



July 2018

**Use of Pesticides on
Hops
for brewing**

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1. Aims

This document is intended to be used by BBPA members who manufacture or commission the manufacture of beer. The aims are;

- to assist them in assessing the quality of hops which they purchase and use
- to assist in complying with EU and UK law relating to pesticides
- to maintain the quality and safety of their beer
- to ensure that pesticides used on hops do not adversely affect either beer quality, safety or flavour, of the efficiency of the brewing process

2. Structure

The pesticide information in this document is provided in three sections covering three annexes:

- Section 4: Hops grown in the UK (Annex 1)
- Section 5: Hops grown in the EU outside the UK (Annex 2)
- Section 6: Hops imported into the UK from outside the EU (Annex 3)

3. Annexes

Lists of pesticides which may be used on hops grown in the different jurisdictions and their appropriate maximum limits for residues are given in the Annexes. Where additional information is required for some values shown, this is given in comments, denoted by a red marker in the corner of the cell. Additions and deletions to Annexes 1 and 2 since the last publication (March 2017) are summarised at the end of this document. Changes to Annex 3 have not been listed separately; details should be checked individually for pesticides of interest. Changes to Annexes 1 and 2 are since the last publication are highlighted in yellow within the Annexes.

4: Hops grown in the UK

Chemicals used as pesticides (active ingredients) are authorised at EU level for all EU member states. The maximum amount of residue that may remain on the harvested crop (MRL) is also set at EU level and applies to all crops grown in EU Member states. These MRLs also apply to imported crops, unless a different import tolerance is in place.

However, pesticidal products applied to hops grown in one country must be registered by the regulatory authorities of that country for use on hops. The active ingredients chosen from the overall EU list can differ from country to country, even within the EU, because disease and pests can also vary between countries. Thus, the list of active ingredients which are allowed on hops in the UK differs from the list allowed in other EU countries, although there may be many similarities. In the UK, the Health and

Safety Executive (HSE) maintains a searchable online database of registrations of pesticides for all crops grown in the UK:

<https://secure.pesticides.gov.uk/pestreg/>

Off-label registration.

In some cases, the registration for a pesticide on hops is “Off-label”. This type of registration can be obtained by user-groups rather than by the pesticide manufacturers. Off label registration on a minor crop such as hops can be obtained for pesticides which are fully registered in the UK for use on other, mainstream, crops. Details do not necessarily appear on the product label. It is common for minor crops such as hops, where it may not be economically worthwhile for a manufacturer to pursue full registration. Responsibility for demonstrating efficacy lies with the registrant (in this case the user-group) rather with the manufacturer. An off-label registration is automatically cancelled if the full registration on major crops is cancelled or withdrawn in the UK for any reason. A searchable online database of off-label registrations is maintained by the HSE.

<https://secure.pesticides.gov.uk/approvaldocs/PublicDocSearch.aspx>

A list of pesticides which are currently (as of July 2018) registered for use on commercial hops grown for brewing in the UK is given in **Annex 1**.

The residues of any pesticide used must not exceed the EU MRL for that pesticide on hops.

The EU MRLs for hop pesticides are shown in the Annexes to this document but can also be found in an online searchable database maintained by the EU.

<http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN>

For many years, the BBPA and Campden BRI have been testing new pesticides which are proposed for use on the major raw materials of beer – hops and malted barley - in the UK to ensure that they do not affect the flavour, quality or safety of beer, or the efficiency of the brewing process. Similar testing may be carried out by other institutions, such as the IFBM in France. The results of any such tests are indicated in the “Acceptability for Brewing” column of the list in Annex 1.

5: Hops grown in the EU outside of the UK

As explained above, different active ingredients may be selected by different EU member states for use on hops, depending upon the range of pests and diseases experienced in their country. All ingredients must however be authorised by the EU and listed in the relevant EU legislation (Regulation 1107/2009 and its amendments). MRLs are also set by the EU for each crop/chemical combination (Regulation 396/2005 and its amendments).

Hops grown in one EU country can be exported to any other EU country provided that the pesticides used are:

- Authorised at EU level

- Registered in the country where the hops are grown, for use on hops. They do NOT need to be registered for hops in the importing country.
- Residues do not exceed the EU MRL for that pesticide on hops

A list of hop pesticides and their registration in different hop growing countries in the EU, together with the relevant MRLs, is given in **Annex 2**. Further information on registrations in individual EU and non-EU countries can be accessed via the following link:

https://www.eppo.int/PPPRODUCTS/information/information_ppp.htm

6. Hops grown in countries outside the EU

Many countries outside the EU also have their own systems for assessing, authorising and controlling pesticides used on crops grown within their jurisdictions. However, the pesticides authorised for use on any one crop can differ widely between different countries, depending upon pest and disease pressure and historical factors. Thus, the list of pesticides allowed on hops in the US for example, is very different from those allowed in the EU. The maximum residue allowed can also differ significantly.

