



ECOTOX INDEX VALUE CATALOG

Global 2000 Pesticide Guidelines and Ecotox limit values

September 2024

1. INTRODUCTION

Pesticides (active substances) used in plant protection products can have negative impact on non-target organisms, soil, water and on the environment in general.

They are transported by wind and water over long distances and certain substances - depending on their chemical properties - can be detected in the environment for a long time.

This catalogue provides an ecotoxicological classification of widely used chemical pesticides and identifies those with particularly adverse effects on the environment and potential risks to human health.

2. METHODOLOGY

The assessment is based on an index which describes the impact on the environment. This Ecotox-Index (EI) enables a quick and clear classification of specific pesticides.

2.1. ECOTOX-INDEX (EI)

Data from the Pesticide Properties DataBase (PPDB) of the University of Hertfordshire is used for the calculation of the Ecotox-Index.

Aspects included in the calculation:

- Persistence in soil
- Persistence in water
- Dissipation rate on plant matrix
- Leaching to groundwater
- Volatility
- Toxicity to:
 - Mammals & Humans
 - Birds
 - Fish
 - Aquatic organisms
 - Bees
 - Earthworm
- Potential for accumulation in organic tissue:
 - Octanol-water partition coefficient
 - Bio-concentration factor

The calculation results in a value between 0 and 1 for each active substance. The closer the value is to 1

the more negative is the environmental impact of the pesticide.

2.2. RATING SYSTEM

The system is based on two pillars to cover the total pesticide load of a plant as well as the specific properties of certain active substances:

1 The Sum of Exposure (SOE-EI):

The sum of all Indices of all pesticides used by the gardener or detected on the plant.

2 List-System:

Includes a negative list and a watchlist. These lists contain active substances which are particularly hazardous to the environment or human health and should therefore not be used at all (negative list) or are under observation (watchlist).

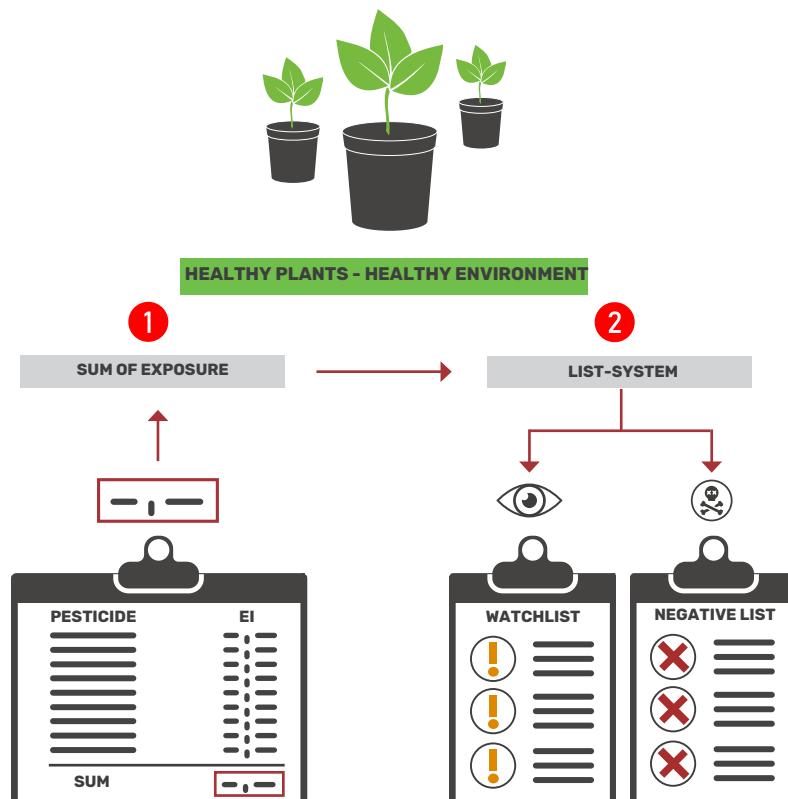


Fig. 1: Two pillars of the rating system - The sum of all Ecotox-Indices of all active substances is calculated (=Sum of Exposure) and in addition, no active substances from the negative list may be used. Active substances on the watchlist are monitored and should be substituted if possible.

