

Use of pesticides for controlling lice: Occupational health and safety

Understanding the health risks and legal requirements associated with the use of agricultural and veterinary chemicals can avoid serious consequences. The following information is a guide to the safe use of lousicides. Only general information is provided and all managers and workers who will be responsible for applying chemicals should attend an Agsafe or Farm Chemical Users course.

Exposure to pesticides during treatment

Direct exposure occurs in three main ways:

- Dermal or skin exposure when chemical comes into direct contact with exposed skin, or where chemical soaks through clothing.
- Oral ingestion, most often by handling food without first washing hands or drinking from a water bottle that may have been contaminated with chemical.
- Inhalation of chemical fumes, particularly when mixing concentrate, or inhaling aerosol droplets formed during treatment of sheep.

Handling recently treated stock can also result in exposure. Appropriate precautions should be taken to minimise the risk of exposure to chemicals by these routes.

Application method

If used according to label directions, backline applications generally pose the least risk of inadvertent chemical exposure. Watch out for leaking backpacks or application guns.

With shower dips, hand jetting and jetting races, deflected spray or overspray can wet operators. These methods also produce aerosol droplets that can be inhaled. Wetting from overspray while operating the 'on' and 'off' valve for the top and bottom nozzles appears to be a major risk for operators of shower dips.

With hand jetting, the close proximity of the operator to the jetting wand and treated sheep presents a significant risk, whereas with jetting races accidental wetting from deflected sprays while moving stalled sheep and the inhalation of aerosol droplets, present major risks.

With plunge dips, the main risk is during mixing of the dip wash and from splashing of sheep as they enter and leave the dip. Standing too close to sheep that shake after leaving the dip and handling wet or recently treated sheep are other means of exposure.

Minimising risk

- Read the safety direction on the label before opening the container.
- Choose a product with low toxicity and a method of application that minimises operator exposure.

- Wear appropriate protective clothing, as indicated on the label when handling the chemical or treated sheep.
- Avoid ingestion by washing hands, arms and face with soap and water after handling pesticides and especially before eating, drinking or smoking.
- Avoid breathing fumes or droplets from pesticide concentrates or diluted solution by wearing appropriate protective clothing and a mask when handling pesticides and treated sheep.
- Install physical barriers (such as high, solid walls) to reduce operator exposure from dip/jetting fluid over-spray.
- Comply with the Wool Rehandling Period and the Wool Harvesting Interval stated on the label.
- Observe meat withholding periods and export slaughter intervals if sheep are to be sold for slaughter after treatment.
- Handling concentrates during mixing poses a particular safety risk. All precautions recommended on the label should be closely followed.

Pesticide toxicity

Pesticides vary greatly in their toxicity to humans and animals. Of the active ingredients commonly used on sheep, those in the OP (organophosphate) chemical group have the highest toxicity and represent the greatest risk. The active ingredients in the SP (synthetic pyrethroid) group are less toxic to humans but some people are allergic to them and may suffer from an allergic dermatitis. The active ingredients in the IGR (insect growth regulator) and spinosyn groups are the least toxic and considered relatively safe for humans. Macrocyclic lactones (e.g. ivermectin) also have relatively low toxicity to mammals with the main risk from ingestion and droplet splash which may cause mild eye irritation.

Protective clothing and equipment

Owners/managers and their employees should always wear personal protective clothing and equipment to protect against skin absorption of the pesticide and inhalation of fumes and droplets when handling and spraying pesticides. The minimum protective clothing and equipment recommended is indicated on the product label. Often this is a cotton boiler suit (overalls) buttoned at the wrists and throat, a washable hat, a respirator or recommended disposable facemask, impervious gloves and waterproof footwear. Lightweight, comfortable spray suits are cheap and readily available. For jetting sheep, or other tasks that necessitate handling wet, treated sheep, waterproof pants, gloves and boots are essential.

Legislation and regulations

In Australia, all agvet chemicals must pass through an exhaustive review to reach the marketplace. The Australian Pesticides and Veterinary Medicines Authority (APVMA) carries out the major examination of safety and efficacy aspects at a federal level. If and when the authorities are satisfied that a product does not constitute an undue safety risk, is effective and that the label provides adequate instructions for use, a Notice of Registration is issued.

There are slight differences in emphasis in different States' legislation related to agricultural and veterinary chemicals but the following points generally apply:

- Purchase and use only agvet chemicals that are registered for use in your State. Use them only for the purpose specified on the label.
- Follow all label instructions including application instructions, safety directions and recommendations for disposal.
- Store all agvet chemicals securely, safely and according to legal requirements.

- Occupational health and safety legislation requires employers to ensure that employees who are engaged in handling and using pesticides are adequately trained and protected from exposure.

Each State has legislation that directly regulates the development, sale, storage and use of agricultural and veterinary chemicals. It applies to all workplaces, including the rural workplace. In some instances, agriculture may be exempt from the specific provisions of a regulation; for further information contact the relevant government authority.

There is also an Australian standards for the Storage and Handling of Agricultural and Veterinary Chemicals (AS2507) and the transport of agvet chemicals is governed by the Australian Dangerous Goods Code, usually referred to as the ADG Code.

Duty of care

Everyone working in the rural industry has a duty of care and managers have a legal obligation to provide a safe workplace for employees using pesticides. This duty of care must be demonstrated in all practices undertaken in the workplace. Attending a farm chemical safety training course and/or supporting employees to do the same is strongly recommended.

Material Safety Data Sheet

A Material Safety Data Sheet, usually referred to as an MSDS, contains detailed information about the nature and risks from any agvet pesticide. An MSDS is available for all registered lice and flystrike control products. Manufacturers have a legal obligation to provide one to the purchaser of the pesticide. A copy must be available for all users of pesticides to inspect and be supplied to them on request. Copies are also available from the manufacturer's website.

Poisons information centre

The poisons information centre gives advice on procedures in the case of accidental poisoning. Call 13 11 26.

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