

Spray drift pre-season reminder – it is in your hands

■ By Mary O'Brien – Mary O'Brien Rural

It seems like we have only just finished the last season and the next one is about to start! This is certainly true for Central Queensland growers. In my world, spray drift has certainly not stopped. Between the various regions, plus the extended season in CQ and keeping a close eye on the Dicamba issues in the US, spray drift is always on my mind. I thought this might be a good time to re-cap the previous season and give a few reminders as we rapidly approach the next one.

Naturally, rainfall plays a big role in the number and severity of spray drift complaints and last season was no different. There were official and unofficial reports of Group I herbicide damage to cotton from all of the growing regions. The Southern Valley took the dubious honour of the most incidents and area reported, followed by the Namoi/Gwydir region.

The industry continues to face ongoing chemical use issues across a range of products. In addition to the incidents of Group I damage, there was an incident of glyphosate drift onto a non-glyphosate resistant cotton research trial crop. This damage has had significant long-term impact on the breeding program and has the potential to delay new varieties.

What made last seasons' damage different from recent years was the timing of it. As a general rule, I would expect the first report of Group I damage on about November 16 and the last reports around about January 16. Generally, the majority of incidents occur before mid-January with the largest percentage prior to New Year. Crops with early season damage have a much better chance of recovery and often have less fruiting nodes impacted.

Last season was different in that the majority of complaints occurred in January and continued into February. Crops with mid to late season damage are more likely to have reduced yields and possibly fibre quality implications. The added stress from above average temperatures probably did nothing to help.



Mid season spray drift damage to cotton crop.

Major contributors to drift

We may never eliminate drift but we certainly have the equipment and the ability to significantly reduce the widespread damage that we continue to see. By understanding the major contributors to drift, you are able to minimise the risks by actively controlling the risk factors. Any product that does not land where you want it is costing you money.

All factors that contribute to spray drift are within the control of the operator.

- **Nozzle choice** – Select a nozzle that will produce the appropriate spray quality over the actual speed range you do. Increasing the spray quality by just one category, can halve the number of fines produced. Your choice of nozzle is the most critical factor to limit drift.
- **Product choice** – Amine formulations are much safer options. Choosing volatile products (eg: LVE formulations) significantly increases the risk of drift through volatilisation.
- **Release height** – Your boom height should be set to achieve double overlap at the top of the target or false target. This will not only improve your efficacy but will reduce the distance small droplets need to fall and therefore the potential amount lost from your application.
- **Travel speed** – There are several issues associated with speed; the first links to the previous point about release height – high speeds mean high booms. The wake effect behind the machine can also push fine droplets upwards and away from the centre of the machine and wheel tracks. At high speeds,



Severe distortion to cotton leaf known as 'witches hands'.

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the trajectory of the droplets changes making them move in a more horizontal direction. This may result in shadowing on larger weeds or in stubble. High speeds can also add wind shear impacts at the nozzle.

- **Tank mix** – The products you put in the tank can change your spray quality, especially with certain nozzles. In some instances, it may double the percentage of fine droplets produced.
- **Conditions** – Timing of spray applications is critical to reducing drift. Being able to identify when a surface temperature inversion is present is essential for all applicators. Spraying during the night and until just after dawn is extremely high risk. Even the best operators can cause drift in the wrong conditions.

Understanding Inversions

For applicators, the whole ‘inversion’ thing can be a bit daunting but it doesn’t need to be. There are some easy visual clues to help you identify when one is present. Understanding how the wind moves during the day compared to under an inversion is a good starting point. To help with this I have made two short videos that can be found on my website (see details below).

In the not too distant future, we may have a simpler way of identifying inversions. There is currently a three-year collaborative research project being undertaken by GRDC and CRDC that focuses on understanding surface temperature inversions in cotton and grain regions. The project aims to provide a notification system that will alert applicators when high-risk conditions such as surface temperature inversions are likely to occur. I am very excited about this project and the potential tools that may be developed from this work.

Maintaining access

Having access to the suite of crop protection products that we have is not a right; it is a privilege and one that is taken for granted way too often. There is increasing global pressure (not necessarily based on fact or risk) to restrict the use of agvet chemicals. Any incidents of misuse are only bolstering this push. To maintain this access, we must be meticulous in our practices, ensuring that we not only world leaders in some aspects of farming but all of them.

The cotton industry operates in regions that support a diverse and highly valuable range of industries. Continued vigilance and respect for others and the environment should constantly be at the forefront of our minds. To help avoid future issues of damage, make sure you are applying and recommending products in accordance with the label and current application best practice. Some online tools that are available to help are CottonMap (www.cottonmap.com.au), and BeeConnected websites (www.beeconnected.org.au). Using these tools will assist you and other applicators to comply with label instructions that may pertain to buffer zones for sensitive crops and requirements to check for beehives.

Remember, the product label is a legally binding document and you are required to comply with ALL instructions on it, including rates. Ignorance is not a defence, so arm yourself with the knowledge and skills to do the best job possible, improve your efficacy, reduce drift, and definitely save yourself some money.

If you require any further information on managing the risks of spray drift, please contact me or refer to my website (www.maryobrienrural.com.au). On the ‘resources’ page you will find links to my wind demonstration videos, my Summer Weed Control Best Practice Guide, as well as links to other publications about spray application.

