LIST OF BANNED PESTICIDES AND PESTICIDES WATCHLIST

Version 1.0

UTZ

Better farming
Better future

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Abbreviations

EPA	Environmental Protection Agency
EU	European Union
GHS	Globally Harmonized System
HHP	Highly Hazardous Pesticides
ISEAL Alliance	International Social and Environmental Accreditation and Labelling Alliance
PAN	Pesticide Action Network
PIC	Prior Informed Consent
POP	Persistent Organic Pollutant
UNEP	United Nations Environmental Program
WHO	World Health Organization

Definitions

Active ingredient	The chemical substance or component of a pesticide product that can kill, repel, attract, mitigate or otherwise control a pest (as opposed to "inert ingredients" such as water, solvents, emulsifiers, surfactants, clay and propellants).
Banned Pesticide	A pesticide all uses of which have been prohibited by final regulatory action, in order to protect human health or the environment.
Bee Colony Collapse Disorder	Pathological condition affecting a large number of honeybee colonies in which worker bees abruptly disappear.
Bioaccumulative	Characterizes substances thatconcentrate in fatty tissue and tend to build up to much higher concentrations in humans and other organisms. They are also more likely to transfer and accumulate up the food chain.
Carcinogenic	Any substance or agent with a high probability to cause cancer.
CAS Number	A unique numerical identifier assigned by the Chemical Abstracts Service (division of the American Chemical Society) to specify every chemical substance.
Endocrine Disruptor Chemical	A chemical that at certain doses can interfere with the endocrine (or hormonal) system in mammals. These disruptions can cause problems with several body functions.
Globally Harmonized System - GHS	The system created by the United Nations in 1992 that addresses classification of chemicals by types of hazard and proposes harmonized hazard communication elements, including labels and safety data sheets. It aims at ensuring that information on physical hazards and toxicity from chemicals is available in order to enhance the protection of human health and the environment during the handling, transport and use of these chemicals.
Good Agricultural Practices	Practices that address environmental, economic, and social sustainability for on-farm and post-production processes, and result in safe and quality agricultural products.
Highly Hazardous Pesticide	A pesticide that is acknowledged to present particularly high levels of acute or chronic hazards to health or environment according to internationally accepted classification systems such as WHO or GHS or their listing in relevant binding international agreements or conventions.
Highly toxic to bees	Characterizes pesticides tested by the EPA in laboratories and that cause high mortality in a bee population at a low exposure.
Integrated Pest Management	An ecosystem approach to crop production and protection that combines different management strategies and practices to grow healthy crops and minimize the use of pesticides.

International Convention	A public international treaty or set of agreements. It commits all parties (sovereign states) to respect the agreements.
ISEAL Alliance	A global membership association whose mission is to strengthen sustainability standards systems for the benefit of people and the environment.
Mutation	The irreversible change of the genetic code of an individual.
Mutagenic	Any substance or agent capable of inducing mutation or increasing its rate.
Ozone depletion	The reduction of the ozone layer caused by the breakdown chemical compounds in the ozone layer.
Ozone layer	A belt of naturally occurring ozone gas, 15 to 30 kilometers above Earth, that serves as a shield from the harmful ultraviolet B radiation emitted by the sun.
Persistent	Characterizes substances that remain in the environment with lifetimes on the order of decades to centuries.
Pesticides	Insecticides, fungicides, herbicides, disinfectants, and other substances or mixtures of substances intended for preventing, destroying, or controlling any pest, including unwanted species of plants or animals causing harm during or otherwise interfering with the production, processing, storage, transport, or marketing of food or agricultural commodities. The term includes substances intended to be used as a plant growth regulator, defoliant, desiccant, or agent for thinning fruit or preventing the premature fall of fruit, and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport.
Pesticides Action Network - PAN	A global network, founded in 1982, as a response to the fundamentally international nature of the pesticide problem. It aims to replace hazardous chemicals pesticides with sustainable and equitable non-toxic alternatives in agriculture. This network developed a list of HHP (Highly Hazardous Pesticides) based on indicators such as the international chemical conventions, the WHO classification or the GHS.
Prior Informed Consent - PIC	The procedure from the Rotterdam Convention that regulates the exchange of information in international trade in certain hazardous pesticides.
Persistent Organic Pollutants - POP	Chemicals that remain intact in the environment for long periods, that move around the world on wind and water, and accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife (eg DDT).
Reproductive toxicant	Any chemical, biological or physical agent that can impair the reproductive capabilities in living beings.
WHO Classification	A classification system that distinguishes between the more and the less hazardous forms of selected pesticides based on acute risk to human health. It takes into consideration the toxicity of the technical active substance and also describes methods for the classification of formulations. The groups 1A and 1B consider the most hazardous pesticides for human health.

