NSW GOVERNMENT Department of Primary Industries

primefact

Drought increases residue risk

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Introduction

Maintaining the 'clean' reputation of our animal products in the domestic and export marketplace is of paramount importance to the future of Australia's livestock industries. Chemical residues are a direct threat to the sales of meat and animal products to overseas and domestic markets.

Every livestock producer must ensure that slaughter stock and stock producing milk for human consumption do not have unacceptable levels of chemical residues.

During drought times, a range of factors can lead to a higher risk of chemical residues in livestock:

- an increased reliance on purchased fodder
- the temptation to feed unusual materials
- the loss of pasture cover, which can increase animals' soil intake
- loss of condition, which can lead to increased residue levels of fat-soluble chemicals.

Key points in managing these risk factors include:

- ensuring that purchased stockfeeds do not contain unacceptable residues
- exercising extreme care over any decision to use unconventional stockfeeds
- using chemicals strictly in accordance with label directions
- adding a safety margin to withholding periods (WHPs) and export slaughter intervals (ESIs) for lean stock and those that are losing weight
- keeping stock away from farm buildings or other sites where chemicals, particularly organochlorine (OC) chemicals, may have been used or stored
- avoiding grazing or feeding stock on areas contaminated with OC chemicals
- clarifying the residue status of suspect stockfeeds or livestock by appropriate testing
- seeking professional advice about residue risk management
- fully and accurately completing National Vendor Declarations for sale stock

Maximum residue limits

Maximum residue limits (MRLs) are set for various chemicals in food commodities and in animal feeds. Food products found to contain a residue level exceeding the MRL may be condemned without payment to the producer. Where no MRL is set, the food product may be condemned if any residue is found.

Many of our trading partners have not set MRLs for chemicals commonly used in Australian agriculture, or may have set MRLs which are lower than those that apply in Australia. This is due to their different chemical use patterns. Where trading partners have no set MRL for a particular chemical, there must be no detectable residue of that chemical in exported products.

Withholding periods

Withholding periods (WHPs) aim to ensure that when agricultural and veterinary chemicals are used in accordance with label directions the treated animal or crop will not have residue levels that exceed Australian MRLs. Withholding periods are legally enforceable.

For animal treatments, the withholding period on the product label is the minimum time that must elapse between treatment and the slaughter of the animal, or the collection of its milk, for human consumption.

Crop chemicals may have different withholding periods for harvest and for grazing/fodder purposes. Some older chemicals may not have a specific grazing/fodder withholding period on the label. In this situation you should consult the chemical manufacturer to determine if and when it is safe to graze the treated crop or crop stubble or cut them for fodder.

Export slaughter intervals

As noted above, overseas markets often have lower MRLs (or no MRL) for chemicals used in Australian agriculture. Export products must meet the importing country's MRLs. Any overseas detection of an unacceptable residue puts our export markets at serious risk.

Australian livestock industries have established export slaughter intervals (ESIs) for a range of veterinary drugs and pesticides used on livestock. These ESIs are simply longer withholding periods which aim to ensure that animal products comply with our trading partners' MRLs. ESIs must be observed unless the stock are consigned direct to a domestic abattoir.

Information on ESIs is included on National Vendor Declarations (NVDs) for Cattle and Sheep. The most up-to-date list of ESIs is available from the Australian Pesticides and Veterinary Medicines Authority (APVMA) website.

Conventional stock feeds

Before buying feed, ask for a Commodity Vendor Declaration (CVD). These declarations detail the chemical treatments applied to the feed and allow you to identify potential residue risks.

If you **cannot** obtain a CVD:

- inform the seller of the intended use of the feed;
- ask the seller if the feed is suitable for that purpose;
- ask if any chemicals have been applied to the feed and/or if the feed has been tested for residues.

If the feed has been raked and baled in the field, or if it may contain soil, seek an assurance that it was harvested from land free of persistent organochlorine (OC) chemicals such as DDT, dieldrin, heptachlor etc. Storing grain and hay in areas previously treated with OCs can also contaminate that feed and result in residues being present in livestock.

Unless a satisfactory CVD is provided or the feeds have been appropriately tested for residues, assume that chemical residues may be present.

Seek professional advice on potential chemical residue problems, their management and whether any reported residue tests are appropriate and/or comprehensive.

For further information see Primefact 315 *Buying stock feeds: minimising chemical residue risks.*

Unconventional stock feeds

Be extremely cautious about any decision to use unconventional stockfeeds. Before purchasing such stockfeeds, obtain a completed By-product Vendor Declaration (BVD) from the supplier as part of your risk assessment of the suitability of feeding these materials to your stock. The BVD is intended to cover materials that have not been produced specifically for use as stockfeed, including fruit and vegetable wastes and crop processing by-products such as peel, pulp, pressings and leaf material. (Question 4 and the explanatory notes for the National Vendor Declaration (Cattle) define 'by-product stockfeeds'.)

