Ministry for Primary Industries
Manatū Ahu Matua

Guidance Document

Residue Data for Agricultural Chemicals

Application information for registration under the Agricultural Compounds and Veterinary Medicines Act 1997

30 October 2017

A guidance document issued by the Ministry for Primary Industries

New Zealand Government

Title

Guidance Document: Residue Data for Agricultural Chemicals

About this document

This document explains the residue information that should accompany an application to register an agricultural chemical trade name product under the Agricultural Compounds and Veterinary Medicines (ACVM) Act 1997.

Related Requirements

ACVM Registration Information Requirements for Agricultural Chemicals in New Zealand
Provisional Registration in New Zealand: ACVM Information Requirements

Document history

Previous Version Date	Current Version Date	Change(s) Description
2011	2017	Revised and reformatted in MPI template

Contact Details

Ministry for Primary Industries (MPI)
Regulation & Assurance Branch
Systems Audit, Assurance & Monitoring Directorate
PO Box 2526
Wellington 6140
Email: approvals@mpi.govt.nz

Disclaimer

This guidance does not constitute, and should not be regarded as, legal advice. While every effort has been made to ensure the information in this guidance is accurate, the Ministry for Primary Industries does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

Copyright

Contents Page

1 Purpose 3

2 Background 3

3 Definitions and abbreviations 3

4 Information needed 4

5 General information 4

6 Minimum residue information 5
6.1 Product chemistry 5
6.2 Proposed use pattern 5
6.3 Residue analysis 6
6.4 Metabolism studies 7
6.5 Supervised crop field residue trials 8
6.6 Processing studies 9
6.7 Animal transfer studies 9
6.8 Environmental fate studies 10
6.9 Rotational crop studies 10

7 New Zealand specific information 10
7.1 Supervised field trials 10
7.2 Proportionality 11
7.3 Crop groupings 11
7.4 Crop residue trial numbers 11
7.5 New Zealand primary feed crops 16
7.6 Agricultural chemicals with an exception from an MRL 17

1 Purpose

This document explains the minimum information needed for MPI to consider the residue component of an application to register an agricultural chemical under the Agricultural Compounds and Veterinary Medicines (ACVM) Act 1997.

Out of scope
This document does not detail the MPI guidance and procedure for setting New Zealand maximum residue levels (MRLs) under the Food Act 2014.

2 Background

Before being imported, manufactured, sold or used in New Zealand, agricultural chemicals must be authorised under the ACVM Act. Authorisation is required:

a) to manage risks to trade in primary produce, public health, animal welfare, and agricultural security
b) to make sure that the use of agricultural compounds does not result in breaches of domestic food residue standards, and
c) to ensure the provision of sufficient consumer information.

To register an agricultural chemical in New Zealand for use on food or feed commodities, you must be able to characterise the residue profile so MPI can assess the potential risk.

3 Definitions and abbreviations

active ingredient means the chemical(s) or microbial active ingredient(s) in a formulated product that is/are principally responsible for the effect being claimed and is/are distinct from other formulation components such as surfactants, carriers or diluents

agricultural chemical means an agricultural compound other than one used or intended to be used in the direct management of animals, and does not include a vertebrate toxic agent

B1 registration means a registration that is identical to an existing trade name product registration except for the product name

good agricultural practice (GAP) means the use of agricultural chemicals under actual conditions for effective pest control. It encompasses a range of use patterns necessary to achieve the desired effect without excessive use, with the agricultural chemical being applied in a manner which leaves a residue that is the smallest amount practicable

residue analysis means the process of extracting and detecting the residue content present in food and environmental commodities

supervised field trial means residues field trials conducted on crops, in order to assess the magnitude of the residues under the conditions of GAP

use pattern means the way the agricultural chemical is used. It includes, but is not limited to, the number of applications, application rates, application method and application timing

use situation means where the agricultural chemical is used and what it is treating (insects/weeds/fungi etc)

withholding period (WHP) means the minimum period that should elapse between the last application and the 'use' of the produce to which the agricultural compound was applied.This period covers the situations of:

a) harvest of the treated crop for human or animal consumption
b) grazing of the treated crop or crop residue/stubble
c) release of the treated commodity for human or animal consumption, and
d) grazing of surrounding pasture following treatment, such as in an orchard.

