



Partnership for the Environment

Utah Department of Environmental Quality

Fertilizer Fact Sheet

What Are The Potential Hazards?

Fertilizer applied to plants during crop, lawn, and garden maintenance may leach into the ground water and cause contamination. The main constituent in fertilizer is usually nitrogen. If the nitrate level of drinking water is too high, infants, up to the age of six months, can develop a fatal disease called blue baby syndrome (methemoglobinemia). Drinking water that contains 10 milligrams of nitrate-nitrogen per liter of water exceeds the drinking water standard and should not be used, especially for infant formula. Proper storage, application, and watering procedures should be included in fertilizer best management practices to prevent contamination of ground water.

Storing Fertilizers

The less fertilizer you buy, the less you will have to store. Therefore, only purchase the amount and kind of fertilizer that you need.

- Fertilizer should be stored in locked, dry cabinets.
- Keep fertilizer and pesticides on separate shelves.
- Don't store fertilizer with combustibles, such as gasoline or kerosine, because of explosion hazards.

Application Precautions

The chemical in fertilizer that can most easily pollute ground water is a form of nitrogen called nitrate. Nitrate moves readily in soil to the ground water strata. The best way to prevent the movement of nitrate into the ground water is to apply no more nitrogen than the crops, grass, garden plants, shrubs, or trees can use during the time that the plants are growing.

- Calibrate your spreader and sprayer to keep from applying too much fertilizer.
- Load fertilizer spreaders on the driveway or other hard surfaces so any spills can easily be swept up. Fertilizer that spills should be swept up and applied to the lawn or garden at the right time and amount. This allows the fertilizer to grow plants instead of washing off into the storm drain system and ultimately contaminating nearby streams and lakes.
- If you are using liquid fertilizer on your turf, add fertilizer to the spray tank while on the lawn. This way, if you spill the fertilizer, it will be used by the plants and not run off into the storm drain system.
- Do not spray or apply fertilizer near irrigation wells. Wells are conduits to the ground water.

Application Rates For Lawns

Utah State University's Extension Service recommends the following for Utah lawns: "It is important to fertilize on a regular basis every four to six weeks to maintain an attractive lawn. Begin

when lawns start to green in the spring, mid to late April. Earlier applications may cause a lawn to become greener faster, but may also increase spring disease problems. Summer applications of nitrogen fertilizer will not burn lawns, if you apply them to dry grass and water immediately. Fall applications are important for good winter cold tolerance, extended fall color, and fast spring green-up. A complete fertilizer containing nitrogen, phosphorus and potassium should be applied in the fall every three to four years. This will prepare the lawn for winter conditions and allow the phosphorus to penetrate into the root zone by the next growing season.

For a well-kept lawn in Utah, apply 1 pound of available nitrogen per 1,000 square feet each four to six weeks throughout the growing season. The following chart indicates how much of various fertilizer will supply one pound of nitrogen.”

%N on Label	Pounds of Fertilizer Per 1000 Square Feet
12-15	7-8
18-21	5-5 ½
24-28	3 ½-4
30-34	3-3½
45-46	2-2 ¼

Types of Plants

One of the best ways to protect your ground water is to use plants that are drought-tolerant and that are adapted to your area. Drought-tolerant or low-water-use plants can continue to survive once they are established, even during times of little rainfall. Because you do not have to water these plants, there is less chance that nitrate and pesticides will be carried with the water through the soil and into the ground water.

If low-water-use plants are not practical, then try to use medium water use plants. Water these plants only when they begin to show drought stress. Some plants will wilt when they are drought-stressed, while other plants will show marginal leaf burn.

Watering

Over-watering plants can cause excess water to move through the soil. This water can flush fertilizer away from the root zone of your plants and into the ground water. The best way to avoid over-watering is simply to measure how much you are adding. Contact your county Extension Service to determine the best way to calculate how much water your plants need and how to measure the amount you are applying.

For More Information, Contact:

Division of Drinking Water, Source Protection Program - (801) 536-4200
 Department of Agriculture - (801) 538-7100
 Environmental Hotline - 1-800-458-0145
 Sonja Wallace, Pollution Prevention Coordinator - (801) 536-4477