

South Dakota Department of Agriculture Pesticide Applicator Newsletter

Spring 2003 Issue 27



The Threat of Agri Terrorism

Terrorism is not something that we generally associate with agriculture or South Dakota, but it's not out of the question here.

"The threats to and vulnerability of U.S. agriculture are real," says Neville Clark of the Institute for Countermeasures Against Agricultural Bio-terrorism (ICAAB). We all have to be on high alert, paying attention to what is happening around us.

There have been at least five acts of agri-terrorism in the United States and 17 worldwide. In one attack, a radical group released Mediterranean fruit flies in California. The Medfly attacks more than 250 varieties of fruits, nuts and vegetables. A similar attack with a corn or soybean pest could devastate South Dakota's agriculture industry.

More than 80 plant diseases have the potential to threaten U.S. cropland. Agri-terrorism could affect agriculture as pre-harvest injury or as post-harvest injury, either scenario would create major disruptions in the food supply.

Agri-terrorists could also threaten the United States with livestock diseases such as exotic Newcastle disease, foot and mouth disease, anthrax, and hog cholera. If these diseases were to become widespread, it could devastate the entire livestock industry.

The best way to prevent these attacks is to be alert. Know whom you are selling fertilizers, pesticides or other products to. Ask for identification if you don't know the buyer. Know who your neighbors are and pay attention to what they're doing and when they're doing it. Diligence is the key to preventing and rapidly responding to terrorist threats.

To emphasize the importance of agri-terrorism prevention consider this: the ICAAB began working on bio-terrorism prevention two years before 9/11/01 and the USDA has invested \$328 million in agri-security because of concern over terrorist acts.

If you notice any suspicious activity, either at your business or around your farm, report it to local law enforcement immediately.

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From The Department...

Container Collections and Unusable Pesticides

The department in cooperation with the Cooperative Extension Service collects empty pesticide containers each July and August at various locations across the state. Plastic containers ranging in size from small household containers to 55-gallon drums as well as 5 to 55 gallon steel containers are collected.

Out-of-condition plastic mini-bulk containers are also accepted at these collections. Like all pesticide containers, the mini-bulks must be pressure or triple rinsed and be clean inside and out. All metal must be removed and disposed of in an appropriate manner. Tanks larger than 300 gallons may also be accepted, but please notify the department in advance before bringing these shuttles to the collection sites.

The department also collects unusable pesticides free of charge as part of the Spruce Up South Dakota Program. The only requirement is that the pesticides **MUST BE PRE-REGISTERED** to be collected under this program.

Pesticides include insecticides, fungicides, herbicides and bactericides that have agricultural, household or industrial uses.

What Makes A Pesticide Unusable?

- Use of the product has been banned (Examples: Arsenic, DDT, Chlordane, Toxaphene).
- Dry products that get wet.
- Liquid pesticides that freeze or dry out.
- Pesticide label is missing.
- Pesticide container is in poor condition or unidentifiable.

For more information on how to pre-register, contact your local extension agent or the South Dakota Department of Agriculture at 605/773-4432 or visit www.state.sd.us/doa/das/disp_frm2.htm

Seed Treatment and Fumigant Use Require Pesticide Certification

Commercial Applicators -As a reminder, rootworm control products and other seed treatment products require that a commercial applicator is certified in Category 5, Seed Treatment. The use of fumigants also requires certification in Category 14, Grain Fumigation Pest Control.

Initial certification for these categories may be attained by taking an open book exam at your local extension office. Recertification can be obtained at recertification classes offered by the department. Category 5 is offered every year while Category 14 is offered every other year.

Private Applicators – Many rootworm control and grain fumigation products are also restricted use pesticides. Private applicator certification is required to purchase or use these pesticides. Private applicators can become certified by taking an exam at your local extension office, testing online at www.state.sd.us/doa/das/pwt or by attending a local certification meeting hosted by local extension offices.

Private applicators who apply pesticides to any ag commodity with gross sales potential of more than \$1000 are also required to obtain private applicator certification.