1. Introduction

UTZ is a program for sustainable farming which promotes, among other practices, Integrated Pest Management (IPM)[1]. UTZ requires farmers to use IPM to promote the use of alternative methods for pest and disease control while increasing productivity and reducing risks to human health and environment. This means that producers implement good agricultural practices to prevent and control pest and disease and only use pesticides as a last resort.

When chemical control cannot be avoided, the choice for a pesticide should strive for maximum effectiveness against the pest and disease, and minimum toxicity for people, flora and fauna. In line with this, UTZ works towards the progressive elimination of highly hazardous pesticides (HHPs) as recommended by the council of the United Nations and the Food and Agriculture Organisation (FAO,

1 Read more on IPM in the Code of Conduct, control points G.B.52 and I.B.44

WHO, 2013)[2] and therefore has developed a List of Banned Pesticides and a Pesticides Watchlist in which HHPs have been included.

These lists were developed in order to provide clarity about the UTZ's pesticides approach, thus producers know which pesticides with highly hazardous characteristics must not be used for certified production.

UTZ aims to progressively eliminate the use of HHPs in UTZ certified farms in order to:
1. Reduce health risks for producers, their families, farm workers on both short term and long term.
2. Reduce the risk of pesticides accumulating in the environment (soil, water), in food chains or damaging the ozone layer.

1.1 What is the scope of the List of Banned Pesticides and the Pesticides Watchlist?

- The List of Banned Pesticides and the Pesticides Watchlist apply to all crops included in the UTZ program.
- The use of active ingredients mentioned in the List of Banned Pesticides and Watchlist is only applicable to the certified crop.
- The list of Banned Pesticides and the Pesticides Watchlist only apply to active ingredients used during production of UTZ crops, thus these lists do not apply to active ingredients used during postharvest.
- Compliance with the lists is mandatory and is the responsibility of all producers. The lists are applicable to both individual and group certification (see control points I.B.45 of the Code of Conduct for individual and G.B.53 of the Code of Conduct for group).

1.2 Compliance with national laws

UTZ strives for its members to become exemplary figures for improving social, economic, and environmental conditions in their areas of operation. In this regard, groups and group members obey national laws and sector regulations.

There may be a discrepancy between what is banned by UTZ or listed in the Pesticides Watchlist and what is recommended or banned by national or regional law. In the case that a national law, regulation or standard is stricter than the UTZ list, the national rule will prevail (unless the national rule has become obsolete or outdated). In the case that a national law, regulation or standard is less strict than the UTZ list, the later shall prevail.

UTZ reserves the right to grant exceptions when epidemics or other emergency situations occur.

2 FAO,WHO. International Code of Pesticides Management. 2014. Article 7.5
http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/CODE_2014Sep_ENG.pdf

1.3 When to comply with the List of Banned Pesticides and Pesticides Watchlist version 2015?

In order to facilitate the implementation of the List of Banned Pesticides and the Pesticides Watchlist, a one-year transition period will be granted to all producers for all commodities. This means certificate holders can decide to use the old pesticide approach or these new lists from the 1st July 2015.
From the 1st of July 2016 the new lists will be mandatory.

1.4. Updates

The UTZ lists will be updated regularly to align with possible changes and updates of the PAN HHP list.In the case of changes, UTZ will grant a grace period in order to facilitate the implementation of the lists.

2. List of Banned Pesticides

2.1 Why an updated version of the List of Banned Pesticides?

As a member of the ISEAL Alliance, UTZ commits to revising the Code of Conduct every five years, taking into account prior experience, as well as stakeholder consultation. The List of Banned Pesticides is an Annex of the Code of Conduct and therefore is also part of the consultation on the Code of Conduct. In June 2012, the first consultation was officially opened, with a first draft of the List of Banned Pesticides. In June 2014, a second consultation was opened exclusively on the List of Banned Pesticides and the Pesticides Watchlist.

