Government of South Australia
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Dr Chris Parker
Chief Executive Officer
Australian Pesticides and Veterinary Medicines Authority
PO Box 6182
Kingston ACT 2604

Dear Dr Parker

The Department of Primary Industries and Regions SA provides the attached submission in response to the consultation process by the Australian Pesticides and Veterinary Medicines Authority seeking stakeholder input on the draft proposal for 'spray drift risk assessment'.

Please do not hesitate to contact Michael McManus, Manager Rural Chemicals Operations, (08) 8429 0861, if you need any further details.

Yours sincerely

Will Zacharin
EXECUTIVE DIRECTOR
BIOSECURITY SA

Attachment: PIRSA Response to APVMA's proposed approach to spray drift management

PIRSA Response to APVMA's proposed approach to spray drift management

Primary Industries and Regions SA (PIRSA) notes that the purpose of APVMA's new proposed spray drift management approach is to:

- enable more reasonable buffer zones to be set;
- provide clearer label instructions and increased flexibility; and
- support the use of drift reducing technologies (DRT).

PIRSA reaffirms some of the concerns raised with the APVMA on the draft "Spray Drift Risk Assessment Manual" proposal on 23 November 2015 that still apply to the current proposal:

- The proposed spray drift management approach does not address the critical spray drift issues reported to PIRSA:
    - Group I herbicide damage to grapevines and
    - Complaints about the possible impact of spray drift on the health of nearby landholders.
- The proposed approach would appear to have minimal impact in reducing spray drift complaints in SA. It is likely to add a regulatory burden that current complaints indicate is unnecessary. PIRSA questions the cost benefit of introducing these additional regulatory requirements, the additional regulatory burden and 'red-tape'.
- PIRSA is seriously concerned about the regulatory practicality of enforcing some of the mandatory buffer zone and spray drift restraint label statements. Whilst mandatory statements are desirable in the context of wanting producers to follow instructions that should be considered mandatory, enforceability is a practical issue that must be considered, as there are problems with enforceability and evidence collection if a prosecution or expiation is the desired regulatory outcome. Is it appropriate to have a mandatory instruction that is an offence not to follow if any subsequent offence cannot be prosecuted or expiated? A meeting of state regulators with the APVMA to discuss enforceability of mandatory spray drift label statements is required before this policy approach is finalised.
- PIRSA is concerned about some 'buffer zones being classified as "Mandatory" (Bystander Areas, Natural Aquatic Areas and Pollinator Areas) and some buffer zones being classified as "Advisory" (Vegetation Areas and Livestock Areas) on page 8 of the Assessment Manual. The reasons for these concerns are the problems with model accuracy for tank mixes, the lack of models for tree crops and pollinators and that the biggest spray drift concern in SA (off-target damage to sensitive horticulture crops like grapes) is poorly covered in the "Advisory" vegetation area explanation. PIRSA's greatest spray drift concerns are spray drift impacts on livestock (residues) and sensitive crops (residues and physical damage) yet these are the two buffer zones classified as "Advisory".
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- The progress on developing a Spray Drift Management Tool that recognises low drift technology is encouraged and acknowledged. However, PIRSA requests timelines are provided for stage 2 (Web tool) for use by industry and this stage is prioritised for action.

- PIRSA has a lesser concern that in the short-term producers will choose to use labels that do not have any mandatory buffers (i.e. those products that have not been reviewed or had label changes etc. under this risk assessment).
- PIRSA requests that the Spray Drift Assessment Manual and associated documents are not finalised until all stakeholder comments have been taken on board and the APVMA has met with State regulators on enforceability and practicality of the proposed approach.

With PIRSA's primary spray drift concern (based on over 10 years of collected spray drift data) being off-target damage to grape vines (and other sensitive horticulture crops) from broad-acre summer weed spraying up to tens of kilometres away, PIRSA has initiated a number of key recent actions in direct response to this specific spray drift concern.

At the national regulator/policy level, PIRSA has raised this issue in the national policy forum of the ACTG. This has resulted in the development of a working group of state regulators, the APVMA and Commonwealth representatives to consider summer herbicide use damage to sensitive crops in a national regulatory context given the ongoing unacceptable damage occurring to the cotton and grape production in a number of regions around Australia. This Working Group is anticipated to have its first meeting later in April and is expected to have important issues raised in relation to spray drift policy, spray drift risk assessment and label enforcement that should be considered in the context of the APVMA's proposed approach to spray drift.

