

GUIDELINE ON THE REGULATION OF MEDICINAL CANNABIS IN NEW ZEALAND

Pesticide use on medicinal cannabis crops

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Section 1: Introduction

We recommend you read all ***Guidelines on the regulation of medicinal cannabis in New Zealand*** in full, these can be found on our website at: <https://www.health.govt.nz/publication/medicinal-cannabis-scheme-guideline-and-forms>.

While we have made every effort to explain the requirements on the use of pesticides to meet the minimum quality standard, it is your responsibility to understand your obligations under the Misuse of Drugs Act 1975 (the Act), the Regulations, and other relevant pieces of legislation, such as the Agricultural Compounds and Veterinary Medicines Act 1997 and the Hazardous Substances and New Organisms Act 1996.

Please send all correspondence to medicinalcannabis@health.govt.nz.

1.1 Overview of permitted pesticide use

To meet the minimum quality standard, you may only use certain pesticides on medicinal cannabis crops. The pesticides that you may use depend on the end use of your crop. There are different requirements for:

- medicinal cannabis for inhalation products
- medicinal cannabis for non-inhalation products.

If you are a medicinal cannabis cultivator, it is important to consider the potential end use(s) of your crop before using any pesticides. If you do not know the end use(s), consider only using the pesticides allowed for medicinal cannabis for inhalation products – this means that the possible uses of your crop will not be limited by the pesticides used.

If you are manufacturing a starting material, cannabis-based ingredient, or medicinal cannabis product, it is important that you know which pesticides were used on the medicinal cannabis. You must check that the pesticides will meet the minimum quality standard requirements for the product that you are manufacturing.

Please refer to Table 1 on the following page for an overview of the requirements, and Table 2 for the pesticide residue testing requirements.

Table 1: Permitted pesticide use on medicinal cannabis in New Zealand to meet the minimum quality standard

| Pesticide requirement that applies in order to meet the minimum quality standard | Medicinal Cannabis for Inhalation Products | Medicinal Cannabis for Non-Inhalation Products |
|---|--|--|
| Pesticide products specifically authorised by the relevant authority for use on medicinal cannabis may be used. Details of the assessment authorising use must be provided, and label conditions must be followed. | ✓ | ✓ |
| Pesticide active ingredients listed in the Regulations may be used (see Section 3.1.1: Pesticide active ingredients listed in the regulations) | ✓ | ✓ |
| Pesticide active ingredients listed in Schedule 2 of the Food Notice: Maximum Residue Levels for Agricultural Compounds may be used (see Section 3.2: Agricultural chemicals listed in Schedule 2 of the Food Notice: Maximum Residue Levels for Agricultural Compounds) | | ✓ |
| Pesticide active ingredients in Agricultural Compounds and Veterinary Medicines Act 1997 registered products, that are registered for use on a food crop, may be used. Products used in New Zealand must be registered products and be permitted to be used off-label. Products used overseas must be permitted for use on foods in the country of use. | | ✓ |

Note: Pesticide use must be permitted in the country that the medicinal cannabis is grown. This includes medicinal cannabis grown in New Zealand.

Table 2: Minimum quality standard pesticide residue testing requirements on medicinal cannabis in New Zealand

| Pesticide residue testing requirement that applies to meet the minimum quality standard | Medicinal Cannabis for Inhalation Products | Medicinal Cannabis for Non-Inhalation Products |
|--|--|--|
| Residues in Regulation 7 must be tested for | ✓ | ✓ |
| Residues of any pesticides that may be used which are not listed in the Regulations or are not used in accordance with schedule 2 of the Food Notice: Maximum Residue Levels for Agricultural Compounds must be tested for | N/A | ✓ |

Section 2: Pesticide use on medicinal cannabis crops

2.1 Medicinal cannabis grown in New Zealand

2.1.1 Compliance with other legislation

If you use, import or manufacture pesticide products in New Zealand, you will also have obligations under other pieces of legislation.

All hazardous substances and new organisms must be approved by the Environmental Protection Authority under the Hazardous Substances and New Organisms Act 1996. This includes substances imported into New Zealand and/or manufactured here, even if the manufactured substance is intended for export.

You can find existing hazardous substances and new organism approvals on the Environmental Protection Authority website at: <https://www.epa.govt.nz/database-search/>. If you have any queries regarding approvals for hazardous substances and new organisms, please contact the Environmental Protection Authority at: <https://www.epa.govt.nz/contact-information/>.

