

November 14, 2014

By Electronic Submission
Docket EPA-HQ-OPP-2014-0195
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460-0001

Re:

Comments to Docket No. EPA-HQ-OPP-2014-0195 Regarding the Registration of Enlist Duo Containing the Choline Salt of 2,4-D and Glyphosate in Ten Additional States.

The Center for Science in the Public Interest ("CSPI")¹ hereby submits the following comments to the Environmental Protection Agency ("EPA") Docket No. EPA-HQ-OPP-2014-0195, which addresses the registration of Enlist Duo containing the choline salt of 2,4-D and glyphosate. On October 15, 2014, EPA announced its final decision for the registration of Enlist Duo in six states and announced a public comment period for the registration of Enlist Duo in ten additional states (Arkansas, Kansas, Louisiana, Minnesota, Missouri, Mississippi, Nebraska, Oklahoma, Tennessee, and North Dakota). CSPI believes that any registration by EPA of Enlist Duo should ensure that the herbicide and the corresponding engineered corn and soybean seeds be utilized by farmers in a sustainable manner that does not result in the development of resistant weeds. CSPI submits the following comments to help EPA achieve that goal.²

I. Registration of Enlist Duo in Ten Additional States is Premature.

EPA set forth a number of excellent conditions to prevent the development of resistant weeds in its recent registration of Enlist Duo for six Mid-western states. Before EPA allows the use of Enlist Duo by farmers in ten additional states, it should wait to review the Herbicide Resistance Management Plan that Dow is required to submit and determine whether farmers are using Enlist Duo in a sustainable manner that limits the

¹ CSPI is a nonprofit education and advocacy organization that focuses on improving the safety and nutritional quality of our food supply. CSPI seeks to promote health through educating the public about nutrition; it represents citizens' interests before legislative, regulatory, and judicial bodies; and it works to ensure advances in science are used for the public good. CSPI is supported by the 900,000 member-subscribers to its Nutrition Action Healthletter and by foundation grants. CSPI receives no funding from industry or the federal government.

² CSPI also submits as an attachment to this letter, the comment letter it submitted to EPA on June 30, 2014. That letter responded to a request for comments on the registration of Enlist Duo in six states (Illinois, Indiana, Iowa, Ohio, South Dakota, and Wisconsin).

likelihood of developing resistant weeds. With at least one year of data (and preferably two) on how well the Enlist Duo registration is being implemented, EPA can assess whether extending the Enlist Duo registration to additional states can be done without jeopardizing the usefulness of that product.

Quickly registering Enlist Duo to be used in ten additional states without seeing what happens in the first six states will not allow EPA to learn what happens in practice and adjust registration conditions in the ten additional states to safeguard the environment and prevent resistant weed development. Only when EPA determines that Dow and farmers are fully implementing the conditions of the registration regarding herbicide resistance and those conditions are effectively preventing resistant weeds should EPA proceed to add additional states to the Enlist Duo label.

II. If EPA Amends the Registration of Enlist Duo to Include Ten Additional States, It Should Require the Same Obligations to Reduce the Likelihood of Resistant Weeds.

If used properly, Enlist Duo and the corresponding herbicide-tolerant corn and soybean seeds ("Enlist seeds") can be a useful tool for current and future farmers fighting weeds. EPA has set forth numerous registration conditions that will help Dow and farmers use Enlist Duo so that the development of resistant weeds is delayed. Those same obligations need to apply when using Enlist Duo in the ten additional states.

CSPI commends EPA for requiring Dow to establish an Herbicide Resistance Management Plan with its different components (education, evaluation, reporting, and best management practices (BMP)). Each component is essential to preventing resistance development and the memorialization of those obligations in the grower agreements is essential to implementing a successful resistance management program. EPA needs to ensure that both rotation to other herbicides and field scouting are highlighted in the required plan, especially in the BMPs and educational components. In addition, EPA needs to make sure that Dow evaluates all potential incidents of herbicide resistance and works with growers to prevent any spread of those weeds. While there is no guarantee that the current Enlist Duo registration conditions will prevent the development of resistant weed populations, without those conditions, it would be likely that the same problems would arise with Enlist Duo that occurred with glyphosate—the development of resistant weeds from the overuse of glyphosate with glyphosate-resistant engineered seeds.

III. The Dow Herbicide Resistance Management Plan in Appendix D of the Current Registration Needs to Have Different Use Conditions for Fields that Already Have One of the Nine Glyphosate-Resistant Weeds that is also a Weed Species Controlled by 2,4, D.

The proposed Section 3 label for Enlist Duo identifies both annual and perennial weeds that are controlled by Enlist Duo. Of that list of approximately 128 weed species, nine of those weeds—goosegrass, horseweed, Johnsongrass, kochia, palmer pigweed,

common ragweed, giant ragweed, ryegrass (Italian), and waterhemp—have glyphosate-resistant varieties in one or more of the sixteen states where Enlist Duo will be allowed under the amended registration (see Appendix, Table A). If farmers who have fields with those glyphosate-resistant weeds spray Enlist Duo on that field, those weeds effectively will have been sprayed with only one herbicide with a single mode of action (as opposed to all other weeds in that field which would have received two herbicides with two different modes of action).

The EPA Benefits analysis for Enlist Duo acknowledges that situations where farmers have glyphosate-resistant weeds need proactive resistance management.

Where there are weeds that are resistant to one of these herbicides, these weeds will be controlled by a single herbicide. In this situation for example, glyphosate resistant weeds will be controlled by a single active ingredient 2,4-D. The use of a single effective herbicide to control weeds will increase selection pressure for weeds resistant to that herbicide, therefore it is important that resistance management be practiced proactively (EPA Memorandum, 2014, p. 8).

