

**GeneWatch UK response to Dow AgroSciences Petitions (09-233-01p, 09-349-01p, and 11-234-01p) for Determinations of Nonregulated Status for 2,4-D-Resistant Corn and Soybean Varieties**

February 2014

GeneWatch UK opposes the deregulation of genetically engineered (GE) plant varieties referred to as: DAS-40278-9 corn, DAS-68416-4 soybean, and DAS-44406-6 soybean (also known as Enlist™ corn and soybean).

2,4-D resistant GM crops are a reaction to the spread of 'superweeds' in the United States, which are resistant to the weedkiller glyphosate. The blanket spraying of herbicide tolerant GE crops with glyphosate has significantly increased the use of this herbicide, causing major problems for farmers as herbicide-tolerant weeds evolve and destroying habitats, such as the milkweed habitat for Monarch butterflies, leading to major environmental harm. See, for example:

Benbrook, CM (2012): Impacts of genetically engineered crops on pesticide use in the U.S. -- the first sixteen

years. *Environmental Sciences Europe* **24**(1):1-13.

Brower LP, Taylor OR, Williams EH, Slayback DA, Zubieta RR, Ramírez MI (2012) Decline of monarch butterflies overwintering in Mexico: is the migratory phenomenon at risk? *Insect Conservation and Diversity* **5**(2):95–100.

Pleasants JM, Oberhauser KS (2013) Milkweed loss in agricultural fields because of herbicide use: effect on the monarch butterfly population. *Insect Conservation and Diversity*. **6**(2):135–144. doi:10.1111/j.1752-4598.2012.00196.x.

Zalucki MP, Lammers JH (2010) Dispersal and egg shortfall in Monarch butterflies: what happens when the matrix is cleaned up? *Ecological Entomology*. **35**(1):84–91.

Allowing new herbicide-tolerant crops onto the market will exacerbate not solve these problems. This requires consideration of the likely impacts of a significant increase in (repeated year-after-year) blanket spraying of crops with 2,4-D on the environment, agriculture and human health. Issues that should be considered include:

- High volatility of 2,4-D and likely wind drift with impacts on other agricultural/horticultural systems as well as wildlife habitats;
- The future evolution of 2,4-D resistant weeds, their impact on herbicide use, and likely negative impact on effective weed management and the sustainability of agriculture (i.e. reduced options for weed control);
- Impacts of a significant increase in future herbicide use on wildlife habitats and environmental protection goals, including plant diversity;
- Health risks due to worker exposure and/or environmental contamination with 2,4-D, including potential contamination with dioxins and endocrine disruptor effects;
- Pesticide residues in crops, including for export overseas.

For more detail on these issues see:

Mortensen D.A., Egan J.T., Maxwell B.D., Ryan M.R., Smith R.G. (2012) Navigating a critical juncture for

sustainable weed management. *BioScience* 2012, **62**:75–84

Neumeister L (2014) The risks of the herbicide 2,4-D. Published by Testbiotech, GeneWatch UK and Pesticides Action Network (PAN) Europe. Attached and also available on:

[http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/Risks\\_of\\_herbicide\\_2\\_4\\_D.pdf](http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/Risks_of_herbicide_2_4_D.pdf)