2.2.1. SUM OF EXPOSURE (SOE-EI)

All Ecotox-Indices of all pesticides applied by the producer or detected by the laboratory are used for the calculation of the Sum of Exposure. The SOE-EI is used to determine the total impact on the environment.

Upper Limit for the SOE-EI = 2.90

Example: Sample XY

Detected pesticide residues and their Ecotox-

Indices:

Abamectin	EI = 0.69
Azadirachtin	EI = 0.39
Boscalid	EI = 0.33
Cyantraniliprole	EI = 0.41
Difenoconazol	EI = 0.43
Flonicamid	EI = 0.20
Lambda-Cyhalothrin	EI = 0.61
Pyraclostrobin	EI = 0.43

SUMME SOE-EI = 3.49



LIMIT EXCEEDED!

2.2.2. WATCHLIST

The watchlist includes active substances that have specific negative properties and are therefore monitored.

They are not prohibited, but it is recommended that they should be substituted or used in the smallest possible quantities.

The Watchlist includes:

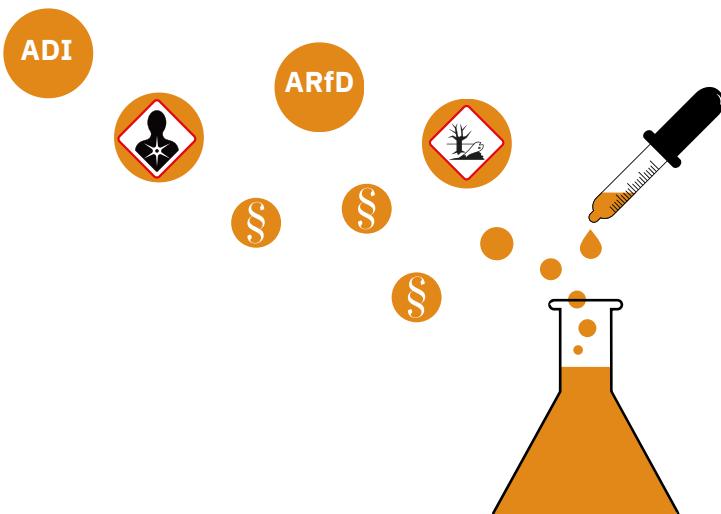
- Pesticides that are highly toxic to pollinators
- Pesticides with an Ecotox-Index >0.55
- Pesticides that are listed as candidates for substitution by the European Commission
- Pesticides that are listed as PFASs by ECHA

Complete Watchlist see Annex I.

Criteria for candidates for substitution:

Active substances are classified as candidates for substitution if they meet one or more of the criteria laid down in the Regulation (EC) No 1107/2009, point 4 of Annex II.

- Low toxicological values related to human health (ADI, ARfD or AOEL)
- The substance meets two of the PBT-criteria (persistent, bioaccumulative, toxic)
- There are reasons for concern linked to the nature of critical effects (such as developmental, neurotoxic or immunotoxic effects), even with very restrictive risk management measures
- Significant proportion of non-active isomers
- Carcinogen 1a/1b
- Toxic for reproduction 1a/1b
- Endocrine disrupting properties



2.2.3. NEGATIVE LIST

Active substances which have particularly negative effects on the environment or on human health are on the negative list. Active substances from this list may not be used.

The Negative List includes:

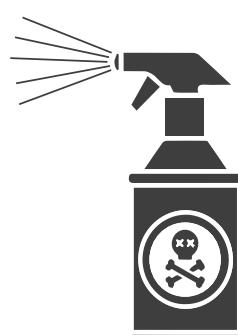
- Pesticides that are extremely toxic to pollinators (e. g. bees and butterflies)
- Pesticides that are classified by the World Health Organization (WHO) as extremely hazardous (category 1a) or highly hazardous (category 1b)
- Pesticides with an Ecotox-Index **>0.65**
- Pesticides that are regulated by the Stockholm Convention
- Glyphosate, because of its carcinogenicity

Complete Negative List see Annex II.

2.2.4. HUMAN HEALTH

To protect workers and consumers, pesticides that are hazardous to human health are identified in the catalogue.

