

# NATIONAL WORKING PARTY ON PESTICIDE APPLICATIONS

## A REVIEW OF TRAINING OF PESTICIDE USERS IN AUSTRALIA

A response by the NWPPA based upon a study conducted by John Kent, Adjunct Associate Professor, School of Agricultural and Wine Sciences, and Graham Centre for Agricultural Innovation, Charles Sturt University in 2013

This “strategic assessment of current and potential revised national training framework(s) for pesticide application that would support the implementation of DRTs (as a mechanism to lower buffer distances), best management practice and improved product efficacy” was commissioned by the National Working Party on Pesticide Applications (NWPPA) in response to the many drivers impacting on agricultural and horticultural industries. As such, there are many stakeholders both within industry and the wider community.

Conducted in 2012, the review covered the main questions of what training and accreditation is needed within industry sectors, what is working well with current training, what can be improved, and options for how changes may be implemented.

To be formally recognised, all training must fall within the Australian Quality Training Framework and be based on the attainment of industry-endorsed Competency Units. Most training of pesticide users is conducted at level 3 (independent operator), with some at level 4 (supervisor) of the framework. Training must be delivered through registered training organisations.

Formal training and accreditation of agricultural chemical users commenced in the early 1990s. Over the years there has been very significant financial and in-kind support from research and development corporations, state and federal governments, industry corporations, grower organisations, universities, training providers, commercial industry and many others. For many of the training and accreditation programs, industry groups continue to have a major input through management boards and involvement. The impact has been outstanding with hundreds of thousands of participants and extensive practice change. However, it is evident that improvements can be made to enhance the impact and positive outcomes for all stakeholders.

The review highlighted many issues and areas where improvements could be made, including:

**High level issues.** High level issues raised indicate that the inter-related Control of Use regulatory framework, and the training framework could both be improved to deliver better outcomes for stakeholders. In both cases a national approach is recommended. This will require all stakeholders to work together.

**Drivers for change.** While there are many imperatives for implementation of best practice it is clear that the quality of spray application and practices is very variable. The challenge is to ensure high standards of all operators and a culture which values training, continuous improvement and professional development.

**Spray drift and buffer zones.** Spray drift is a major issue in some sectors and regions, and is less of a problem in others. Proposed spray free buffer zones as proposed by APVMA are seen as unworkable and unenforceable and there are better ways of achieving the outcomes desired.

**Regulation.** Much comment was made about the current regulatory requirements, particularly the need to introduce effective and nationally consistent Control of Use legislation as quickly as possible. This should incorporate national licencing of pesticide users. Product labels were criticised for having misleading information regarding spray drift management.

**Technical advice.** A particular concern is the availability of advice on pesticide use, and the highly variable quality of that advice from resellers, spray equipment dealers, agronomists, consultants and advisors. Many of these people do not have relevant qualifications and there is no formal accreditation requirement for those making recommendations on pesticide management and use. An additional concern is the loss of capacity in research and development. Very



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few university courses include pesticide management and application, and there is a drastic shortage of graduates in agriculture and horticulture.

**Contractors.** Contractors are a very important part of our industry. However, the quality of contractors range from highly professional full time operators to the occasional side line operators. The level of skill and quality of application equipment is highly variable, and there is no demand by clients for contractors to demonstrate best practice. Rather, they are employed on price. Ground sprayer associations have been formed to provide professional development and professional standards for members, but unfortunately these associations have little support.

**Application equipment.** The quality of application equipment used is extremely variable. Concern was expressed about the variable quality of new spray equipment sold.

**Workplace visits.** Many respondents considered that workplace visits are an excellent way to drive practice change and implementation of best practice. These visits could include an extension/education component as well as assessment of operator skills, sprayer testing and audits of pesticide management practices. The cost of these is a concern.

**Training.** Training and accreditation of pesticide users was the main focus of this review. Since its introduction in the early 1990s, formal training and accreditation of farm chemical users has had an outstanding impact on production economics, human health, environmental health, food safety and market access. While it is acknowledged as the most successful training program ever introduced into agriculture and related industries, it is widely recognised that improvements to the current framework can be made to further enhance the positive outcomes. Concern was raised about the variable quality

of trainers, training resources and training outcomes. Refresher training for re-accreditation was seen as a particular issue. A national approach to trainer qualifications, professional development, training materials and co-ordination is strongly supported.