4 Information needed

(1) The minimum information MPI considers necessary is numbered in each section, while any further guidelines are given (without numbers) at the end of a section under '**Additional guidance**'. Guidelines reflect principles commonly recognised by the scientific community as appropriate and necessary for collecting scientific data. MPI recognises that there are acceptable methods, other than those described in this guideline, that are capable of achieving the principles of this document.

(2) Applicants are responsible for providing all information required by MPI to make a decision on the application. Applications that do not contain the required information will not be assessed. If further advice is required, you are advised to contract the services of an appropriate consultant prior to submitting your application.

5 General information

(1) This guideline applies to all new product registrations (excluding B1 registrations) and all new uses applied to existing registrations. The guideline covers:

a) Residue analysis
b) Metabolism
c) Supervised residue trials
d) Processing studies
e) Animal transfer studies
f) Rotational crops, and
g) Environmental fate.

(2) Data packages must be accompanied by a study reference list.

(3) Provide all documentation in English.

(4) Provide justification if you do not include required information.

(5) Provide full studies, including reports that are from OECD member countries.

(6) Studies are not required to be conducted under good laboratory practice (GLP) in New Zealand, but they should be conducted to the principles of GLP. Refer to: OECD's publication, No 1: Principles of good laboratory practice.

(7) Conduct trials using the OECD and JMPR guidance documents:

a) OECD publications on pesticide residues
http://www.oecd.org/env/ehs/pesticides-biocides/publicationsonpesticideresidues.htm

b) JMPR manual on the submission and evaluation of pesticide residues data
www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/FAO_manual2nded_Oct07.pdf

6 Minimum residue information

6.1 Product chemistry

(1) Provide sufficient information to identify:

a) the active ingredient and its properties, concentration and impurities, and
b) the formulation type and composition of the trade name product.

(2) Conduct studies in accordance with the OECD Guidelines for the Testing of Chemicals, Section 1 (except for the requirement of testing to GLP), and include appropriate physical-chemical properties of the active ingredient in the studies.

Additional guidance

Physical-chemical properties should at least include vapour pressure, melting point, partition coefficient, solubility (water), specific gravity, hydrolysis, photolysis, and adsorption (soil).

6.2 Proposed use pattern

Approval of a use pattern is dependent on the use being considered good agricultural practice (GAP).

(1) Provide sufficient information to show that the product will be effective for its intended purpose when used according to the label directions, including the use of adjuvants (if any).

(2) Clearly identify:

a) the proposed crop, or crop group
b) the crop growth stage(s) to be treated (such as pre-emergent, mid-season foliar spray postharvest). If appropriate, use recognised growth stage coding systems (for example, BBCH)
c) the target pest, weed, or crop condition, and
d) how the proposed timing and use relates to current New Zealand GAP for management of the pest, weed, or crop condition.

(3) Express the applied rates in amounts of active ingredient in grams or kilograms active ingredient per hectare (g ai/ha or kg ai/ha) and as dilution rates (in grams or kilograms active ingredient per 100 litres of water). If relevant, provide details of acid equivalent application rates.

(4) Specify the amount of diluted spray mix likely to be applied per hectare, particularly the maximum spray rates generally recommended or common practice. If there are likely to be significant regional or grower differences, indicate these and note the most common or predominant application practice. If the recommended application rates application rate per hectare or dilution) change during the crop life cycle, this should be specified.

(5) Generally, for ‘tall crops’ (e.g. orchard and vine crops, glasshouse tomatoes), where flat boom spraying is not common practice, the emphasis for foliar applications should be on the spray concentration (gai/100 litres) with a clear indication of the dilute spray rates being recommended per hectare at the various crop growth stages.

(6) For ‘low crops’ (e.g. most vegetable crops, pasture, arable crops), where flat boom spraying predominates, application rates should relate to the rate of active ingredient applied per hectare. Also supply supplementary information on anticipated water rates per hectare.

(7) If the proposed use pattern is for spot treatment of weeds in pastures, obtain residue data for a broadcast rate equivalent to treating a hectare of the target weed using the necessary quantity of spray mix.

For example, if the mixing rate is 10 gai/100L water and it takes 3000L spray mix to treat 1 hectare of weed, then the application rate for residue purposes is 300 g/ha. For the purposes of calculating

animal intake of residues from treated pasture, also provide information on the anticipated maximum percentage of the pasture likely to be treated.

(8) State the minimum and maximum number of expected treatments per season, and the normal interval between applications (in days).