If you want to import, manufacture, sell, or use an agricultural compound or veterinary medicine in New Zealand, it must be authorised under the Agricultural Compounds and Veterinary Medicines Act 1997. The Ministry for Primary Industries is responsible for administering this Act.

2.1.2 Pesticides that may be used on medicinal cannabis crops grown in New Zealand

Medicinal cannabis crops grown in New Zealand for inhalation products

For medicinal cannabis crops grown for inhalation products, you may use:

- any pesticide where the active ingredient is a substance listed in the Regulations (see [Section 3.1.1: Pesticide active ingredients listed in the Regulations](#)).

If your pesticide active ingredient is not on this list, but the pesticide product is authorised by a relevant overseas authority for use on medicinal cannabis crops intended for inhalation, you may still be able to use that pesticide. You will need to provide the assessment by the overseas authority on that pesticide product. This assessment must be appropriate, and the pesticide must be used according to the overseas authority requirements (such as label conditions). The Medicinal Cannabis Agency will review the assessment provided in a new medicinal cannabis product application to confirm whether that pesticide product is acceptable. Please note that this additional step may delay the verification of your product.

Remember that to use a pesticide in New Zealand you must follow all legislation in New Zealand on pesticide use.

Medicinal cannabis crops grown in New Zealand for non-inhalation products

For medicinal cannabis crops for non-inhalation products you may use:

- any pesticide allowed for use on medicinal cannabis crops for inhalation products
- any pesticide listed in Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#) when used in accordance with the specified usage conditions
- any pesticide that is registered under the Agricultural Compound and Veterinary Medicines Act 1997 with a label claim for use on a food crop, if that product is permitted to be used off-label. The residues of these pesticides must be tested for and be below a calculated pesticide maximum limit (PML) as per Chapter 2.8.13 of the *European Pharmacopoeia*, Version 11.0, including supplement 11.3 (*European Pharmacopoeia*). Further guidance on this calculation can be found in [Section 4.1.3: Calculation of limits for off-label pesticide active ingredients](#).

Further guidance on the products you may use is provided in [Section 3: Permitted pesticides](#).

If you use registered products under the Agricultural Chemicals and Veterinary Medicines Act 1997, with pesticide active ingredients that are not listed in the Regulations or are used in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#), you will need to test for pesticide residues. The limits that these pesticides must meet are calculated based off the acceptable daily intake. It is the responsibility of the applicant to ensure that the residues of a particular pesticide active ingredient can be tested for before it is used on medicinal cannabis crops. Further guidance on testing is provided in [Section 4: Testing of medicinal cannabis for pesticides](#). These residue tests are in addition to other testing required under Regulation 7 of the Regulations (Regulation 7).

Before using a pesticide with active ingredients not listed in the Regulations or used in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#), plan for how you will manage the risk of pesticide residues. Your industry body, or the manufacturer of the pesticide may be able to give you advice on this. If the residues in your cannabis-based ingredient or medicinal cannabis product exceed the calculated pesticide maximum limit, your ingredient or product will not be verified as meeting the minimum quality standard.

Remember that to use a pesticide in New Zealand you must follow all legislation in New Zealand on pesticide use.

2.1.3 Required pesticide testing for medicinal cannabis grown in New Zealand

All cannabis-based ingredients and medicinal cannabis products must be tested and meet the maximum limits specified in Regulation 7 (see [Section 4.1.2: Testing requirements set out in Regulation 7](#)). For medicinal cannabis grown in New Zealand (ie, not imported), the pesticides listed in [Section 4.1.2: Table 3](#) must be tested for and meet the specified limit.

For non-inhalation products, additional testing will be required if you are using any pesticides with active ingredients not listed in the Regulations or used in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#). The residues must be below the calculated pesticide maximum limits set out in the *European Pharmacopoeia* Chapter 2.8.13. For more information on these limits see [Section 4.1.3: New limits and testing requirements for active ingredients for non-inhalation products](#).

2.2 Medicinal cannabis crops grown overseas

2.2.1 Compliance with other legislation

If you are importing medicinal cannabis products into New Zealand, you may also have obligations under other pieces of legislation.