At the local level in South Australia, PIRSA facilitated a spray drift forum in the Riverland region involving the grains industry, viticulture industry, chemical resellers and consultants as a result of unacceptable ongoing spray drift damage to vines from broad-acre summer weed control in the region. The meeting provided a history of incidents, covered roles and responsibilities and then a facilitated discussion on potential strategies to address the ongoing spray drift damage. Key issues raised at the forum (which will be progressed in various ways including ongoing discussion with the APVMA) included:

- opportunities for better localised weather advice through additional local weather stations and inversion warning systems.
- consideration of application technology (better control of droplet size and small droplets – possibly through further regulating nozzles/droplet size to be used)
- Better reporting from industry (both of observed reckless spraying as it happens and of damage incidents)
- Community Awareness campaign/Education/Industry working together
- Improved regulatory response – ability to enforce label statements, better label instructions and requiring a higher level of spray drift training to purchase and use summer herbicides

PIRSA's response to the APVMA's request for stakeholder input on the draft proposal for spray drift risk assessment on the following specific topics is below:

1. Methodology used to determine regulatory acceptable levels (RAL's)

3.1.1 Bystander areas:

PIRSA notes that the definition of bystander areas as "locations where it is reasonably likely that 'bystanders' will be exposed to residues deposited on the ground from spray drift on a regular basis" is insufficient to address the human health spray drift issues most commonly

reported to PIRSA associated with horticultural airblast sprayers where the exposure is from the air, not the ground.

- *Page 13 - "Available tools used to predict spray drift are only capable of reliably determining deposition on the ground (i.e. a horizontal surface) which is not relevant for direct contact of bystanders with the spray cloud (i.e. a vertical surface). As it is not possible to reliably estimate exposure through direct contact by the spray cloud, use instructions (see section 5) for all products will prohibit any use, which causes a bystander to be contacted by the spray cloud.*
- *Repeat exposure to deposited residues on the ground is akin to risk assessments that determine re-entry periods for applications to turf so this risk assessment approach forms the basis for the determination of the RAL for bystanders. The highest concern for this type of exposure is that of an infant/toddler who may be exposed from repeat dermal and oral (hand-to-mouth actions of infants/toddlers) exposure whilst in a backyard, etc. over an extended period of time.*

PIRSA notes that due to the limitation of tools, it is not possible to reliably estimate exposure through direct contact with the spray cloud and use instructions will therefore prohibit any use, which causes a bystander to be contacted by the spray cloud.

PIRSA supports the concept of managing the risk of bystander exposure to airborne movement of spray and questions the relevance and applicability of assessing spray drift risk using the residues on the ground for determining the RAL for bystanders. It is likely this methodology could result in much smaller buffer zones than are necessary to avoid unacceptable impact to human health from exposure to airborne spray from a horticultural airblast sprayer. This would cause significant issues for regulators if a chemical user is complying with an insufficient mandatory buffer zone and unacceptable harm to human health occurs.

PIRSA is also concerned that this proposed approach will not provide users with guidance on suggested downwind buffer zones to bystander areas (i.e. the distance at which a spray cloud is no longer likely to present a risk to bystanders through air movement as opposed to residues on their lawn). It is acknowledged that this guidance would not be a guarantee and any harm reported by a downwind bystander would need to be investigated to minimise the likelihood of a repeat event of spraying in unsuitable conditions (as currently occurs as part of SA's chemical trespass system).

Section 3.1.2 – Natural aquatic areas

PIRSA notes that this approach presents similar issues as advising users to spray when the wind is away from sensitive aquaculture production areas does not provide guidance on an appropriate downwind buffer distance.

Section 3.1.3 – Pollinator areas

PIRSA has no specific comments on this section.

Section 3.1.3 – Vegetation areas

- *It is important to note that this determination is made based on terrestrial habitat survival, not based on zero damage and/or yield loss in agricultural crops or landscaped gardens. Therefore, whilst users may refer to buffer zones established with this RAL, these zones should not be relied upon for the protection of agricultural crops or landscaped gardens in all instances since some level of damage and/or yield loss may occur. The most effective way to prevent damage and/or yield loss is to use appropriate equipment and*

only spray when the wind direction is away from sensitive agricultural crops or landscaped gardens.

