

ANNEX 1: UK Approvals for pesticides on outdoor hops

Active	Product Name (not exhaustive)	Acceptability for brewing	Latest UK expiry date	Comments	EU/UK MRL as of March 2017
Key: * value at limit of detection		**Extension of Authorisation for Minor Uses ("Off-label") allows a product which is authorised for use on a major crop to be used on a minor crop such as hops for as long as the product retains its main authorisation. Efficacy and phytotoxicity on the minor crop has not been tested: this is the user's responsibility.			
Fungicides					
Boscalid	Bellis (also contains pyraclostrobin)	Limited small scale trials with treated barleys at IFBM showed no effect on beer quality. Accepted for barley, but prior to ear emergence only. Hops not tested .	31/07/2019	UK authorisation under Minor Uses Authorisation**	80
Bupirimate	Nimrod	Accepted on the basis of brewing trials at Campden BRI	31/12/2021		10
Cymoxanil	Option	Accepted on the basis of brewing trials at Campden BRI	28/02/2022	UK authorisation under Minor Uses Authorisation**	2
Fenpropimorph	Corbel	Accepted on the basis of brewing trials at Campden BRI	31/12/2021	UK authorisation under Minor Uses Authorisation**	10 (0.05* for hops treated after 22/08/2017)
Mandipropamide	Revus	Not tested	31/01/2026	UK authorisation under Minor Uses Authorisation**	90
Metalaxyl -M	SL 567A	Accepted on the basis of brewing trials at Campden BRI	31/12/2019	UK authorisation under Minor Uses Authorisation**	10
Myclobutanil	Sythane 20EW	Accepted on the basis of brewing trials at Campden BRI	30/09/2017	UK authorisation under Minor Uses Authorisation**	5
Potassium bicarbonate	Potassium bicarbonate	Accepted on the basis of evaluation at CampdenBRI	31/08/2019	Authorised as a commodity substance	No limit set
Pyraclostrobin	Bellis (also contains boscalid)	Limited small scale trials with treated barleys at IFBM showed some small effect on alcohol production. Accepted for barley, but prior to ear emergence only	31/07/2019	UK authorisation under Minor Uses Authorisation**	15

Quinoxifen	Fortress	Accepted for barley on the basis of trials at TNO. Not tested with hops.	31/10/2019	UK authorisation under Minor Uses Authorisation**	2
Sulphur	Kumulus DF	Accepted for use before burr stage only on the basis of brewing trials at CampdenBRI	31/12/2021		no MRL required

Insecticides and Acaricides

Abamectin	Agrimec	Not tested	31/07/2017	UK authorisation under Minor Uses Authorisation**	0.05
Bacillus thuringiensis	Lepinox Plus	Not tested	30/10/2021		0.01*
Flonicamid	Mainman	Not tested	28/02/2023	UK authorisation under Minor Uses Authorisation**	3
Imidacloprid	Merit Forest	Accepted on the basis of brewing trials at Campden BRI	31/075/2017		10
Lambda-cyhalothrin	Hallmark	Accepted on the basis of brewing trials at Campden BRI	31/12/2018	UK authorisation under Minor Uses Authorisation**	10
Pymetrozine	Plenum WG	Accepted on the basis of brewing trials at Campden BRI	30/06/2018	UK authorisation under Minor Uses Authorisation**	15
Pyrethrins	various	Accepted on the basis of brewing trials at Campden BRI with several synthetic pyrethroids for both barley and hops.	31/12/2021	General acceptance for all edible crops. Pyrethrins are natural products and allowed for organic crops.	0.5
Spirodiclofen	Envidor	Not tested	31/12/2017	UK authorisation under Minor Uses Authorisation**	40
Spirotetramat	Movento	Not tested	30/04/2019	UK authorisation under Minor Uses Authorisation**	15
Tebufenpyrad	Masai	Accepted on the basis of brewing trials at Campden BRI	31/12/2021		0.5

Herbicides

Carfentrazone-ethyl	Shark, Spotlight	Accepted on the basis of evaluation at Campden BRI	31/01/2020	General acceptance for all edible crops	0.02*
Diquat	Dragoon	Accepted on the basis of established use prior to 1980 with no problems.	31/12/2019		0.1*