For dried medicinal cannabis products, you will need to meet biosecurity and phytosanitary requirements. Further information on these requirements can be found on the MPI website at: <https://www.mpi.govt.nz/import/plants-flowers-seeds-plant-growing-products/dried-preserved-plant-products/#:~:text=If%20you're%20importing%20dried,helps%20importers%20meet%20these%20requirements.>

2.2.2 Pesticides that you may use for medicinal cannabis crops grown overseas

Medicinal cannabis crops grown overseas for inhalation products

For medicinal cannabis crops for inhalation products, you may use:

- any pesticide where the active ingredient is listed or described in the Regulations ([See Section 3.1.1: Pesticide active ingredients listed in the Regulations](#)).

If your pesticide active ingredient is not on the list, but the pesticide product is authorised for the use by the relevant overseas authority on medicinal cannabis crops intended for inhalation, you may still be able to use that pesticide. You will need to provide the assessment of that pesticide product by the overseas authority, which must be appropriate, and the pesticide product must be used according to the label.

Medicinal cannabis crops grown overseas for non-inhalation products

For medicinal cannabis crops for non-inhalation products, you may use:

- any pesticide where the active ingredient is authorised for use on medicinal cannabis crops for inhalation products
- any pesticide where the active ingredient is listed in Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#) and is used in accordance with the schedule's conditions
- any pesticide with an active ingredient in a product that is:
 - registered for use under the Agricultural Compound and Veterinary Medicines Act 1997
 - registered for use on a food crop in New Zealand
 - permitted for off-label use in New Zealand
 - permitted for use on food crops by a relevant overseas authority.

The residue of any of these pesticides must be below a calculated limit as per Chapter 2.8.13 of the *European Pharmacopoeia*. Further guidance on this calculation can be found in [Section 4.1.3: Calculation of limits for off-label pesticide active ingredients](#).

Further guidance on which pesticide products you can use is provided in [Section 3: Permitted Pesticides](#).

Remember that if you use pesticides with active ingredients not listed in the Regulations or used in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#), you will need to test for pesticide residues. These residue tests are in addition to other regulation 7 testing. The limits that these pesticides must meet need to be calculated based off the acceptable daily intake. It is the responsibility of the applicant to ensure that the residues of a particular pesticide active ingredient can be tested for before it is used on medicinal cannabis crops. Further guidance on this testing is provided in [Section 4.1: Testing requirements for medicinal cannabis](#).

Before importing a cannabis-based ingredient or medicinal cannabis product, you should ensure that any pesticides used during cultivation meets the requirements to be verified as meeting the minimum quality standard.

2.2.3 Required pesticide testing

All cannabis-based ingredients and medicinal cannabis products intended for supply within New Zealand must be tested for certain pesticides and meet the limits in Regulation 7. For medicinal cannabis grown overseas the pesticides listed in Section 4: Table 4 must be tested for and meet the specified limit.

Additional testing may be required if you are using any products with active ingredients not listed in the Regulations or used in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#). The residues must be below the pesticide maximum limits set out in the *European Pharmacopoeia* Chapter 2.8.13. For more information on these limits see [Section 4.1.3: New limits and testing requirements for active ingredients for non-inhalation products](#).

Section 3: Permitted pesticides

3.1 List of permitted active ingredients, listed in the Regulations

3.1.1 Pesticide active ingredients listed in the Regulations

The following pesticide active ingredients are listed in the Regulations as being permitted for use on medicinal cannabis crops. These are permitted for use on medicinal cannabis crops intended for inhalation products.

