

12-21-2010

## New Information on Herbicide Labels

Robert G. Hartzler

Iowa State University, hartzler@iastate.edu

Follow this and additional works at: <http://lib.dr.iastate.edu/cropnews>

 Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), [Agronomy and Crop Sciences Commons](#), and the [Weed Science Commons](#)

---

### Recommended Citation

Hartzler, Robert G., "New Information on Herbicide Labels" (2010). *Integrated Crop Management News*. 344.  
<http://lib.dr.iastate.edu/cropnews/344>

**The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit <https://crops.extension.iastate.edu/>.**

---

## New Information on Herbicide Labels

### **Abstract**

Herbicide labels now include a standardized system to inform users of the product's mechanism of action (MOA). A box labeled 'Herbicide Group' is present near the top of the label. The number in the box represents MOA of the active ingredient, based on a system developed by the Weed Science Society of America. Premixes containing more than one mode of action will have multiple numbers listed. Following is an example of the new logo.

### **Keywords**

Agronomy

### **Disciplines**

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Weed Science

[Subscribe to Crop News](#)

#### Archives

[2015](#)[2014](#)[2013](#)[2012](#)[2011](#)[2010](#)[2009](#)[2008](#)[Previous Years](#)

#### ISU Crop Resources

[Extension Field Agronomists](#)[Crop & Soils Info](#)[Pesticide Applicator Training](#)[Agronomy Extension](#)[Entomology Extension](#)[Plant Pathology Extension](#)[Ag and Biosystems Engineering Extension](#)[Agribusiness Education Program](#)[Iowa Grain Quality Initiative](#)[College of Agriculture and Life Sciences](#)[ISU Extension](#)

# Integrated Crop Management NEWS

-  PRINT STORY
-  EMAIL STORY
-  ADD TO DELICIOUS
-  ATOM FEED
-  FOLLOW ON TWITTER

## New Information on Herbicide Labels

By Bob Hartzler, Department of Agronomy

Herbicide labels now include a standardized system to inform users of the product's mechanism of action (MOA). A box labeled 'Herbicide Group' is present near the top of the label. The number in the box represents MOA of the active ingredient, based on a system developed by the Weed Science Society of America. Premixes containing more than one mode of action will have multiple numbers listed. Following is an example of the new logo.

Group **14** Herbicide

The intent of this information is to simplify development of herbicide programs that reduce the likelihood of selecting herbicide resistant weeds. In production systems relying largely on herbicides for weed management, using herbicides with different MOAs is the primary means of managing resistance.

Generally, the greater number of MOAs used, the less selection pressure placed on weeds. However, designing an integrated program is not as simple as randomly adding MOAs. The different MOAs used in the program must have good activity on the important weeds in the field to successfully reduce selection pressure. Following are a few examples where the inclusion of an herbicide in a system relying on glyphosate in Roundup Ready crops would provide little benefit in terms of managing resistance for specific weeds.

- A Group 2 herbicide would provide little benefit for waterhemp since most waterhemp is resistant to these herbicides.
- A Group 15 herbicide would provide little benefit for giant ragweed or other large-seeded broadleaves due to its poor activity on these weeds.
- Tank-mixing low rates ( less than 0.75 lbs) of atrazine (Group 5) with glyphosate or other herbicides.

The new labeling system eliminates the need for farmers, consultants and suppliers to learn the MOA of all the active ingredients used in Iowa agriculture. However, to use the information properly, users must still know the activity of the individual herbicides on the weeds present in the field to insure that the target weeds are being affected by multiple MOAs.

## Herbicide mode of action classification<sup>1</sup> with example herbicides

Group	Mode of Action	Family <sup>2</sup>	Common name	Trade name
1	ACC-ase inhibitor	'fops'	quiazalofop	Assure II
		'dims'	clethodim	Select
2	ALS inhibitors	sulfonylurea	nicosulfuron	Accent
		imidazolinone	imazethapyr	Pursuit
		-	flumetsulam	
3	Mitosis inhibitors	dinitroalanine	trifluralin	Treflan
4	Synthetic auxins	phenoxy	2,4-D	many
		-	dicamba	Clarity
5	Photosystem II inhibitor <sup>3</sup>	triazine	atrazine	many
6	Photosystem II inhibitor <sup>3</sup>	-	bromoxynil	Buctril
9	EPSPS inhibitor	-	glyphosate	Roundup
10	Glutamine synthetase inhibitor	-	glufosinate	Ignite
13	Carotene inhibitor	-	clomozone	Command
14	PPO inhibitors	diphenylether	fomesafen	Reflex
		-	flumioxazin	Valor
15	Lipid inhibitors	acetamide	metolachlor	Dual
		-	dimethenamid-P	Outlook
19	Auxin transport inhibitor	-	diflufenzopyr	Status
22	Photosystem I inhibitor	bipyridilliums	paraquat	Gramoxone
27	HPPD inhibitor	triketones	tembotrione	Laudis
		-	mesotrione	Callisto

<sup>1</sup>Weed Science Society of America Mechanism of Action. Only groups used in corn and soybean included in the table.

<sup>2</sup>Family name listed for groups with multiple herbicides.

<sup>3</sup>Group 5 and 6 herbicides bind at different locations of the same target site.

Use this link to reach the Weed Science Society of America [Mechanism of Action](#) document.

*Bob Hartzler is a professor of agronomy with extension, teaching and research responsibilities.*

---

This article was published originally on 12/21/2010. The information contained within the article may or may not be up to date depending on when you are accessing the information.

---

Links to this material are strongly encouraged. This article may be republished without further permission if it is published as written and includes credit to the author, Integrated Crop Management News and Iowa State University Extension. Prior permission from the author is required if this article is republished in any other manner.