The COLEAD online database (E-GAP) on plant protection products (PPPs) was released in 2018 and is accessible to all its members and beneficiaries. To date, it is one of the few sources of this information specifically dedicated to the horticultural sector in ACP countries. The Good Agricultural Practices (GAP) data for the use of specific PPPs has been obtained from a combination of sources including COLEAD PPP field trials, data from the manufacturers, and scientific literature.

E-GAP includes the pesticide Maximum Residue Levels (MRLs) set by the EU and Codex Alimentarius for key horticultural crops in ACP countries. It also provides the Good Agricultural Practices (dose rate, interval between treatments, pre-harvest intervals) that ensure compliance with these MRLs.

Additional information such as the type of pesticide, the registration status of the active substance in the EU and in the ACP countries, the classification recommended by the World Health Organisation (WHO) and the resistance group (FRAC code for fungicides; IRAC classification for insecticides) is also provided.

The COLEAD database, E-GAP, is accessible with your login and password in the e-service section of our website: here.

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1 COLEAD highlights the importance of following the instructions provided on the PPP product label. In addition, before applying any PPP, it is advisable to consult the latest regulatory changes in the EU Pesticide and Codex Alimentarius databases.
1. GO TO COLEAD WEBSITE: https://www.colead.org

Access e-services using the link located at the top of the home page.
2. LOG INTO THE E-SERVICES PLATFORM

Click on the login button

Enter your COLEAD username and password. Then click on Log In.
3. ACCESS THE E-GAP DATABASE

Click on the link for the e-GAP database.

COLEACP makes these tools, and any materials developed using them, freely available to programme beneficiaries and members. You can use and reproduce them in your activities, in particular in training and support activities for producers and exporters in ACP countries.

By using COLEACP’s e-services, you agree to respect the following principles:
4. SELECT A CROP

Use the filter to select the crop of interest.

Filtering by crop allows you to display key active substances\(^2\) used in ACP countries on a given crop. Before using any PPP, ensure that it is registered and authorised for use in your country (see point 7).

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\(^2\) Key active substances are those used/registered in one or more ACP country on horticultural crops that are frequently exported regionally or internationally.
5. SELECT AN ACTIVE SUBSTANCE

Filtering by active substance allows you to display key crops on which a given active substance is used in ACP countries. Before using any PPP, ensure that it is registered and authorised for use in your country (see point 7).

The COLEACP Good Agricultural Practices (GAPs) database allows you to select a crop and an active substance to obtain information on the GAPs that ensure compliance with current European Union (EU) and Codex Alimentarius maximum residue limits (MRLs). Additional information such as the type of pesticide, the status of the active substance in the EU, the World Health Organization (WHO) recommended classification by hazard and the resistance group (FRAC code for fungicides; IRAC classification for insecticides) can be obtained. By clicking on the “view” link, you will be able to view and print the data sheet corresponding to your search.

See the lists of plant protection products registered in ACP countries.

<table>
<thead>
<tr>
<th>CROP</th>
<th>ACTIVE SUBSTANCE</th>
<th>CODEX MRL</th>
<th>GOOD AGRICULTURAL PRACTICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>French bean</td>
<td>Abamectin</td>
<td>0.08</td>
<td>view</td>
</tr>
<tr>
<td>French bean</td>
<td>Acephate</td>
<td>5</td>
<td>view</td>
</tr>
<tr>
<td>French bean</td>
<td>Acrinathrin</td>
<td>/</td>
<td>view</td>
</tr>
</tbody>
</table>
6. ACCESS DATA ON GOOD AGRICULTURAL PRACTICES

Once you have selected your crop and active substance, you can access the Good Agricultural Practices (dose rate, interval between treatments, pre-harvest intervals) that ensure compliance with EU and CODEX MRLs (click on view).

The figures below show the information that will be displayed for a given active substance/crop combination.
1. **Type of pesticide.** This includes the following: acaricide/miticide, bactericide, fungicide, insecticide, nematicide, rodenticide, molluscicide, and plant growth regulator.

**WHO Class.** The World Health Organization (WHO) classification refers to the acute risk to health that might be encountered accidentally by any person handling the product in accordance with the directions for handling by the manufacturer or in accordance with the rules laid down for storage and transportation by competent international bodies. It is composed of 6 classes (see Table 1) which distinguish between the more (Ia) and the less hazardous (U) forms of each pesticide based on the toxicity of the active substance and on its formulation. The classification is based primarily on the acute oral and dermal toxicity to the rat since these determinations are standard procedures in toxicology.

### WHO CLASS

<table>
<thead>
<tr>
<th>WHO CLASS</th>
<th>LD$_{50}$ FOR THE RAT (MG/KG BODY WEIGHT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oral</td>
</tr>
<tr>
<td>Ia</td>
<td>Extremely hazardous</td>
</tr>
<tr>
<td>Ib</td>
<td>Highly hazardous</td>
</tr>
<tr>
<td>II</td>
<td>Moderately hazardous</td>
</tr>
<tr>
<td>III</td>
<td>Slightly hazardous</td>
</tr>
<tr>
<td>U</td>
<td>Unlikely to present acute hazard</td>
</tr>
</tbody>
</table>

2. **Resistance group**⁴. Insecticide resistance can be defined as the inability of a product to achieve the expected level of control, which would be induced by a change in insect susceptibility.

There are two types of classification for the resistance group: the IRAC classification which refers to insecticide resistance, and the FRAC classification, which refers to fungicide resistance.