- **Fatty acids of 8 carbons or more in their chains, and their salts**, including ammonium salt of fatty acid (fatty acids, C8-18 and C18 unsaturated, ammonium salt) and potassium salts of fatty acids (fatty acids, C8-18 and C18-unsaturated, potassium salts).
- **Active ingredients that are foods or permitted food additives** except where the food is deemed a novel food as defined in section 1.1.2 of the Australia New Zealand Food Standards Code and/or the composition of the active ingredient deviates from the physicochemical range or has undergone refining to a level exceeding that accepted as common for the food.
- **Sulphur.**
- **Hydrogen peroxide.**
- **Products containing paraffin oils or mineral oils as the active ingredient** approved by an overseas regulatory authority for use on medicinal cannabis crops; or those with the following CAS numbers CAS: 8042-47-5; 72623-86-0; and 97862-82-3 as the active ingredient.
- **Extract of *Reynoutria sachalinensis*.**
- **GS-omega/kappa-Hxtx-Hv1a.**
- **Microbial Active Ingredients.**
 - *Akanthomyces lecanni*.
 - *Aureobasidium pullulans* (strains DSM 14940, DSM 14941, and YBCA5).
 - *Autographa californica nucleopolyhedrovirus* fv11 (baculovirus: nucleopolyhedrovirus *Autographa californica* (ACMNPV)).
 - *Bacillus amyloliquefaciens* (strains MBI600, D747, F272, QST 713, and BS1b).
 - *Bacillus subtilis* (strains ATCC 6051, GBO3 and KTSB).
 - *Bacillus thuringiensis subspecies* kurstaki, and aizawai.
 - *Beauveria bassiana*.
 - *Clonostachys rosea* (strain J1446).
 - *Helicoverpa Armigera Nucleopolyhedrovirus* BV-0003.
 - *Metarhizium brunneum* (strain F52).
 - *Streptomyces lydicus* (strains WYEC 108, and ATTC55445).
 - *Trichoderma asperellum* (strains T34 and ICC 012).
 - *Trichoderma gamsii* strain icc 080.
 - *Trichoderma harzianum rifai* strain KRL-AG2 (also known as strain T-22).

- *Trichoderma virens* (strains G-41, LU753).
- *Ulocladium oudemansii* (strain U3).

One way to determine the active ingredients is to check the label. You can also search the Agricultural Compounds and Veterinary Medicines Act 1997 register for active ingredients, or by product name. Note that products that are exempt from registration are not listed here, you will need to check with the manufacturer if their products are exempt. Products that are exempt from registration may be used on medicinal cannabis crops if the pesticide active ingredient is listed or described above.

3.1.2 Guide to interpretation of the list

Pesticide products with pesticide active ingredients from the above list are permitted for use on all medicinal cannabis crops. Further explanation and examples below aim to help you interpret this list.

This includes advice on:

- the use of beneficial or predatory insects
- fatty acids, and ammonium and potassium salts of fatty acids
- active ingredients that are foods or permitted food additives
- other substances that are not pesticides.

Use of beneficial or predatory insects

Beneficial and predatory insects are not covered by the minimum quality standard requirements on pesticides. If you are growing medicinal cannabis crops in New Zealand, you may use beneficial and predatory insects when cultivating medicinal cannabis crops if they are permitted for use in agriculture in New Zealand. Medicinal cannabis crops grown overseas may also be cultivated using beneficial or predatory insects. Please note that you should check if you have obligations under other pieces of legislation if you intend to use beneficial and predatory insects.

Fatty acids, and ammonium and potassium salts of fatty acids

Generally, fatty acids (C8-18 and C18 unsaturated), ammonium salts of fatty acids and potassium salts of fatty acids, are used in the form of insecticidal soaps, fungicides or as herbicides. These products may be able to be used, but you will need to check which fatty acids are being used and ensure any other active ingredients in the product are also permitted.

Remember that for a product to be used in New Zealand as an agricultural compound it must be authorised under the Agricultural Compounds and Veterinary Medicines Act 1997.

Active ingredients that are foods or permitted food additives

Pesticides with active ingredients that are foods or permitted food additives in New Zealand may be used on medicinal cannabis crops. If the medicinal cannabis crop is being grown in New Zealand, the pesticide will also need to be compliant with the Agricultural Compounds and Veterinary Medicines Act 1997.

Lists of permitted food additives under the Australia New Zealand Food Standards can be found at: <https://www.mpi.govt.nz/dmsdocument/3433-Identifying-Food-Additives>.

Information on novel foods (which are excluded from the list) can be found at: <https://www.foodstandards.govt.nz/business/novel>.

Examples of substances that fit the entry for active ingredients that are foods or permitted food additives include:

- canola oil
- garlic powder
- potassium bicarbonate / potassium hydrogen carbonate
- lactic acid
- citric acid
- glycerin
- oriental mustard seed meal
- banda de lupinus albus doce
- extract* of *Beta vulgaris*
- extract* of *Camellia sinesis*
- extract* of *Optuntia linheimeri*
- extract* of *Ribes nigrum*
- extract* of *Undaria pinnatifida*
- extracts* of citrus
- ascorbic acid
- clove powder
- cinnamon powder
- hemp seed oil
- *Mentha piperita*
- sodium chloride.