Hops which are treated with a pesticide which is legal in the country of origin but not authorised in the EU can be legally used in EU countries only if the **EU MRL is not exceeded**. A pesticide which is not authorised in the EU will generally have an MRL set at the limit of detection unless an import tolerance has been set up.

Some countries adopt Codex MRLs (set by the Codex Alimentarius of the FAO and the WHO) to facilitate international trade. However, the Codex process is relatively slow, and Codex MRLs are often not available for the newest pesticides, or for all crop/chemical combinations.

A list of MRLs set by some of the main hop-growing countries for pesticides used on hops is given in **Annex 3**.

Changes made to Annex 1 since March 2017

Agrochemical	Type	Changes
Ametoctradin	Fungicide	Added to list
Cymoxanil	Fungicide	MRL reduced from 2 to 0.1 mg/kg
Fenpropimorph	Fungicide	MRL reduced from 10 to 0.05 mg/kg
Metalaxyl	Fungicide	MRL increased from 10 to 15 mg/kg
Myclobutanil	Fungicide	Authorisation extended to 31/10/2018
Abamectin	Insecticide	Authorisation extended to 31/05/2019
Acequinocyl	Insecticide	Added to list
Chlorantraniliprole	Insecticide	Added to list
Imidacloprid	Insecticide	Authorisation revoked
Pymetrozine	Insecticide	Authorisation extended to 31/12/2020
Spirodiclofen	Insecticide	Authorisation extended to 31/05/2019
Carfentrazone-ethyl	Herbicide	Authorisation extended to 31/01/2021
Diquat	Herbicide	Authorisation extended to 31/12/2020
Isoxaben	Herbicide	Authorisation extended to 30/11/2023
Ammonium Aluminium Sulphate	Miscellaneous	Authorisation extended to 31/12/2021

Changes made to Annex 2 since March 2017

Agrochemical	Type	Changes
Acequinocyl	Acaricide	Added to list for Poland
Ametoctradin	Fungicide	Added to list for Czech Republic and Poland
Azadirachtin	Insecticide	Added to list for Germany

Bacillus thuringiensis	Insecticide	Added to list for Czech Republic and Poland
Chlorantraniliprole	Insecticide	Added to list for UK
Cypermethrin	Insecticide	Authorisation revoked in several countries
Deltamethrin	Insecticide	Authorisation revoked
Dimethomorph	Fungicide	Added to list for Czech Republic and UK
Diquat	Herbicide	Authorisation revoked in Germany and Slovenia, added for Czech Republic
Flonicamid	Aphicide	Added to list for Poland
Fluazifop-p-butyl	Herbicide	Added to list for Poland
Flumioxazin	Herbicide	Added to list for Germany
Fluopicolide	Fungicide	Added to list for Poland and Slovenia
Fluopyram	Fungicide	Added to list for Poland
Folpet	Fungicide	Added to list for Poland
Glyphosate	Herbicide	Added to list for Germany
Imidacloprid	Aphicide	Added to list for Poland; revoked in UK, note added regarding usage restrictions.
Indoxacarb	Insecticide	Added to list for France
Mancozeb	Fungicide	Added to list for Germany and Spain
Mandipropamid	Fungicide	Added to list for Slovenia
MCPA	Herbicide	Revoked in all countries
Metiram	Fungicide	Added to list for Germany
Metrafenone	Fungicide	Added to list for Germany and Slovenia
Milbemectin	Acaricide	Added to list for Poland

Myclobutanil	Fungicide	Authorisation revoked for several countries
Potassium bicarbonate	Fungicide	Added to list for several countries
Propargite	Acaricide	Revoked in all countries
Pyraclostrobin	Fungicide	Added to list for Czech Republic and Belgium
Sheep fat	Repellent	Added to list for several countries
Spirodiclofen	Acaricide	Added to list for Spain
Spirotetramat	Aphicide	Added to list for Slovenia
Tau-Fluvalinate	Insecticide	Added to list for France
Tebuconazole	Fungicide	Revoked in all countries
Thiamethoxam	Insecticide	Note added regarding usage restrictions
Trifloxystrobin	Fungicide	Added to list for Poland