Private Applicator Recertification

Private pesticide applicators are required to renew their certifications every five years. Applicators can renew their certifications by taking a test available at local extension offices or online at the South Dakota Department of Agriculture's website www.state.sd.us/doa/das/pwt Private applicators can also renew their certification by attending local recertification meetings. Extension educators have been holding recertification classes across the state. While many of the classes have already been held, a few remain. Contact your local extension educator for more information or visit <http://plantsci.sdstate.edu/PAT/index.htm>

EPA to Aggressively Monitor Atrazine

EPA has announced a new program to aggressively monitor raw surface water for atrazine contamination.

For vulnerable watersheds, watersheds where atrazine levels have approached or exceeded the level of concern, raw water samples will be taken weekly during the pesticide use season and every other week during the remainder of the year. Additional detections above levels of concern will result in additional regulatory plans or prohibition of atrazine in that geographic area.

For all other watersheds, routine monitoring of finished water is required under the Safe Drinking Water Act. If atrazine is detected at levels approaching the Maximum Containment Level, it would be considered a vulnerable watershed for regulatory purposes.

200 vulnerable watersheds nationwide will be subject to the more intensive monitoring. Of these 200 vulnerable watersheds, 8 have been identified as highly vulnerable. No vulnerable watersheds have been identified in South Dakota. The nearest vulnerable watersheds are in Iowa.

Monitoring will also be done for rural wells located in atrazine-use areas.

Risks associated with exposures from food and drinking water originating from groundwater do not exceed levels of concern. Exposures from residential uses and workers exposure are low and have been addressed by changes in product use conditions.

Pesticide registrants are responsible for all costs associated with the enhanced monitoring as part of their product stewardship programs.

EPA is currently evaluating the potential effects of atrazine on frogs and other amphibians. Data from university research is also being reviewed. An amended Interim Reregistration Eligibility Decision is anticipated to be completed by Oct. 31, 2003.

For more information visit

www.epa.gov/oppsrrd1/reregistration/atrazine/

Commercial Applicator Pesticide Application Summary Information

“What do you use all the application summary information for?” We frequently hear that question, as applicators are busy reporting their application information to us.

The intent of the reporting program is not to penalize applicators or use the information for enforcement purposes, rather we want to collect the information so we can provide better assistance and better programs.

For example, if the department has the information on pesticide usage, it can develop technical assistance and programs to help applicators use or properly dispose of pesticides that have been canceled, suspended, or restricted

The department uses this information for a variety of programs. The Pesticide Surface Water and Ground Water Program, Section (18) Pesticide Emergency Exemptions, the Pesticide Certification and Re-Certification programs, Section 24 (c) Pesticide Registration, and Endangered Species Protection programs all depend on or use data collected from the Commercial Applicator Summary reports. We also use the information in responding to federal proposals, state management plans, total maximum daily load proposals and tribal requests for information.

The manner in which applicators are keeping their pesticide records has an effect on the state’s relationship with the EPA and the sale and use of pesticides in the state. Inaccurate, partial or false records may jeopardize the sale and use of certain products in South Dakota; they may also cause problems for the applicator when he or she is audited or is part of an enforcement action.

The legislature recently passed a bill stating that the department may not require any commercial applicators to submit annual summaries more than once in any five-year period, unless circumstances require that such data are needed to protect the health and well-being of the citizens of the state. At this time, it is not anticipated that reporting will be required for 2003 applications.

Pesticide Exposure for Farm Families

According to a study conducted on farm family pesticide exposure, spouses and children who lived on farms where pesticides were applied did not have substantial increases in pesticide exposure levels.

The study monitored 95 farm families in Minnesota and South Carolina who used glyphosate (Roundup), 2,4-D, or chlorpyrifos (Lorsban, Dursban) within 1 mile of the farmhouse in 2000 and 2001. 95% of the spouses and children had very low or no detectable increase in pesticide concentration after a pesticide application on their farm. In fact, spouses and children had exposure levels typical of people who do not live on a farm.

According to Jack Mandel, professor of epidemiology at Emory University and lead investigator for the study, “the levels found in our preliminary analysis are well below levels that may cause adverse health effects. Where we did see higher exposures was when there was direct skin contact during application.”