The new List of Banned Pesticides was developed taking into account the feedback of the online public questionnaire, and stakeholder meetings which gathered inputs from industry and government representatives, national commodity boards, research institutes, consultants, Certification Bodies, NGOs, producers, and producer group representatives.

Although the Code of Conduct is revised every 5 years, the UTZ List of Banned Pesticides may be updated more regularly as described in 1.4.

2.2 Major changes to the List of Banned Pesticides version 2015

The previous UTZ List of Banned Pesticides was based on external regulations and included pesticides that are:

- not approved in the EU, US (EPA) or Japan;
- classified by WHO as 1A or 1B;
- identified as Persistent Organic Pollutants (POPs) in the Stockholm Convention;
- included in Annex III of the Rotterdam Convention (UNEP's Prior Informed Consent (PIC) Procedure list);
- on the 'Dirty Dozen' list of PAN.

The UTZ list has been developed taking the 'Highly Hazardous Pesticides list' from the Pesticides Action Network[3] (PAN) as a reference list. PAN develops a definition of Highly Hazardous Pesticides with a comprehensive set of indicators which are accepted by global organizations and by members of the ISEAL Alliance.

[3] PAN International List of Highly Hazardous Pesticides (PAN List of HHPs, Version June 2014)

2.3 How was the List of Banned Pesticides developed?

UTZ has committed to include the active ingredients mentioned in the international conventions in the List of Banned Pesticides. These international conventions include the Stockholm Convention, the Rotterdam Convention and the Montreal Protocol.

In addition, UTZ included some additional active ingredients which are highly hazardous for humans, as described in the PAN[4] list of HHPs.

In order to continue with the progress made in the last years, pesticides already banned under the UTZ Code of Conduct remain banned and are written in italics in the new list.

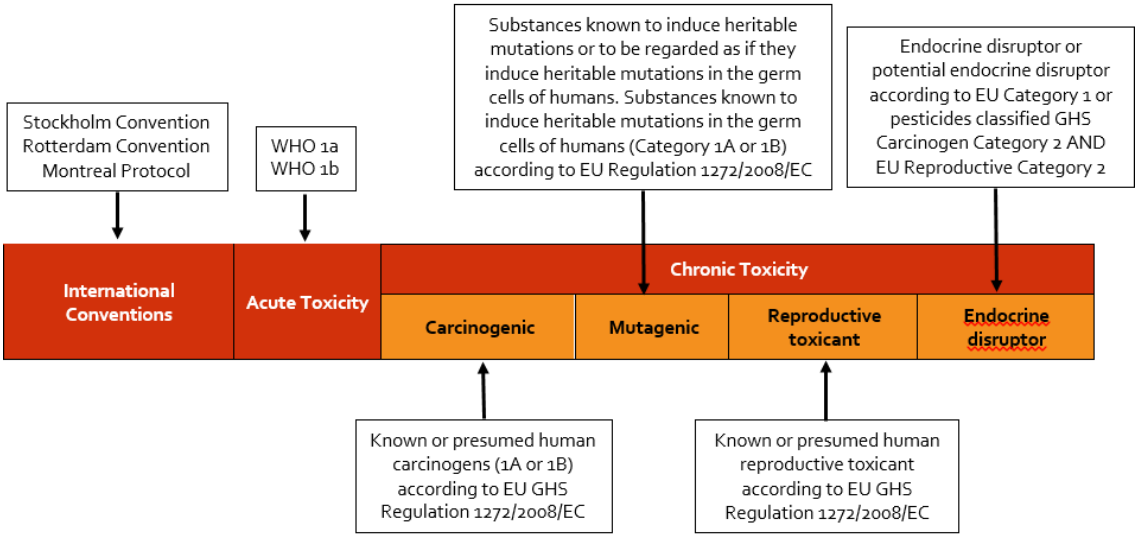
Finally, all obsolete or pesticides irrelevant to agriculture have been deleted from the list. These are listed below.