PIRSA remains concerned that this approach will not address the risk of spray drift impacting on sensitive agricultural crops unless spray drift results in complete destruction of a nearby crop as opposed to stunted growth or residue issues.

PIRSA notes that this approach presents similar issues as advising users to spray when the wind is away from sensitive agricultural crops does not provide guidance on an appropriate downwind buffer distance. This is of particular concern to users operating in an area of incompatible land uses.

"Spraying when the wind is away from sensitive agricultural crops" - Should this include 'at all times during the spraying operation'. Now due to the increased capacity to spray over many hours the wind direction is likely to change. This is often not considered when the records are taken at the start.

Section 3.1.4 – Livestock areas

PIRSA has no specific comments on this section.

Section 3.1.5 RALs for combination products and mandatory tank-mixes

PIRSA is pleased that this section has been included in the version of the proposal but has no specific comments on this section.

2. Standard scenarios and deposition curves that define realistic worst case situations and are used to generate on-label spray drift buffers

PIRSA has no comments on this section.

3. Spray drift data guidelines to support the generation of custom deposition curves

PIRSA has no comments on this section.

4. On label spray drift instructions

Section 5.1.1. General instructions

- **DO NOT** allow bystanders to be exposed to the spray cloud.
  - PIRSA notes that the definition of spray cloud "means the volume of air that is directly adjacent to operating application equipment which contains large numbers of spray droplets in close proximity to each other." While this definition is likely to be satisfactory to users it may cause difficulties when addressing concerns from nearby landholders who are downwind from spraying and may experience adverse effects from chemical exposure but not necessarily to droplets visible to the naked eye. It may be difficult to negotiate changes to chemical use practices to minimise harm to human health (as currently occurs in SA's chemical trespass system) if a user is complying with this instruction.
  - Providing guidance on suggested downwind buffer zones to bystander areas would assist PIRSA to respond to concerns commonly raised by nearby landholders about the impact of the spray cloud (including odour) from x metres upwind.
  - PIRSA has other concerns about the statement "DO NOT allow bystanders to come into contact with the spray cloud". Is the chemical user responsible for the actions of bystanders and does he/she have to "manage" bystanders by giving

them prior notification, instructions on site, barriers, warning signs, etc? The statement could be reversed to read, "DO NOT allow the spray cloud to come into contact with bystanders". The chemical user is responsible for the spray application that may cause the spray cloud, but how much responsibility does he have for the subsequent behaviour of the spray cloud? There are difficulties for regulators with both statements if they are worded as mandatory instructions.

- A statement along the lines of DO NOT cause an unacceptable impact to human health as proposed for native vegetation, agricultural crops may be of more assistance to regulators, especially if it is accompanied by advisory buffer zones.

- **DO NOT** cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The advisory buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.
  - PIRSA notes that this statement tasks state regulators with determining what is an unacceptable impact to agricultural crops, landscaped gardens or aquaculture production.
  - PIRSA also notes the statement advises users to spray when the wind is away from sensitive areas but does not provide guidance on what is a suitable separation distance to upwind sensitive crops. This situation occurred in a recent prosecution case in SA where the impact was most probably due to the air being dragged behind the tractor that turned at the end of the row of almonds sending it down to the vines.

- **DO NOT** apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.
  - PIRSA comments that this statement is problematic to enforce unless an inspector is present at the time of spraying or a chemical user notes in their spray records that wind conditions were not suitable for spraying.

- **DO NOT** apply if there are surface temperature inversion conditions present at the application site during the time of application.
  - PIRSA comments that this statement is problematic to enforce unless an inspector is present at the time of spraying or a chemical user notes in their spray records that temperature inversion conditions were present. It is also problematic for the user to objectively measure at the time of spraying.

5. Spray drift risk assessment tool

- PIRSA has no comments on this section.

6. Spray drift management tool that allows chemical users to refine these realistic worst-case risk assessments based on their own circumstances and recalculate buffer zone distances accordingly

- Any measurements would require objective measurement to be in-putted. Any subjective measurements are hard to enforce (e.g. the user would have to own a wind meter not just get it off the web as this is not site specific or accurate).

7. **Interim measures prior to an interactive web based tool being available (stage 2) and legislative requirements to enable off-label spray drift conditions set by the tool to be enforced.**

   - Industry has requested a method of reducing buffer zones for users applying the latest application technology. PIRSA requests guidance on when the tool will be available to to assist with industry queries.