



Rainforest Alliance Exceptional Use of FAO/WHO highly hazardous pesticides

**July, 2017
Version 2.4**

The Rainforest Alliance Works to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behavior.

D.R. © 2017 Red de Agricultura Sostenible, A.C.

This document is provided by Red de Agricultura Sostenible, A.C. (also known as Sustainable Agriculture Network) to Rainforest Alliance, Inc. and/or to its successors, under the terms and subject to the limitations set forth in the perpetual, exclusive, non-transferrable license granted by Red de Agricultura Sostenible, A.C. in favor of Rainforest Alliance, Inc., or its successors under the terms and conditions set forth in an agreement between the parties (the “Agreement”), in the understanding that:

- 1. All content of this document, including, but not limited to text, logos, if any, graphics, photographs, trade names, etc. of Red de Agricultura Sostenible, A.C. is subject to copyright protection in favor of the Red de Agricultura Sostenible, A.C. and third party owners who have duly authorized the inclusion of their work, under the provisions of the Mexican Federal Law on Copyright (Ley Federal del Derecho de Autor) and other related national and / or international laws. The Rainforest Alliance name and trademarks are the sole property of Rainforest Alliance.*
- 2. Rainforest Alliance, Inc., and / or its successors, shall only use the copyrighted material under the terms and conditions of the Agreement.*
- 3. Under no circumstance shall it be understood that a license, of any kind, over this document has been granted to any third party different from Rainforest Alliance, Inc., or its successors.*
- 4. Except for the terms and conditions set forth in the Agreement, under no circumstance shall it be understood that Red de Agricultura Sostenible, A.C. has, partially or totally, waived or assigned the copyrighted material.*

More information?

For more information about the Rainforest Alliance, visit www.rainforest-alliance.org or contact info@ra.org

Translation Disclaimer

Translation accuracy of any Rainforest Alliance sustainable agriculture certification program document into languages other than English is not guaranteed nor implied. Any question related to the accuracy of the information contained in the translation, refer to the English official version. Any discrepancies or differences created in the translation are not binding and have no effect for auditing or certification purposes.

POLICY

Issue Date:	Binding date:	Expiration date:	Replaces:
November 5 th , 2020	Immediately,	June 30, 2021	RA-P-SP-7-V2.3 Policy on Exceptional use of FAO/WHO highly hazardous pesticides
Developed by:		Approved by:	
Senior Manager, Standards		Director, Standards and Assurance	
Linked to (name of documents):		Reference criterion or clause number:	
Rainforest Alliance Sustainable Agriculture Standard 2017, version 1.2.		Critical criterion 3.4	
This policy is applicable to:		Type of organizations (if applicable):	
All types of audits		<ul style="list-style-type: none"> Farms and group administrators. 	
Crops:		Regions:	
As specified for each substance and pest.		All countries.	

MAIN CHANGES FROM VERSION 2.3 (16/03/2020)

Page number	Clause	Change
Section2. Policy: Exceptional use of FAO/WHO highly hazardous pesticides		
p.5	2.1.3	The information required by the policy must be submitted <i>at the end of each semester</i> instead of every six months.
p.11	2.2.3-2	The requirement on monitoring of the behavior of native pollinators has been removed due to implementation difficulties.
p.11	2.2.3-2-d	The requirement includes that pesticides applications are avoided during high activity hours of beehives.

Contents

1. INTRODUCTION.....	4
1.1. 2017 Prohibited Pesticide List, WHO/FAO highly hazardous pesticides and exceptional use requests	4
1.2. Justifications for authorizations of exceptional use requests	5
2. POLICY: EXCEPTIONAL USE OF FAO/WHO HIGHLY HAZARDOUS PESTICIDES	5
2.1. General rules and risk management requirements	5
2.2. Authorized exceptions and risk management requirements per chemical category.....	6
2.2.1. Rodenticides: authorizations and risk management requirements	6
2.2.2. Nematicides: authorizations and risk management requirements	7
2.2.3. Pollinator risk substances: authorizations and risk management requirements	8
2.2.4. Reproductive toxicity substances: authorizations and risk management requirements	11
2.2.5. Other prohibited substances	13

1. Introduction

Rainforest Alliance is a growing network of people who are inspired and committed to working together to achieve our mission of conserving biodiversity and ensuring sustainable livelihoods. For more information about Rainforest Alliance, visit our website: <http://www.rainforest-alliance.org>

1.1. 2017 Prohibited Pesticide List, WHO/FAO highly hazardous pesticides and exceptional use requests

When SAN published its new 2017 Sustainable Agriculture Standard in September 2016, it was accompanied with a completely updated list of SAN prohibited pesticides containing 127 active ingredients classified as Highly Hazardous Pesticides by the FAO/WHO Panel of Experts on Pesticide Management additional to 25 obsolete substances.