The study also looked at exposure levels in farmers who applied pesticides. The amount of exposure was generally tied to handling and application safety practices. Applicators can apply pesticides with little or no detectable exposure. Higher exposure levels were related to direct skin contact of pesticides that often occur with spills or equipment repairs.



Useful Websites



www.state.sd.us/doa/das – Department of Agriculture, Division of Agricultural Services

www.state.sd.us/doa/das/disp_frm2.htm – Pre-register for unusable pesticide collection

www.state.sd.us/doa/das/pwt – Online exam for private applicators

<http://plantsci.sdstate.edu/pat/index.htm> – Private applicator certification dates by county

www.epa.gov/oppsrrd1/reregistration/atrazine/ - EPA's atrazine reregistration site

www.cfsan.fda.gov – FDA's Center for Food Safety and Applied Nutrition

www.state.sd.us/doh/westnile/index.htm – SD Department of Health, West Nile Virus

www.epa.gov/oilspill – New EPA requirements for spill prevention

<http://sdces.sdstate.edu> – Alfatoxin information

Prepare and Calibrate Sprayer for Season

Now is a good time to inspect and calibrate your sprayer for the upcoming season. By making preparations now, you will be ready to go when things get busy later in the season. Start by visually inspecting the sprayer. Look for worn hoses, check screens and strainers that may restrict flow, and replace any parts that show signs of wear.

Next, flush the system with water. Take the unit out of the farmyard to flush it, preferably by spraying the flush on a labeled field. After flushing thoroughly, put clean water in the unit once more to inspect and calibrate the unit while it is in operation.

Start the sprayer and check the nozzle output and pattern to be sure you don't have plugged or worn nozzles. A simple technique to evaluate output is to hold a cup under each spray nozzle for the same length of time, anywhere from 30 seconds to one minute. The level in the cup will allow you to see whether each nozzle is releasing spray at the same rate.

To evaluate spray pattern, it's sometimes helpful to drive forward with the sprayer in operation spraying clean water onto a surface such as gravel. By watching to see whether the surface dries uniformly, the operator can evaluate whether the unit is applying spray evenly.

During the season, recalibrate your sprayer every time you make major rate changes or replace any parts.

2002 West Nile Review

West Nile virus disease is a mosquito-borne infection that can cause mild flu-like illness or severe encephalitis (inflammation of the brain). WNV was first detected in North America in 1999 in New York. South Dakota reported its first detection July 26, 2002.



In 2002, 4,161 cases of West Nile Virus in humans were documented in the United States. 277 of these cases resulted in death. West Nile was found in 44 states and Washington D.C. This is the largest viral encephalitis outbreak in the history of the United States. West Nile Virus has been detected in all states except AZ, OR, NV, Alaska, Hawaii and Utah.

124,854 dead birds were turned in by the public to labs for testing. Out of this number, 31,000 birds were tested; resulting in 16,455 positive tests. The vast majority of birds turned in were too decomposed to test for the virus. The West Nile Virus infected 162 species of birds, with the majority of positive West Nile Virus birds being crows.

The West Nile Virus infected 12,723 horses with Midwestern states showing the majority of the cases.

There are 39 species of mosquitos that have been documented to be carriers of West Nile Virus and in the past year 1.5 million individual mosquitos were tested for the virus.

In 2002, we found five additional ways that the virus is transmitted from individual to individual besides being bitten by an infected mosquito. The other means of transmission are: blood transfusions, organ transplants, breast milk, mothers to newborns, and occupational hazards (lab technicians accidentally cutting themselves while doing necropsies).

In 2002, 80% of people that were infected by the West Nile Virus exhibited no clinical symptoms of the virus. Roughly 20% of individuals who exhibited West Nile fever had a low-grade fever and/or a mild headache. Less than 1% of individuals developed severe neurological symptoms, such as high fever,

severe headache, rash, nausea and vomiting. 70% of the most severe cases had lingering health problems one year after treatment. Elderly people and those with weakened immune systems are the most susceptible to encephalitis. Once an individual has had the virus, they are immune from getting it again.