This includes substances classified by the WHO as extremely hazardous (WHO 1a) or highly hazardous (WHO 1b) and pesticides that are considered as endocrine disrupting chemicals (ED), carcinogenic, mutagenic or toxic for reproduction (CMR).



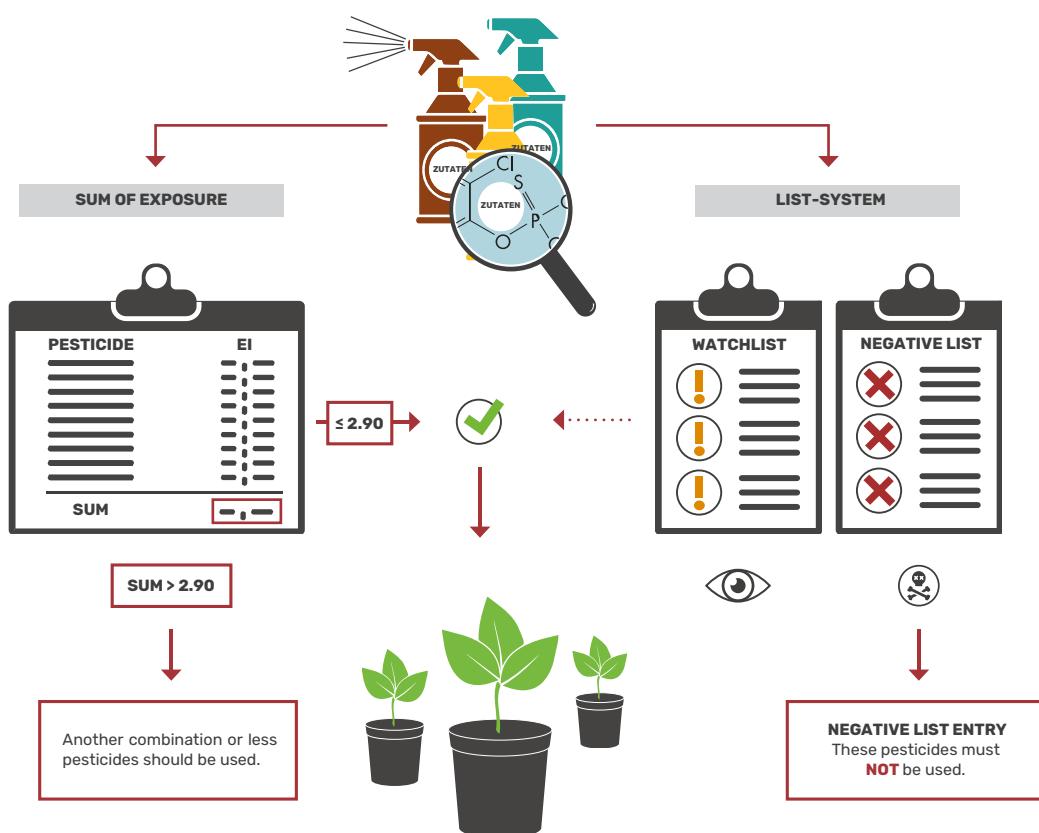
3. USER INSTRUCTIONS

With the guidelines and its lists producers can check by themselves whether their plants are conform with the required criteria or not (see Fig. 2).

The active ingredients of the plant protection products planned to be used can be compared with the negative list (and watchlist) and the Sum of Exposure can be calculated.

CAS numbers can be used for the identification of substances, if the names of the pesticides are unclear.

There are two separate lists, one for authorised pesticides and one for unauthorised pesticides.



In advance of the phytosanitary treatments, compliance with the pesticide guidelines can be checked. The Sum of Exposure has to be less than 2.90 and negative list-pesticides may not be used.

The approval status indicated in the following list is just a snapshot. The current authorisations can be checked in the EU Pesticides Database, or in national databases for plant protection products.

EU Pesticides Database:

<https://sitem.herts.ac.uk/aeru/ppdb/en/index.htm>

The lists are updated annually and there is no claim to completeness. All data without warranty.