Similarly, as stated by Norsworthy et.al. (2012) on page 40, "Herbicide mixtures are effective at delaying resistance only when the mixture components target, and are effective on, the same weed species." Those nine glyphosate-resistant weeds found in corn and soybean fields in the sixteen proposed states will have a much greater likelihood of developing a 2,4-D resistant biotype. If that happens, it would eliminate both herbicides in Enlist Duo from being effective to that farmer and to any neighboring fields where those weed seeds might grow in subsequent years.

The Herbicide Resistance Management Plan submitted by Dow needs to specify different resistance management for farms that have glyphosate-resistant weeds. Enlist Duo needs to be used less often in those fields (such as only every other year) and instead farmers need to rotate to non-Group 4 and non-Group 9 herbicides. They also should be required to rotate the crop grown in that field each year. In addition, those farmers should establish an integrated weed management plan that incorporates other weed control practices, such as mechanical cultivation, cover crops, and scouting for weed escapes. Dow should be required to annually survey a representative number of this subset of Enlist Duo farmers to ensure they are meeting the additional herbicide resistance management obligations. Dow's oversight should include visiting some farms with glyphosate-resistant weeds to review pesticide use documentation and to observe field conditions. Fields with populations of glyphosate-resistant weeds that are controlled by 2,4-D need additional herbicide resistance management obligations if EPA is to protect the usefulness of 2,4-D for farmers now and in the future.

IV. Any New Registration of Enlist Duo for the Ten Proposed States Should Be Limited to No More than Five Years.

EPA recently registered Enlist Duo for six states and required Dow to seek registration again in five years. This condition was imposed so that EPA could assess

whether the registration conditions and label restrictions achieved their goals. In particular, EPA can assess whether the herbicide resistance management obligations have limited the establishment of weeds resistant to both glyphosate and 2,4, D in the states where Enlist Duo is used. CSPI believes that the time limitation of the Enlist Duo registration is an excellent way for EPA to take a new look at the effectiveness of the Enlist Duo registration and make any necessary adjustments going forward. Therefore, CSPI recommends that if the Enlist Duo label is amended to include the proposed additional ten states, the registration in those ten states should apply for no more than five years.

Conclusion

The Registration and Section 3 Label that EPA has established for Enlist Duo includes a number of excellent requirements that protect the environment and allow Enlist Duo to be used in a more sustainable manner. EPA needs to step back and see how those different obligations operate in practice before it registers Enlist Duo for use in an additional ten states. This is particularly important since there are fields in those ten states that have weeds already resistant to glyphosate. With data from one or two years of farmers using Enlist Duo, EPA will be in a better position to determine safe and effective use conditions for Enlist Duo. However, if EPA moves forward with its registration of Enlist Duo in those ten states, it should insist that Dow's Herbicide Resistant Management Plan has different obligations for fields with glyphosate-resistant weeds and limit the registration to no more than five years.

If EPA would like more information about the issues raised in these comments, I would be happy to meet with you at your convenience.

Sincerely,

Gregory Jaffe

Director, Biotechnology Project

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APPENDIX

Table A.

					F						N.	: w/2		.				
		Waterhemp, tal	soy and corn [multiple resistance w/4 sites each]		soy and corn [multiple resistance w/4 sites each]		corn					soy [multiple resistance w/2 sites]		soy and corn [multiple resistance w/2 sites each]		COLI		
totall		٨	soy and or resistance	soy	soy and resistance	cropland	soy and corn			soy		soy [mul sites]	, soy	soy and resistant	soy	soy and corn	soy	soy
), OK or TN (9		Ryegrass, Italian		•				1			soy and corn	1	yos					corn
, MM, MI, MO, ME, M		Ragweed, giant		Soy	soy and corn	soy [multiple resistance w/2 sites]		soy and corn	Soy	Soy		soy [multiple resistance w/2 sites]	soy	soy and corn	, Aos			kos
OH, SD, WI, AR KS, LA		Ragweed, common		soy		soy [multiple resistance w/2 sites]	soy and corn	1	, sox	soy		soy [multiple resistance w/2 sites]	yox	SOY	, tos	soy		•
phosate in corn or soybeans in IL, IN, IA, OH, SD, WI, AR, KS, LA, MIN, MI, MO, NE, ND, OK, or TN (9 total)	Weeds	Pigweed, Palmer	soy and corn [multiple resistance w/2 sites each]	soy and corn		[and							cropland	soy and corn				soy [multiple resistance w/2 sites] and corn
h com or			soy and resista each]	soy a		cropland			yos	SOY			crop	soy a		-		soy w/2
		Kochie		•			soy and corn	ı		soy and corn					soy and corn	soy and corn	com	·
Iready resista		Johnsongrass																
D that are a		fiol							soy	1	soy	i	Soy			•		,
Weeds controlled by 2, 4-D that are aiready resistant to gl		Horseweed	soy	soy	soy and corn	soy [multiple resistance w/2 sites]	soy and corn	Soy		Soy			soy [multiple resistance w/2 sites] and corn	soy and corn	soy		soy	soy
o speedy.		Geosegrass		1				-		1		1		•		-		soy
SIL	Locations		Illinois	Indiana	lowa	Ohio	South Dakota	Wisconsin	Arkansas	Kansas	Louisiana	Minnesota	Mississippi	Missouri	Nebraska	North Dakota	Oklahoma	Tennessee