The Cooperative Extension Service is hosting an interactive video training on mosquito control and a West Nile Virus update that will be held on April 21 and May 13. The training will be held using 14 Vtel sites around the state. Scheduled topics include applicator recertification requirements, mosquito control basics, setting up a mosquito control program, and South Dakota issues with West Nile Virus. For more information, contact your local extension educator.

Additional information on West Nile Virus can be obtained by going to the South Dakota Department of Health website at www.state.sd.us/doh/westnile/index.htm or the Department of Agriculture website at www.state.sd.us/daa/das or the Center for Disease Control at www.cdc.gov/ncidod/dybid/westnile/index.htm or the Cooperative Extension Service website at <http://sdces.sdstate.edu>

Spraying for Mosquitos

Any commercial applicators that will be spraying for mosquitos for cities, municipalities, counties or any commercial business must be certified in Category 9, Public Health Pest Control.



Certification may be obtained by taking an open book exam at any local extension office. Certification is valid for two years. There is no fee for the test, but all applicators must obtain their license from the state. Licenses are \$25 and are also valid for two years. Government employees are exempt from the license fee, but must still apply for the license. For more information, visit the department's website at www.state.sd.us/daa/das.

Biotech Industry Changes Mind on GM Ban

(This is an update to an article that was printed in the Winter 2002/2003 newsletter.)

In October, the U.S. biotech industry announced it would voluntarily stop growing some genetically modified crops in areas of the Midwest and Great Plains to ease fears of accidental contamination of food or animal feed. The Biotechnology Industry Organization (BIO) said its members agreed to plant crops bioengineered for pharmaceutical and industrial purposes far away from their traditional counterparts.

Then in early December, the BIO, issued a new policy stating that its members would instead defer to federal regulators to determine planting restrictions or setbacks for GM crops.

“We have revised our policy because we don’t want to encourage discrimination against certain parts of the country. Issuing field permits and establishing growing conditions in the U.S. is the primary responsibility of the appropriate federal agencies,” said Lisa Dry, a spokeswoman for BIO.

A few U.S. biotech companies are field-testing pharmaceutical crops in the hopes of marketing them in the future.

The originally banned area was the Corn Belt, which includes Illinois, Indiana, Iowa, most of Missouri and parts of Ohio, Minnesota, South Dakota, Nebraska and Kentucky.

Alfatoxin Sampling

In the fall of 2002, the department sampled corn fields in eastern South Dakota for the presence of mycotoxin contamination, namely alfatoxin and fumonisin. The project consisted of sampling 25 ears of corn per field from 50 fields in eastern South Dakota. The number of samples taken in each county was based on the number of acres in corn production. In some areas, two samples were taken in a county, in other areas one sample was taken for a two-county area.

Blacklight evaluation showed at least one ear in every sample fluoresced, indicating possible mycotoxin contamination. Immunoassay and traditional laboratory tests indicated contamination at levels of concern from only a few counties in southeastern South Dakota: Yankton, Bon Homme, Hanson, Clay, Hutchinson, Jerauld, Miner and Turner.

For more information on mycotoxin contamination, visit <http://sdces.sdstate.edu> and click on the Alfatoxins link.

Registration of Feed/Food Facilities

The Bioterrorism Act, signed into law in June 2002, requires domestic and foreign facilities that manufacture, process, pack or hold food **for human or animal consumption** in the United States to register with the FDA by December 12, 2003.

The proposed regulation will require the owner, operator or agent in charge of a domestic or foreign facility to submit a registration to the FDA; including the name and address of each facility at which, and trade names under which, the registrant conducts business, and the categories of food the facility handles. Domestic facilities will be required to register whether or not food from the facility enters interstate commerce. The proposal will also require facilities to update any changes to the information previously submitted within 30 days of the change.

The proposal specifically exempts farms, restaurants, retail food operations, non-profit operations that prepare food for or serve directly to the consumer, fishing vessels not engaged in processing, and facilities (such as meat and poultry slaughterhouses) that are regulated exclusively by the USDA.

There is no fee for the registration. Registrations should not be sent to FDA prior to October 12, 2003.