During a special round of public consultation in 2015/16, stakeholders in North and South explained the challenge to eliminate at least one fifth of these 127 active ingredients on the short run. As a result, in September 2016 SAN issued a procedure for exceptional pesticide use and invited stakeholders to send applications for exceptional use. This is the first update of the document that resulted from that consultation.

The following authorizations are valid until June 30, 2021 or until the new certification program becomes officially binding, and only under the condition of implementing the mandatory risk management requirements reflected in this Policy.

1.2. Justifications for authorizations of exceptional use requests

Authorizations of requests for the exceptional use of WHO/FAO highly hazardous pesticides have been granted, if:

- Evidence of producers' use/need was provided; and
- Rainforest Alliance currently has certified organizations within the requested crop or country scope; and
- The substance's risks can be managed with mandatory risk mitigation requirements or additional specific conditions; and
- Other less toxic, effective and registered control alternatives are not available for the specific pest-crop combination.

2. Policy: Exceptional use of FAO/WHO highly hazardous pesticides

2.1. General rules and risk management requirements

1. Failing to comply with the requirements in this policy will be considered as a non-conformity against critical criterion 3.4 of the 2017 Sustainable Agriculture Standard.
2. The substances listed in this policy may only be used if applications are registered including the following information:
 - a) All purchase receipts; and
 - b) Label names of applied products; and
 - c) Active ingredient (AI) name; and
 - d) Quantity of each formulated product applied; and
 - e) Application dates; and
 - f) Location (production plot); and
 - g) Land area over which each product is applied; and
 - h) Type of application equipment; and
 - i) Names of pesticide handlers.
3. The following information is submitted by the end of each semester – using the CBs or [RA template](#), to the following email IPM@ra.org:
 - a) Certificate Holder name;
 - b) Country and Region;
 - c) Name of the agrochemical's active ingredient in use;
 - d) Name of the commercial product in use;
 - e) Application method;
 - f) Crop (common name);
 - g) Pest species to be controlled (common and scientific names);
 - h) Dosage, volume and biannual number of applications;
 - i) Other products with which these products are rotated;
 - j) Evidence that the specific pest species cannot be prevented by other cultural, manual or non-chemical methods;
 - k) Evidence that other alternatives to control this pest species are not registered by the local authority in the specific production country.

2.2. Authorized exceptions and risk management requirements per chemical category

2.2.1. Rodenticides: authorizations and risk management requirements

- 1) Rainforest Alliance authorizes the use of the following eleven rodenticides only for the specified pest species in all crops, as determined in the following table and under the conditions of clauses 2) and 3) of this section:

Pesticide	CAS Number	Pest Species
1. Brodifacoum	56073-10-0	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
2. Bromadiolone	28772-56-7	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
3. Bromethalin	63333-35-7	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
4. Chlorophacinone	3691-35-8	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
5. Coumatetralyl	5836-29-3	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
6. Difethialone	104653-34-1	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
7. Diphacinone	82-66-6	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
8. Flocoumafen	90035-08-8	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
9. Strychnine	57-24-9	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
10. Warfarin	81-81-2	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)
11. Zinc phosphide	1314-84-7	Rodents (<i>Mus</i> sp. & <i>Rattus</i> sp.)