Fluazifop-P	Fusilade Max	Accepted on the basis of evaluation at Campden BRI	31/12/2021		0.05*
Glyphosate (including trimesium salt)	various	Accepted on the basis of brewing trials at Campden BRI using treated barley	30/06/2020	General acceptance for all edible crops Expiration of approval: 6 months from the date of receipt of the opinion of the Committee for Risk Assessment of the European Chemicals Agency by the Commission or 31 December 2017, whichever is the earlier	0.1* (0.05* for trimesium ion)
Isoxaben	Flexidor	Accepted on the basis of established use prior to 1980 with no problems.	31/12/2021		0.05*
Propyzamide	Kerb Flo	Accepted on the basis of early application and established use prior to 1980 with no problems.	31/07/2020	UK authorisation under Minor Uses Authorisation**	0.05*
Pyraflufen-ethyl	Quickdown	Not tested	31/12/2018	UK authorisation under Minor Uses Authorisation**	0.1*
Defoliants					
Diquat	Reglone	Accepted on the basis of brewing trials at Campden BRI	30/06/2017	UK authorisation under Minor Uses Authorisation**	0.1 *
Miscellaneous					
Aluminium ammonium sulphate	various	Not tested		Animal repellent, approved for all edible crops	default (0.01*)
Metaldehyde	various	Accepted on the basis of application type and established use prior to 1980 with no problems.	31/12/2021	Slug bait, approved for all edible crops. Applied to soil.	0.1*

ANNEX 2. Hops grown in the EU outside of the UK

Chemical Active Ingredient	Activity	Germany 2017	Czech Rep. 2017	Slovenia 2017	Poland 2017	France 2017	Spain 2017	Belgium 2017	UK 2017	EU MRL (ppm)	BBPA: Acceptability for Brewing.
Abamectin	Acaricide	na	Vertimec	Vertimec 1.8%EC	na	Vertimec	na	na	Agrimec	0.1	Not tested
Acequinocyl	Acaricide	Kanemite	na	Kanemite	na	na	na	Kanemite	na	15	Not tested
Acetamiprid	Aphicide	Na	Mospilan	na	na	na	na	na	na	0.05*	Not tested
Ametoctradin	Fungicide	Orvego	na	na	na	na	na	na	na	100	Not tested
Azoxystrobin	Fungicide	Ortiva	Ortiva	Quadris	na	na	na	na	na	30	Acceptable on the basis of brewing trials on barley, 1997
Bacillus Thuringiensis	Insecticide	na	na	Lepinox Plus	na	Lepinox Plus	na	na	Lepinox Plus	0.01*	Not tested
Bifenazate	Acaricide	na	Acramite	na	na	na	na	na	na	20	Not tested
Boscalid	Fungicide	Bellis	Bellis	na	na	na	na	Bellis	Bellis	80	Acceptable on the basis of brewing trials on barley, 2004
Bromoxynil	Herbicide	Buctril	na	na	na	na	na	na	na	0.1*	Accepted on barley
Bupirimate	Fungicide	na	na	na	na	na	Nimrod, Quatro	na	Nimrod	10	Accepted on the basis of brewing trials at Campden BRI
Carfentrazone-ethyl	Herbicide	na	na	na	na	Spotlight Plus	na	na	Spotlight #	0.02*	Accepted on the basis of evaluation at Campden BRI
Copper	Fungicide	Funguran	various	various	various	various	various	various	na	1000	Accepted on the basis of brewing trials at Campden BRI using metalaxyl-copper mixture
Cymoxanil	Fungicide	Aktuan	Curzate K	na	Curzate Cu	na	na	na	Option	2	Accepted on the basis of brewing trials at Campden BRI
Cypermethrin	Insecticide	na	Vaztak	na	various	na	various	na	na	30	Accepted on the basis of brewing trials at Campden BRI
Deltamethrin	Insecticide	na	na	na	na	na	Decis Expert, Delaplan	na	na	5	Accepted on the basis of brewing trials at Campden BRI

