Preparing an Emergency Water Supply

Generally, our abundant domestic water supply is taken for granted. However, some situations can reduce the availability of safe drinking water, such as earthquakes, tornadoes, floods and winter storms. Such interruptions may last only a few hours or up to several days. In these situations, an emergency water supply can be desirable. One option is to purchase bottled drinking or distilled water at the time of need or for storage and future use. Another option is to follow the directions in this article to safely prepare and store water from your daily drinking and cooking supply.

In an emergency, an ample water supply is a priority. Needs will differ, depending upon age, physical condition, activity, diet and climate, but most people need to drink at least two quarts, which is equal to eight cups, of water each day. Hot weather conditions can double the amount needed, and children, nursing women and ill people need more. In addition to drinking water, supplies for food preparation and hygiene are needed. In general, store at least one gallon of water per person, per day of expected need.

Never ration drinking water, even when supplies run low. Drink the amount you need today and try to find more for tomorrow. You can, however, minimize the amount of water your body needs by reducing activity and staying cool.

You can store water in food-grade plastic or glass containers with tight-fitting screw-on caps. Food-grade containers include 2-liter soda bottles and other water, juice or punch containers. New plastic containers can be purchased in most housewares and sporting goods departments, as well as at some water vending locations. New containers should be labeled for storage of food or beverages, as those not labeled for food or beverage storage could release harmful chemicals into the water. Some plastic containers may affect the taste of stored water.

Wash the containers and lids thoroughly with hot tap water and dish detergent. Rinse thoroughly with hot tap water.

To treat water for storage, use liquid household chlorine bleach that contains 5.25 percent sodium hypochlorite. Do not use bleach with soaps or scents added. Add the bleach according to the following table, using a clean, uncontaminated medicine dropper.

Two drops bleach per **quart or liter** container of water.
Four drops bleach per **2-quart or 2-liter** container of water.
Eight drops bleach per **gallon or 4-liter** container of water.

When treating larger quantities of water, use the following table to convert drops to standard measuring units.

8 drops = 1/8 teaspoon
16 drops = 1/4 teaspoon
32 drops = 1/2 teaspoon
64 drops = 1 teaspoon
192 drops = 1 tablespoon
384 drops = 1/8 cup which is equal to 2 tablespoons

Stir the water and allow it to stand for 30 minutes. You should be able to smell chlorine after the 30-minute waiting period. If you cannot, add another dose and let the water stand another 15 minutes. Cap containers and label each, describing the contents and preparation date.

For shelf-storage of water, store containers in a cool, dry place away from direct sunlight. Because most plastic beverage containers degrade over time, store them away from heat and light to prevent leakage. Store water in plastic containers away from gasoline, kerosene, pesticides or similar substances because vapors from these products can penetrate plastic. Remember, water weighs over eight pounds per gallon, so make sure the shelf or storage area is strong enough to support the weight. For best quality, replace stored water every six months. For commercially bottled, distilled or drinking water, check the label for an expiration date. If none is given, commercially bottled water should have an indefinite shelf-life. To improve the taste of water stored for a long time, pour it back and forth between two clean containers several times to aerate it.

Once opened, use good sanitary measures to keep the water safe and to control exposure to bacteria. To reduce the chance of water contamination, open only the containers you will use immediately. Use water in opened containers within one or two days. (DJ)

Maintaining Rubber Tires on Farm Equipment

There are certain basic fundamentals in the care of tires that should be followed carefully to make them last as long as possible. First and most important is to maintain proper pressure for the work at hand. Your best guide to proper inflation is the operator's manual or instruction book that covers your tractor. Read the manual and check air pressure regularly. Under inflated tires suffer from rim bruises, sidewall snagging and carcass failure. Over-inflation increases tread wear (on tractors and ground-driven implements) and because of reduced traction, weakens the carcass and hastens weather checking. An air pressure gauge and a good tire pump are essential in maintaining proper inflation. Proper inflation is especially important where fluid weight is used since the air space is greatly reduced. A special air-water gauge should be used for testing tires carrying fluid weight.

Grease and oil are natural enemies of rubber. Protect tires from oil and grease as much as possible. Should tires become spattered with oil or grease, wipe them off with a rag dampened with gasoline — but do this job outside the implement shed to reduce fire hazard. Never allow tires to stand in barnyard acids. If spray chemical gets on the tires, wash it off.

Inspect tires periodically for carcass breaks and cuts then have them repaired immediately. No cut is too small to require attention, for if it is not repaired, further damage will result.

Avoid high transporting speeds. Implement tires, unless otherwise specified, are not designed for speeds exceeding 15 miles an hour. Take added precautions as tires age.

Don't overload. Reduce speed and load on rough ground, if possible.

Protect the tires of idle implements and tractors from sunlight.

When a rubber-tired implement or tractor is to be idle for a considerable time, block up the axles to take the weight off the tires, but leave the tires inflated. (DJ)

ATVenture Workshop at Halsey 4-H Camp

Get ready to learn about one of the fastest recreational activities in the country.

The Nebraska State 4-H Camp near Halsey is offering an ATV workshop on Friday, Oct. 17-Saturday, Oct. 18. Learn how to operate and care for your ATV.

The workshop is open to ages 8 and up. Parents are urged to attend with their children.

Participants have the option of attending Saturday only. Cost is $40 per person for both days and $20 for Saturday only.

An ATV is not required for the workshop, but participants will need to bring their own for trail rides in the forest. The Nebraska National Forest, which the 4-H camp is located in, affords some of the finest riding trails in the Midwest.

For more information, call Brad at the state 4-H camp, (308) 533-2224.

WATERWHEEL

Note: This is the first of a series of articles related to rural water issues.

Site Evaluation

The effect of farm, ranch or homesite practices on groundwater depends, in part, on the physical characteristics of your site: soil type, subsurface characteristics and depth to groundwater. That's why evaluating the soils and geologic characteristics of your site is such an important step in protecting the groundwater you drink.

Soil characteristics are very important in determining whether a contaminant breaks down to harmless compounds or leaches into groundwater. Because most breakdown occurs in the soil, there is a greater potential for groundwater contamination in areas where contaminants are able to move quickly through the soil.

Sandy soils have large "poor" spaces between individual particles and the particles provide relatively little surface area for "sorption" or physical attachment of most contaminants. Large amounts of rainfall can move through these soils and dissolved contaminants can move rapidly down through the soil and into groundwater.

Clay soils, on the other hand, are made up of extremely small particles that slow the movement of water and dissolve contaminants through the soil. Contaminants also "stick" tightly to clay surfaces. While held securely to soil particles, contaminants are broken down by bacteria and other soil organisms and by chemical reactions with minerals and natural chemicals in the soil.

Finally, soil organic matter is important in holding contaminants. Soils high in organic matter provide an excellent environment for chemical and biological breakdown of most contaminants – before they reach the groundwater. Organic matter also provides an important site for contaminants to absorb or stick to soil particles. (DJ)