LITERATURE AND DATA:

Bio-Pesticides DataBase (BPDB)

<https://sitem.herts.ac.uk/aeru/bpdb/index.htm>

Cannell (2009): Final hurdle cleared towards EU blacklist, in: Pesticide News 83

Diamanti-Kandarakis et al. (2009): Endocrine-Disrupting Chemicals: An Endocrine Society Scientific Statement

ECHA (2023) Annex XV Restriction Report:

Proposal for a Restriction – Per- and polyfluoroalkyl substances (PFASs) – Version number 2

<https://echa.europa.eu/documents/10162/d2f7fce1-b089-c4fd-1101-2601f53a07d1>

EU – Pesticides Database

https://ec.europa.eu/food/plant/pesticides/eu-pesticides-db_en

European Food Safety Authority (2015): Assessment of endocrine disrupting properties in EFSA

Conclusions on the Pesticides Peer Review

KEMI – Kemikalieinspektion, Swedish Chemical Agency (2008): Interpretation in Sweden of the impact of the “cut-off” criteria adopted in the common position of the Council concerning the Regulation of placing plant protection products on the market (document 11119/08)

McKinlay et al. (2007): Endocrine disrupting pesticides: Implications for risk assessment

Pesticide Action Network Europe (2016): Impact assessment of the criteria for endocrine disrupting pesticides

<https://www.pan-europe.info/sites/pan-europe.info/files/public/resources/reports/pan-report-impact-endocrine-criteria-2016.pdf>

Pestizid Aktions-Netzwerk/PAN Germany (2013): Endokrine Wirkung von Pestiziden auf Landarbeiter, insbesondere auf Beschäftigte in Gewächshauskulturen und Gärtnereien

Pesticides Properties DataBase (PPDB)

<https://sitem.herts.ac.uk/aeru/ppdb/en/index.htm>

Rainforest Alliance (2021): Annex 7 Pesticides Management

<https://www.rainforest-alliance.org/wp-content/uploads/2020/06/Annex-7-Pesticides-Management.pdf>

U. S. Environmental Protection Agency (2022): Chemicals Evaluated for Carcinogenic Potential by the Office of Pesticide Programs

http://npic.orst.edu/chemicals_evaluated.pdf

WHO (2019): The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification 2019

COLOUR MARKINGS IN THE LIST:



Pesticide on the Negative List



Pesticide on the Watchlist



Ecotox-Index

Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
1-Naphthylacetamide	PG	31/05/2026	86-86-2						0,17
1-Naphthylacetic acid	PG	31/05/2026	86-87-3					X	0,24
Abamectin (aka avermectin)	IN, AC, NE	31/03/2038	71751-41-2		X	X		X	0,69
Acequinocyl	AC, IN	30/11/2024	57960-19-7						0,31
Acetamiprid	IN	28/02/2033	135410-20-7		X			X	0,57
Acibenzolar-S-methyl	FU, PA	10/01/2025	135158-54-2				X	X	0,20
Aclonifen	HB	31/10/2026	74070-46-5	X				X	0,52
Ametoctradin	FU	31/12/2025	865318-97-4						0,33
Amisulbrom	FU	30/09/2024	348635-87-0					X	0,39
Ampelomyces quisqualis strain AQ10	FU	01/08/2033	-						0,07
Aureobasidium pullulans	IN,FU	31/01/2025	-						0,00
Azadirachtin	IN, FU, AC	31/08/2024	11141-17-6						0,39
Azoxystrobin	FU	31/12/2024	131860-33-8						0,43
Bacillus amyloliquefaciens FZB24	FU	01/06/2032	-						0,04
Bacillus amyloliquefaciens MBI600	FU,BA	16/09/2026	-						0,04

ED-Endocrine disrupting chemical; CMR-Carcinogenic, mutagenic, toxic for reproduction, WHO-World health organisation; 1a-extremely hazardous; 1b-highly hazardous; AC-Acaricide; AL-Algicide; BA-Bactericide; BI-Biocide; FU-Fungicide; HB-Herbicide; IN-Insekticide; MO-Molluscicide; MI-Miticide; NE-Nematicide; PA-Plant activator; PG-Plant growth regulator; RE-Repellent; RO-Rodenticide; VI-Viricide

Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Bacillus amyloliquefaciens QST 713	FU,BA	30/06/2038	-						0,04
Bacillus amyloliquefaciens subsp. plantarum D747	FU,BA	31/03/2025	-						0,04
Bacillus pumilus strain QST 2808	FU	31/08/2024	-						0,00
Bacillus subtilis strain IAB/BS03	FU	20/10/2034	-						0,04
Bacillus thuringiensis subsp. aizawai strain ABTS-1857	IN,BA	30/06/2038	-						0,00
Bacillus thuringiensis subsp. aizawai strain GC-91	IN,BA	30/06/2038	-						0,07
Bacillus thuringiensis subsp. kurstaki strain ABTS 351	IN,BA	30/06/2038	-						0,04
Bacillus thuringiensis subsp. kurstaki strain EG 2348	IN,BA	30/06/2038	-						0,04
Bacillus thuringiensis subsp. kurstaki strain PB 54	IN,BA	30/06/2038	-						0,00
Bacillus thuringiensis subsp. kurstaki strain SA11	IN,BA	30/06/2038	-						0,04
Bacillus thuringiensis subsp. kurstaki strain SA12	IN,BA	30/06/2038	-						0,04
Beauveria bassiana strain ATCC 74040	IN	30/09/2025	-						0,00
Beauveria bassiana strain GHA	IN	30/09/2025	-						0,00
Benalaxy-M	FU	30/04/2025	98243-83-5					X	0,28
Bordeaux mixture	FU, BA	31/12/2025	8011-63-0	X					0,30

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Boscalid	FU	15/04/2026	188425-85-6						0,33
Bupirimate	FU	31/08/2024	41483-43-6				X	X	0,26
Captan	FU, BA	15/11/2024	133-06-2		X		X	X	0,26
Cerevisane	FU	23/04/2030	-						0,00
Chlorantraniliprole	IN	31/12/2024	500008-45-7						0,37
Clethodim	HB	31/08/2026	99129-21-2						0,37
Clomazone	HB	15/06/2025	81777-89-1					X	0,35
Clonostachys rosea strain J1446	FU,IN	30/09/2025	-						0,04
Copper hydroxide	FU	31/12/2025	20427-59-2	X					0,41
Copper oxide	FU	31/12/2025	1317-39-1	X					0,33
Copper oxychloride	FU	31/12/2025	1332-65-6 / 1332-40-7	X					0,33
COS-OGA	FU	22/04/2030	-						0,04
Cyantraniliprole	IN	14/09/2026	736994-63-1		X				0,35
Cyazofamid	FU	31/07/2036	120116-88-3						0,22
Cycloxydim	HB	31/08/2026	101205-02-1					X	0,19

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Cyflufenamid	FU	30/06/2027	180409-60-3						0,30
Cyflumetofen	AC, IN	31/10/2025	400882-07-7					X	0,26
Cymoxanil	FU	15/08/2026	57966-95-7					X	0,26
Cypermethrin	IN, AC	31/01/2029	52315-07-8	X	X		X		0,57
Cyprodinil	FU	15/03/2025	121552-61-2	X					0,46
Deltamethrin	IN	15/08/2026	52918-63-5		X		X		0,61
Difenoconazole	FU	15/03/2026	119446-68-3	X					0,43
Emamectin	IN, AC, BA	30/11/2024	155569-91-8	X	X				0,57
Esfenvalerate	IN	31/05/2026	66230-04-4	X	X			X	0,72
Ethylene	PG	30/11/2026	74-85-1						0,17
Fenazaquin	AC, IN	31/08/2026	120928-09-8		X			X	0,59
Fenhexamid	FU	31/12/2030	126833-17-8						0,28
Fenpyrazamine	FU	31/05/2026	473798-59-3						0,19
Fenpyroximate	AC, IN	15/06/2026	134098-61-6					X	0,48
Ferric phosphate	MO	31/12/2030	10045-86-0						0,07

