

## **Drinking Water Source Protection**

Santaquin City has completed a Drinking Water Source Protection Plan in an effort to protect our community's drinking water from contamination. While not all of you live within our drinking water source protection zones, some of you do. However, if all of us follow the suggestions listed below, all ground water is less likely to be contaminated:

### **Residential Use of Insect Sprays and Weed Killers**

Special precautions should be taken when disposing of empty containers. Rinse the container three times with water and use the rinse water in the same manner the original product was intended. Then wrap the container securely in plastic and dispose of it in the trash. Unused products should be taken to a solid waste facility.

- Minimize the use of chemical products and use only as directed.
- Consider using less toxic alternative products.
- Consider "co-planting" using companion plants that act as natural deterrents to pests.
- Use plant guards, such as paper or tin barriers to deter insects.
- Consider using traps of various kinds to trap pests.
- Hand pick weeds as much as possible or use weed killers in limited spot applications.
- Use heavy mulching around plants to deter weed growth.

### **Fertilizers**

- Minimize the use of chemical fertilizers.
- Water lawns normally after fertilizing rather than waiting for a rainstorm.
- Allow grass clippings to remain on the lawn.
- Mow high (about 2 inches), mow often, and use sharp blades.
- Water deeply but not too often.
- Remove thatch build-up when it gets over ½ inch.

### **Household Hazardous Waste**

The best way to handle household hazardous materials (pesticides, herbicides, paint and paint thinners, fuels and motor oil, etc.) is to completely use the product before disposing of the container. If this is not possible, then the next alternative is to return unused portions to your community household hazardous waste clean-up day. Keep products in their original package with all labels intact. If the container is leaking, place it in a thick plastic bag. Pack the products in a plastic-lined cardboard box to prevent leaks and breakage.

- Do not flush household hazardous waste down the toilet.
- Do not pour household hazardous waste down the sink.
- Do not pour household hazardous waste down a storm drain.
- Do not pour household hazardous waste on the ground.
- Motor oil should be taken to a recycling center; do not pour it on the ground or down the drain.
- Read label precautions and follow directions for safe use.
- Recycle/dispose of empty containers properly.
- Share what you can't use with friends or neighbors.
- Store properly.
- Use recommended amounts; more is not necessarily better.
- Use the child-resistant closures and keep them on tightly.

### **Septic Systems**

(for those within our city boundaries still using septic systems)

- Do not use garbage disposals. Garbage disposals add massive amounts of solids to the septic tank and are a leading factor of clogged systems.
- Do not dispose of disposable diapers, sanitary napkins, paper towels, colored toilet paper or tissues in the septic system. These wastes do not decompose.
- Do not put fat, grease, or oil (including cooking oil) down the drain. These items can pass through the septic tank and clog the leaching field.
- Pump out septic systems every three to five years.
- Conserve water. The less water used, the longer the retention period in the tank and the more solids and bacteria can decompose. Install water saving devices.
- Do not use enzymes or acid for treating your septic tank.
- Avoid extreme peak flows by spacing out laundry loads, bathing, and dish washing.

- Do not put chemicals into the septic tank for the purpose of maintaining or declogging the leach field. There are no known chemicals, yeasts, bacteria, enzymes or other substances capable of eliminating or reducing the sludge and scum so that periodic pumping is unnecessary. Many of these cleaners contain highly concentrated organic solvents that are not biodegradable and pose a serious threat to ground water.
- Do not dispose of pesticides, disinfectants, acids, medicine, paint thinners and other household hazardous wastes in the septic system. These wastes will kill the helpful bacteria in the tank and may contaminate ground water.

### **Domestic Wells**

(for those within our city boundaries still using private wells)

A domestic well is considered a potential contamination source because it can be a conduit for contamination to enter the ground water. Therefore, please do not use or dispose of toxic chemicals around your well. Pesticides should be used in accordance with label instructions and fertilizers should be used in accordance with recommended application rates. Unused wells should be properly capped and abandoned.

