IDAHO STATE DEPARTMENT OF AGRICULTURE
DIVISION OF AGRICULTURAL RESOURCES

WATER QUALITY NEWS

AUGUST 2009

WELCOME TO WATER QUALITY NEWS!

Welcome to the first issue of *Water Quality News*. The purpose of this electronic newsletter is to provide Idaho citizens with an opportunity to gain a better understanding of their ground and surface water quality and the surrounding issues. We are fortunate as Idahoans to have an abundance of water resources. Protecting ground and surface water quality is important to current and future generations. The Idaho State Department of Agriculture (ISDA) Water Quality Program addresses a variety of issues that involve pesticides, fertilizers, and other potential agricultural contaminants. Water quality monitoring results, protection efforts, and emerging issues will be highlighted.

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EPA WORKING WITH STATES TO EVALUATE PESTICIDE IMPACTS TO WATER RESOURCES

The Environmental Protection Agency (EPA) is requiring states' Federal Insecticide Fungicide Rodenticide Act (FIFRA) lead agencies to assess potential impacts to water quality for 57 pesticides. ISDA is the FIFRA lead agency for Idaho. The 57 pesticides were identified in a 2005 EPA survey of states as pesticide active ingredients with the potential to occur in ground or surface water at concentrations approaching or exceeding a human health or ecological reference point.

To date, ISDA has evaluated 24 pesticides from the list of 57 pesticides. All the pesticides are used in Idaho. ISDA has determined that Pesticides of Ground Water Concern are **Dacthal, Atrazine, 2,4-D,** and **Triallate**. These four pesticides have been found in Idaho ground water at 20 % or greater of a health standard. ISDA has determined that Pesticides of Surface Water Concern are **Chlorpyrifos** and **Malathion**. These pesticides have been found at greater than 20% of an ecological reference point in localized areas of Washington and Payette Counties where furrow irrigated agriculture waters flow from drains into the Payette River and Snake River.

Once ISDA has designated Pesticides of Concern, EPA requires the state to conduct management approaches to prevent that pesticide from exceeding a drinking water or ecological reference point. It is the responsibility of the pesticide applicator to ensure that pesticides stay where they are applied and to prevent additional, possibly burdensome regulations. Pesticide labels must be reviewed completely and applications managed successfully. ISDA currently conducts education promoting proper review and implementation of the pesticide label , recent monitoring efforts and results, and voluntary Best Management Practices (BMPs). ISDA is reviewing the environmental data for the 57 pesticides as part of the current EPA – ISDA Cooperative Agreement and plans to review 12 pesticides each year until the assessments are completed.

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Ground Water Protection and Pesticide Management Plans (PMP)

The Idaho State Department of Agriculture (ISDA) is the lead agency in developing the Idaho Pesticide Management Plan (PMP) for ground water protection. ISDA has the authority to implement pesticide programs through Idaho state laws, ISDA rules, and a cooperative working agreement with the Environmental Protection Agency.

IDAPA 02.03.01 Rules Governing Pesticide Management Plans for Ground Water Protection (PMP Rule) was passed by the Idaho Legislature in 2005. The PMP Rule outlines actions that ISDA will take in response to pesticide detections in the ground water.

Chemical Specific PMPs:

When pesticides are detected at elevated concentrations, a chemical specific PMP may be written. The herbicide DCPA, which is commonly referred to by the trade name Dacthal®, has been detected at elevated levels in ground water south of Homedale, Idaho. A DCPA PMP was created to help prevent further contamination of the ground water south of Homedale and throughout the state in general.

Restriction Description:

The following DCPA restrictions must be followed in the DCPA area of restriction. **DCPA Rotation:** DCPA may not be used on the same field within four years of a previous DCPA application. The rotation program will decrease the likelihood of DCPA build up in the soil profile that could leach to ground water within the DCPA area of restriction. In addition, rotational programs help decrease the occurrence of pesticide resistant pests. **Reduced DCPA Rate and Combination:** Within the DCPA area of restriction, the maximum application rate for DCPA must be the lowest rate on the label according to the appropriate soil type. The lower rate of DCPA will slow down weed growth. For sufficient weed control, another herbicide will need to be used as a follow-up. The lower DCPA rate will result in less DCPA applied to the DCPA area of restriction. This lower rate will help decrease the leaching of DCPA to the ground water.

DCPA Voluntary BMPs:

Prevention of DCPA contamination of ground water is the primary focus of the DCPA PMP. ISDA encourages pesticide applicators, in and outside of the DCPA area of restriction, to voluntarily adopt following BMPs such using Integrated Pesticide Management, Irrigation Water Management, management of irrigation, and banding of pesticide applications if possible.

Water Trivia

* Over 97% of the planet's fresh water is found under the surface of the earth in the form of ground water!
* Approximately 95% of Idahoans rely on ground water for their drinking water needs.
* Private domestic wells are unregulated. It is up to the individual well owner to protect themselves from contaminated drinking water.