2,4,5-T	Chlorobenzilate	Nitrofen (TOK)
2,4,5-TCP	DBCP	Octamethylpyrophosphoramide (OMPA)
2,3,4,5-Bistetrahydro-2-furaldehyde	Dieldrin	PCB; Polychlorinated biphenyls (except mono- and dichlorinated)
Aldrin	Dinoseb and its salts	Safrole
Benzene hexachloride	Endrin	Silvex
Binapacryl	Ethyl hexyleneglycol (6-12)	Strobane; Terpene polychlorinates
Cadmiun	Ethylene dibromide (EDB)	TDE
Carbon tetrachloride	Ethylene dichloride (EDC)	Thallium sulfate
Chloranil	Heptachlor	Toxaphene (camphechlor)
Chlordecone (kepone)	Leptophos	Vinyl chloride
Chlordimeform	Mirex	

2.4 What are the indicators for the List of Banned Pesticides?

In the List of Banned Pesticides, the following indicators are used:

4 Read more about PAN International: http://www.panna.org/our-community/pan-international
Read more about the PAN list: http://www.panna.org/issues/publication/pan-international-list-highly-hazardous-pesticides



- **International Conventions:**
  - Stockholm Convention: Global treaty to protect human health and the environment from Persistent Organic Pollutants (POPs). It focuses on elimitating or reducing releases of 12 POPs, the so-called "Dirty Dozen" [5];
  - Rotterdam Convention: Global treaty designed to give countries the right to refuse the import of highly hazardous toxins listed in the UNEP's PIC Procedure List. It attempts to end the dumping of obsolete or banned pesticides in the developing world[6];
  - Montreal Protocol: Global treaty designed to protect the ozone layer by phasing out the production of numerous substances that heavily contribute to ozone depletion[7].
- **Acute toxicity** characterizes a pesticide that causes health problems soon after exposure. These pesticides are listed in the WHO classification[8] as 1A and 1B.
- **Chronic toxicity** characterizes a pesticide that causes or increases the risk of serious health problems after prolonged or repeated exposure. These problems include cancers (carcinogen pesticides), reproductive and developmental problems (reproductive toxic pesticides and endocrine disruptor pesticides) or inheritable mutations in germ cell (mutagen pesticides). These pesticides are classified in the GHS.

List of Banned Pesticides (by active ingredient)							
N.	Active ingredient	International Conventions	Acute Toxicity	Chronic Toxicity			
				Carcinogenic	Mutagenic	Reproductive toxicant	Endocrine disruptor
1	*Acephate*						
2	Acrolein		x				
3	*Alachlor*	x					x

5 Read more about the Stockholm Convention: http://chm.pops.int/Convention/POPsReviewCommittee/Overview/tabid/2806/Default.aspx
6 Read more about the Rotterdam Convention: http://www.pic.int/
7 Read more about the Montreal Protocol: http://www.unido.org/montreal-protocol.html
8 Read more about the WHO Classification: http://www.who.int/ipcs/publications/pesticides_hazard_2009.pdf?ua=1

List of Banned Pesticides (by active ingredient)							
N.	Active ingredient	International Conventions	Acute Toxicity	Chronic Toxicity			
				Carcinogenic	Mutagenic	Reproductive toxicant	Endocrine disruptor
4	*Aldicarb*	x	x				x
5	Alpha-BHC; Alpha-HCH	x					
6	Alpha-chlorohydrin		x				
7	*Amitraz*						
8	Anthracene oil			x			
9	Arsen and its compounds (see annex 1)			x			
10	*Atrazine*						x
11	Azafenidin					x	
12	Azinphos-ethyl		x				
13	Azinphos-methyl	x	x				
14	Benomyl	x			x	x	
15	Beta-cyfluthrin; Cyfluthrin		x				
16	Beta-HCH; Beta-BCH	x					x
17	Blasticidin-S		x				
18	Borax; disodium tetraborate decahydrate (only if used as pesticide)					x	
19	Boric acid (only if used as pesticide)					x	x
20	Brodifacoum		x				
21	Bromadiolone		x				
22	Bromethalin		x				
23	*Bromoxynil butyrate*						
24	Butoxycarboxim		x				
25	*Cadusafos*		x				
26	*Captafol*	x	x	x			
27	*Carbaryl*						x
28	*Carbofuran*	x	x				
29	*Carbosulfan*		x				
30	*Chlordane*	x					x
31	Chlorethoxyphos		x				
32	*Chlorfenapyr*						
33	Chlorfenvinphos		x				
34	Chlormephos		x				
35	Chlorophacinone		x				
36	Chlorotoluron						x
37	*Chlozolinate*						
38	Coumaphos		x				
39	Coumatetralyl		x				
40	Creosote			x			

