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Seasonal Update

Due to some rebuilding with Silo web site the current seasonal Day degree information is not available.

Crop Stages versus Day Degree Accumulation.

Emerg.	5 th leaf	1 st Sq	1 st Flow	Peak Flow	Cracked Boll	60% open
80	330	505	777	1302	1527	2050

Control of Volunteer Cotton

At the last round of AWM meetings it was highlighted that the incidence of Cotton Bunchy Top had increased in fields this season in comparison to previous years. It was also stated that it was most obvious in fields where Roundup Ready® cotton had been planted.

This situation emphasises an important point in that, over the last two years, the incidence of volunteer Roundup Ready cotton is increasing and most plants are surviving through the winter. This is a bad practice as it provides a conduit for carry over of harmful plant pathogens (black root rot, verticillium wilt, alternaria, fusarium wilt and bunchy top) and insects (aphids, spider mites, whitefly and helicoverpa) into next season. It is also exposing BT cotton to insect attack for much longer periods which in turn creates a risk of breeding resistant heliothis to BT cotton.

Central Queensland has a long summer and a short winter therefore we have more generations of insects hatching in the one year. This situation alone creates some risk of building up resistant insects quickly. Thus it is imperative that volunteer cotton, particular Bollgard® and Roundup Ready® varieties are destroyed quickly and kept under control through out the off season.

Obviously the two main control methods are cultivation and herbicide application. The following table gives some information from WEEDpak for herbicide options in fallow situations.

Table 1. Results of herbicide application trials carried out at St George (4leaf stage) and Narrabri (8leaf stage).

Herbicide	Trade name	Rate/ha	Active(g/ha)	%control @ 4leaf stage	%control @ 8leaf stage
**Effective Control					
Bromoxynil	Buctril 200	4L	800	100	100
*Carfentrazone	Hammer 240 EC	150mls	36	100	100
Paraquat+Diquat	Sprayseed 250	2L	270+230	100	100
Incomplete Control					
2,4-D Amine	Surpass	2L	450	0	95
Glufosinate-ammonium	Basta	3L	600	92	96
Fluroxypyr	Starane 200	1L	200	25	95
MCPA Amine	MCPA 500	2L	1000	30	88

* Hammer 240 EC can be mixed with Glyphosate and sprayseed for broadspectrum weed control.

**Coverage is particularly important with these herbicides so a minimum of 100L water/ha is recommended.

Control of established volunteer cotton in fallow situations, is far more difficult with herbicides. The table below shows some experimental results with a double application strategy. Coverage is critical and in this case the second application used extra nozzles that were angled so that spray was directed at the side of the plant as well as having nozzles over the top of the plant.

Please note these options are not registered.

Table 2. Percentage of dead cotton plants after applying 2 applications.

Herbicide Treatments	% Dead Cotton Plants
Starane (4L/ha)	100
Roundup CT Xtra (2L/ha) + Surpass (4L/ha)	94
Roundup CT Xtra (2L/ha) + Surpass (2L/ha)	80
Roundup CT Xtra (2L/ha) + Glean (25g/ha) + non-ionic surfactant	22

One point to note from Table 2 is the rates and associated costs of these applications, for example Starane at 8L/ha will cost approx. \$160/ha, unless a IR spot sprayer is used. If this is compared to the cost of doing a mechanical cultivation, then the cultivation will probably be cheaper but take longer. Most of these chemicals have plant back periods that need to be observed depending on what the following crop will be.

Ratoon cotton is even more difficult to kill with herbicides than established cotton. This is because it has a relatively small leaf area compared to its well established root system. Therefore trying to get enough active ingredient into the plant that has large root reserves becomes the main issue. Mechanical cultivation in any form will be more effective than herbicide application.

This problem highlights the importance of setting up cultivation equipment such as side busters and centre buster hillers so that there are no escapee plants. This situation is probably another good argument for GPS Steer Assist systems that have a high degree of accuracy.

Farming Systems Project

Anybody who wishes to inspect the planting date trial at the Ag College should please give me a call and arrange a time over the next two weeks for a field walk.

Date Claimers

1st May – “Climate Change in Cotton Communities” Workshop. 9am to 12:30pm. QDPI Conference room
9th & 10th May – 1st Irrigation Training Module workshop. “Irrigation Benchmarking”. Venue TBA.