Crop wastes and plant processing by-products may seem like useful roughage sources in hard times. However, such unconventional stockfeeds may contain chemical residues that could cause residue levels in livestock to exceed domestic or export standard limits. The crops from which the wastes or by-products are derived may have been treated with chemicals that have label directions prohibiting the feeding of wastes from treated crops.

To find out more regarding industry protocol requirements on feeding cotton trash in NSW click **here**: https://www.mla.com.au/meat-safety-and-traceability/red-meat-integrity-system/about-the-livestock-production-assurance-program/lpa-alternative-feedstuffs/

Detailed advice on the use of waste materials as stockfeed is contained in Primefact 311 *Dangers in feeding waste materials to livestock*. Producers should consult this publication prior to sourcing waste materials for use as drought feed.

Current chemical use

All chemicals must be used according to label directions, and the recommended withholding period must be observed. Check if the product also has an export slaughter interval and, if so, ensure that this is observed unless the stock are consigned direct to a domestic abattoir.

It is wise to add a safety margin to WHPs and ESIs when treating poor stock or those losing condition. Because these stock have low or falling levels of body fat, they tend to develop higher-than-normal residue levels of fat-soluble chemicals such as the chemicals contained in tick and lice treatments.

Past chemical use

Organochlorine (OC) pesticides, such as dieldrin, heptachlor and DDT, were banned from use on New South Wales pastures in 1982 and from all other agricultural uses in 1987. Their last registered use, for termite control, ceased in 1995. However, OCs persist for decades in the environment. In some situations they are a potential source of livestock residues.

Drought can increase that risk. Reduced pasture cover means that stock consume more soil, particularly if they are fed off the ground. Any traces of OCs in the soil will build up in the animal's body fat. During drought times stock are more likely to force their way into potentially contaminated areas where there is remnant feed, such as rubbish dumps and around farm buildings. The levels of any existing OC residues in animals will increase as they lose weight (body fat). OC residues can be a problem if stock:

- graze paddocks where OCs have been used in the past, such as on old maize, potato, horticultural, cotton or sugar cane fields
- access areas or buildings that have been treated with OCs to control white ants or other pests
- access old chemical containers in sheds or rubbish dumps – just a few minutes' access can result in high residue levels
- are fed hay or grain stored in areas previously treated with OCs
- are held on and/or feed on OC-contaminated areas such as old dip sites, house areas or farm buildings
- are fed materials, particularly unconventional feeds such as sugar cane tops, cut from OC-contaminated land and which include a significant amount of contaminated soil.

For detailed information on the identification and management of OC residue risks on your property, refer to Primefact 316 *Management of organochlorine and related residues.*

National vendor declaration and waybill

The livestock industries require producers to supply National Vendor Declarations (NVDs) to confirm the chemical exposure history of livestock and to identify those that may be a chemical residues risk. The National Vendor Declaration also functions as a waybill (transported stock statement) when stock are transported, whether or not they are being sold.

NVDs ask questions about the feeding and chemical treatment history of stock offered for sale or slaughter. Read the explanatory notes carefully before fully and accurately completing NVDs. False or misleading answers on NVDs may result in prosecution or civil liability.

The sheep and cattle NVDs include questions about the feeding of any pasture, crop, stubble, grain or fodder treated with an agricultural chemical in the 60 days prior to harvest or first grazing. Producers selling stock within 60 days of feeding materials with an unknown chemical treatment history should check the explanatory notes before completing their answer to question 7 on the Cattle NVD or question 5 on the Sheep NVD.

Question 4 on the cattle NVD also asks if by-product stockfeeds have been fed within the 60 days prior to sale. Producers who have fed materials not produced primarily for livestock consumption to stock in the 60 days prior to sale must answer ‘yes’ to this question. The by-products covered by this question include waste fruit, vegetable and fibre crops, which can be in the form of peel, pulp, pressings, stem and leaf material.

Other issues

Many factors affect the risk of unacceptable residues being present in slaughter stock that have been fed materials containing chemical residues. They include:

- the level of the residue(s)
- the chemical(s) involved
- the condition of the stock
- the proportion of affected feed in the overall diet
- the time between last feeding the material and slaughter.

Keeping the animals on clean, uncontaminated feed for 2 months before slaughter may allow the residues of most currently registered chemicals to decline to acceptable levels. However, there are no guarantees, particularly under drought conditions. With residues of persistent OCs it may take many months or even years on residue-free feed and uncontaminated land before stock meet market standards. The only definitive way to determine if unacceptable chemical residues are present in feed or stock is to have appropriate tests done.

More information

For further information on managing chemical residue risks during drought, contact your livestock or veterinary adviser or the District Veterinarian at your Local Lands services office (see http://www.lls.nsw.gov.au/). The NSW Department of Primary Industries website has a wealth of information available at www.dpi.nsw.gov.au/drought

For updates go to www.dpi.nsw.gov.au/factsheets

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