List of Banned Pesticides (by active ingredient)							
N.	Active ingredient	International Conventions	Acute Toxicity	Chronic Toxicity			
				Carcinogenic	Mutagenic	Reproductive toxicant	Endocrine disruptor
41	*Cyhalothrin*						
42	*Daminozide*						
43	*DDT*	x					x
44	Demeton-S-methyl		x				
45	Dichlorvos; DDVP		x				
46	*Dicofol*						
47	Dicrotophos		x				
48	Difenacoum		x				
49	Difethialone		x				
50	*Dimethenamid*						
51	Dimoxystrobin						x
52	Dinocap					x	
53	*Dinoterb*		x			x	
54	Diphacinone		x				
55	Disulfoton		x				
56	*DNOC and its salts (see annex 1)*	x	x				
57	Edifenphos		x				
58	Endosulfan	x	x				
59	E-Phosphamidon		x				
60	Epichlorohydrin			x			x
61	*EPN*		x				
62	Ethiofencarb		x				
63	Ethoprophos; Ethoprop		x				
64	*Ethylene oxide*	x		x	x		
65	Ethylene thiourea					x	x
66	Famphur		x				
67	Fenamiphos		x				
68	Fenchlorazole-ethyl			x			
69	*Fenthion*						
70	Fentin acetate; Triphenyltin acetate		x				x
71	Fentin hydroxide; Triphenyltin hydroxide		x				x
72	*Fenvalerate*						
73	*Ferbam*						
74	Flocoumafen		x				
75	Fluazifop-butyl					x	
76	Flucythrinate		x				
77	Flumioxazin					x	
78	Fluoroacetamide	x	x				

List of Banned Pesticides (by active ingredient)							
N.	Active ingredient	International Conventions	Acute Toxicity	Chronic Toxicity			
				Carcinogenic	Mutagenic	Reproductive toxicant	Endocrine disruptor
79	Flusilazole					x	
80	*Formaldehyde*						
81	Formetanate		x				
82	Furathiocarb		x				
83	*Haloxyfop-R*						
84	Heptenophos		x				
85	*Hexachlorobenzene*	x	x	x			x
86	*Hexchlorocyclohexane; BHC mixed isomers*	x					x
87	Isoxathion		x				
88	*Lindane*	x					x
89	Linuron					x	x
90	*Maleic hydrazide*						
91	Mecarbam		x				
92	*Mercury and its compounds (see annex 1)*	x	x				
93	*Methamidophos*	x	x				
94	Methidathion		x				
95	Methiocarb		x				
96	Methomyl		x				
97	Methyl bromide	x					
98	*Mevinphos*		x				
99	Molinate						x
100	Monocrotophos	x	x				
101	*Monolinuron*						
102	Nicotine		x				
103	Nitrobenzene					x	x
104	*Nonylphenol ethoxylates (see annex 1)*						
105	Omethoate		x				x
106	Oxamyl		x				
107	Oxydemeton-methyl		x				
108	Paraffin oils; mineral oils			x			
109	*Paraquat dichloride*		x				
110	*Parathion*	x	x				
111	*Parathion-methyl*	x	x				
112	*PCP; Pentachlorphenol*	x	x				x
113	*Pentachlorobenzene*						
114	*Permethrin*						
115	Phorate		x				

List of Banned Pesticides (by active ingredient)							
N.	Active ingredient	International Conventions	Acute Toxicity	Chronic Toxicity			
				Carcinogenic	Mutagenic	Reproductive toxicant	Endocrine disruptor
116	*Phosalone*						
117	*Phosphamidon*	x	x				
118	Profoxydim						x
119	Propetamphos		x				
120	*Propham*						
121	Propylene oxide, Oxirane			x	x		
122	*Pyrazophos*						
123	*Pyriminil*						
124	*Quintozene*						
125	Silafluofen					x	
126	*Simazine*						
127	Sodium fluoroacetate (1080)		x				
128	Strychnine		x				
129	Sulfotep		x				
130	Tebupirimifos		x				
131	*Technazene*						
132	Tefluthrin		x				
133	Tepraloxydim						x
134	Terbufos		x				
135	*Thiodicarb*						
136	Thiofanox		x				
137	Thiometon		x				
138	Thiourea						x
139	Thiram in formulations with benomyl and carbofuran	x					x
140	*Triazamate*						
141	Triazophos		x				
142	*Tributyltin compounds; triorganostannic compounds*						x
143	*Trichlorfon*						x
144	Tridemorph					x	
145	Vamidothion		x				
146	Vinclozolin					x	x
147	Warfarin		x			x	
148	Zeta-Cypermethrin		x				
149	Zinc phosphide (		x				
150	*Zineb*						x
151	Z-Phosphamidon		x				

