

Addressing spray drift

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Herbicide spray drift damage to cotton crops in New South Wales and Queensland during the past two seasons reached totally unacceptable levels. Cotton Australia's assessment of the 2004–05 season alone put damage levels from phenoxy type herbicides in excess of 18,000 hectares.

Damage levels ranged from light plant distortion from low level impacts to severe damage to plants which received direct drifts — resulting in those crops being abandoned on the basis that the probability of an economic return would be doubtful.

While damage from herbicide spray drift is not a new concept in the cotton industry, the increased levels of damage over the past two seasons have no doubt been the result of several factors which have come into play in recent times.

Such factors include:

- Weed growth patterns brought about by changed rainfall patterns in a drought situation;



A cotton plant with hormone damage.

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- Significantly increased economic pressures on farmers to ensure they produce a crop following a number of dry seasons
- An increased reliance on herbicides as a weed control tool; and,
- The proliferation of farmer owned high tech spray equipment which has seen a major increase in farmers conducting their own herbicide applications.

Given the large area of damage to cotton crops and indications that this trend was not subsiding, Cotton Australia initiated steps to address the problem, seeking ways of reducing the risk of herbicide damage to cotton crops. A key consideration in addressing the issue is the fact that the phenoxy herbicides (including 2,4-D), are still one of the most cost effective herbicides available for broad leaf weed control in Australian broad acre agriculture and it is essential that the availability of this group of herbicides be preserved.

ADDITIONAL CONTROLS NEEDED

Following discussions with the Australian Pesticides and Veterinary Medicines Authority (APVMA), it was agreed that there was an urgent need to introduce some form of additional controls over users of these herbicides

which would reduce the risk of damage to non target crops such as cotton. As a first step, Cotton Australia collected data on the extent and levels of damage which had occurred in New South Wales and Queensland cotton crops over the past two seasons.

This data, along with some specific case studies, was documented and provided to the APVMA to substantiate the industry's concerns. Evidence collected by Cotton Australia suggested that a basic problem was the inadequate information contained on phenoxy herbicide labels.

These labels generally contained simple statements advising the user to "Avoid damage to susceptible crops" with limited information as to how this might be achieved. Consequently, APVMA was lobbied to make certain changes to phenoxy herbicide labels which might contribute to reducing the risk.

The original suite of label changes proposed by Cotton Australia were based on spray drift mitigation strategies taken from the Australian Government Primary Industries Standing Committee booklet: *Spray Drift Management — Principles, Strategies and Supporting Information*. Specifically the proposals targeted meteorological parameters including temperature, wind speed and direction, humidity and atmospheric inversion conditions.

In mid February 2005, the chemical industry repre-

sentative organisation — AVCARE — called a summit involving chemical companies, affected rural industries (including cotton) and commercial applicator organisations, to discuss the issues associated with agricultural chemical spray drift and to search for possible solutions.

The next day, APVMA conducted a major spray drift summit which included all stakeholder groups including

state pesticide regulatory groups. Each of these summits arrived at the same conclusions — that the primary issues under-pinning the agricultural chemical drift problem included: product labels, use enforcement, user training and product stewardship.

The conclusions of these summits supported Cotton

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Australia's concern over the inadequacy of herbicide labels, and in mid August agreement was reached that certain label changes aimed at reducing the risk of spray drift would be required by the APVMA.

Logistically, it is not possible to make immediate changes to all labels on existing stock and as an interim measure, stickers containing the amendments are being attached to phenoxy products.

USE ENFORCEMENT

The second issue of concern identified by the two summit groups was that of use enforcement. Use enforcement is the responsibility of state government regulatory authorities who enforce state pesticide use legislation. During the past two seasons, Cotton Australia has become increasingly concerned at the absence of state regulatory officers in the field — especially in a deterrent capacity.

In NSW the complement of specific pesticide enforcement personnel has been significantly reduced. At the AVCARE summit, a small task force was formed, (including a Cotton Australia representative) with responsibility to lobby state government agencies on this issue.

USER EDUCATION

Education of the pesticide user was identified as a major issue and a number of initiatives have been implemented to start looking at this area. It was considered that a number of applicators had insufficient knowledge of key factors in agricultural chemical application such as the influence of meteorological conditions, configuration of spray equipment, maintenance of equipment and appropriate risk assessment.

In part this process is in progress through chemical user training programs such as Chemcert and Smartrain as well as recent introduction of mandatory training in pesticide use in New South Wales. At this point in time there appears to be no plan to introduce mandatory training in Queensland.

Major training programs are being supplemented by industry initiatives such as specific training programs held by certain chemical manufacturers, distribution of meteorology pamphlets by NSW Farmers Association, and distribution of spray application pamphlets by industry groups in Queensland.

Successful implementation of a program aimed at reducing the risk of herbicide drift is a major initiative which will not be totally achieved in the short term. Among other things the process involves a cultural change — which takes time.

Most importantly, the initiatives aimed at addressing the key issues of labels, enforcement, education and stewardship must be developed further and most importantly, not allowed to lose their momentum. The total process of change will rely on the co-operative input of all stakeholders as, in the long term, herbicide drift can impact on all rural pursuits, not just cotton. 