(9) Indicate any alternative treatment programmes.

Additional guidance

GAP will need to be confirmed via the efficacy assessment.

The use pattern of a trade name product influences the level and nature of residues that will occur in food. Therefore, include the complete, detailed use pattern proposed for the product to supplement the proposed label directions.

6.2.1 Withholding period

(1) Indicate the proposed withholding period for all food or feed crops concerned as either growth stage or the number of days before harvest.

(2) If different withholding periods are proposed for the same or similar commodity, clearly indicate the particular circumstances.

Additional guidance

If possible, provide both the growth stage and a 'days before harvest' WHP. Outline a justification for the preferred WHP.

6.3 Residue analysis

6.3.1 Residue sample

(1) Include all relevant details regarding residue samples taken, e.g. sample size, time between harvest and analysis, sample handling, and sample preparation.

6.3.2 Analytical methods

(1) Provide complete details of the analytical method(s) and method validation(s) proposed for the determination of residues for enforcement of MRLs and for dietary intake estimation, including metabolites or impurities of toxicological significance (if required).

(2) Conduct laboratory reports and the validation of methods in accordance with the OECD Guidelines for the Testing of Chemicals, Section 5 Part A, except for the requirement of testing to GLP.

Additional guidance

The residue definition for MRL enforcement (which is listed in the MRL Food Notice) may be different from the residue definition for dietary intake estimation.

The residue definitions for MRL enforcement and dietary intake estimation for animal commodities may be different from those for plant commodities. This only needs consideration for treated commodities that are to be used as animal feeds.

You may wish to contact MPI **prior** to laboratory analysis to confirm the residue definition(s).

Indicate whether the residue can be tested for using the multi-residue screen or could be added.

6.3.3 Storage stability tests for analytical samples

(1) Provide results of stability tests for residues in stored analytical samples of representative substrates if storage between sampling and analysis is longer than 1 month.

(2) Conduct studies in accordance with OECD Guideline 506: Stability of pesticide residues in stored commodities.

6.4 Metabolism studies

Metabolism studies are conducted to determine the metabolic fate of the active ingredient. Many agricultural chemicals undergo changes during and after application to plants, soil, water, and after ingestion by livestock. The composition of the terminal residue must therefore be determined before the analytical methodology can be developed and residues can be quantified.

6.4.1 Plant metabolism

(1) Provide information on the approximate level of total residues.

(2) Identify the major components of the total terminal residue.

(3) Discuss the presence of metabolites in the different plant parts (such as surface, leaves, stems).

(4) Indicate the route of distribution of any residue and its mobility (uptake from soil, absorption by plants or surface residue).

(5) Full and detailed information will be required if significant metabolic differences will be expected between different cultivars (for example, cultivars with conventionally bred or transgenic traits for herbicide tolerance).

(6) Conduct studies in accordance with OECD Guideline 501: Metabolism in crops.

6.4.2 Animal metabolism

(1) Animal metabolism studies are required if there is any potential for livestock to consume residues.

(2) In the information provided include documentation on the identity of any metabolites and the quantities present in different animal tissues (such as fat, muscle, kidneys) and excreta.

(3) For milk, separate the fat fraction from the aqueous portion by physical means and quantify the total recovered residue in each fraction.

(4) Conduct studies in accordance with OECD Guideline 503: Metabolism in livestock.

6.4.3 Soil metabolism and mobility

(1) Document the identity of the metabolites and the quantities present in different soil types (such as sandy loam, clay).

(2) Quantify soil mobility and half-lives (DT_{50}) of metabolites.

6.4.4 Residue definitions

Outcomes of metabolism studies are utilised to generate appropriate residue definitions for enforcement and risk assessment.

(1) Provide information of sufficient quality to allow generation of a concise residue definition for:

a) enforcement purposes in plant commodities (and, if necessary, animal tissues)
b) assessment of the dietary burden of residues (this will require data on the toxicological properties of any significant metabolites, degradation products or impurities), and

c) rotational crop/secondary uptake, if the residue definition will be different from those stated above.

(2) Report residue definitions in use internationally, if known.

6.5 Supervised crop field residue trials

(1) Independent field trials in food and feed commodities must provide data of sufficient quality to characterise:

a) the expected magnitude of residue(s) following treatment according to the proposed or established GAP
b) the rate of decline of the residue(s)(if appropriate), and
c) the supervised trial median residue (STMR) and highest residue (HR).