IMPORTANT UPDATES

* The DEQ 2008 Nitrate Priority Area delineation and ranking process is complete. Check out the final report at http://www.deq.state.id.us/water/data_reports/ground_water/nitrate/ranking_2008.pdf
* Idaho Home*A*Syst Program is available online at : http://homeasyst.idahoag.us. Licensed pesticide applicators can receive one pesticide recertification credit by filling out the **Pesticide Storage and Handling** worksheet online.

SPECIAL REPORT: ISDA PESTICIDE AND SURFACE WATER SAMPLING

The Idaho State Department of Agriculture (ISDA), with discretionary funding provided by the U.S. Environmental Protection Agency (EPA) Region X, conducted a surface water quality monitoring program for pesticide residues within the Weiser Flat area in 2007 and the S Series Drains that flow into the Lower Payette River in Payette County in 2008. Monitoring was conducted on a bi-weekly schedule from spring through late summer and samples were analyzed by the University of Idaho Analytical Sciences Laboratory in Moscow, Idaho. Detections are listed in Table 1, and detections exceeding an aquatic macroinvertibrate benchmark are listed in Table 2.

Table 1. Detections of pesticides from surface water samples from Weiser Flat (2007) and Payette Drains (2008).

Detected Pesticides	Type of Pesticide	Example Trade Name	Weiser Flat Sampling Detections 2007	Payette S Drains Sampling Detections 2008
Alachlor	Herbicide	Lasso		x
Atrazine	Herbicide	Aatrex	x	
Desethyl Atrazine	Metabolite of Atrazine	NA	x	x
Bentazon	Herbicide	Basagran	x	x
Bromacil	Herbicide	Krovar		x
Bromoxynil	Herbicide	Buctril	x	
Carbofuran	Insecticide	Furadan	x	
Chlorpyrifos	Insecticide	Dursban	x	x
DCPA	Herbicide	Dacthal		x
Dicamba	Herbicide	Banvel	x	x
Dimethoate	Insecticide	Cygon	x	x
Diuron	Herbicide	Karmex	x	x
EPTC	Herbicide	Eptam		x
Ethalfluralin	Herbicide	Sonalan		x
Hexazinone	Herbicide	Velpar	x	x
MCPA	Herbicide	Banlene	x	x
Malathion	Insecticide	Cythion	x	x
Metalaxyl	Fungicide	Subdue	x	
Methomyl	Insecticide	Lannate	x	x
Methyl Parathion	Insecticide	Declare	x	
Metolachlor	Herbicide	Dual	x	x
Metribuzin	Herbicide	Sencore		x
Oxyfluorfen	Herbicide	Goal	x	x
Pedimethalin	Herbicide	Prowl	x	x
Terbacil	Herbicide	Sinbar		x
2,4-D	Herbicide	Weedar 64	x	x

SPECIAL REPORT: ISDA PESTICIDE AND SURFACE WATER SAMPLING (continued)

Table 2. Detections of pesticides from surface water samples from Weiser Flat (2007) and Payette Drains (2008) that exceed an aquatic macroinvertibrate benchmark.

Detected Pesticides	Type of Pesticide	Exceedance of a Aquatic Benchmark	Weiser Flat Sampling Detections 2007	Payette S Drains Sampling Detections 2008
Chlorpyrifos	Insecticide	Macroinvertibrate	x	
Desethyl Atrazine	Metabolite of Atrazine	Macroinvertibrate	x	x
Malathion	Insecticide	Macroinvertibrate	x	x
Methomyl	Insecticide	Macroinvertibrate		x
Methyl Parathion	Herbicide	Macroinvertibrate	x	

ISDA Pesticides and Surface Water Reports for Weiser Flat (2007) and Payette Drains (2008) sampling.

Evaluation of Pesticide Residues Within Weiser Flat, Weiser, Idaho, 2007

Pesticide Residue Water Quality Report Lower Payette River Buckingham Sub-watershed S-Series Drains

Protect Idaho's Water Quality

Surface water on the Palouse.

IDAHOANS TAKE ACTION!

☑ Take unused or unwanted pesticides and other toxic materials to pesticide or hazardous waste collections. Do not pour them on the ground or down the drain as this can contaminate ground and surface water. For more information on pesticide collections and the Pesticide Disposal Program (PDP) go to: http://www.agri.idaho.gov/Categories/Pesticides/pdp/indexdisposalmain.php

☑ Test your soil before applying fertilizer. Over-fertilization is a common problem and the excess can leach into ground water or runoff into rivers and lakes.

☑ Locate all pesticide mixing, storage and supply areas (tanks) down slope and at least 150 feet away from any well or surface water body.

☑ If you suspect a pest infestation, properly identify the pest and extent of infestation before applying pesticides. Select the appropriate pesticide(s) after first considering non-chemical methods of control.

☑ Inspect your septic system annually. Pump your septic system regularly. (Pumping out every 3 to 5 years is recommended for a 3-bedroom house with a 1000-gallon tank; smaller tanks should be pumped out more often.)

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