Idaho State Department of Agriculture

Fruitland PMP Ground Water Monitoring Project and Idaho's Pesticide Management Plan

ISDA Fact Sheet #9 - 2010

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The Idaho State Department of Agriculture (ISDA) is the lead agency in regulating pesticides and implements the Idaho Pesticide Management Plan (PMP) for Ground Water Protection and the ISDA Rules Governing Pesticide Management Plans For Ground Water Protection (IDAPA 02.03.01). ISDA has been sampling select wells since 2005 near Fruitland, Idaho due to elevated atrazine detections. This project is a local monitoring project to evaluate atrazine and the breakdown products. This work is being done to follow up on previous detections found during sampling of randomly selected wells sampled as a part of the Payette and Gem Counties Regional Project.

Atrazine and the breakdown product desethyl atrazine were detected in several wells east and northeast of Fruitland, Idaho. In November 2005, one well had elevated detections of both atrazine and desethyl atrazine at 1.10 and 1.30 micrograms per liter (µg/L) or parts per billion (ppb), respectively (Figure 2). Based on the PMP Rule, these concentrations of atrazine and desethyl atrazine were at Level 2, which is between 20 and 50 percent of a reference point. The reference point for atrazine is 3.0 ppb which is a Maximum Contaminant Level (MCL) as set by the Environmental Protection Agency (EPA). The 3.0 ppb reference point also applies to desethyl atrazine, although there isn't an MCL for the breakdown products. Seven of the ten wells sampled had positive detections. Four of the seven of the wells with positive detections had multiple compounds detected (Figure 2). Six different compounds were found in 2005. They include in order from most to least commonly detected: atrazine with six detections, desethyl atrazine with four detections, dacthal with three detections, deisopropyl atrazine with two detections, and bentazon, and bromacil with one detection each.

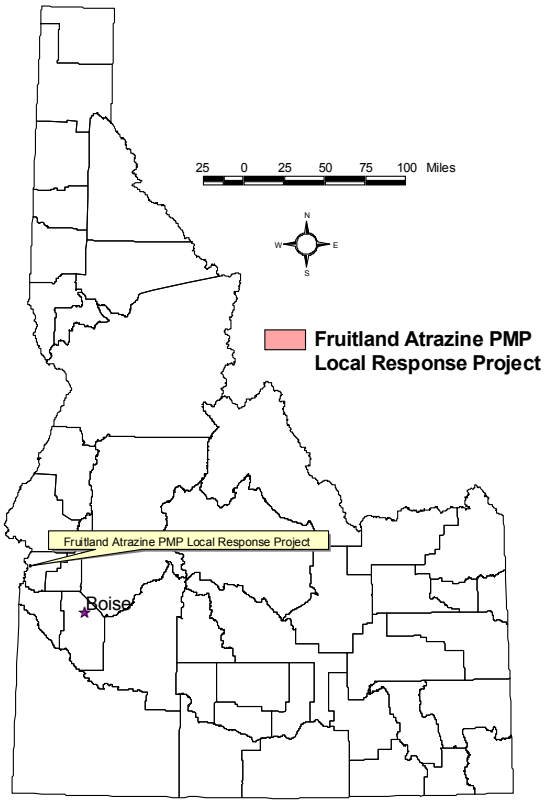

Figure 1. Location of project.

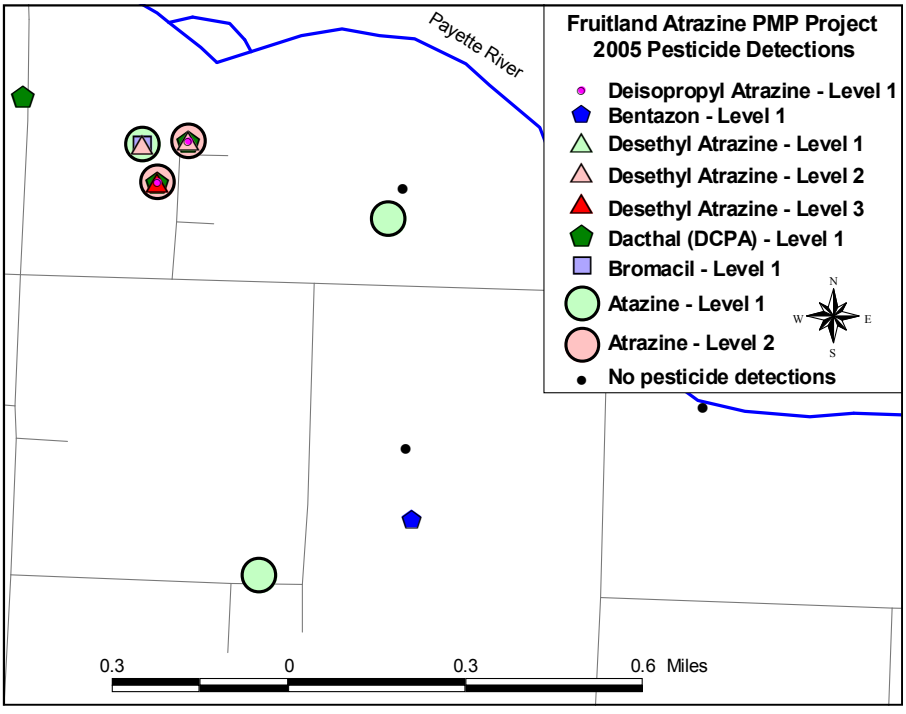

Figure 2. Location of 2005 pesticide detections northeast and east of Fruitland.