(2) The formulation tested in crop residue trials should be the end-use product that is to be marketed for application to the crop or commodity.

(3) Trials must reflect the worst case GAP which will lead to the highest residue burden.

(4) Conduct studies in accordance with OECD Guideline 509: Crop field trials.

(5) Provide information on cultivars, including information on comparative maturity (early season/late season).

(6) Field trials are not required to be conducted to GLP in New Zealand.

Some formulation types can be considered equivalent, and data can be translated:

Formulations diluted in water	EC, WP, WDG, SC,SL Seed treatment, pre-plant, at planting, soil, pre-emergent and use in early season – Considered equivalent Late season use – Bridging studies will be required for EC formulations, and may be required for other formulation types, especially for EOs
Home garden products	EC, WP, WDG, SC,SL All application timings are considered equivalent
Formulations undiluted (e.g. Granules, Dusts) Controlled release formulations Certain micro-encapsulated formulations (e.g. slow release) Formulations that contain active ingredient substances as nanomaterials	Bridging studies are not appropriate. Full residue data required.

Refer to: OECD Guideline 509: Crop field trials for further explanation on equivalency for formulations.

Additional guidance

Supervised crop field trials serve as the primary source of information for determining MRLs.

Provide bridging data sufficient in trial numbers and results to give confidence that the product has the same residue profile as the comparative products.

Provide appropriate bridging studies (as required from the table above) for home garden products also intended for commercial use.

You may wish to contact MPI **prior** to submission to confirm if bridging studies are appropriate.

6.6 Processing studies

The effects of industrial processing and household preparation on residues are required for commodities that may be further processed before consumption to allow more realistic estimates of chronic or acute dietary intake of pesticide residues.

(1) Processing studies are required for any crop that is further processed prior to consumption.

(2) The procedures used in processing studies must always correspond as closely as possible to those that normally occur in practice.

(3) Provide sufficient data to establish the potential concentration or dilution ratios in processed commodities.

(4) Conduct studies in accordance with:

a) OECD Guideline 507: Nature of the pesticide residue in processed commodities – high temperature hydrolysis, and
b) OECD Guideline 508: Magnitude of the pesticide residue in processed commodities.

6.7 Animal transfer studies

In addition to the animal metabolism studies (section 6.4.2), separate animal transfer studies using unlabelled compounds are required to establish the relationship between residue levels in feed and/or soil and the likely residues in food of animal origin (e.g. animal tissues, milk, honey and eggs).

(1) Animal transfer studies are required:

a) if the proposed use is on a primary feed crop, or rotation is to a primary feed crop and residues may be present in this succeeding crop
b) if guidance on a secondary feed source (treated orchard or vineyard grazing) is to be placed on the end use product label
c) if residues may persist in the top 5cm of soil and thus be accessible for soil consumption by stock
d) if animals will be used for leaf plucking
e) in any other situation if use of an agricultural chemical could be reasonably expected to result in consumption by food-producing animals.

(2) Provide sufficient data to estimate the maximum potential residue transferring in to animal tissues from consumption and, if necessary, to establish slaughter intervals to allow depuration prior to slaughter.

(3) Conduct studies in accordance with OECD guideline 505: Residues in livestock.

Additional guidance

Report predicted residues in animal feed for use in animal transfer assessment as dry matter.

When considering depuration periods before slaughter, ‘clean’ feed is considered to be untreated feed, with no residues.

6.8 Environmental fate studies

Environmental fate studies are required to provide an indication of the general behaviour and fate of the compound in soil and water, and thus permit the assessment of the potential for residues to transfer from these compartments into food or feed.

(1) Provide sufficient data to address:

a) persistence of the parent compound and its metabolites or degradation products in soils under aerobic and anaerobic conditions
b) mobility and partitioning of the parent compound and its metabolites in soils
c) adsorption by various soils
d) hydrolysis rate and products
e) photolysis on soil and plant surfaces and its products.

(2) Conduct studies in accordance with the OECD Guidelines for the Testing of Chemicals, Section 3.

6.9 Rotational crop studies

Rotational crop studies are performed to determine whether residues of the parent compound or metabolites persisting in soil from agricultural chemicals that are slower to decompose have the potential to be absorbed into succeeding crops and result in significant residues.