- 2) These substances may be used only if the following risk management requirements are fully implemented:
- Rodenticide traps are only used, if rodent monitoring demonstrates that mechanical control methods are not effective; and
 - Only formulated rodenticide baited traps are used; and
 - Signs of rodent activity (droppings, tracks, gnaw marks, burrows) are monitored and the results recorded. Traps are inspected daily and bait stations and installations weekly; and
 - Bait stations are tamper-resistant, anchored, and constructed in such a manner and size as to permit only the entrance of rodents; and
 - Food sources attracting rodents and debris are eliminated; and
 - Rodent carcasses are handled with gloves and buried in locations that do not pose risk to human health or water contamination; and
 - Bait stations are removed, and the amount of stations diminished when there are no longer signs of rodent feeding or there is evidence of use by non-target wildlife.

- 3) The use of pellets containing one or a combination of these eleven rodenticides is only permitted if the following additional requirements are fully implemented:
- Pellets are designed for the target pests; and
 - Routine applications of rodenticide pellets are prohibited; and
 - Pellets are applied according to a documented and implemented rodent prevention plan that addresses periods of mass invasion of rodents to pineapple production plots; and
 - Access of bystanders is avoided by fencing or other effective security measures.

2.2.2. Nematicides: authorizations and risk management requirements

- 1) Rainforest Alliance authorizes the use of the following five nematicides only for the combination of pest species and crops specified in the following table, under implementation of the additional specific conditions and under the conditions of clause 2) of this section.

Pesticide	CAS Number	Pest Species	Crop or Production System
Cadusafos	95465-99-9	All nematode species	Banana (<i>Musa</i> sp.), Coffee (<i>Coffea</i> sp.) Pineapple (<i>Ananas comosus</i>), flowers and Ornamentals ¹
Ethoprophos; Ethoprop	13194-48-4	Nematode (<i>Radopholus similis</i>)	Banana (<i>Musa</i> sp.)
		<i>Radopholus similis</i> , <i>Scutigerellidae</i> , <i>Scolopendrellidae</i> , <i>Meloidogyne</i> spp., <i>Pratylenchus</i> spp.	Pineapple (<i>Ananas comosus</i>) ²
Fenamiphos	22224-92-6	All nematode species	Banana (<i>Musa</i> sp.), flowers and Ornamentals ³
		<i>Tylenchorhynchus</i> spp., <i>Meloidogyne</i> spp., <i>Helicotylenchus</i> sp., <i>Pratylenchus</i> spp., <i>Belonolaimus</i> spp., <i>Tylenchulus semipenetrans</i> , <i>Heterodera</i> spp., <i>Rotylenchulus</i> spp., <i>Xiphinema</i> sp., <i>Radopholus similis</i>	Pineapple (<i>Ananas comosus</i>) ⁴
Oxamyl	23135-22-0	All nematode species	Banana (<i>Musa</i> sp.), Onions (<i>Allium cepa</i>), Garlic (<i>Allium Sativum</i>), Mint (<i>Mentha</i> sp.), Flowers and Ornamentals
		<i>Meloidogyne</i> sp., <i>Pratylenchus</i> sp., <i>Ditylenchus</i> sp.	Melon, watermelon
		<i>Heterodera marioni</i> , <i>Meloidogyne</i> ssp.	Melon
		All nematode species	Grape (<i>Vitis vinifera</i>)
		<i>Radopholus similis</i> , <i>Meloidogyne incognita</i> , <i>Helicotylenchus multicinctus</i> , <i>Pratylenchus</i>	Pineapple (<i>Ananas comosus</i>)

¹ Application only in open fields; prohibited for green-house conditions.

² Only with closed cabin tractor application.

³ Application only in open fields; prohibited for green-house conditions.

⁴ Only permitted under closed cabin application

Pesticide	CAS Number	Pest Species	Crop or Production System
		<i>simipenetrans</i> , <i>Meloidogyne</i> sp., <i>Pratylenchus</i> sp., <i>Rorylenchulus</i> <i>reniformis</i>	
Terbufos	13071-79-9	Nematode (<i>Radopholus similis</i>), weevil (Curculionoidea)	Banana (<i>Musa</i> sp.)
		<i>Meloidogyne</i> sp., <i>Pratylenchus</i> sp., <i>Ditylenchus</i> sp.	Rice (<i>Oryza sativa</i>)