**extracts must come from the edible portion of the plant.*

Other substances that are not pesticides

Soil conditioners or fertilisers do not have to meet the requirements in the minimum quality standard if they are applied to the soil and not being applied onto the plant directly.

3.2 Agricultural chemicals listed in Schedule 2 of the Food Notice: Maximum Residue Levels for Agricultural Compounds

3.2.1 Schedule 2 of the Food Notice: Maximum Residue Levels for Agricultural Compounds

If you are growing medicinal cannabis crops for a non-inhalation product, you may use pesticides with active ingredients in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#).

Schedule 2 of the [Food Notice: Maximum residue levels in food](#) is frequently updated, it can be accessed on the Ministry for Primary Industries website at:

www.mpi.govt.nz/agriculture/agricultural-compounds-vet-medicines/maximum-residue-levels-agricultural-compounds.

One way to determine the active ingredients is to check the label. You can also search the Agricultural Compounds and Veterinary Medicines Act 1997 register for products by active ingredients, or by product name. Note that products that are exempt from registration are not listed here, you will need to check with the manufacturer if their products are exempt. Products that are exempt from registration may be used on medicinal cannabis crops intended for non-inhalation products if the pesticide active ingredient is listed in the Regulations or has a maximum residue limit exemption described at: <https://www.mpi.govt.nz/agriculture/agricultural-compounds-vet-medicines/maximum-residue-levels-agricultural-compounds/>

If you would like further clarification on whether a given pesticide active ingredient is covered by Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#), please contact us at: medicinalcannabis@health.govt.nz.

3.3 Products and active ingredients in pesticide products registered under the Agricultural Compound and Veterinary Medicines Act 1997

3.3.1 Medicinal cannabis crops grown in New Zealand vs. medicinal cannabis grown crops overseas for non-inhalation products

If you are growing medicinal cannabis crops in New Zealand, you may also use pesticide products that are registered under the Agricultural Compound and Veterinary Medicines Act 1997 which have a label claim for a food crop, and no registration prohibiting the product being used off label.

Medicinal cannabis crops grown overseas can be treated with pesticides that contain the same active ingredient/s as pesticide products that are registered under the Agricultural Compound and Veterinary Medicines Act 1997, and the pesticides are allowed for use on food by a relevant regulatory authority.

3.3.2 Active ingredients and products registered under the Agricultural Compound and Veterinary Medicines Act 1997

Active ingredients, and registered products are found in the Agricultural Compound and Veterinary Medicines Act 1997 register at: <https://eatsafe.nzfsa.govt.nz/web/public/acvm-register>.

To ensure an active ingredient or product can be used, you will need to ensure that the label has a claim for use on a food crop. You will also need to check that off-label use of the product on food is not prohibited.

Pesticide maximum limits are required to be calculated if you use products with active ingredients that are not listed in the Regulations or are used in accordance with Schedule 2 of the [Food Notice: Maximum Residue Levels](#). The limit must be calculated in accordance with the *European Pharmacopoeia* Chapter 2.8.13, and you must demonstrate that the residue does not exceed the calculated limit. This testing is additional to other testing for pesticides required under Regulation 7 of the minimum quality standard.

3.4 Other pesticide products that may be used on medicinal cannabis crops

3.4.1 Pesticide products authorised for use on medicinal cannabis crops by a relevant overseas authority

Pesticide products authorised for use on medicinal cannabis crops overseas may be used on medicinal cannabis crops. You will need to provide the assessment of that pesticide product by the overseas authority, which must be appropriate, and the pesticide product must be used according to the label.

You will need to provide:

- details on the assessment conducted by the overseas authority
- comment on why this assessment is appropriate, for instance details of the assessment relating to inhalation exposure, or the risk of pyrolysis by products
- evidence that the pesticide product is the exact same as the overseas product (if the pesticide product will be used in New Zealand)
- evidence that the appropriate label conditions have been followed.

Section 4: Testing of medicinal cannabis for pesticides

4.1 Testing requirements for medicinal cannabis

Medicinal cannabis intended for supply in New Zealand must be tested for pesticide residues. The testing requirements differ for medicinal cannabis grown in New Zealand, and that grown overseas. There are also additional pesticide requirements for medicinal cannabis depending on which pesticides have been used during cultivation.