(1) Residue studies conducted in rotational crops are required if:

a) the data on soil persistence indicates that residue may persist past the harvest of the treated crop and/or the residue may accumulate over several seasons, and
b) plant metabolism studies indicate that significant accumulation of residues occur through soil uptake into food or feed commodities.

(2) Rotational crop studies must generate sufficient data to assess the potential for soil residues to cause residues in the succeeding crop that exceed the limit of quantification for the agricultural chemical in a harvested food or feed commodity.

(3) Conduct studies in accordance with OECD guideline 504: Residues in rotational crops (limited field studies).

7 New Zealand specific information

7.1 Supervised field trials

(1) The number of independent trials required for each crop is specified in Table 1: Crop Residue Trial Numbers (below).

(2) Trials conducted at the same geographic location will not normally be considered independent of each other.

(3) Trials conducted at the same geographic location but with dates of planting (annual crops) and treatments greater than 30 days apart can be considered independent (in most cases). Refer to FAO Manual 3rd Edition.

(4) Up to 50% of domestic field trials OR 100% of domestic glasshouse trials can be substituted with overseas data.

(5) You may substitute domestic trials with overseas trials on a 2 for 1 basis, with submission of a technical argument.

When substituting domestic trials with overseas trials, ensure that numbers are rounded down (e.g. if 3 trials are required, 50% is 1.5 trials, so a maximum of 1 trial will be substituted, requiring 2 overseas trials to be provided, along with 2 domestic trials).

(6) All submitted foreign studies must have been conducted (unless proportionality is appropriate):

a) under conditions that reflect New Zealand crop management practices and crop growth conditions
b) with a treatment regime that does not differ from the proposed New Zealand use pattern (such as application rates, frequency, timing, withholding periods) by more than 25% in total.

(7) At minimum, post-harvest treatments must supply 4 trials but may be 100% substituted with overseas studies.

Additional guidance

Overseas trial substitution may be used in combination with proportionality (refer to section 7.2).

Monitoring data: Industry monitoring data (in lieu of residue studies) may be considered suitable to use in support of a label claim in some circumstances, such as for very minor crops grown in New Zealand. Provide information on the use pattern (spray diary information) that is as reflective of the proposed GAP as possible. The acceptance of any monitoring data provided will be considered by MPI on a case by case basis.

7.2 Proportionality

(1) Up to 100% of domestic or overseas trials at the proposed use pattern may be substituted for independent trials conducted at a proportionally higher application rate (up to 4x) or a proportionally lower application rate (down to 0.3x for foliar, soil and seed treatments of insecticides, herbicides (except desiccants), fungicides, and plant growth regulators).

Additional guidance

Proportionality can only be used as long as all other parameters (number of applications, PHI, water rate, retreatment interval) remain the same.

7.3 Crop groupings

(1) New Zealand uses the Codex classifications for foods and feeds in establishing MRLs and approving use patterns. Refer to: Codex classification of foods and animal feeds.

7.4 Crop residue trial numbers

(1) Required trial numbers are listed in the Table 1: Crop Residue Trial Numbers (below). Within the table:

a) crop groupings are listed in bold
b) major crops (defined as ones that contribute significantly to land use in New Zealand or are a significant export) are listed in normal type, and
c) minor crops (all other crops grown in New Zealand) are listed in *italics*.

(2) Unless otherwise specified, to obtain a crop grouping MRL samples of at least 2 major representative crops need to be tested from within each group.

(3) If trials are to include minor crops, 50% of the total trials required can be conducted on minor crops, with no more than 25% of trials for each minor crop, and the remaining 50% of trials must be on the major representative crops.

For example:

Crop	**Percentage of total trials required**	**Number of trials e.g. 8 trials total required**
Major 1 + 2	Min 50%	8 (any combination of 2 major crops to have at 8 trials unless otherwise stated in the comments section of Table 1)
Major 1 + 2 Minor 1 Minor 2	Min 50% Max 25% Max 25% Combined Minor crop Max = 50%	4 2 2 Total = 8

Additional example:

Nine trials are required for the Assorted Tropical and Sub Tropical fruits inedible peel crop grouping. You must conduct a minimum of 3 or 4 trials on the major crops (avocados, kiwifruit), and a maximum of 2 trials on each of the minor crops (feijoa, passionfruit, tamarillo, other).

