SUBMITTED ELECTRONICALLY

April 27, 2012

Docket No. APHIS-2010-0103
Regulatory Analysis and Development, PPD
APHIS, Station 3A-03.8
4700 River Road
Unit 118
Riverdale, MD 20737-1238

> **Re: Docket No. APHIS-2010-0103** (Petitions, Plant Pest Risk Assessments, and Environmental Assessments; Availability: Dow AgroSciences, LLC, Corn Genetically Engineered for Herbicide Tolerance)

Dear Secretary Vilsack,

On behalf of the 48 undersigned scientists, physicians, nurses, and other health professionals, we respectfully request that USDA deny the petition from Dow AgroSciences to deregulate its genetically engineered (GE), 2,4-D-resistant corn (DAS-40278-9). Widespread planting of 2,4-D GE corn is projected to substantially increase the use of 2,4-D; experts estimate that overall agricultural use of this herbicide may rise from 27 to over 100 million pounds over the next decade. 2,4-D soybeans and cotton would boost usage still more. Yet USDA has provided no analysis of the harm to human health that could result.

2,4-Dichlorophenoxyacetic acid (2,4-D) is an herbicide that was one of the two active ingredients in Agent Orange, the Vietnam War defoliant. Although the main health effects of Agent Orange were blamed on the other component of the mixture (2,4,5-T) and dioxin contamination, the data indicates that 2,4-D has significant health risks of its own. It remains unclear whether continuing low-level contamination of 2,4-D with dioxins or dioxin-like compounds plays a role.

Dozens of studies in humans have reported associations between exposure to 2,4-D and non-Hodgkin's lymphoma, a cancer of the lymphocytes (white blood cells). This finding is consistent with other studies finding that 2,4-D increases lymphocyte replication in exposed farmworkers, and that 2,4-D formulations are cytotoxic and mutagenic. For example, in human lymphocytes, 2,4-D causes chromosome breakage and aberrant cells. In 2010, according to the National Cancer Institute, approximately 65,540 people in the United States were diagnosed with non-Hodgkin's lymphoma. The incidence of this disease in the United States has increased to about double the rate seen in the 1970s, even when adjusted for population growth and aging. 2,4-D is likely to be responsible for a fraction of cases of non-Hodgkin's lymphoma each year, although it is difficult to quantify the exact numbers.

Dozens of animal studies show that 2,4-D exhibits hormone-disrupting activity. 2,4-D also affects the function of the neurotransmitters dopamine and serotonin. Interference with hormones and neurotransmitters can cause serious and lasting effects during fetal and infant development, including birth defects, neurological damage, and interference with reproductive function. Human studies support the results of the animal studies. Male farm sprayers exposed to 2,4-D have lower sperm counts and more spermatic abnormalities

compared to men who are not exposed to this chemical. In Minnesota, higher rates of birth defects have been observed in wheat-growing areas of the state with the highest use of 2,4-D and other herbicides of the same class. This increase was most pronounced among infants who were conceived in the spring, the time of greatest herbicide use. A larger study in agricultural counties in Minnesota, Montana, North Dakota, and South Dakota found significant increases in malformations of the circulatory and respiratory systems, especially among infants conceived in April-June in wheat-growing counties. In the same study, infant deaths from birth defects among males were significantly elevated.

2,4-D is classified by the EPA as a hazardous air pollutant and by the State of California as a toxic air contaminant. Human exposure to 2,4-D is widespread, including among children. Studies in Iowa, North Carolina, and Ohio, for example, found 2,4-D in the carpet dust of 83-98 percent of homes sampled, despite the fact that most homeowners reported that they had not used the pesticide recently. These studies imply that 2,4-D is blowing in or being tracked in to homes, and many studies have shown that chemicals – including 2,4-D – in house dust end up on children's hands and in their bodies.

For all of the above reasons, we urge USDA to deny Dow's petition to deregulate 2,4-D-resistant corn. At the very least, USDA must conduct a comprehensive Environmental Impact Statement that addresses the serious issues discussed above, meaningfully considers restrictions on this crop system to prevent its foreseeable harms, and then use that EIS to inform its eventual decision, as required by the National Environmental Policy Act.

CC: Administrator Jackson, U.S. Environmental Protection Agency

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