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NEWS RELEASE

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Low Level Herbicide Use Can Damage Potato Reproduction

An Oregon study considers the impact of pesticides on plant development and reproduction in the November–December issue of Journal of Environmental Quality.

MADISON, WI, JANUARY 5, 2009 – Currently, plant testing in the United States to determine potential ecological risks from chemical pesticides to nontarget plants requires two tests, both of which use immature plants. Protection of the plant development and reproduction are not considered, unlike tests required for the protection of animals. Past research conducted by the USEPA and others have shown that plant development/reproduction is not adequately protected with the current test protocols.

The stage of plant development when exposed to a pesticide has an important impact on what plant organs are injured. Vegetation may or may not display symptoms of injury when reproductive organs are severely damaged. Yield and quality reduction can have significant economic and ecological effects. Therefore, field trials were conducted to determine if potato vegetative growth and tuber yield and quality were affected by herbicides at below recommended field rates.

Potato plants were exposed to one of seven different herbicides at various concentrations below normal field application rates. Results from this study were published in the November-December issue of the *Journal of Environmental Quality*. They demonstrated that potato tuber yield and quality can be affected by herbicide application rates below those causing a reduction in vegetative growth or injury. Potato tuber formation may be a sensitive indicator of developmental/reproductive responses of plants to chemical pesticides.

Research is continuing at the Western Ecology Division of the USEPA, Corvallis, OR in support of pesticide registration requirements for the protection of nontarget plants from pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

The full article is available for no charge for 30 days following the date of this summary. View the abstract at <http://jeq.scijournals.org/cgi/content/abstract/37/6/2070>.

The Journal of Environmental Quality, <http://jeq.scijournals.org> is a peer-reviewed, international journal of environmental quality in natural and agricultural ecosystems published six times a year by the American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and the Soil Science Society of America (SSSA). The *Journal of Environmental Quality* covers various aspects of anthropogenic impacts on the environment, including terrestrial, atmospheric, and aquatic systems.

The Soil Science Society of America (SSSA) is a progressive, international scientific society that fosters the transfer of knowledge and practices to sustain global soils. Based in Madison, WI, and founded in 1936, SSSA is the professional home for 6,000+ members dedicated to advancing the field of soil science. It provides information about soils in relation to crop production, environmental quality, ecosystem sustainability, bioremediation, waste management, recycling, and wise land use.

SSSA supports its members by providing quality research-based publications, educational programs, certifications, and science policy initiatives via a Washington, DC, office. For more information, visit www.soils.org.

SSSA is the founding sponsor of an approximately 5,000-square foot exhibition, *Dig It! The Secrets of Soil*, which opened July 19, 2008 at the Smithsonian's National Museum of Natural History in Washington, DC.