- 2) These substances may be used only if the following risk management requirements are fully implemented:
- a) The listed nematicides are rotated with lower toxicity nematicides as part of the rotation for resistance management; and
 - b) Application methods place the product precisely within the plant root zone or use tree injection. Uncovered application of granules is prohibited in Rainforest Alliance non-application zones; and
 - c) Daily maximum application time is limited to eight hours under the condition that
 - i. The daily application is divided into two shifts of maximum four hours each; and
 - ii. Pesticide handlers bathe to wash off residues after each shift; and
 - iii. Pesticide handlers put on clean PPE clothing before each shift; and
 - iv. Application is conducted during the coolest hours of the day.
 - d) Annual medical monitoring of pesticide handler’s health (kidney and liver function) is provided; and
 - e) Cholinesterase levels of pesticide handlers are tested. Tests are conducted prior to the first time pesticide handlers apply these substances on the farm and periodically thereafter as long as they remain assigned to this task. Other work that does not involve use of these five nematicides is offered to those nematicide handlers with results outside of the accepted cholinesterase levels.

2.2.3. Pollinator risk substances: authorizations and risk management requirements

- 1) Rainforest Alliance authorizes the use of the following three neonicotinoids clothianidin, imidacloprid, thiamethoxam, and the phenylpyrazole fipronil only for the combination of pest species and crops specified in the following table, under implementation of the additional specific conditions and under the conditions of clause 2) of this section:

Pesticide	CAS Number	Pest Species	Crop or Production System
Clothianidin	210880-92-5	Tea mosquito (<i>Helopeltis theivora</i>), moth (<i>Mocis frugalis</i>), aphids or green fly (<i>Aphidoidea</i>), leafhopper or jassid (<i>Cicadellidae</i>)	Tea (<i>Camellia sinensis</i>)
		Aphids (<i>Cavariella aegopodii</i>)	Fennel (<i>Foeniculum vulgare</i>)

Pesticide	CAS Number	Pest Species	Crop or Production System
		Aphids (<i>Myzus Persicae</i>)	Cumin (<i>Cuminum cyminum</i>)
		Thrips (<i>Franklienella occidentalis</i>); Aphids (<i>Myzus persicae</i>)	Flowers and Ornamental Plants ⁵
Fipronil	120068-37-3	Leaf-cutting ants and termites	Crops / production systems authorized for certification ⁶
		Thrips (<i>Franklienella occidentalis</i>) Aphids (<i>Myzus sp.</i>), leaf worm (<i>Copitarsia sp</i>)	Flowers and Ornamental Plants ⁷
Imidacloprid ⁸	138261-41-3	Coffee berry borer (<i>Hypothenemus hampei</i>), <i>Phyllophaga sp.</i> , <i>Rhizoecus sp.</i> , <i>Dysmicoccus sp.</i> , <i>Pseudococcus sp.</i> , <i>Leucoptera sp.</i>	Coffee (<i>Coffea sp.</i>)
		Mirids (<i>Sahlbergella singularis</i> , <i>Distantiella theobroma</i>)	Cocoa (<i>Theobroma cacao</i>)
		Mealybugs, scale insects (Coccoidea)	Banana (<i>Musa sp.</i>), Pineapple (<i>Ananas comosus</i>)
		Banana weevil (<i>Cosmopolites sordidus</i>), <i>Leptodictya sp</i>	Banana (<i>Musa sp.</i>)
		Asian citrus psyllid and insect vector of the huanglongbing (HLB) citrus disease (<i>Diaphorina citri</i>)	Citrus
		<i>Selenothrips rubrocinctus</i> , <i>Thrips tabaci</i>	Mango (<i>Mangifera indica</i>)
		<i>Empoasca spp</i>	Papaya
		<i>Aphis gossypii</i> , <i>Trialeurodes vaporariorum</i>	Watermelon, squash
		<i>Bemisia spp.</i> , <i>Leptoglossus gonagra</i> , <i>Myzus persicae</i> , <i>Empoasca kraemeri</i> , <i>Thrips spp.</i>	Melon, watermelon, papaya, passion fruit
		Thrips (<i>Franklienella occidentalis</i>), Whitefly (<i>Trialeurodes sp.</i>), Aphids (<i>Myzus sp</i>)	Flowers and ornamental plants
		Grape phylloxera (<i>Phylloxera vastatrix</i>), <i>Planococcus spp</i> , <i>Pseudococcus sp</i> , <i>Dysmicoccus sp</i> , <i>Ferrisia virgate</i> , <i>Frankliniella occidentalis</i> , <i>Idioscopus clypealis</i> , <i>I.nitidulus</i> , <i>Amritodus atkinsoni</i>	Grape (<i>Vitis vinifera</i>)
<i>Athalia lugens</i>	Mustard (<i>Brassica nigra</i>)		

⁵ Open-field applications are prohibited. Applications are only permitted in closed and controlled environments, such as greenhouses, as part of resistance control in rotation with other substances.

