

Setting up for safe spraying

By David Dowling

Graham Betts, a spray application trainer and one of the acknowledged 'gurus' of Australian agricultural spraying technology spends much of his time these days driving a car. He is usually travelling to one of

his spray application workshops — in southern NSW, Victoria and even South Australia and Western Australia.

The unfortunate part of this from Graham's point of view is that he lives in Toowoomba, which means putting a lot of kilometres on the clock to get to work. And the interesting thing is that he has to travel so far to get an audience.

Graham started his application workshops in Queensland/NSW in 2000 and has had a total attendance of 456 people in Queensland and 792 in NSW since then. He extended the training to other states in 2002 and has had 1658 go through the workshops in Victoria in only two years. Large numbers have also been trained in South Australia (823) and Western Australia (578) over the same period.

In four years, only five contractors and 29 agronomists/consultants have attended the workshops in Queensland. The equivalent numbers in Victoria in only



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two years are 25 contractors and 165 agronomists/consultants.

So does this mean broadacre and rowcrop farmers in northern NSW and Queensland have already reached perfection in terms of their spray application knowledge and techniques? So much so that they can't learn any more?

Or do they just think they have?

Judging by the common and seemingly increasing reports of drift damage in summer cropping areas in recent years, it seems likely that the latter is the case and that many farmers and applicators really do still have a lot to learn about applying chemicals.

As an application advisor himself, Graham is quite amazed at recent suggestions of a voluntary ban on 2,4-D amine (not ester) by the industry in cotton areas, to minimise the chances of drift damage. "It may be a matter of throwing the baby out with the bathwater," he says. "There is no problem applying 2,4-D amine (not ester) in reasonable proximity to cotton crops as long as the application is done under the right conditions with the right spray equipment and using the correct nozzles. The aim of the proposed ban is to send a message to neighbours of cotton growers that cotton is very susceptible to 2,4-D — but it is the wrong message," he says.

"Any ban, voluntary or otherwise, on the use of this valuable product would be misguided. I know of farmers who have been applying 2,4-D amine (not ester) near their cotton for years without any problems. In most cases drift damage is an application problem rather than a product problem.

"Next thing you know we will be putting bans on glyphosate and any product that can potentially cause damage. Instead of that we should look at tightening up our application techniques which would eliminate all or most of the problem.

"Spray applicators need to understand that if they have drift (crop damage and/or product loss) with a product, this may be the same with all the products they are applying — sensitive or otherwise.

"Drift (loss) can be managed and most of it comes back to nozzle selection. If the operator does everything right, weather conditions are acceptable and the equipment is functioning properly, there is no excuse for drift damage."

COARSE DROPLETS NEEDED

"Some people are still recommending fine droplets for herbicide applications, including for 2,4-D. But 2,4-D has good translocation and coarse droplets will do just as good a job on weeds."

In the past the CRDC has funded application workshops through most cotton areas but they have been poorly attended in recent years. And in recent months, Nufarm has provided some help for Graham to continue workshops in northern areas.

In his workshops, Graham concentrates on the concept of chemical loss rather than drift.

"Top of the line coarse droplet nozzles cost about \$18 each. An average operator would have to spend about 1.5 per cent of their chemical bill to have the best nozzles — but they could be losing up to 30 per cent of their product off-target by not having the best nozzles. The economics are pretty clear.

SETTING UP FOR SAFE SPRAYING

"There are no quick answers. It takes at least eight hours in one of our workshops to show someone how to set up for safe spraying.

"A lot of things need to be taken into consideration such as temperature, wind speed and direction, delta T, product selection, boom height and automatic rate controller settings.

"But the bottom line has to be nozzle selection. We need to be using nozzles which produce droplets in the coarse to very coarse spectrum with very few droplets in the small range.

"The best advice is not to buy any nozzle until you have had a look at the droplet size chart for that nozzle."

Graham's take home message to everyone is "target x how the product is to be applied x weather conditions/sensitive areas x timing ÷ best results = nozzle selection."

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