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Flonicamid	HB	31/07/2032	104040-78-0					X	0,20
Fluazifop-P-butyl	HB	31/05/2026	79241-46-6						0,26
Fludioxonil	IN	31/08/2024	272451-65-7	X			X		0,41
Fluopicolide	FU	31/08/2026	239110-15-7	X				X	0,37
Fluopyram	FU, NE	30/06/2026	658066-35-4						0,28
Flupyradifurone	IN	09/12/2025	951659-40-8		X				0,44
Flutolanil	FU	15/06/2025	66332-96-5						0,26
Fluxapyroxad	FU	31/05/2025	907204-31-3					X	0,24
Folpet	FU	15/02/2025	133-07-3					X	0,43
Formetanate hydrochloride	IN, AC	15/02/2025	23422-53-9		X	X			0,50
Fosetyl	FU	15/03/2025	15845-66-6						0,11
Fosetyl-aluminium	FU	15/03/2025	39148-24-8						0,17
Fosthiazate	IN, NE	31/01/2027	98886-44-3		X			X	0,46
Garlic extract	IN,RE,NE	29/02/2036	-						0,11
Geraniol	FU,RE	30/04/2026	106-24-1						0,19

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Gibberellic acid	PG	15/07/2025	1977-06-05						0,11
Gliocladium catenulatum strain J1446	FU	30/09/2025	-						0,15
Glyphosate	HB	15/12/2033	1071-83-6					X	0,19
Helicoverpa armigera nucleopolyhedrovirus	IN	31/10/2025	-						0,00
Hexythiazox	AC, IN	31/08/2024	78587-05-0					X	0,39
Imazalil	FU	31/12/2024	35554-44-0				X	X	0,28
Isaria fumerosa Apopka strain 97	IN, MI	31/12/2030	-						0,04
Kresoxim-methyl	FU, BA	31/12/2024	143390-89-0					X	0,30
Lambda-Cyhalothrin	IN	31/08/2026	91465-08-6	X	X		X		0,61
Laminarin	FU, BA	28/02/2033	9008-22-4						0,19
Lecanicillium muscarium	IN	29/02/2036	-						0,24
Mandipropamid	FU	31/12/2025	374726-62-2						0,22
MCPA	HB	15/08/2026	94-74-6						0,28
Mepanipyrim	FU	15/03/2025	110235-47-7					X	0,35
Meptyldinocap	FU	31/03/2025	131-72-6					X	0,39

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Metaflumizone	IN	31/12/2024	139968-49-3		X			X	0,48
Metalaxyll	FU	30/09/2026	57837-19-1	X					0,31
Metalaxyll-M	FU	31/05/2035	70630-17-0						0,31
Metaldehyde	MO	31/08/2026	108-62-3					X	0,35
Metam-potassium	IN, NE, Soil steri	30/11/2025	137-41-7	X				X	0,30
Metam-sodium	IN, NE, Soil steri	30/11/2025	137-42-8	X				X	0,28
Methoxyfenozide	IN	31/03/2026	161050-58-4	X					0,35
Metrafenone	FU	15/12/2024	220899-03-6						0,33
Metribuzin	HB	15/02/2025	21087-64-9	X			X	X	0,37
Milbemectin	IN, AC, NE	15/02/2025	51596-10-2		X				0,54
Orange oil	IN	31/12/2026	-						0,24
Oxathiapiprolin	FU	03/03/2027	1003318-67-9						0,22
Paecilomyces fumosoroseus strain FE9901	IN	31/12/2024	-						0,00
Paraffin oil (CAS No: 8042-47-5)	AC,IN	15/08/2025	8042-47-5						0,20
Pelargonic acid	AC,HB,IN,PG	15/12/2024	112-05-0						0,20

ED-Endocrine disrupting chemical; CMR-Carcinogenic, mutagenic, toxic for reproduction, WHO-World health organisation; 1a-extremely hazardous; 1b-highly hazardous; AC-Acaricide; AL-Algicide; BA-Bactericide; BI-Biocide; FU-Fungicide; HB-Herbicide; IN-Insecticide; MO-Molluscicide; MI-Miticide; NE-Nematicide; PA-Plant activator; PG-Plant growth regulator; RE-Repellent; RO-Rodenticide; VI-Viricide

Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Penconazole	FU	15/10/2026	66246-88-6				X	X	0,41
Pendimethalin	HB	30/11/2024	40487-42-1	X				X	0,63
Penthiopyrad	FU	31/05/2025	183675-82-3					X	0,24
Pepino mosaic virus CH2 strain mild isolate Abp2	VI,EL	28/06/2036	-						0,00
Pepino mosaic virus EU strain mild isolate Abp1	VI	28/06/2036	-						0,00
Pepino mosaic virus isolate VC1	VI	29/03/2032	-						0,00
Pepino mosaic virus isolate VX1	VI	29/03/2032	-						0,00
Pepino mosaic virus strain CH2 isolate 1906	VI	07/08/2030	-						0,00
Pirimicarb	IN	15/03/2025	23103-98-2	X			X	X	0,41
Potassium bicarbonate	FU	31/10/2036	298-14-6						0,07
Potassium phosphonates	FU	31/01/2026	13977-65-6						0,15
Propamocarb hydrochloride	FU	15/06/2025	25606-41-1						0,26
Propaquizafop	HB	28/02/2027	111479-05-1						0,39
Propyzamide	HB	30/06/2025	23950-58-5	X			X	X	0,30
Pyraclostrobin	FU	15/09/2025	175013-18-0					X	0,43

ED-Endocrine disrupting chemical; CMR-Carcinogenic, mutagenic, toxic for reproduction, WHO-World health organisation; 1a-extremely hazardous; 1b-highly hazardous; AC-Acaricide; AL-Algicide; BA-Bactericide; BI-Biocide; FU-Fungicide; HB-Herbicide; IN-Insekticide; MO-Molluscicide; MI-Miticide; NE-Nematicide; PA-Plant activator; PG-Plant growth regulator; RE-Repellent; RO-Rodenticide; VI-Viricide

Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Pyraflufen-ethyl	HB	31/03/2031	129630-19-9					X	0,37
Pyrethrins	IN, AC	15/06/2026	8003-34-7		X		X		0,46
Pyrimethanil	FU	15/03/2025	53112-28-0				X		0,26
Pyriproxyfen	IN	31/07/2035	95737-68-1				X		0,56
QRD-460 Terpenoid blend	IN	10/08/2025	-						0,17
Quizalofop-P-ethyl	HB	28/02/2027	100646-51-3						0,30
Rapeseed oil	AC	15/12/2024	8002-13-9						0,09
Rimsulfuron	HB	15/08/2025	122931-48-0						0,24
Saccharomyces cerevisiae strain LAS02	FU	06/07/2031	-						0,00
Sodium 5-nitroguaiacolate	PG	31/01/2027	67233-85-6						0,20
Sodium o-nitrophenolate	PG	31/01/2027	824-39-5						0,24
Sodium p-nitrophenolate	PG	31/01/2027	824-78-2						0,28
Spinosad	IN	15/03/2025	168316-95-8		X				0,52
Spodoptera exigua nucleopolyhedrovirus	IN	18/04/2037	-						0,06
Spodoptera littoralis nucleopolyhedrovirus	IN	31/10/2025	-						0,00

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Sulfoxaflor	IN	18/08/2025	946578-00-3		X				0,33
Sulphur	FU, AC	15/04/2025	7704-34-9						0,28
Tea Tree Extrakt (Melaleuca alternifolia)	FU	31/01/2026	-						0,30
Tebuconazole	FU, PG	15/08/2026	107534-96-3	X			X	X	0,37
Tebufenpyrad	AC, IN	31/01/2027	119168-77-3	X					0,48
Tefluthrin	IN	31/12/2024	79538-32-2		X	X			0,74
Tetraconazole	FU	31/03/2027	112281-77-3						0,39
Thymol	IN,FU	30/04/2026	89-83-8						0,20
Tribasic copper sulphate	FU	31/12/2025	12527-76-3 / 1333-22-8	X					0,33
Trichoderma afroharzianum strain T-22	FU	15/04/2025	-						0,00
Trichoderma asperellum strain ICC012	FU	15/04/2025	-						0,00
Trichoderma asperellum strain T11	FU	15/04/2025	-						0,20
Trichoderma asperellum strain T25	FU	15/04/2025	-						0,04
Trichoderma asperellum strain T34	FU	31/10/2025	-						0,00
Trichoderma atroviride strain I-1237	FU	31/10/2025	-						0,00

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Approved Pesticides for Cucumber, Lettuce, Tomato and Pepper in Spain (Date: 13.08.2024)

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Negative List – Prohibited Pesticide