Dimethomorph	Fungicide	Forum	na	na	na	na	na	na	na	80	Not tested
Diquat	Herbicide	Reglone	na	Reglone 200SL	na	various	na	various	Reglone	0.1*	Accepted on the basis of established use prior to 1980 with no problems.
Dithianon	Fungicide	Delan 700WG	na	na	na	na	na	various	na	100	Not tested
Fenpropimorph	Fungicide	na	na	na	na	na	na	na	Corbel	10	Accepted on the basis of brewing trials at Campden BRI
Fenpyroximate	Acaricide	na	Ortus	na	na	na	na	na	na	10	Not tested
Flonicamid	Aphicide	Teppeki	Teppeki	Teppeki	na	Teppeki	na	Teppeki	Mainman	3	Not tested
Fluazifop-p-butyl	Herbicide	Fusilade Max	Fusilade	na	na	na	na	na	Fusilade	0.05*	Accepted on the basis of evaluation at CampdenBRI
Folpet	Fungicide	na	Folpan	na	na	na	na	na	na	400	Not tested
Fosetyl-Al	Fungicide	Aliette	Aliette	Aliette flash	Aliette	Aliette flash	various	Aliette	na	1500	Accepted on the basis of brewing trials at Campden BRI
Glyphosate	Herbicide	na	na	na	na	na	na	na	various #	0.1*	Accepted on the basis of brewing trials at Campden BRI using treated barley
Hexythiazox	Acaricide	na	Nissorun	Nissorun 10WP	na	na	na	Nissorun	na	20	Not tested
Imidacloprid	Aphicide	Confidor 70WG	Confidor	Confidor, Kohinor SL 200	na	na	Confidor 20 LS, Kohinor	Confidor 200SL	Merit	10	Accepted on the basis of brewing trials at Campden BRI
Isoxaben	Herbicide	na	na	na	na	na	na	na	Flexidor	0.05	Accepted on the basis of established use prior to 1980 with no problems.
Lambda Cyhalothrin	Insecticide	Karate Zeon	Karate Zeon	Karate Zeon 5	various	Karate Xpress	Karate King-Zeon	Karate Zeon	Hallmark	10	Accepted on the basis of brewing trials at Campden BRI
Mandipropamid	Fungicide	Revus	Pergado	na	na	na	na	Revus	Revus	90	Not tested
MCPA	Herbicide	U 46 M fluid	Dicopur	na	na	na	na	na	na	0.1*	Accepted for barley. Not tested for hops.
Metalaxyl-m / Mefenoxam	Fungicide	na	Ridomil Gold	Fonganil Gold, Ridomil	na	Subdue Gold	na	na	SL567A	10	Accepted on the basis of brewing trials at Campden BRI
Metaldehyde	Molluscicide	na	na	na	na	na	na	na	Metarex #	0.1*	Accepted on the basis of application type and established use prior to 1980 with no problems.
Metiram	Fungicide	na	na	na	na	na	na	Polyram	na	25	Not tested

Metrafenone	Fungicide	na	na	na	na	na	na	Flexity	na	80	Nor tested
Milbemectin	Acaricide	Milbeknock	na	Milbeknock	na	na	na	na	na	0.2*	Not tested
Myclobutanil	Fungicide	Systhane 20EW	na	Systhane	na	Systhane New	Systhane Forte	Systhane 20EW	Systhane	5	Accepted on the basis of brewing trials at Campden BRI
Potassium bicarbonate	Fungicide	na	na	na	na	na	na	na	Potassium Bicarbonate	exempt	Accepted on the basis of evaluation at CampdenBRI
Propargite	Acaricide	na	Omite	na	na	na	na	na	na	0.05*	Not tested
Propyzamide	Herbicide	na	na	na	na	na	na	na	Kerb Flo	0.05*	Accepted on the basis of early application and established use prior to 1980 with no problems.
Pymetrozine	Aphicide	Plenum 50WG	Chess	Chess 50WG	na	Plenum 50WG	na	Plenum	Plenum 50WG	15	Accepted on the basis of brewing trials at Campden BRI
Pyraclostrobin	Fungicide	Bellis	na	na	na	na	na	na	Bellis (+boscalid)	15	Accepted for barley. Not tested for hops.
Pyraflufen-ethyl	Herbicide	Quickdown	na	na	na	na	na	na	Quickdown	0.1*	Not tested
Quinoxifen	Fungicide	Fortress 250	IQ Crystal	na	na	na	na	Fortress	Fortress	2	Accepted for barley on the basis of trials at TNO. Not tested with hops.
Spirodiclofen	Acaricide	Envidor	na	na	na	na	na	na	Envidor	40	Not tested
Spirotetramat	Aphicide	na	Movento	na	Movento	na	na	Movento 100SC	Movento	15	Not tested
Sulphur	Fungicide	Sulfur	Kumulus	various	various	various	Sulfur	various	various	exempt	Accepted for use before burr stage only on the basis of brewing trials at CampdenBRI
Tebuconazole	Fungicide	na	Horizon	na	na	na	na	na	na	40	Accepted on the basis of established use prior to 1980 with no problems.
Tebufenpyrad	Acaricide	na	na	na	na	na	na	Masai 20 WP	Masai	0.5	Accepted on the basis of brewing trials at Campden BRI
Thiamethoxam	Insecticide	Actara	Actara	na	na	na	na	na	na	0.05	Not tested
Triadimenol	Fungicide	Bayfidan	Bayfidan	na	na	na	Bayfidan 312 SC	na	na	10	Accepted on the basis of established use prior to 1980 with no problems.
Trifloxystrobin	Fungicide	D- Flint	na	Zato 50WG	na	Flint	na	na	na	40	Accepted for barley. Not tested for hops.
		na = not approved							# = approval for use on all edible crops	* = Limit of Determination	

