

## Mode of Action Labelling Guidance

### Mode of Action Labelling

The development of resistance is a critical focus for the crop protection industry. The more farmers use a pesticide with the same mode of action (MoA), without another overlapping MoA and/or non-chemical control measures, the more likely it is that pests will develop resistance. Academics and industry experts agree that sequential applications or applying mixtures of products with different effective MoAs are key strategies to delay the onset of pest resistance.

The crop protection industry understands the consequences of the development of resistance and is proactively taking the lead in addressing the problem. CropLife International with the support of the [fungicide](#), [herbicide](#) and [insecticide](#) resistance Action Committees (RACs), is advancing the understanding and practice of responsible resistance management. All RACs have communication resources which include websites, training modules, brochures and posters to emphasize the need to increase diversity in pest control, in particular by using several efficient MOAs in sequence or in mixtures.

The inclusion of MoA information on product labels, supported by training and other resources, is critical to ensure growers have the information they need to follow resistance management guidelines. MoA labelling is currently only a regulatory requirement in a small number of countries, however there are strong indications that more countries will make it mandatory in the foreseeable future.

### Industry Commitment

To support the widespread adoption of responsible resistance management practices, CropLife International members have made a voluntarily commitment to include MoA icons and groups on all product labels by 2023. The inclusion of MoA information on product labels will ensure growers have simple access to critical information to support implementation of resistance management.

CropLife International encourages all pesticide manufacturers to adopt this MoA labelling icon approach, for managing pesticide resistance and the stability of crop production. CropLife International would encourage pesticide regulatory authorities to consider the mandatory use of the icons and the global icon format or at least allowing them to be voluntarily displayed on the label.

### MoA Labelling Guidance

The MoA labelling provides a clear and simple method to inform, pesticide retailers and users, the type of pesticide and its mode of action group. The MoA groups can be used to identify products with the same mode of action; these should not be used repetitively. It is recommended that pesticides are used as part of an integrated pest management strategy in order to maximize pest control and sustainably manage pesticide effectiveness.

### Labelling Specifics

It is recommended that the MoA icon is displayed in a prominent position on the label. A clearly defined font should be used, e.g. Arial or Calibri for users of Latin script. A black and white colour scheme is recommended.

The icon uses the word GROUP in capital letters in black font on a white background; the mode of action letter or numeral should be in white font on a black background; the word HERBICIDE (or FUNGICIDE or INSECTICIDE) in capital letters in black font on a white background. Both lines, and the whole indicator, are contained within black rectangles. See examples below.

<b>GROUP C2 HERBICIDE</b>
<b>GROUP 1A INSECTICIDE</b>
<b>GROUP 7 FUNGICIDE</b>

The words GROUP and HERBICIDE, FUNGICIDE or INSECTICIDE (as appropriate) in capital letters which should not be less than one-quarter of the height of the largest letter or numeral on the label and be between 2 mm and 12.5 mm high. (Note: the largest letter or numeral on the label refers to individual words in the label text and not to a dropped capital or other specially formatted single letter.) If more than one pesticide is included in a product then the icon should be written in plural e.g. INSECTICIDES not INSECTICIDE. The appropriate letter(s) or number(s) representing the Mode of Action (MoA) group(s) of each active constituent(s) are to be inserted between the words GROUP and HERBICIDE, FUNGICIDE or INSECTICIDE.

The width of the white line that separates the groups for the pesticides in a product with more than one active ingredient should be defined. It should be wide enough so that when the icon is printed on small packets the line is clear.

The letter(s) representing the mode of action should be written in capital letters which should not be less than one-half the height of the largest letter or numeral on the label and between 4 mm and 25 mm high. In any event, the words GROUP and HERBICIDE, FUNGICIDE or INSECTICIDE must be no less than half, and no more than the actual size of the group number or letter.

Note that where a product has two or more active constituents, and these are represented by two or more modes of action, you must use two or more appropriate MoA identifier letters or numbers in a single statement. If in the product concerned (for example, an insecticide and a fungicide) these active constituents perform different types of functions, you must show each function separately (that is, one indicator panel for the insecticide and another for the fungicide component). See examples below.

<b>GROUP D   F2 HERBICIDES</b>		
<table border="1"> <tr> <td><b>GROUP 1A INSECTICIDE</b></td> </tr> <tr> <td><b>GROUP 7 FUNGICIDE</b></td> </tr> </table>	<b>GROUP 1A INSECTICIDE</b>	<b>GROUP 7 FUNGICIDE</b>
<b>GROUP 1A INSECTICIDE</b>		
<b>GROUP 7 FUNGICIDE</b>		

Where required, appropriate translation should be used to ensure MoA labels are clear to product users. Labelling should also consider the [FAO/WHO Guidelines on Good Labelling Practice for Pesticides](#). MoA labelling must follow all country regulations and may vary.

## **Pesticide MOA Group Reference Information**

### **Coding of Insecticides**

Insecticide MoA should be defined using the IRAC numeric group from Insecticide Resistance Action Committee (IRAC) website <http://www.irac-online.org/modes-of-action/>. This is the most up to date source of MoA groups.

### **Coding of Fungicides**

Fungicide MoAs should be defined using the FRAC numeric group from the annually updated list on the Fungicide Resistance Action Committee (FRAC) website ([www.frac.info](http://www.frac.info)). To find this list, go to <http://www.frac.info/publications/downloads> and select the FRAC Code List. This list is published as PDF and Excel files and are also presented in a MoA poster. The MoA APP for Android and IOS – can be loaded as beta version from Google play store or Apple store.

### **Coding of Herbicides**

Herbicides MoAs should be defined using the HRAC numeric groups from the annually updated list on the Herbicide Resistance Action Committee (HRAC) website: <http://hracglobal.com/tools/classification-lookup>.

### **About CropLife International**

*CropLife International is the voice of the global plant science industry. It champions the role of agricultural innovations in crop protection and plant biotechnology in supporting and advancing sustainable agriculture; helping farmers feed a growing population while looking after the planet; and progressing rural communities. The world needs farmers, and farmers need plant science. CropLife International is proud to be at the heart of helping farmers grow.*