4.1.1 Testing requirements set out in Regulation 7

Pesticides that you must test for, and the limit they must meet are set out in Regulation 7, they are also listed in table 3 and 4 below for your convenience.

Table 3 lists the pesticides which must be tested for in medicinal cannabis grown in New Zealand, and the maximum allowable limit for that pesticide.

Table 4 lists the pesticides which must be tested for in imported medicinal cannabis, and the maximum allowable limit for that pesticide.

Table 3: Minimum quality standard required pesticide residue testing and the maximum limit for medicinal cannabis grown in New Zealand

| Pesticide | Maximum Limit (ppm) |
|-----------------------------|---------------------|
| Abamectin | 0.02 |
| Bifenazate | 0.02 |
| Bifenthrin | 0.1 |
| Chlormequat chloride | 0.01 |
| Daminozide | 0.02 |
| Etoxazole | 0.02 |
| Fenoxycarb | 0.02 |
| Imazalil | 0.01 |
| Imidacloprid | 0.02 |
| Myclobutanil | 0.02 |
| Paclobutrazol | 0.02 |
| Pyrethins (I and II) | 0.05 |
| Spinosad (Spinosyn A and D) | 0.01 |
| Spiromesifen | 3 |
| Spirotetramat | 0.02 |
| Trifloxystrobin | 0.02 |

Table 4: Minimum quality standard required pesticide residue testing and maximum limit for imported medicinal cannabis

| Pesticide | Maximum Limit (ppm) |
|--|---------------------|
| Acephate | 0.1 |
| Alachlor | 0.05 |
| Aldrin and dieldrin (sum of) | 0.05 |
| Azinphos-ethyl | 0.1 |
| Azinphos-methyl | 1 |
| Bromophos-ethyl | 0.05 |
| Bromophos-methyl | 0.05 |
| Bromproylate | 3 |
| Chlordane (sum of <i>cis</i> -, <i>trans</i> and oxychlordane) | 0.05 |
| Chlorfenvinphos | 0.5 |
| Chlorpyrifos-ethyl | 0.2 |
| Chlorpyrifos-methyl | 0.1 |
| Chlorthal-dimethyl | 0.01 |
| Cyfluthrin (sum of) | 0.1 |
| Lambda-Cyhalothrin | 1 |
| Cypermethrin and isomers (sum of) | 1 |
| DDT (sum of <i>o,p'</i> -DDE, <i>p,p'</i> -DDE, <i>o,p'</i> -DDT, <i>p,p'</i> -DDT, <i>o,p'</i> -TDE and <i>p,p'</i> -TDE) | 1 |
| Deltamethrin | 0.5 |
| Diazinon | 0.5 |
| Dichlofluanid | 0.1 |
| Dichlorvos | 1 |
| Dicofol | 0.5 |
| Dimethoate and omethoate (sum of) | 0.1 |
| Dithiocarbamates (expressed as CS ₂) | 2 |
| Endosulfan (sum of isomers and endosulfan sulfate) | 3 |
| Endrin | 0.05 |
| Ethion | 2 |
| Etrimphos | 0.05 |
| Fenchlorophos (sum of fenchlorophos and fenchlorophos-oxon) | 0.1 |
| Fenitrothion | 0.5 |
| Fenpropathrin | 0.03 |
| Fensulfothion (sum of fensulfothion, fensulfothion-oxon, fensulfothion-oxonsulfon and fensulfothion-sulfon) | 0.05 |
| Fenthion (sum of fenthion, fenthion-oxon, fenthion-oxon-sulfon, fenthion-oxon-sulfoxid, fenthion-sulfon and fenthion-sulfoxid) | 0.05 |
| Fenvalerate | 1.5 |
| Flucytrinate | 0.05 |