Annex 3: Non-EU Registration and MRLs for pesticides used on HOPS

Notes: * = limit of detection: MRLs above the limit of detection are in bold

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aluminium ammonium sulphate									default
ametoctradin		60				15	10	30	100
amitrole	0.01*								0.05*
aramite									0.1*
asulam	0.1*				0.1				0.05*
atrazine					0.1*				0.1*
azoxystrobin		20	30 (proposed)	30	30	30	20	30	30
Barban									0.1*
benalaxyl					0.2				0.1*
benfuracarb					5				0.1*
benomyl	see carbendazim								
bensulfuron-methyl									default
bensulide					0.03				default
bentazone					0.02				0.1*
benzyladenine					0.02				default
bifenazate	3(T)	15	20		20	20	15	20	20
bifenthrin			20	20	20	20	10	20	10
bilanafos					0.008				default
bioresmethrin					0.1				default
bitertanol					0.1				0.1*
boscalid	0.5	35	60 (proposed)	60	60	60	35	60	80
brodifacoum					0.001				default
bromide (inorganic)				400	400				20
bromophos-ethyl									0.1*
bromopropylate					1				0.05*
bromoxynil									0.1*
bupirimate									10
buprofezin									5
butylamine					0.1				default
Carbendazim					0.1				0.1*
carbofuran					10				0.05*

carbosulfan					1				0.05*
carfentrazone ethyl	0.05*	0.1		0.1	0.3	0.02*	0.1		0.02*
cartap					10				default
chlorantraniliprole	0.01*	40		90	90	0.02*	40		0.02*
chlorbenside									0.1*
chlorbufam									0.1*
chlordane					0.02				0.02*
chlorfenapyr						0.05			0.05*
chlorfenson									0.1*
chlorfluazuron					0.05				default
chlormequat					0.1*				0.1*
chlorobenzilate					0.1*				0.1*
chlorothalonil					0.1				60
chloroxuron									0.1*
chlorpyrifos					0.1*	0.1*			0.1*
chlorpyrifos-methyl					0.1*				0.1*
chlozolinate									0.1*
cinidon-ethyl					0.1				0.1*
clethodim						0.1	0.5		0.1
clodinafop-propargyl					0.02				0.05*
clofentezine	0.2*				0.2				0.05*
clomazone					0.02*				0.05
clopyralid	2	5		5	5	5	5		5
clothianidin					0.1				0.05*
copper (from copper salts)					see individual salts				1000
copper nonylphenolsulfonate					0.04				default
copper tetraphthalate									default
4-CPA (chlorophenoxyacetic acid)					0.02				default
cyanamide									0.2
cyazofamid					10	0.02*	10	15	20
cycloprothrin					0.02				default

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dioxathion									0.1*
diphenylamine					0.05*				0.05*
diquat	0.2 (T)				0.04*	0.1*	0.2		0.1*
disulfoton	0.5				0.3				0.05*
dithianon				100	100			300	100
dithiocarbamates	10 (T)			30	30			30	25
diuron					0.02				0.05
2,2-DPA					0.05				default
Endosulfan					0.1*				0.1*
endothall					0.1		0.1		default
endrin					0.1*				0.1*
epoxiconazole									0.1
esfenvalerate	see fenvalerate				5	0.05*			0.05*
ethephon					0.1*				0.1*
ethiofencarb									default
ethirimol									10
ethoprop (ethoprophos)		0.02		0.02		0.02*	0.02		0.02*
ethoxyquin									0.05*
ethyclozate									default
ethylene dibromide (EDB)					0.01*				0.02*
ethylene dichloride					0.02*				0.02*
etoxazole			15 (proposed)		15	15	7	15	15
Famoxadone				80	80	0.05*	80		0.05*
fenamiphos					0.05*				0.05*
fenarimol			5		5	5	0.1*	5	5
fenbutatin oxide	20				25				0.1*
fenchlorphos									0.1*
fenhexamid					100				0.1*
fenoxycarb					0.05*				0.05*
fenpropathrin					0.5				0.02*