(4) Separation by a broken line indicates crops within a grouping that cannot be considered representative towards a crop grouping MRL.

For example: a fruiting vegetable MRL could be obtained through submitting 6 tomato trials and 2 capsicum trials or 4 tomato trials, 2 capsicum trials and 2 eggplant trials. Sweetcorn is classified a fruiting vegetable, but it would not be considered as representative for a crop grouping MRL.

(5) Situations such as a very long pre-harvest interval, dormant perennial crop use, seed treatment, pre-emergence or pre-plant uses, where no residues are anticipated at or above the limit of quantitation at harvest, trial numbers may be reduced by up to 50%. Reasoned argument along with up to 4 NZ trials at the proposed (or higher) rate need to be provided. In some situations it may be possible to substitute the NZ trials with overseas trials. The properties of the active and method of application require consideration, as these properties will affect the anticipated residue profile and a reduction in residue numbers may not be acceptable.

Table 1: Crop Residue Trial Numbers

NOTE: When CODEX has finalised the document 'Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of MRLs to Commodity Groups', MPI will consider (on a case by case basis) adopting the representative crop names and crop groupings listed in the document.

Crop Group and Representative Crops	Number of NZ Supervised Trials Required	Comments
Brassica vegetables (except Brassica leafy vegetables) – (head or flower head)	8	*may be extrapolated to/from cauliflower
Broccoli	5*	
Cabbage	5	
Other	3	
Bulb vegetables	6*	*if 2 trials are on green/spring onions and 1 trial on garlic, and residue populations are statistically comparable
Bulb onions	5	
Green/spring onions	3	
Garlic	3	Bulb onions may be extrapolated to garlic and shallots
Other	3	
Fruiting vegetables, Cucurbits – cucumbers and summer squashes	8*	*to obtain Fruiting vegetables, Cucurbits crop grouping if 25% of trials are on **melons/pumpkins/ winter squashes** varieties and residue populations are statistically comparable
Cucumber	5	
Summer squash	5	
Other	3	
Fruiting vegetables, Cucurbits – melons, pumpkins, winter squashes	5	
Winter squash	3	
Melons	3	
Other	3	
Fruiting vegetables (except cucurbits)	8	
Tomatoes	5	
Peppers	3	
Other	3	
Sweetcorn/Corn on the cob	3	
Mushrooms	3	
Leafy vegetables (including brassica leafy vegetables) – leafy greens	8*	*must include 2 brassica leafy vegetable trials
Lettuce (head)	4	
Lettuce (fancy, leaf)	4	
Spinach	3	
Other	3	
Brassica leafy vegetables	5	
Bok/Pak Choi	3	
Kale	3	
Other	3	

Crop Group and Representative Crops	Number of NZ Supervised Trials Required	Comments
Legume vegetables	6	
Beans (with pod)	4	
Succulent beans (without pod)	3	
Peas (without pod)	3	
Peas (with pod)	3	
Other	3	
Root and tuber vegetables	7	
Carrots	4*	*may be extrapolated to/from parsnip
Potatoes	5#	# may be extrapolated to/from kumara
Other	3	
Stalk and Stem vegetables	n/a	
Asparagus	4	
Celery	4*	*may be extrapolated to/from rhubarb
Other	3	
Citrus fruits	8	
Mandarins	5	
Lemon or Lime	3	
Oranges	5	
Other	3	
Pome fruits	8*	*must include 2 pear trials
Apples	6	
Pears	3	
Persimmons	3	
Other	3	
Stone fruits	8*	*must include 2 trials on cherries
Apricots	4	
Cherries	4	
Peaches/ Nectarines	4	
Other	3	
Bush berries	5*	*trials must consist of at least 2 berry types
Currants	3	
Gooseberry	3	
Blueberry	3	
Cane berries	5*	*trials must consist of at least 2 berry types
Raspberries	3	
Blackberries	3	
Boysenberry	3	
Loganberry	3	
Small fruit vine climbing	n/a	
Grapes	6	
Grapes (table only)	3	
Arguata kiwifruit	3	
Other	3	