Annex 1: Active ingredients belonging to the groups named in the list above

Active ingredient		CAS number
Arsen and its coumpounds		
1	*Arsenic pentoxide*	1303-28-2
2	*Cacodylic acid; dimethylarsinic acid*	75-60-5
3	*MSMA*	2163-80-6
4	*Sodium arsenate*	13464-38-5
5	*Cacolydate; sodium dimethylarsinate*	124-65-2
6	*Chromated copper arsenate; CCA*	75-60-5
7	*Arsenic trioxide*	1327-53-3
8	*Calcium arsenate*	7778-44-1
9	*Copper arsenate*	10103-61-4
10	*Lead arsenate*	7784-40-9
11	*Sodium arsenite*	7784-46-5
DNOC and its salts		
1	*DNOC, ammonium salt*	2980-64-5
2	*DNOC, potassium salt*	5787-96-2
3	*DNOC, sodium salt*	2312-76-7
4	*DNOC*	534-52-1
Mercury and its compounds		
1	*Mercuric chloride*	7487-94-7
2	*Mercuric oxide*	21908-53-2
3	*Chloromethoxypropylmercuric acetate; CPMA*	1319-86-4
4	*Diphenylmercurydodecenylsuccinate; PMDS*	27236-65-3
5	*Phenylmercuric oleate; PMO*	104-68-9
6	*Phenylmercury acetate; PMA*	62-38-4

Active ingredient		CAS number
Tributyltin compounds		
1	Tributyltin oxide	56-35-9
2	Tributyltin fluoride	4-10-1983
3	Tributyltin methacrylate	2155-70-6
4	Tributyltin benzoate	4342-36-3
5	Tributyltin chloride	1461-22-9
6	Tributyltin linoleate	24124-25-2
7	*Tributyltin naphthenate*	85409-17-2
Triorganostannic compounds other than tributyltin compounds		
1	Fenbutatin-oxide	13356-08-6
2	Cyhexatin	13121-70-5
Nonylphenol ethoxylates		
1	Nonylphenol ethoxylate	68412-54-4
2	Nonylphenol ethoxylate	26027-38-3
3	Nonylphenol ethoxylate	37205-87-1
4	Nonylphenol ethoxylate	127087-87-0
5	Nonylphenol ethoxylate	9016-45-9
Paraffin oils; mineral oils		
1	Paraffin oil	64741-88-4
2	Paraffin oil	64741-89-5
3	Paraffin oil	64741-97-5
4	Paraffin oil	64742-46-7
5	Paraffin oil	64742-54-7
6	Paraffin oil	64742-55-8
7	Paraffin oil	64742-65-0
8	Paraffin oil	72623-86-0
9	Paraffin oil	97862-82-3

3. Pesticides Watchlist

3.1 What is the Pesticides Watchlist ?

The Pesticides Watchlist is composed of active ingredients that are not banned but that have a potentially severe and/or cumulative risk for human health and/or the environment. The application of active ingredients mentioned in the list is only allowed on the certified crop when:

1. All steps of IPM have been followed, and
2. Less hazardous alternative pesticides are not available, and
3. Specific recommendations are followed to mitigate or reduce the risks related to the hazardous nature of the product

Whenever an active ingredient from this list is used, a good monitoring system must be in place to mitigate or reduce the risk for people, flora and fauna and assess possible negative impacts.. This is applicable to producers certified against the Individual Code and to the IMS,the responsible entity of the implementation of the Code of Conduct for group certification.

3.2 How is the Pesticides Watchlist going to be monitored?

Active ingredients in the Pesticides Watchlist must be monitored by the certificate holders. For group certification the IMS must facilitate knowledge sharing and find alternatives for those HHP listed in the Watchlist. During the external audit all active ingredients used by certified producers and included in the Watchlist will be included in audit report and sent to UTZ for further analysis.
UTZ recognizes that relevant training and farmers exchanging knowledge on IPM is essential to eliminate the use of HHPs from certified operations. Therefore, UTZ aims to promote and closely monitor the development of alternative pest control methods for these HHPs.