⁶ Only use of solid baits permitted if RA Requirements for Pollinator Risk Mitigation are implemented and if used as focalized applications on nests and pathways. The use of liquid fipronil formulations is prohibited.

⁷ Open-field applications are prohibited. Applications are only permitted in closed and controlled environments, such as greenhouses, as part of resistance control in rotation with other substances.

⁸ Repeated applications are avoided, and applications are only done in high-risk areas of pest infestations

Pesticide	CAS Number	Pest Species	Crop or Production System
		<i>Bagrada hilaris</i> Chilli Jassid Aphid (<i>Aphis gossypii</i>)	Chilli (<i>Capsicum annum</i>)
		Thrips (<i>Scirtothrips dorsalis</i>), Flea beetle	Cumin (<i>Cuminum cyminum</i>)
		<i>Frankliniella occidentalis</i>	Lettuce (<i>Lactuca sativa</i>)
		<i>Hemiberelesia</i> sp, <i>Fiorina fiorinae</i> , <i>Monalonion velezangeli</i> , <i>Bruggmanniella</i> <i>perseae</i> , <i>Frankliniella</i> spp., <i>Heliothrips</i> <i>haemorrhoidalis</i> , <i>Bemisia tabaci</i> , <i>Paraleyrodes perseae</i>	Avocado (<i>Persea americana</i>)
		<i>Phenacoccus solani</i> (<i>Pseudococcidae</i>), <i>Trialeurodes vaporariorum</i> , <i>Bemisia</i> <i>tabaci</i> , <i>Aphis gossypii</i>	Stevia (<i>Stevia rebaudiana</i>)
		Banana root borer (<i>Cosmopolites sordidus</i>), C Southern root-knot nematode (<i>Meloidogyne</i> spp), Burrowing nematode (<i>Rodopholus similis</i>)	Banana (<i>Musa</i> sp.)
		<i>Dismicoccus</i>	Banana (<i>Musa</i> sp.) Pineapple (<i>Ananas comosus</i>)
		Red spider mite (<i>Tetranychus urticae</i>), mealybugs / scale insects (<i>Coccoidea</i>)	Cocoa (<i>Theobroma cacao</i>)
Thiamethoxam	153719-23-4	Coffee berry borer (<i>Hypothenemus hampei</i>), <i>Quesada gigas</i> , <i>Dysmicoccus texensis</i> , <i>Leucoptera</i> sp.	Coffee (<i>Coffea</i> sp.)
		Tea mosquito (<i>Helopeltis theivora</i>), moth (<i>Mocis frugalis</i>), aphids or green fly (<i>Aphidoidea</i>), jassid or leafhopper (<i>Cicadellidae</i>)	Tea (<i>Camellia sinensis</i>)
		Asian citrus psyllid and insect vector of the huanglongbing (HLB) citrus disease (<i>Diaphorina citri</i>)	Citrus
		Grape phylloxera (<i>Phylloxera vastatrix</i>), <i>Planococcus</i> spp, <i>Pseudococcus</i> sp, <i>Dysmicoccus</i> sp, <i>Ferrisia virgate</i> , <i>Phyllotreta vittula</i>	Grape (<i>Vitis vinifera</i>)
		<i>Bemisia tabaci</i> (Biotipo B)	Melon Watermelon
		<i>Bemisia</i> spp., <i>Myzus persicae</i> , <i>Empoasca kraemeri</i>	Melon, watermelon, papaya, tea
		Thrips (<i>Frankliniella occidentalis</i>)	Flowers and Ornamentals Pineapple (<i>Ananas comosus</i>)