### **Livestock, Poultry, and Horse Waste**

Animal waste contains many pollutants that can contaminate surface and ground waters used as drinking water sources. Probably the greatest health concern associated with livestock, poultry, and horse wastes is pathogens. Many pathogens found in animal waste can infect humans if ingested. Organisms like Cryptosporidium, Giardia lamblia, and Salmonella can induce symptoms ranging from skin sores to chest pain. E. coli, which causes diarrhea and abdominal gas, has been the source of disease outbreaks in several States. Particularly virulent strains of E. coli can cause serious illness and even death. Cryptosporidium is of particular concern because it is highly resistant to disinfection with chlorine. This protozoan causes gastrointestinal illness that lasts 2 to 10 days in healthy individuals but can be fatal in people with weakened immune systems. Cryptosporidium was responsible for more than 50 deaths and an estimated 403,000 illnesses after contaminating a Milwaukee drinking water supply. Runoff from cow manure application sites was a suspected source of the Cryptosporidium.

- Don't let runoff through animal waste accumulation areas flow off of your property.
- Establish a vegetative buffer zone downslope to detain and absorb waste.
- Any manure that has accumulated in piles should be periodically hauled off and spread out on pasture or crop land.

### **Orchard and Nursery Use of Pesticides**

**Pesticide storage** is key to preventing ground water contamination. If pesticides are stored in intact containers in a secure, properly constructed location, pesticide storage poses little danger to ground water. You must follow directions for storage on pesticide labels, although the instructions are general, such as "Do not contaminate water, food or feed by storage or disposal." Secondary containment, such as an impermeable (waterproof) floor with a curb and walls around the storage area, will minimize pesticide storage container leaks. The capacity of liquid tank secondary containment should be sufficient to contain the volume of the largest container. Dry pesticides should be protected from precipitation.

**Proper mixing and loading practices** can also prevent contamination of ground water by pesticides. Mixing and loading on an impermeable concrete surface allows most spilled pesticides to be recovered and reused. The impermeable surface, or pad, should be kept clean and large enough to hold wash water from the cleaning of equipment, and to keep spills from moving off-site during transfer of chemicals to the sprayer or spreader. Ideally, the pad should slope to a liquid-tight sump that can be pumped out when spills occur.

If an impermeable concrete surface is not used when filling pesticide tanks and this is done on bare ground, be aware that small but repeated pesticide spills over long periods of time in the same filling and mixing site has resulted in significant contamination of ground water. We recommend that you do not fill and mix pesticides in tanks within source protection zones. If this cannot be avoided, then it should be done in different locations so concentrated buildups do not happen.

**Spill clean up** is another important prevention measure. Dry spills should be promptly swept up and reused. Recover as much of a liquid spill as possible and reuse the pesticide as intended. If a spill involves soil around the mixing pad, it may be desirable to remove some contaminated soil, which can be spread on fields under certain circumstances if allowed by your State pesticide regulatory agency (usually the Department of Agriculture). In addition, clay, sawdust, or cat litter should be available to absorb liquid from concrete pads. Finally, an emergency response plan for the site is important – to know where the runoff water will flow, how to handle a particular chemical, and whom to call for help.

Improper ***disposal of pesticide containers*** can lead to ground water contamination. To prevent ground water contamination, use returnable containers and take them back to the dealer as often as possible. If you don't use returnable containers, use all of the pesticide in the containers before disposing of them. Pressure-rinse or triple-rinse non-returnable containers immediately after use. Since residue can be difficult to remove after it dries, pour the into the spray tank. Puncture non-returnable containers and store them in a covered area until they can be taken to a container recycling program or a permitted landfill. Contact the Ag Container Recycling Council at [www.acrecycle.org](http://www.acrecycle.org) or 877-952-2272 for more on a recycling program near you. Shake out bags, bind or wrap them to minimize dust, and take them to a permitted landfill. Do not bury or burn pesticide containers or bags on private property.

Thank you for your efforts in protecting one of our community's most valuable resources. By working together we can ensure that Santaquin City continues to have a safe and adequate supply of water for many years to come. If you would like to review our Drinking Water Source Protection Plan, it is available at our city office. Please call Denny Barnes at 801-754-3211, if you have questions or concerns.