a tank mix of Roundup CT® & Surpass® was followed 7, 14 or 21 days later by Spray.Seed®. Conditions were very dry, with no rain falling during the trial. The field had originally been destined for dryland cotton, but a lack of planting moisture saw it being fallowed in hope of a late sorghum opportunity. Fleabane was germinating on the dews & establishing on minimal soil moisture.

The treatment details & results are presented in Table 1. Roundup CT® followed by Spray.Seed® provided good control, but as the interval between treatments increased, the level of control decreased. The addition of Surpass® improved control, but the longer interval between sprays reduced control. The rate of Spray.Seed® used was also a factor, with better results at the higher rate tested. For resistance reasons, it will be important to use robust rates of Spray.Seed® to minimise the likelihood of resistance developing.

This trial suggests that the double knock strategy may have a useful role in controlling fleabane in northern no-till fallows. Further work is planned to look at the impact of even shorter intervals between applications. Farm manager, Scott Reichelt has used the double-knock technique on "Myola" & is extremely happy with the results. He has adjusted the rates & timing to suit his situation & budget. "Three years ago, fleabane wasn't even a weed problem, & it certainly didn't dictate what we used or when. Now we have fallow sprays that are specifically aimed at its control. These are straight out additional costs to our operation."

**Table 1: Performance of double-knock treatments on 6-10 leaf (7-8 cm wide) fleabane growing west of Dalby, Oct 2006.** The % Control was assessed 28 days after the initial Roundup CT application, or 7 days after the treatments in which the 'follow-up treatment' was applied 21 days after the 'initial treatment'.

Initial Treatment	Days	Follow-up Treatment	% Control
Roundup CT® 2L/ha			55
Roundup CT® 2L/ha	7	Spray Seed® 1.6L/ha	96
Roundup CT® 2L/ha	14	Spray Seed® 1.6L/ha	96
Roundup CT® 2L/ha	21	Spray Seed® 1.6L/ha	88
Roundup CT® 2L/ha Surpass® 1.5L/ha	7	Spray Seed® 1.6L/ha	100
Roundup CT® 2L/ha Surpass® 1.5L/ha	14	Spray Seed® 1.6L/ha	100
Roundup CT® 2L/ha Surpass® 1.5L/ha	21	Spray Seed® 1.6L/ha	96
Roundup CT® 2L/ha Surpass® 1.5L/ha	7	Spray Seed® 2.4L/ha	100
Roundup CT® 2L/ha Surpass® 1.5L/ha	14	Spray Seed® 2.4L/ha	100
Roundup CT® 2L/ha Surpass® 1.5L/ha	21	Spray Seed® 2.4L/ha	100

If using Spray.Seed® in a double knockdown strategy, it is important that it is NOT applied using the same sprayer settings used for the initial glyphosate treatment. Spray.Seed® is poorly translocated & requires much higher levels of droplet coverage than are needed for glyphosate. This means carrier volumes need to be in the range 75-100L/ha. Nozzle selection has to suit the need for greater coverage & the rig needs to operate in the range of pressures & travel speeds that suit the performance of these nozzles.

**Operators also need to be mindful of the drift risks associated with the use of a 2,4-D product in a doubleknock. Weather conditions should always be monitored before & during spray applications. Inadvertent crop damage can also occur if spray equipment is not thoroughly decontaminated according to label instructions after the application. There are also plant back restrictions to many crops following the use of 2,4-D amine.**

(For more info about the trial, or plans for future research, contact: Jeff Werth 07 4639 8851, [jeff.werth@dpi.qld.gov.au](mailto:jeff.werth@dpi.qld.gov.au). Thankyou to Bill Adams, Sygenta. For more information about Spray.Seed®, please contact Bill on 0418 407 334)

The Cotton CRC Weed Identification & Information Guide is a useful reference for identifying weeds and includes photos of Flaxleaf Fleabane.  
[www.cotton.crc.org.au/content/Industry/Publications/Weeds/Weed\\_IdentificationTools.aspx](http://www.cotton.crc.org.au/content/Industry/Publications/Weeds/Weed_IdentificationTools.aspx)