AgSkilled program kicks off

JULY 1, 2017 marked the start of the AgSkilled training strategy, the NSW Government’s \$14.7 million investment in training for the NSW cotton and grains industries. The funding was allocated following a joint application by Cotton Australia and the Grains Research and Development Corporation (GRDC), and will subsidise a broad range of vocational training for those with a genuine interest in the NSW cotton or grains industries.

Cotton Australia and the GRDC are working closely with the NSW Department of Industry to guide the project to ensure training meets the needs of industry. The NSW Department of Industry is responsible for government-funded vocational education and training (VET) in NSW.

A dedicated AgSkilled Project Officer role – filled by Claudia Vicary – has been funded and is responsible for governance and administration of the project. Claudia is also the first port-of-call for interested growers, industry representatives and registered training organisations (RTOs).

In welcoming the commencement of the AgSkilled funding, Cotton Australia CEO Adam Kay says the support will provide new pathways to skills for the State’s agricultural workforce.

“We’re constantly looking at new ways to develop our workforce to ensure that prospective farmers and workers have access to the best education opportunities.

“We’re delighted to be working with the NSW Government on this exciting new opportunity to gear up our people with the best quality and latest training.”

The key aims of AgSkilled are to:

- Drive the productivity, profitability and competitiveness of the cotton and grains industries by developing a workforce capable of managing current and future challenges;
- Cement the cotton and grains industries as employers of choice by creating a clearly defined career pathway; and,



Participants at recent AgSkilled training on drones.

- Leverage investments by the cotton and grains industries in research and development to ensure training is relevant, current and meets industry needs.

Types of training

The AgSkilled strategy delivers training across four key pillars; safety, production, technology and business.

AgSkilled can partially subsidise full qualifications (Certificate I up to Advanced Diploma) found on the NSW Skills List, and can fully subsidise part qualifications (from one unit of competency up to half of a full qualification, taken from full qualifications on the NSW Skills list).

The NSW Skills List is updated annually, and includes qualifications in agribusiness, agriculture, business, engineering, irrigation, human resources, leadership and management.

The fully-subsidised short courses that can be drawn from these full qualifications are incredibly broad. They range from safety training (including forklift, quad bike and WHS); to production training (including agronomy, soils, nutrition and pest management); technology training (including precision agriculture technology and analysing and implementing data); to business training (including business management, staff management, leadership and communication).

AgSkilled allows for a flexible approach to training. Training projects can be customised and tailored to meet the needs of individuals and businesses.

Eligibility

AgSkilled subsidised training is available to those with a genuine interest in the NSW cotton or grains industries. This includes farm owners and managers, farm staff, contractors, consultants, researchers, industry professionals and new industry entrants.

How to get involved

Continually investing in staff will ensure we have a resilient and capable workforce able to meet the needs of the industry and contribute to vibrant and energetic regional areas.

Training options are available to be rolled-out now, so for more information or to discuss your personal or business training needs contact the AgSkilled Project Officer Claudia Vicary, E: claudia@agskilled.org.au, M: 0409 043 774.



Mike Bange was one of the 26 participants from CSIRO Narrabri to take part in a 'Flight Foundations' drone course with UVAIR. "It was some of the best training I've ever done – the training covered the essentials of drone operation and included some very pertinent practical tips for using the technology and analysing drone data."

TRAINING DELIVERY

The quality and rigour of the training is a key priority. To ensure AgSkilled delivers top quality training, only AgSkilled Endorsed Training Organisations can deliver training as part of the program. In order to become AgSkilled Endorsed and deliver training, registered training organisations (RTOs) must hold a current Smart and Skilled contract with the NSW Department of Industry, and undergo rigorous review by the AgSkilled Management Committee. RTOs must demonstrate their industry knowledge, linkages with the NSW cotton and grains industries, the quality of their training, and that they're willing and able to work with industry to ensure the training they deliver through AgSkilled meets the needs of industry.

As at August 2017, the AgSkilled Management Committee has endorsed the following RTOs as providers of training under AgSkilled:

Forsythes Training

Forsythes specialise in workforce capability and skills development. They deliver flexible, business focused training in leadership and management, work health and safety, project management, business administration, risk assessment, computer literacy and more. In conjunction with industry, they've recently developed a new training project 'Step Up', specifically designed to prepare staff to step into a 'team leader' position.

LDO Training

LDO have been servicing regional NSW for the past 12 years and specialise in delivering on-site training, including Work Safely at Heights, Enter and Work in Confined Spaces, Skid Steer, Front End Loader and together with SafeWork NSW deliver High Work Licence Forklift, EWP, Dogging and various Crane courses.

RuralBiz Training

RuralBiz specialise in the flexible delivery of training through self-paced online learning and interactive online sessions. They offer single units of competency up to Advanced Diploma level qualifications in agriculture and agribusiness.

TAFE New England and TAFE Western

TAFE have been delivering training to regional NSW for decades. They have an extensive range of training on offer including a range of agricultural qualifications, business training, safety training, machinery operation training, cotton ginning training and more.

Total College

Total College is part of NSW Department of Primary Industries and has been delivering vocational training in agriculture for 51 years. Total College delivers full qualifications and short courses to a wide range of agricultural and land management industries. Courses are delivered at Certificate II, III and IV, Diploma and Advanced Diploma levels.

UVAIR

UVAIR is Australia's leading drone training company. UVAIR is offering a flight foundations course and the Certificate III in Aviation – Remote Pilot, Visual Line of Sight and Flight Foundations.

Applications to become an AgSkilled Endorsed RTO will remain open indefinitely.