- Insecticides have different modes of action which are classified by number according to the physiological functions of the insect affected. By the side of the number, there is a letter which represents the chemical class of the active substance. So, each insecticide has a chemical class and a mode of action. For example: the active substance Alpha-Cypermethrin shows a resistance group of 3A (Classification IRAC). That means that this active substance has the mode of action 3: it is a sodium channel modulator. And that the chemical class of this active substance is A which means that it is from the Pyrethroids, Pyrethrins chemical class. The IRAC classification can be accessed [here](https://irac-online.org/about/resistance/).

- Fungicides also have different modes of action which are indicated by a code number printed on the product label. FRAC classifications can be accessed [here](https://ec.europa.eu/food/plant/pesticides/approval_active_substances/approval_renewal_en).

3. **EU Status**⁵. This indicates the EU approval status of the PPP under Regulation EC 1107/2009 (e.g. authorised or not authorised).

4. **Maximum Residue Levels (MRL)**⁶. A maximum residue level is the highest level of a pesticide residue that is legally tolerated in or on food or feed when the pesticide is applied correctly. By following recommended good agricultural practice (GAP), growers ensure that produce does not contain pesticides at levels above the MRLs. This, in turn, ensures that food placed on the market is safe and does not pose a risk to consumers. The amounts of residues found in food must be safe for consumers and must be as low as possible.

In some countries/regions, MRLs are referred to as maximum residue limits and in others as maximum residue levels. The term pesticide tolerance is also used by certain authorities.

**Residues**: The traces of pesticides remaining in treated produce are called “residues”.⁷ Pesticide residues can result from the use of plant protection products on food or feed crops.

**Default MRL**⁸: A general default MRL of 0,01 mg/kg applies where a specific pesticide MRL is not established or mentioned.

5. **EU MRL**⁹. EU Maximum Residue Levels are fixed by the European Commission according to [Regulation EC 396/2005](https://ec.europa.eu/food/plant/pesticides/max_residue_levels/eu_rules_en). EU MRLs are applicable to all produce grown within the EU as well as all produce that is imported from third countries. The EU pesticide database with the latest updates on MRLs currently in force can be accessed [here](https://ec.europa.eu/food/plant/pesticides/max_residue_levels/eu_rules_en).

6. **CODEX MRLs**. Maximum Residue Levels fixed by the CODEX Alimentarius. CODEX...
MRLs are adopted by most countries globally (except for the EU, Japan and the USA, for example, which have their own regulatory systems). CODEX MRLs apply to domestic and regional trade in ACP countries. The CODEX Alimentarius database on MRLs can be accessed [here](https://ec.europa.eu/food/plant/pesticides/authorisation_of_ppp_en).

7. **Good agricultural practices (GAP).** The GAP refers to the recommended use of a PPP that will ensure compliance with the MRL in operation (EU, CODEX, or other). The GAP includes the recommended dose rate, number of applications, interval between applications, and pre-harvest interval.

8. **Dose rate:** The recommended quantity of PPP to be applied per unit area (or per unit volume in the case of post-harvest treatments).

9. **Number of applications:** The number of times that the PPP treatment can be repeated on a given crop.

10. **Interval between applications:** The time period between each application of the PPP.

11. **Pre-harvest interval:** The period between the last application of a PPP and the harvest of the product.

   **LOQ:** The “Limit of Quantification”, equivalent to the «Limit of determination» is the lowest concentration of a pesticide residue or contaminant that can be identified and quantitatively measured in a specified food, agricultural commodity, or animal feed with an acceptable degree of certainty by a regulatory method of analysis.

**Plant Protection Products (PPPs):** A PPP is something that prevents, destroys, or controls a harmful organism (‘pest’) or disease, or protects plants or plant products during production, storage and transport. The term includes, amongst others: herbicides, fungicides, insecticides, acaricides, nematicides, molluscsicides, rodenticides, growth regulators, repellents, rodenticides and biocides. PPPs contain at least one active substance and have one of the following functions:

- protect plants or plant products against pests/diseases, before or after harvest
- influence the life processes of plants (such as substances influencing their growth, excluding nutrients)
- preserve plant products
- destroy or prevent growth of undesired plants or parts of plants

They may also contain other components including safeners and synergists.

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7. ACCESS THE LISTS OF PPPs REGISTERED FOR USE IN ACP COUNTRIES

This section gives you access to the lists of plant protection products registered for use by the competent authorities in certain ACP countries. It only includes countries where the registered products lists are accessible online. If your country is not listed please contact the national competent authorities.
Access the online list by clicking on the “download” button of the country of interest.

LISTS OF PLANT PROTECTION PRODUCTS REGISTERED IN ACP COUNTRIES

This section gives you access to the lists of plant protection products registered in ACP countries. Only the products included in these lists are authorized for use. You will find more information on active substances and good agricultural practices (GAPs) in the GAP database.

<table>
<thead>
<tr>
<th>COUNTRIES</th>
<th>CONSULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSP Countries: Burkina Faso, Mali, Senegal, Gambia, Mauritania, Guinea-Bissau, Cap-Vert, Niger, Tchad</td>
<td></td>
</tr>
<tr>
<td>Ethiopia</td>
<td></td>
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<tr>
<td>Jamaica</td>
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<td>Kenya</td>
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<td>Nigeria</td>
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<td>Rwanda</td>
<td></td>
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<tr>
<td>Tanzania</td>
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