Watchlist – Monitored Pesticides

Substance	Category	Expiration of approval	CAS-Nr.	EU Candidate for substitution	Highly toxic to pollinators	Hazardous to human health			Ecotox-Index
						WHO 1a + 1b	ED	CMR	
Trichoderma atroviride strain SC1	FU	06/07/2031	-						0,00
Trichoderma atroviride strain TV1	FU	15/04/2025	-						0,19
Trichoderma gamsii strain ICC080	FU	15/04/2025	-						0,04
Trifloxystrobin	FU	31/07/2033	141517-21-7					X	0,43
Valifenalate	FU	30/09/2024	283159-90-0					X	0,09
Zoxamide	FU	30/06/2033	156052-68-5						0,31

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ANNEX I - WATCHLIST: PESTICIDES WHICH ARE MONITORED AND SHOULD BE AVOIDED AS FAR AS POSSIBLE

8-Hydroxyquinoline	Flurochloridone	Pyridaben
Acetamiprid	Flurochloridone	Pyridalyl
Aclonifen	Flutianil	Pyriproxyfen
Acrinathrin	Flutolanil	Pyroxsulam
Acrinathrin	Gamma-Cyhalothrin	Quinoxifen
Beflubutamid	Glufosinate	Spinosad
Benfluralin	Halosulfuron-methyl	Sulcotrione
Benzovindiflupyr	Halox fop -P	Sulfoxaflor
Bifenthrin	Imazamox	Tau-Fluvalinate
Bordeaux mixture	Imazosulfuron	Tebuconazole
Bromuconazole	Indoxacarb	Tebufenpyrad
Carbendazim	Ipconazole	Tefluthrin
Carbetamide	Isopyrazam	Tembotrione
Chlorotoluron	Isoxaflutole	Tembotrione
Cyantraniliprole	Copper compounds	Tetraconazole
Cyflufenamid	Lambda-Cyhalothrin	Tri-allate
Cyflumetofen	Lenacil	Triazoxide
Cyproconazole	Linuron	Trifloxystrobin
Cyprodinil	Lufenuron	Triflumizole
Diclofop	Malathion	Triflumuron
Difenoconazole	Mecoprop	Triflusulfuron-methyl
Diflufenican	Mefentrifluconazole	Tritosulfuron
Dimethoate	Metaflumizone	Ziram
Dimoxystrobin	Metalaxyd	
Diquat	Metam	
Emamectin	Metconazole	
Epoxiconazole	Methoxyfenozide	
Etofenprox	Metribuzin	
Etoxazole	Metsulfuron-methyl	
Famoxadone	Myclobutanil	
Fenazaquin	Nicosulfuron	
Fenvalerate	Oxathiapiprolin	
Fipronil	Oxyfluor fen	
Flazasulfuron	Oxyfluor fen	
Flonicamid	Paclobutrazol	
fluazifop-P	Pendimethalin	
Fluazinam	Penoxsulam	
Flubendiamide	Pentiopyrad	
Fludioxonil	Picolinafen	
Flufenacet	Picoxystrobin	
Flufenacet	Pirimicarb	
Flufenoxuron	Pirimiphos-methyl	
Flumetralin	Prochloraz	
Flumetralin	Profenofos	
Fluometuron	Profoxydim	
Fluopicolide	Propiconazole	
Fluopicolide	Propyzamide	
Fluopyram	Prosulfuron	
Fluquinconazole	Prosulfuron	

ANNEX II - NEGATIVE LIST: PROHIBITED PESTICIDES

Abamectin
Alpha-Cypermethrin
Beta-cyfluthrin
Bifenthrin
Bromadiolone
Carbofuran
Chlorfenapyr
Chlorpyrifos
Chlorpyrifos-methyl
Clothianidin
Cypermethrin
Deltamethrin
Difenacoum
Endosulfan
Esfenvalerate
Ethoprophos
Fenamiphos
Fenpropathrin
Fipronil
Formetanate
Glyphosate
Imidacloprid
Methamidophos
Methiocarb
Methomyl
Omethoate
Oxamyl
Sulfoxaflor
Tefluthrin
Thiacloprid
Thiamethoxam
Zeta-Cypermethrin
Zinc phosphide