



Stockfeed Guideline Document 1
Primary Feed Commodities As A Proportion of
Livestock Diets
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Primary Feed Commodities As A Proportion Of Livestock Diets

Scope

This document describes the proportions of agricultural feed commodities that are assumed to be present in livestock diets when the livestock dietary exposure to chemical residues is assessed by the National Registration Authority. These proportions, or feeding percentages are not intended as animal nutrition advice or feeding instructions.

The feeding percentages are used by the NRA in setting animal commodity MRLs for livestock tissues, milk and eggs (see also Stockfeed Guideline Document 2). The feeding percentages are considered to approximate good agricultural practice and would result in the recommendation of MRLs for tissues, milk and eggs that should not be exceeded under typical conditions. It should be noted that it is not possible to consider every possible feed item or every possible feeding scenario. The publication of common feeding percentages used by the NRA ensures transparency in the MRL setting process and allows feed users to make informed decisions on residue-related issues.

Background

The use of agricultural chemical products can result in the presence of chemical residues in agricultural commodities that are subsequently fed to livestock. Measurable residues of the chemical may occur in the tissues, milk and eggs of livestock consuming the previously treated feed commodity as a normal part of the diet. The NRA establishes Maximum Residue Limits (MRLs) to cover the residues that may arise in animal tissues, milk and eggs as a result of livestock dietary exposure.

The overall livestock dietary exposure is a function of the concentration of chemical residue present in each feed item and the amount of each feed item consumed by the animal.

The anticipated residue levels in animal feed commodities are determined from crop residue trials conducted according to good agricultural practice. Where the feed commodity is a processed fraction of the treated crop (eg dry apple pomace or cotton seed meal) then further processing studies are evaluated to determine the residue level in the terminal feed commodity. Residue levels in animal feed commodities are expressed on a dry weight basis.

The amounts of common animal feed commodities (as a percentage of the diet) that are assumed to be present in the diets of livestock for the purpose of determining the livestock dietary exposure to a chemical are outlined in this Information Document. The proportion is given as a percentage of the total dry matter intake (DMI) in the diet.

The feeding percentages aim to cover general animal feeding practices in Australia. The information in this document may be amended from time to time as new information becomes available or as typical feeding practices change.

Use of the Document

The purpose of this information document is to make feed users aware of the NRA residue evaluation process for residues potentially consumed by farm animals so that users can avoid, as far as possible, excessive residues in meat, edible offal, milk and eggs.

Three levels of feeding have been assumed:

- 100% for commodities that can comprise the majority of the diet;
- 20 to 40% for commodities that are fed in moderate amounts;
- 5% or less for commodities that are fed in very small proportions or are fed infrequently.

The percentage listed in Part A applies to a particular commodity group as a whole and not to individual commodities. The commodity group is described in Part B of the document. In Part C, the maximum use of certain commodities assumed in the NRA residue evaluations is given.

Users of the feed commodities may deviate from the feeding percentages detailed in this document, however, the livestock dietary exposure from such altered feeding percentages may not have been considered when the livestock MRLs for tissues, milk and eggs were recommended.

If the commodity has been analysed for residues and the particular chemical/feed commodity residues are sufficiently low, then this may allow the feed to be included at a higher percentage in the diet without leading to excessive residues in meat, milk and eggs.

Where exceptions exist for a particular chemical/product, certain feeding restrictions may be recommended. These are detailed on the labels and will be in the Animal Residue Data Sheets as they become available for each product/active. The Animal Residue Data Sheets will clearly show the feeding percentages assumed for individual chemicals. These will be provided by the NRA upon request.

Part A: Feeding Percentages

Species	Assumed Maximum Percentage Of
Feeds and Feed Commodities	Diet (Dry Matter Basis, %DMI)

Cattle (includes lotfed, grazing and dairy cattle)

pasture #	100	
grain	100	
pulses/legumes	100	
fodder and forage	100	
processed grain fractions *	40	
molasses	40	
fruit by-products	20	
oilseeds	30	
plant protein meals	30	
other	5	(See Part C)

Sheep

pasture #	100	
grain	100	
pulses/legumes	100	
fodder and forage	100	
molasses	40	
fruit by-products	20	
oilseeds	30	
plant protein meals	20	
other	5	(See Part C)

Pigs

grain	100	
pulses/legumes	100	
processed grain fractions *	40	
fruit by-products	20	
oilseeds	30	
plant protein meals	30	
sugar	20	
other	5	(See Part C)

Poultry

grain	100	
pulses/legumes	100	(replacing some grain)
processed grain fractions*	20*	
oilseeds	30	
plant protein meals	20	
fruit by-products	20	
other	5	(See Part C)

* If the MRL for a chemical in a processed grain fraction (as given by a separate entry in Table 1 of the MRL Standard) is greater than that seen in the primary cereal grain, then the maximum percentage for the processed grain fraction in the livestock diet is assumed to be 20-40%. When there are no separate MRLs for a chemical in processed grain fractions, then the maximum percentage that can be fed in a livestock diet is assumed to be 100%, because the residue situation becomes identical to feeding the raw grain.

Where pasture has been spot sprayed for weed control, it is assumed for MRL purposes and estimation of exposure, that the animal's diet is not expected to contain more than 20% of treated pasture.

Part B: Commodity Description

This list provides examples of feed commodities that fit within the commodity groups used in Part A. The list is not exclusive and may be altered as typical feeding patterns change over time.

Grains

wheat, oats, barley, triticale, rice, maize/corn, millet, sorghum, rye

Processed grain fractions (excluding grain dust)

pollard, bran, millrun, wheat germ, brewers grain, malt combings, biscuits, bread, hominy, semolina

Pulses/legumes

succulent or mature dried seed and immature pods of leguminous plants
peas (eg field pea, chick pea, cow pea, pigeon pea), beans (eg adzuki, faba, kudzu, mung, navy, winged), lentils, soya beans, lupins

Oilseeds

cotton seed, sunflower seed, safflower seed, rape/canola seed, linseed, sesame seed

Plant protein meals

oilseed meals, peanut meal, soya bean meal, copra meal, palm kernel meal

Molasses/sugar

raw or processed sugar, molasses

Fruit by-products (does not include cannery wastes)

citrus pulp, pineapple pulp, pome fruit pomace, grape marc, grape pomace

Pasture

grass and legume pastures and mixed grass/legume pastures

Fodder

hay, silage and straw of legumes, grasses and cereals, sugar cane tops

Forage (not including cotton forage)

cereal forage, oilseed forage, legume forage etc.

Fodder vegetables

field turnips, kale, beets

Part C: Maximum Use Of Certain Commodities Assumed in the NRA Residue Evaluations

For estimation of animal commodity MRLs, commodities listed below are assumed to be fed at proportions not exceeding 5% of the animal diet on a dry matter basis (listed as “other” in Part A).

Vegetables (not including vegetables grown specifically for grazing or fodder)

Vegetable by-products (eg. potato peels)

Cannery waste and by-products

Oils/fats (eg. vegetable oils, tallow)

Feed users may decide to feed these commodities as higher proportions of the diet if they know the residue status of the particular batch either by direct knowledge of which pesticides have and have not been used or by chemical analysis.

Where the residue status is unknown and the animal feed commodity fits into one of the above categories limited to 5% or less in the feed, then it may be advisable not to feed the commodity close to slaughter. For further advice refer to the relevant Animal Residue Data Sheets.

In Australia the feeding of animal protein meals to ruminant livestock is banned under State legislation. For the purposes of setting animal commodity MRLs the NRA assumes that animal protein meals are not fed to any livestock.