For more information visit www.cfsan.fda.gov and click on the ‘Food Safety and Terrorism’ link.

Pesticide Program

The goal of the pesticide program is to assure safe and effective storage, handling, distribution, use and disposal of pesticide products.

The department by agreement with the EPA is responsible for enforcing the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). FIFRA relates directly to the manufacture, distribution, sale, use and disposal of pesticide products.

The SDDA is also responsible for enforcing the state pesticide law, SDCL 38-20A, the agricultural pesticide application law, SDCL 38-21, and pesticide administrative rules ARSD 12:56.

Product Registration

State law requires that all pesticide products distributed for use in South Dakota be registered with the SDDA. Product labels are reviewed for compliance with state and federal labeling requirements.

The biennial cost for registering a pesticide is \$175 per product. Over 8,000 pesticide products are currently registered for use in the state for both agricultural and non-agricultural uses.

Storage, Handling and Disposal Requirements

- Bulk pesticides must be stored within secondary containment, constructed in accordance with state law, to prevent contamination of the environment from spills.
- When pesticide handling occurs near water sources, or if certain thresholds are exceeded, containment is necessary.
- Chemical connections to potable water supplies must have back flow prevention.
- Applicators must have a written pesticide handling and discharge response plan.
- Empty containers must be triple or pressure rinsed. Properly rinsed containers may be offered for recycling.
- The SDDA holds container recycling collection

points throughout the summer and also collects unusable pesticides each fall.

- Applicators and bulk facilities are required to report significant spills to the SDDA or Emergency Management.

Enforcement

SDDA representatives inspect pesticide manufacturers, distributors, dealers and applicators to ensure compliance with state and federal laws.

Pesticide damage complaints filed with the SDDA are investigated for possible violations. More than 125 pesticide damage complaints and spills are investigated annually.

Violations of laws or rules may result in denial, revocation or suspension of a person's pesticide license or certification; prosecution as a class 2 misdemeanor; or civil penalties of up to \$5,000.

If you believe your property has been damaged by pesticide drift or if you see a violation of the pesticide rules, you may file a pesticide damage complaint. **To file a pesticide damage complaint call (605) 773-4432.**

Record Keeping Requirements

Commercial applicators must keep records of applications for a three-year period of time. Records must be completed by the end of each day that applications were made. Records must be made available to the SDDA upon request.

Licensed pesticide dealers must keep records of sales of restricted-use pesticides for three years. Records must be made available to the SDDA upon request.

The federal pesticide record keeping regulations require that private pesticide applicators keep records of federal restricted use pesticide applications. The information must be recorded within 14 days following the pesticide application. Records must be kept for two years from the date of the pesticide application. Commercial applicators who apply RUPs, must provide a copy of their record of the required elements within 30 days of the application.

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Office of Agronomy Services
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ENFORCEMENT CASE UPDATE

Southwest SD– A commercial applicator was fined for misapplication of Tordon for spraying it on trees. The applicator settled with the department for \$880.

Southwest SD – A commercial applicator settled with the department for \$550 after an investigation by the department concluded that pendimethalin was applied during conditions inconsistent with the label.

Central SD – Two of a company’s employees were found in violation of making pesticide applications without an applicator’s license. Both were fined \$50.

Central SD – An elevator was fined \$200 for selling PVP (Plant Variety Protection) wheat seed.

Eastern SD – A fertilizer plant was causing ground contamination around the water fill area involving acetochlor, metalochlor, pendimethalin and trifluralin. The plant settled with the department for \$700.

Northeast SD –A fertilizer plant was found to have 13 restricted use pesticide products on hand along with 111 sales of these products. The plant did not hold a pesticide dealer’s license and settled with the department for \$1110.

Southeast SD – An operator for a lawn spraying and fertilizer business was found making pesticide applications with out an applicator’s license. The applicator settled with the department for \$280.

Southeast SD – No operational area contamination (OAC) was available at a lawn and landscaping facility. Picloram, dicamba, 2,4-D and MCPP were present in samples taken from the site. The facility settled with the department for \$350.