fenpropimorph					0.1				10
fenpyroximate			15 (proposed)	10	15	10	10	10	10
fentin					0.5				0.1*
fenvalerate					5				0.05*
ferric phosphate				exempt					NL
fipronil					0.002*				0.01*
flazasulfuron					0.02*				0.02*
flonicamid		7		7	5	2	20	20	3
fluazifop-P butyl	0.05				0.05				0.05*
flucythrinate					10				0.1*
flumioxazin				0.05		0.1*	0.05		0.1*
fluometuron					0.02*				0.02*
Fluopyram		60							
fluoride ion									10
fluoroimide					0.04				default
flupyradifurone		10					10		4
fluridone									default
fluroxypyr					0.1*				0.1*
fluvalinate					10				see tau-fluvalinate (10)
folpet				120	120	150	120		400
formothion									0.05*
fosetyl aluminium				45	1440	1500	45		1500
furathiocarb					5				0.05*
furfural									1
Gibberellic acid									None
glufosinate ammonium	1 (T)				0.2				0.1*
glyphosate	0.1*			7	0.1	0.1*	7		0.1*
Haloxypop					0.02*				0.05
heptachlor					0.01*				0.02*
HCB					0.02*				0.02*
hexaconazole					0.05*				0.05*

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methomyl	0.5				8				10
methoxychlor					0.1*				0.1*
metiram				30	30			30	25
metrafenone		60					70	70	80
metribuzin					0.1*				0.1*
MGK 264 (n-octyl bicycloheptene dicarboximid							5		default
milbemectin					0.1				0.2*
molinate									0.1*
monolinuron									0.1*
myclobutanil			2	2	10	2	10	2	2
Naled				0.5	0.1		0.5		default
nitenpyram					0.03				default
novaluron						0.01*			0.01*
norflurazon				3	3		3		0.01*
Oxadiazon									0.05*
oxine-copper					10				default
oxydemeton-methyl					0.05				0.02*
paraquat	0.2		0.1	0.5	0.2	0.1	0.5	0.1	0.05*
parathion					0.6				0.1*
parathion methyl					0.05				0.05*
penconazole				0.5	0.5			0.5	0.5
pendimethalin	0.1*						0.1	0.05	0.05*
permethrin				50	50			50	0.1*
d-phenothrin					0.02	0.05*			0.05*
phorate				2	0.3	0.05*	2		0.05*
phoxim					0.02*				0.02*
pindone					0.001				default
pirimicarb	0.5				0.5				0.05
pirimiphos-methyl					0.05*				0.05*
probenazole					0.03				default

prochoraz					0.1*				0.1*
procymidone					0.1*				0.05*
profenofos					0.1*				0.05*
prohexadione calcium					0.1*				0.1*
propargite	3	30		100	100	100	100	100	0.05*
propiconazole					0.1*				0.1*
propineb					30				25
propoxur					0.1*				0.1*
propyzamide									0.05*
pymetrozine		6		6	15	15	6		15
pyraclostrobin		23	15 (proposed)	15	15	15	23	15	15
pyraflufen-ethyl					0.05				0.1*
pyrazolynate					0.02*				default
pyrazophos					0.1*				0.1*
pyrethrins					0.05	0.5			0.5
pyridaben				10	10	10	10		10
pyriproxyfen						0.05*			0.05*
Quinalfos					0.1*				0.1*
quinoxifen		2.5	1	1	1	1	3	1	0.5
quintozene					0.05				0.1*
Resmethrin					0.2	0.2*			0.2*
Spinetorum						0.1*	22		0.1*
spinosad						22	22		0.1*
spirodiclofen		40	40 (proposed)	40	40	40	30	40	40
spirotetramet		10	15	15	15	15	10	15	15
spiroxamine				50	50	0.1*	50		0.1*
sulfentrazone					0.05				default
sulphur				exempt					exempt
Tau-fluvalinate					10				10
tebuconazole			40	35	40	40	35	40	40

tebufenoxide									0.1
tebufenpyrad									0.5
tebuthiuron					0.02*				default
tecnazene					0.1*				0.1*
teflubenzuron					0.02*				0.05*
tepraloxydim					0.05*				0.1*
terbufos					0.005*				0.01*
tetradifon	5				60				0.05*
thiabendazole					0.1*				0.1*
thiacloprid									0.1
thiamethoxam		0.1			0.1	0.1	0.1		0.05
thiodicarb					8				10
thiometon					0.2				default
tolyfluanid			50	50	50			50	1*
triadimefon					10				10
triadimenol					5				
triazolyl alanine									default
triclopyr					0.03*				0.1*
tricyclazole					0.02*				0.05*
tridemorph					0.1*				0.05*
trifloxystrobin			15 (proposed)	40	40	40	11	40	40
triflumizole		0.1 (default)		50	8	0.1*	50		0.1*
triflumuron					0.02*				0.05*
trifluralin		0.1 (default)		0.05	0.05	0.1*	0.05		0.05*
triforine					30				0.05*
Vamidothion									default
vinclozolin					40				0.05*
Warfarin					0.001				default
Zeta-cypermethrin					20	30			30