It is noted that there are a number of excellent training programs delivering first class outcomes at both basic and specialist levels.

**Industry stewardship.** Industry stewardship programs like Best Management Practice, Quality Assurance and a Best Practice Guidelines for users of pesticides are seen as excellent conduits for the adoption of best practice and drift reduction technologies. In this way, industry is taking a co-regulation approach.

## Improving the framework

Making improvements requires an integrated, national, risk management approach. Four areas need to be addressed:

1. The **research base** which informs the regulatory process, extension and training.
2. The **regulatory framework** within which we operate.
3. The **capacity building framework** of extension and training.
4. The **industry framework** of stewardship programs to drive implementation of best practice.

The recommended framework to achieve this is:

### 1. Training (professional development)

Ensure high standards of training providers.

Require national standards for trainers with national trainer training and assessment.



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Accredit trainers to deliver the following training depending on their qualification and endorsement:

- Level 3 Basic training.
- Level 3 Specialist training in application technology or use of restricted chemical products (RCPs).
- Level 4 Supervisor/Manager training.
- Contractor training.
- Urban Pest Controller training.

Conduct national trainer professional development programs in pesticide management and spray application technology.

Coordinate and endorse the various national training and assessment resources.

Improve current re-accreditation programs.

Authorised RTOs continue to deliver training and issue Statements of Attainment.

Introduce training and accreditation requirements for those advising or making recommendations on chemical use and application (eg trainers, advisors, consultants, resellers, application equipment dealers, as well as for managers of workplaces where pesticides are used, and supervisors of those using the products).

Require all operators, supervisors, managers, advisors, resellers, dealers etc to comply with national, ongoing professional development to maintain competency and accreditation/licence.

## ***Aerial Application Pilot Training***

Competency training for aerial application pilots is conducted by the Aerial Agricultural Association of Australia under the Spraysafe program and is recognised by each state jurisdiction for the purposes of issuing a chemical distribution licence, which is a mandatory legislative requirement in all states/territories. In

addition, AAAA runs a professional development program and provides ongoing learning opportunities for all application pilots through the Professional Pilot Program, which requires the accumulation of education credits over each three year Spraysafe accreditation validity period.

## **2. National resources**

Review and endorse current training materials and other resources into a national suite of manuals and assessments.

Make training resources (manuals and assessments) available only to those training providers who meet the required standards of trainer expertise and equipment/facilities.

Make resources, technical information, research results etc available through a national web site as an extension and education tool to greatly improve the research to practice pathway by providing a direct conduit to trainers, end users and industry.

## **3. National licencing and accreditation**

Work with national and state regulators to implement a national licencing framework which:

- Licences businesses to operate a spray contracting/user business and to purchase (high risk?) products on a national basis.
- Licences and accreditation should be based on achievement of a Statement of Attainment against appropriate units plus other requirements like meeting industry standards and workplace audits.
- Licence and accreditation renewal should require 'build-on' training in addition to the base units of competency and evidence of on-going professional development.



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### 4. Workplace visits

As part of industry stewardship programs, implement workplace visits which should include:

- Professional development through assistance with practices, equipment set-up etc.
- Assessment of competency of operators.
- Sprayer testing to ensure they meet standards (to be set).
- Audit of the pesticide management practices of the business (records, storage, pesticide management/spray plans, handling, PPE, waste management etc).

### 5. National Best Practice Guidelines

Develop national Best Practice Guidelines for management and use of pesticides, and for those advising on pesticide management and use. These should be incorporated into industry stewardship programs.

Develop a self-audit workplace checklist to assist implementation of the Guidelines.

#### Implementation

The framework for training agricultural chemical users in Australia is very complex with a wide range of stakeholders within industry and externally, and with many interacting factors. Improving the delivery of training must take these into account.

There is a strong determination amongst stakeholders that improvements are made to the current training framework to ensure agricultural and veterinary chemical users have the knowledge and skills to address the challenges posed by the regulators, markets and communities. The potential costs of NOT implementing changes need to be considered.

