

## New tools in the fight against fleabane

**Q**ueensland scientists are making strong progress in the battle against fleabane – the thorn in the side of no-till cotton growers.

Speaking on CSD's Web on Wednesday video, Toowoomba based weed scientist, Dr Jeff Werth, said management strategies incorporating new and existing products as well as tillage and farm hygiene were proving effective against the weed.

One new technique under investigation is a double-knock herbicide strategy – an idea borrowed from South Australians trying to control glyphosate-tolerant rye grass.

"The double-knock is basically two knock-down herbicides applied within a few days of each other so that the plants that received an application from the first herbicide also get an application from the second herbicide. We have had quite good results when we've used glyphosate and 2,4-D and followed up with paraquat, or Spray.Seed, about five to seven days later," he said.

Jeff said a range of new products currently in the process of registration would greatly bolster the arsenal against fleabane.

"There's a new product put out by Crop Care which is called Alliance – it's a paraquat/amitrole mix and it's quite good on smaller plants. It has no plant-back issues for cotton and it can also be used as part of a second application in a double-knock.

"Bayer are closer, I believe, to getting registration for using Liberty 200, which is glufosinate-ammonium, on small fleabane, up to about six leaf, so hopefully that's not too far away and should be good for a rotation into Liberty Link cotton.

"Another one is Sharpen which is a BASF product – a Group G product similar to Goal, and it's showing a lot of promise on small fleabane and it has, I think, a one day plant-back into cotton so that'll be another useful option when it comes out," he said.

Jeff said tillage is an important component of a fleabane management strategy as deep burial prevents germination of the plant's small seeds.

"Studies have shown that it won't germinate from under about one cm of soil so that's where tillage can play a role and using things like a disc plough or anything that gives inversion rather than just moving the soil around will have good benefits in minimising any emergences," he said.

As a preventative measure, Jeff said farm hygiene was just as important as in-crop management in the fleabane battle.

"Seed does move about quite easily with wind and irrigation water, so fence lines, road sides, and irrigation channels do need to be managed.

"This is where products such as Ally, atrazine or even

Tordon could be used so long as it doesn't interfere with movement of irrigation water on to cotton fields and things like that," he said.

According to Jeff, fleabane had thrived under modern, minimum and no-till farming systems.

"Fleabane is a small seeded species – individual plants can produce over 100,000 seeds, so it thrives in conditions where there is little or no tillage.

"Stubble also has a role – it can often facilitate germination because it can create a little micro-site where it's nice and moist for seeds to germinate.

"With standing stubble, some of the plants that are small and covered by stubble won't get hit and they'll often grow after herbicide application. Then by the time the next lot of herbicides are applied they're quite large and not well controlled.

"Fleabane is also tolerant to glyphosate, so any systems where glyphosate is the main form of weed control – whether it be Roundup Ready cotton, fallow, or any crop where glyphosate is relied upon, it's going to be favoured," he said.

Jeff said that while the weed had never appeared on the glyphosate label, there was evidence to show it was becoming more resistant to the herbicide with increased exposure.

"A couple of years ago we got populations together from a wide range of different cropping histories – some from cultivation, some from dams and other areas that hadn't had any herbicide exposure before. What we found was that those populations that had come from cultivation and with a history of glyphosate use were harder to kill with glyphosate than those that hadn't.

"This has also been tested recently looking at plant age and moisture stress and it's come through as an important factor that previous herbicide history has a major effect on its susceptibility to glyphosate.

"We've also had reports from growers where they've been able to control this weed in the past and now they

have to use higher rates to get the same level of control," he said.

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**Weed scientist Jeff Werth says new management against fleabane will greatly benefit dryland cotton growers.**