Pesticide	CAS Number	Pest Species	Crop or Production System
		Aphids (<i>Myzus Persicae</i> , <i>Cavariella aegopodii</i> , <i>Aphis craccivora</i> Koch)	Cumin (<i>Cuminum cyminum</i>), Fennel (<i>Foeniculum vulgare</i>), Fenugreek (<i>Trigonella foenum-graecum</i>)
		Thrips (<i>Scirtothrips dorsalis</i>) Aphids (<i>Aphis gossypii</i>)	Chilli (<i>Capsicum annum</i>)
		Hopper (<i>Idioscopus clypealis</i> , <i>I.nitidulus</i> and <i>Amritodus atkinsoni</i>)	Mango (<i>Mangifera indica</i>)
		<i>Hemiberelesia</i> sp, <i>Fiorina fiorinae</i> <i>Bemissia tabacci</i> , <i>Thrips</i> spp., <i>Frankliniella gardenia</i> , <i>Pseudococcus calceolariae</i> , <i>Pseudococcus longispinus</i> , <i>Saissetia oleae</i> , <i>Heliothrips haemorrhoidalis</i> ,	Avocado (<i>Persea americana</i>)
		<i>Phenacoccus solani</i> (<i>Pseudococcidae</i>), <i>Trialeurodes vaporariorum</i> , <i>Bemisia tabaci</i> , <i>Aphis gossypii</i>	Stevia (<i>Stevia rebaudiana</i>)

2) These substances may be used only if the following risk management requirements are fully implemented:

- a) The listed insecticides are rotated with lower toxicity insecticides as part of the rotation for resistance management; and
- b) Exposure to natural ecosystems is minimized by complying with Rainforest Alliance non-application zones or by establishing vegetative barriers compliant with Rainforest Alliance parameters for vegetative barriers or by implementing other effective mechanisms to reduce spray drift; and
- c) Producers avoid applications on flowering crops and on flowering weeds that are attractive to pollinators and /or pest's natural enemies; and
- d) If beehives are used, applications are avoided during high activity hours, they are temporarily covered during application, and hive bees are provided with a clean water source outside the treated area; and
- e) Flowering strips of native vegetation are planted outside or at the edges of the crop in order to promote native pollinators and natural enemies; and
- f) The farm management and group administrator calibrate equipment for mixing and applying pesticides, at least annually, after maintenance, and whenever the type of product is changed.

2.2.4. Reproductive toxicity substances: authorizations and risk management requirements

1) Rainforest Alliance authorizes the use of the following seven reproductive toxicity substances only for the combination of pest species and crops specified in the following table, under implementation of the additional specific conditions of clause 2) of this section:

Pesticide	CAS Number	Pest Species	Crop or Production System
Borax	1303-96-4	N/A	All crops / production systems ⁹

⁹ Application only permitted as fertilizer in soils with boron deficiency. Foliar application with fertilizers is permitted.

		Leaf-cutting ants and termites	All crops / production systems
Boric Acid	10043-35-3	N/A	All crops / production systems ¹⁰
		Leaf-cutting ants and termites	All crops / production systems
Carbendazim	10605-21-7	<i>Fusarium sp.</i>	Pineapple (<i>Ananas comosus</i>), Coffee (<i>Coffeaa sp.</i>), Banana (<i>Musa sp.</i>), Papaya (<i>Carica papaya</i>), Flowers and ornamentals, Tea (<i>Camelia sinensis</i>), Pepper (<i>Piper nigrum</i>)
Epoxiconazole	133855-98-8	Black Sigatoka (<i>Mycosphaerella fijiensis</i>), yellow Sigatoka (<i>Mycosphaerella musicola</i>)	Banana (<i>Musa sp.</i>)
		<i>Hemileia vastatrix</i> , <i>Cercospora coffeicola</i> , <i>Coniothyrium sp.</i> , <i>Phoma costaricensis</i> , <i>Colletotrichum gloesporoides</i> , <i>Coniothyrium sp.</i> , <i>Mycena citricolor</i>	Coffee (<i>Coffea sp.</i>)
Glufosinate-ammonium¹¹	77182-82-2	Broad-leaf weeds	Banana (<i>Musa sp.</i>), Papaya (<i>Carica papaya</i>), Citrus
		<i>Rumex sp.</i> , <i>Cyperus rotundus</i> , <i>Eleusina indica</i> , <i>Commellina sp.</i> , <i>Hedera sp.</i> , <i>Singonium sp.</i>	Coffee (<i>Coffea sp.</i>)
		Weeds	Avocado (<i>Persea americana</i>), Tea (<i>Camellia sinensis</i>), Grapes (<i>Vitis vinifera</i>)
		<i>Cleome viscosa</i> , <i>Echinocloa colona</i> , <i>Eleusine indica</i> , <i>Portulaca oleracea</i>	Melon (<i>Cucumis melo</i>), watermelon (<i>Citrullus lanatus</i>), hard squash (<i>Cucurbita sp.</i>)
Quizalofop-p-tefuryl	119738-06-6	Weeds	Coffee (<i>Coffea sp.</i>), Pineapple (<i>Ananas comosus</i>)
Tridemorph	81412-43-3	Powdery mildew (<i>Oidium mangiferae</i>)	Mango (<i>Mangifera indica</i>)
		Black Sigatoka (<i>Mycosphaerella fijiensis</i>), Yellow Sigatoka (<i>Mycosphaerella musicola</i>)	Banana (<i>Musa sp.</i>)