There are many options for improvements and the NWPPA and all stakeholders will need to agree on a common goal and future pathway that will produce the best outcomes for all stakeholders. This will require all relevant stakeholders to work together with a common purpose and determination. We all share the responsibility.

It is recommended that a structure to provide national co-ordination, stakeholder involvement, policy development and technical/training quality be considered.

Bringing or endorsing much of the development of training resources and trainer professional development together nationally would result in significant gains in consistency of training and assessment.

The timing for implementing improvements is good with parallel changes to the regulatory framework, product labelling, and industry stewardship programs underway.

With a united approach there is an excellent opportunity for industry to show leadership of both internal and external stakeholders, and to influence the regulatory changes, particularly though the potential for co-regulation.

#### Training delivery

There are four drivers for the uptake of training:

1. Required by regulation (eg for a licence or access to products).
2. Required by QA programs and markets as a means of ensuring best practice and quality of produce.
3. The desire to gain better knowledge and skills to do the job better for more efficient and effective pest control and reduction of costs.
4. Risk management with training certificates being a way of demonstrating due diligence.



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A particular concern is the wide variability in the quality of the training delivered and the lack of consistency across providers. The quality of training and the outcomes achieved depends on:

- Attitude of attendees.
- Quality, knowledge, practical experience, currency of trainers.
- Quality and relevance of assessment.
- Quality, relevance and currency of resources.
- Relevance to clients (eg equipment, examples used, venue).

A further challenge to be overcome is the cost of training delivery. Many training providers find that delivering pesticide training is not viable because of the specialist resources required, the need to be flexible in delivery and the difficulty of getting sufficient attendees in a group. This is especially the case with refresher training and the result often is that those undertaking refreshers are put in the same group as those undertaking training for the first time – again devaluing outcomes.

Training needs to be offered when it is relevant to growers such as in the immediate lead up to a spray season. It must be short, local, flexible, practical and focussed. If the end point is some form of qualification or certification it needs to be linked to a very practical outcome that has direct benefit on-farm. Just receiving a piece of paper is not an incentive to growers. The more training costs, the more directly it must relate to an on-farm cost saving or improvement in productivity.

There was much criticism of basic training being delivered in one day (or less), being delivered on-line, and the use of recognition of prior learning (RPL) as a means of assessment. Because of the technical and practical nature of pesticide use, it is not possible to grasp the knowledge and skills in a short period. Having said that, the quality of what is delivered in more

important than the time period. On-line training and assessment is of particular concern because of assessment of competency requires the person to demonstrate or provide evidence of competency. Practical training and assessment is more effective. The RPL system is easily corruptible but it is useful as a beginning point to identify skills gaps and weaknesses for future professional development.

Assessment instruments must be rigorous and really test competency and knowledge, particularly if RPL is allowed. On-line training and assessment should not be allowed unless it is part of an on-going professional development program.

There were many suggestions that professional development outside of training should be recognised for reaccreditation or renewal of licenses. This has much merit. However, there is a strong argument for reassessment of competency being required for renewal with plenty of precedent (eg first aid training).

### Trainers and training providers

To deliver first class training we need first class trainers with excellent support behind them. For specialist training in application technology and the correct set up of boom sprayers and mist blowers, trainers must have extensive knowledge and practical skills in adjusting, maintaining and operating application equipment. As technology changes, trainers and resources must keep up.

Compounding this is the question of funding. Because there is open competition between training providers, there has been a temptation to cut the fees charged and therefore cut corners with training and assessments. Some training is being delivered without appropriate application equipment for practical work and there is a criticism that there is too much 'tick and flick'.



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The wide variation between RTOs is an issue. While they are audited by the training regulator (ASQA), this audit is only of their paper trails and compliance with training regulations. They are NOT audited on the quality of the training delivered or the outcomes of that training. RTOs need to be accountable to industry as well as ASQA through strict criteria, monitoring and auditing. There needs to be a restriction on which RTOs can deliver, and which trainers can deliver. There needs to be a mechanism to deregister RTOs and trainers if they are not performing. Industry needs to define standards and requirements. Under the new ASQA there is more flexibility. ASQA cannot regulate hours of training or delivery modes but can work with industry and government regulators to set standards to ensure training outcomes are what industry want (eg face-to-face delivery only, or no RPL). This can be built into assessment requirements of units and therefore delivery.