3.3 What are the indicators for the Pesticides Watchlist?

The Watchlist was developed taking as a basis the PAN HHP list published in 2014. This list includes:

- Neonicotinoids which are potentially causing bee colony collapse disorders and/or which are acutely and highly toxic to honey bees[9].
- Active ingredients classified as H330 'fatal if inhaled' by the GHS - only those relevant for agricultural (on farm) applications (not warehouse applications).
- Additional active ingredients that meet the indicators of the List of Banned Pesticides but that do not have any alternative at the moment.
- Active ingredients that meet 3 or more indicators from the PAN list and are not yet banned.
- Active ingredients listed as "endocrine disruptor or potential endocrine disruptor" in EU regulation and not included in the List of Banned Pesticides[10];

Pesticides Watchlist (by active ingredient)								
No	Active ingredient	Acute toxicity	Chronic Toxicity		Environmental toxicity			
		H 330 (Fatal if inhaled)	Probably likely carcinogenic (US EPA)	EDC (EU)	Very bioaccumulative	Very persistent in water, soil, sediment	Very toxic to aquatic organisms	Highly toxic to bees
1	2,4 DB			x				
2	Abamectin	x						x
3	Acetamiprid*							x
4	Acetochlor			x				
5	Amitrole			x				
6	Azocyclotin	x			x		x	
7	Bifenthrin			x				x
8	Bromoxynil	x						
9	Carbendazim**							
10	Chloropicrin	x						
11	Chlorothalonil	x	x					
12	Chlorpyrifos							x
13	Clothianidin*							x
14	Deltamethrin			x				
15	Dinotefuran*							x
16	Dimethoate							x
17	Diquat dibromide	x						
18	Diquat dichloride	x						
19	Epoxiconazole**		x	x				
20	Etofenprox; Ethofenprox					x	x	x

9 Other pesticides potentially toxic to bees have been included in addition to the ones listed in the PAN list 2014
10 Read more about the EU regulation:
http://ec.europa.eu/environment/chemicals/endocrine/strategy/substances_en.htm

Pesticides Watchlist (by active ingredient)								
No	Active ingredient	Acute toxicity	Chronic Toxicity		Environmental toxicity			
		H 330 (Fatal if inhaled)	Probably likely carcinogenic (US EPA)	EDC (EU)	Very bioaccumulative	Very persistent in water, soil, sediment	Very toxic to aquatic organisms	Highly toxic to bees
21	Fenarimol			x				
22	Fenbutatin-oxide	x				x	x	
23	Fenitrothion			x				
24	Fenpropathrin	x						x
25	Fenoxycarb							x
26	Fipronil							x
27	Flusilazole**							
28	Glufosinate-ammonium**							
29	Glyphosate		x					
30	Imidacloprid*							x
31	Ioxynil			x				
32	Isopyrazam		x			x	x	
33	Lambda-cyhalothrin	x		x				x
34	Lufenuron				x	x	x	
35	Malathion							x
36	Mancozeb			x				
37	Maneb			x				
38	Metam-sodium			x				
39	Methabenzthiazuron							x
40	Methoxychlor			x				
41	Metiram			x				
42	Metribuzin			x				
43	Nitenpyram*							x
44	Picloram			x				
45	Pirimicarb		x			x	x	
46	Potasan	x						
47	Procymidone			x				
48	Propargite		x		x		x	
49	Pyrazoxon	x						
50	Pyridalyl				x	x	x	
51	Quinalphos			x				
52	Quizalofop-p-tefuryl**							
53	Resmethrin		x	x				x
54	TCMTB	x						
55	Terbuthryn			x				
56	Thiacloprid*		x					

Pesticides Watchlist (by active ingredient)								
No	Active ingredient	Acute toxicity	Chronic Toxicity		Environmental toxicity			
		H 330 (Fatal if inhaled)	Probably likely carcinogenic (US EPA)	EDC (EU)	Very bioaccumulative	Very persistent in water, soil, sediment	Very toxic to aquatic organisms	Highly toxic to bees
57	Thiamethoxam*							x
58	Tolylfluanid	x	x					
59	Trifluralin			x	x			
60	Ziram	x						

**Neonicotinoids*
*** Pesticides meeting indicators of the List of Banned Pesticides but too challenging to be replaced*