Additional monitoring was conducted to track the concentrations of these pesticides over time and to determine the extent of the contamination. Sampling occurred in May of 2006, 2007, 2008, 2009 and in November 2009. ISDA has initiated quarterly monitoring beginning in November 2009. Sampling will include in February, May, and August 2010. Decisions on further quarterly sampling will occur after August 2010.

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2008 ISDA Pesticide Detections

Figure 3 shows the pesticide results from the follow up sampling in 2008 for the Fruitland Atrazine PMP Project. A total of seven wells near the initial desethyl atrazine detection were sampled for pesticides. Six wells had Level 1 desethyl atrazine detections. Four wells had Level 1 atrazine detections and two wells had Level 1 deisopropyl atrazine detections. Two wells had Level 1 dacthal detections and one had a Level 1 bentazon detection. One well had no detections of any pesticides. The pesticide detections from the seven wells that were sampled were atrazine, desethyl atrazine, deisopropyl atrazine, dacthal, bentazon, and bromacil. All pesticide detections in the follow up sampling were below any health standards set by EPA or the state of Idaho.

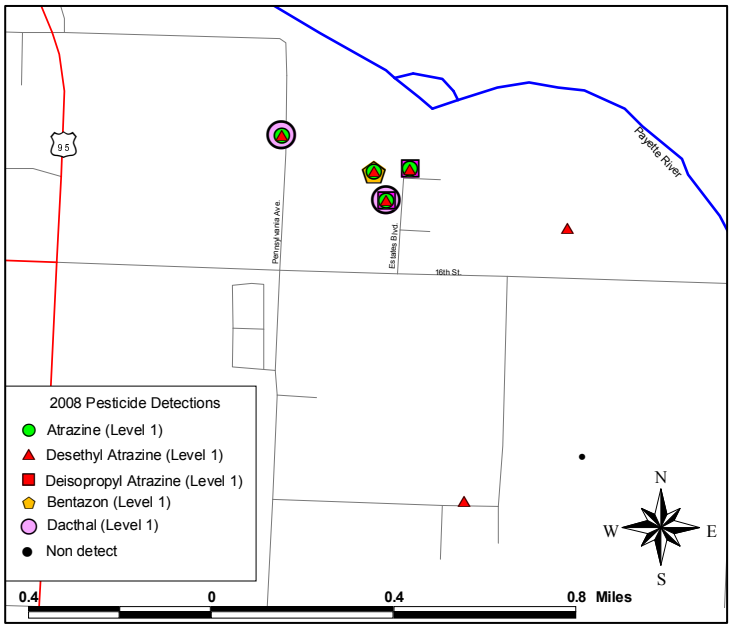

Figure 3. Location of 2008 pesticide detections.

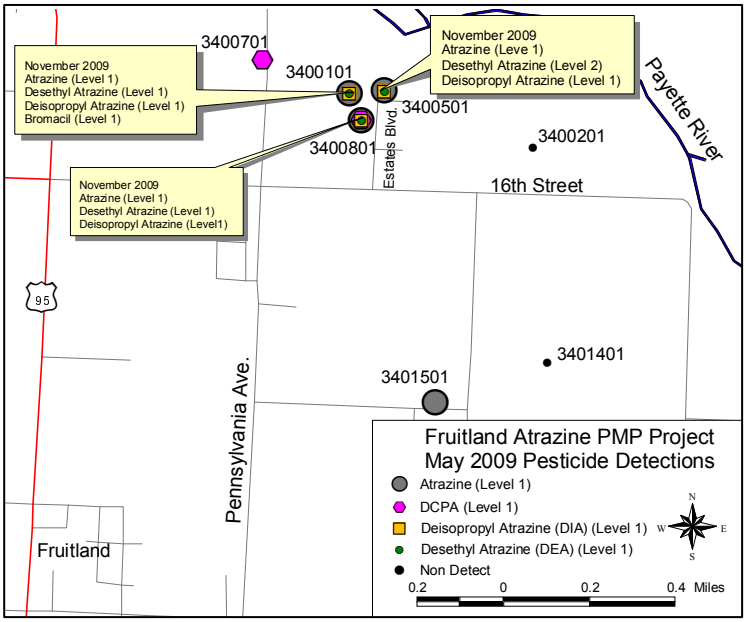

Figure 4. Location of 2009 pesticide detections.

2009 ISDA Pesticide Detections

Atrazine and desethyl atrazine continued to be detected in the project area in sampling completed in May and November 2009 (Figure 4). Concentrations were lower than previously found. The May 2009 detections were all at Level 1 and the November detections were at Level 1, except for one Level 2 detection of desethyl atrazine. Other pesticides detected were deisopropyl atrazine and bromacil. All the other detections were at Level 1 concentrations. All pesticide detections in the follow up sampling were below any health standards set by EPA or the state of Idaho.

Idaho Pesticide Management Plan (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 a cooperative working agreement with the Environmental Protection Agency (EPA), Idaho state laws and department rules. The Idaho PMP outlines processes to protect ground water from pesticides and defines pesticide detections based on the concentration of the detection compared to a Reference Point. The Reference Point refers to health based concentrations. Idaho has adopted the Environmental Protection Agency's Maximum Contaminant Levels (MCLs) in the Idaho Ground Water Quality Rule (1997). Where no MCL exists, the ISDA will use EPA Health Advisories Levels (HAL) first if they exist, and then an EPA Reference Dose (RfD) number.

The PMP categorizes detection levels into the following levels:

Level 1: Detection above the detection limit to less than 20% of Reference Point.

Level 2: Detection at 20% to less than 50% of Reference Point.

Level 3: Detection at 50% to less than 100% of Reference Point.

Level 4: Detection greater than 100% of Reference Point.

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