## Practical steps to improve training outcomes

The following are suggestions and options that have emerged through the consultation.

Enhance the standard of the current training by using the AQTF and working with AgriFood Skills Australia and ASQA to ensure industry involvement and desired outcomes are delivered. Currently there is little auditing of training providers unless there is a legitimate complaint, and then only the paper trail is audited, not the technical content of training or training outcomes in terms of practice change. This results in variance in the quality and equivalence of training and accreditation, and outcomes which may not meet the needs of the industry stakeholders.

## Basic training

Improvements to basic training delivery and standards could be achieved by:

- Implementing nationally, strict criteria for qualifications, selection and assessment of trainers.
- Ensuring practical use of equipment is included in the course, as required by the units of competency.

There is strong opinion that on-line training (without a face-to-face assessment and practical use of equipment as appropriate to the participant) is NOT appropriate for pesticide training because the skills component is so important. It may be acceptable for refresher assessment.

## Quality Assurance (QA) programs

Quality Assurance (QA) programs are often put in place by markets with formal prescriptive assessment against set criteria to demonstrate compliance. A number of QA programs are also in place that specify requirements for training in pesticide chemical use. For example:

- FreshCare
- Great Grains
- GrainCare

## National coordination

Because delivery of training is very competitive between providers fighting for market share there is pressure to reduce fees and costs, and this can only be done by cutting corners in training, resources used and assessment, thereby adversely affecting training outcomes. This is exacerbated by free or greatly subsidised training provided using government or industry funds.

To achieve national consistency and coordination, it is necessary to review the resources and expertise of current stakeholders (regulators, training providers, trainers, researchers, equipment manufacturers, pesticide manufacturers, pesticide resellers, machinery dealers, RDCs, and growers from the major industry sectors). It is recommended that these stakeholders be



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brought together to form a national organization. This could be an evolution of the NWPPA.

To deliver the **technical outcomes**, a skills based technical or training committee should be established combining expertise from researchers and specialists in pesticide management, application technology, regulation, training, spray equipment manufacture, pesticide manufacture, AgriFood Skills Council etc.

This could be achieved by working with ASQA and AgriFood Skills Council Australia to:

1. Set standards for RTOs, trainers and competency units.
2. Audit RTOs on the technical aspects of training delivery (resources, trainers etc) and the impact of the training delivered.
3. Develop appropriate skills sets (combinations of competency units) which can be packaged into appropriate training and professional development programs.
4. Take a national approach to training (eg delivery times and methods, assessment requirements, recognition and acceptance of available resources).
5. Take a national approach to trainers (professional development).
6. Ensure industry, Agrifood Skills, ASQA and RTOs work together to improve training outcomes and standards.
7. Work with training providers, technical experts and researchers to ensure training programs and refresher/professional development programs meet the needs of clients, are relevant and are kept up to date.

The **principle behind the formation of the NWPPA** is to reduce the risk of spray drift using drift reduction

technologies (DRTs) to decrease buffers and maintain access to chemicals.

It is also important to **recognise proof of practice** of agvet chemical users:

- Acknowledge that training may be accredited, competency based or non-competency based.
- Provision of chemical use records as evidence of effective, compliant application.
- Provision of evidence of continuous improvement or professional development through activities such as participation at equipment demonstrations, field days, nozzle workshops, spray application technology workshops and so on.
- Recognition of current competency through formal or informal processes.

The **framework for training**:

- Needs to be reasonable, achievable, attainable, attainable, affordable and consistent.
- Starts with the standard agvet course.
- Would ideally be tailored for an industry-specific need, and be linked to the agvet chemical reform process, with perhaps an opportunity for funding to support the training
- Would provide opportunity for 'build-on' technical training, generally funded by the user.

**Outcomes** to meet the NWPPA principle:

- Improved chemical use.
- Reduction of drift.
- Access to technology and support to use this technology.
- Maintain access to agvet chemicals

NWPPA January 2015