| Pesticide | Maximum Limit (ppm) |
|---|---------------------|
| Tau-fluvalinate | 0.05 |
| Fonophos | 0.05 |
| Heptachlor (sum of heptachlor, cis-heptachlorepoide, trans-heptachlorepoide) | 0.05 |
| Hexachlorbenzene | 0.1 |
| Hexachlorocyclohexane (sum of isomers apha, beta, delta, and epsilon) | 0.3 |
| Lindan (gamma-hexachlorocyclohexane) | 0.6 |
| Malathion and malaaxon (sum of) | 1 |
| Mecarbam | 0.05 |
| Methacriphos | 0.05 |
| Methamidophos | 0.05 |
| Methidathion | 0.2 |
| Methoxychlor | 0.05 |
| Mirex | 0.01 |
| Monocrotophos | 0.1 |
| Parathion-ethyl and paraoxon-ethyl (sum of) | 0.5 |
| Parathion-methyl and paraoxon-methyl (sum of) | 0.2 |
| Pendimethalin | 0.5 |
| Petachloranisol | 0.01 |
| Permethrin and isomers (sum of) | 1 |
| Phosalone | 0.1 |
| Phosmet | 0.05 |
| Piperonyl butoxide | 3 |
| Pirimiphos-ethyl | 0.05 |
| Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl) | 4 |
| Procymidone | 0.1 |
| Profenophos | 0.1 |
| Prothiophos | 0.05 |
| Pyrethrum (sum of cinerin I, cinerin II, jasmolin I, jasmolin II, pyrethin I and pyrethin II) | 3 |
| Quinalphos | 0.05 |
| Quintozene (sum of quintozene, petachloraniline and methyl pentachlorophenyl sulfide) | 1 |
| S-421 | 0.02 |
| Tecnazene | 0.05 |
| Tetradifon | 0.3 |
| Vinclozolin | 0.4 |

4.1.2 New limits and testing requirements for pesticide active ingredients for non-inhalation products

For the use of pesticides other than those listed in the Regulations or in Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#) and used in accordance with the conditions, you must test for any pesticide residues. These pesticide residues must be below the pesticide's maximum level as calculated in the section below.

4.1.3 Calculation of limits for off-label pesticide active ingredients

The maximum limit for a pesticide residue (Maximum Residue Limit or MRL), is calculated according to the *European Pharmacopoeia*, Chapter 2.8.13.

This limit uses an acceptable daily intake value (ADI) to calculate a limit for the pesticide residue (MRL_{HD}).

This can be calculated as follows:

$$MRL_{HD} = \frac{ADI \times M}{MDD_{HD} \times 100}$$

Where,

ADI = acceptable daily intake, as published by the Food and Agriculture Organisation or World Health Organisation (FAO-WHO), in mg/kg of body mass

M = body mass in kg (60 kg)

MDD_{HD} = maximum daily dose of the herbal drug (kg).

This limit can differ depending on the drug:extract ratio (DER):

If the $DER \leq 10$, the limit is $MRL_{HD} \times DER$

If the $DER \geq 10$, the limit is MRL_{HD} .

- In this case the DER is used to account for a diluted extract, by lowering the PML accordingly.
- This gives an MRL that is 1% (w/w) of the ADI for a 60 kg person consuming a specified daily dose.

If the calculated MRL is higher than the limits specified in the table of Chapter 2.8.13 of the *European Pharmacopoeia* the lower value of the two limits applies.

You are responsible for ensuring that pesticide residues can be tested for. Pesticides listed in the Regulations or in Schedule 2 of the [Food Notice: Maximum Residue Levels for Agricultural Compounds](#) and used in accordance with the conditions do not need to be tested for. Any other pesticide active ingredient that has been used should be tested for and shown to be below the calculated pesticide maximum limit.

Examples of ADI that would be acceptable for use are the FAO-WHO values. If the FAO-WHO values are not available, ADI values provided by the New Zealand Environmental Protection Authority, the European Union, or the Australia-New Zealand Food Standards could be used.

Estimations of daily dose must be reasonable and appropriately justified. By way of example, it is unlikely that the Medicinal Cannabis Agency would accept a calculated pesticide maximum limit that is based off a daily dose that is less than 1g.

If you cannot test for the residues of a pesticide active ingredient and show that it is below the calculated PML, then you cannot use that pesticide active ingredient.

If you wish to use pesticide active ingredients that are not listed in the Regulations or are used in accordance with Schedule 2 of the Food Notice: Maximum Residue Levels for Agricultural Compounds, but which are otherwise permitted for use on medicinal cannabis crops by the requirements outlined earlier in this document we recommend that you consider the following.

- What are the residue limits that you need to meet?
- How will you achieve these residue limits (eg, withholding periods, use only during certain plant stages, use only on certain plant parts)?
- Is there a laboratory able to test for the pesticide active ingredient?

Where further information is needed, we suggest contacts may include your industry body, or the pesticide manufacturer for advice.