Crop Group and Representative Crops	Number of NZ Supervised Trials Required	Comments
Low growing berries	n/a	
Strawberries	5	
Cranberry	3	
Other	3	
Assorted Tropical and Sub-tropical fruits - inedible peel	9*	*must include at least 4 kiwifruit, 3 avocado trials
Avocados	4	
Kiwifruit	6	
Feijoa	3	
Passionfruit	3	
Tamarillo	3	
Other	3	
Assorted Tropical and Sub-tropical fruits - edible peel	5*	*trials must consist of at least 2 sub-tropical fruit types
Olives	4	
Fig	3	
Other	3	
Tree nuts	6*	*trials must consist of at least 2 nut types
Hazel	3	
Macadamia	3	
Walnut	3	
Other	3	
Pulses	6	
Soyabean	4	
Other	3	
Oilseeds	6	
Oilseed Rape	3	
Other	3	
Cereal grains	8	
Barley grain	5	
Wheat grain	5	
Other small grain	4	
Herbs	n/a	
Basil	3	
Chives	3	
Coriander (Green)	3	
Parsley	3	
Other	3	
Miscellaneous crops	n/a	
Hops	3	
Other	3	
Animal feeds – Beets	5*	**trials must cover leaves and roots – leaf and root residue burden must be reported separately
Fodder Beets	4	
Other	3	

Crop Group and Representative Crops	Number of NZ Supervised Trials Required	Comments
Animal feeds – Brassicas	5*	*trials must cover leaves and roots – leaf and root residue burden must be reported separately
Swedes	4	
Other	3	
Animal feeds – Cereals	6*	*trials must consist of at least 2 cereal types, and include grain, forage (grazed – both green or failed crop, post-harvest stubble and straw) and fodder
Barley	4	
Maize	4	
Oats	3	
Wheat	4	
Other	3	
Animal feeds – Forage Herbs	6	
Chicory	4	
Plantain	4	
Other	3	
Animal feeds – Grasses	6	
Ryegrass	4	
Other	3	
Animal feeds – Legumes	6	
Clover	4	
Lucerne	4	
Other	3	
Animal feeds – Pasture	6*	*state the percentage of each species in each trial. Species used should be representative of all groups: forage herbs, grasses and legumes.
Animal feeds – Other	6	
Grapevines	3*	*grape leaves and ground cover
Orchard subfloors	3	

7.5 New Zealand primary feed crops

(1) For the purposes of determining the requirement for animal transfer studies, the following are considered to represent primary feed crops in New Zealand:

a) Barley (grain, forage, straw, hay, and stubble)
b) Brassicas (tops and roots)
c) Clover (red and white)
d) Fescue
e) Fodder beets (tops and roots)
f) Linseed
g) Lucerne (alfalfa)
h) Lupins
i) Maize (grain, forage, straw, hay, and stubble)
j) Millet
k) Oats (grain, forage, straw, hay, and stubble)
l) Pasture
m) Peas (silage, hay, and straw)
n) Rapeseed

o) Ryegrass
p) Sorghum
q) Triticale
r) Turnips
s) Wheat (grain, forage, straw, hay, and stubble).

(2) Other feeding sources (orchard grazing, feeding crop trash) do not require specific regulatory statements for withholding periods unless the risk of residues transferring to animals is deemed to be unmanageable by the grower/stock owner.

Additional guidance

Trials on animal feeds should include residue trials from early 'green' crop (or failed crop), as well as the material present at harvest and post-harvest such as straw or stubble, in accordance with GAP.

7.5.1 Leaf plucking in vineyards

(1) There is a 6 month default clean feed period for leaf plucking in vineyards.

(2) To reduce this from 6 months to 2 months, provide sufficient data to:

a) estimate the maximum potential residue transferring in to animal tissues from consumption of treated leaves and ground cover in vineyards, and
b) establish slaughter intervals to allow depuration prior to slaughter.

Additional guidance

Sampling should include a time point as soon as practical after the last application.
Also provide feeding studies.

7.5.2 Pasture

The composition of pasture has changed over the years from what was traditionally considered pasture. Current pasture is tailored to the animal grazing situation and, in most cases, pasture is now made up of a variety of grasses, clovers, and forage herbs.

(1) When conducting residue trials to include a label claim for pasture, complete either a range of trials on each individual plant type found in pasture, or trials on pasture with a varied composition to gain the pasture crop grouping claim.

7.6 Agricultural chemicals with an exception from an MRL

(1) Some agricultural chemicals have an exception from the requirement of providing residues studies if proposed for use within the constraints of the exception conditions.

(2) View the current MRL exception listing on our website.
Refer to: Maximum residue levels (MRLs) for agricultural compounds.