2) The use of these substances is only permitted if the following Rainforest Alliance risk management requirements are fully implemented:

¹⁰ Application only permitted as fertilizer in soils with boron deficiency. Foliar application with fertilizers is permitted.

¹¹ Applications are only done in high-risk areas of pest infestations (spot application) and erosion prone areas and within an integrated weed management program.

- a) The listed reproductive toxicity substances are rotated with lower toxicity substances as part of the rotation for resistance management; and
- b) Pesticide handlers use full protective clothing to avoid skin exposure (hat, gloves, overall or shirts and pants with long sleeves, rubber boots); and
- c) Girls and women do not apply these pesticides and are not present or near the application areas; and
- d) Farms implement Restricted Entry Intervals (REI) for persons entering pesticide application areas without PPE that are at least 12 hours or as stipulated in the product’s MSDS, label or security tag. For WHO class II products, the REI is at least 48 hours or as stipulated in the product’s MSDS, label or security tag. and
- e) Pesticide handlers that apply the listed reproductive toxicity substances are provided with medical examinations as specified in the Occupational Health and Safety plan (see Critical Criterion 4.14 of the 2017 Sustainable Agriculture Standard); and
- f) Potentially affected persons or communities (specially girls and women) are identified, alerted, and warned in advance about applications and prevented from access to application areas; and
- g) Farms establish and maintain non-crop vegetative barriers compliant with Rainforest Alliance parameters for vegetative barriers or Rainforest Alliance non-application zones between pesticides applied crops and areas of human activity (See T&D in the 2017 Sustainable Agriculture Standard).

2.2.5. Other prohibited substances

Rainforest Alliance authorizes the use of the following substance for the pest species and crops specified in the following table, under the following conditions:

- 1) That the product is applied on post-harvest processes, in closed, controlled environments, with gas leak detectors. These detectors may be portable devices.
- 2) That there are no other equally effective options available in the market, or that the use of this substance is required by applicable regulations of the country of origin or the country of destination.
- 3) Pesticide handlers use full protective clothing and the equipment specified in the product’s MSDS or safety tag, including a respirator mask for inorganic acid fumes, type B.
- 4) That the strictest measures for storing the product before its use are implemented, as well as measures for deactivating the product after its use.

Pesticide	CAS Number	Pest Species	Crop
Magnesium Phosphide Phosphine	12057-74-8 7803-51-2	Thrips (<i>Frankliniella occidentalis</i> , <i>Thrips palmi</i>), Mealybugs (<i>Dysmicoccus brevipes</i> , <i>Orthezia praelonga</i>)	Flowers ornamental and fresh fruits
Aluminum Phosphide Phosphine	20859-73-8 7803-51-2	Coffee berry borer (<i>Hypothenemus hampei</i>), Cocoa weevil (<i>Araecerus fasciculatus</i>), Indian meal moth (<i>Plodia interpunctella</i>)	Tea and coffee

Pesticide	CAS Number	Pest Species	Crop
Magnesium Phosphide	12057-74-8	Any crop, if required by law	
Aluminum Phosphide	20859-73-8		
Phosphine	7803-51-2		