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Pollution Prevention— Lawn Care and Lakes

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Research has indicated that nutrient runoff from lawns has the potential to cause eutrophication, or rapid plant growth, in streams and lakes. Nutrient loads generated by suburban lawns can be significant and research has shown that lawns produce more surface runoff than previously thought. Nutrients have been identified as one of the major pollutants in Omaha metro lakes.

In terms of fertilizer inputs, nutrients are applied to urban lawns at about the same application rate as those used for farm row crops. Not many residents understand that lawn fertilizer can cause water quality problems. Overall, less than one fourth of residents rated fertilizer use as a water quality concern, although ratings were as high as 60% for residents that lived adjacent to lakes.

Too much phosphorus in metro lakes causes explosive algae growth, called “algae bloom,” or green scum. The scientific name for such rapid plant growth in a lake is called “eutrophication,” which is like the lake getting old too quickly.

Algae blooms can clog a boat’s intake and makes for undesirable swimming conditions. They also block light from reaching other plants. Then when algae blooms die, masses of bacteria break them down, using up all the oxygen in the water. When oxygen gets low, fish and other aquatic animals die.

Phosphorus is the “limiting factor” for algae blooms because the other nutrients that algae needs are already in fresh water. Nitrogen, for example, dissolves easily in water, yet phosphorus does not dissolve easily. It binds to plants and soils, and in water it sinks to the bottom. So most phosphorus in water comes from human activities.

Fertilizers containing phosphorus helps grass and other plants to grow. Some urban soils may already be high in phosphorus. Yet many homeowners fertilize with phosphorus at least twice a year. Adding phosphorus even though it does no good. When it rains, extra fertilizer washes into lakes and streams.

Fertilizer that is spilled into sidewalks and driveways is also a source of phosphorus pollutions. Excess fertilizer that is hosed off or is washed off of paved surfaces by rain goes into the storm drains which goes directly into the lake. When soil erodes and washed into lakes and streams, it releases phosphorus bound to the soil. Grass clippings on driveways and streets wash into storm drains and then directly into lakes, where they decay, releasing phosphorus.

Preventative Actions:

- **Test your soil before fertilizing. If soils are high in phosphorus, use a low or phosphorus free fertilizer.**
- **Use a slow release nitrogen fertilizer, especially in the spring.**
- **Don’t fertilize if rain is in the forecast.**
- **Replace lawns with native grasses and flowers.**
- **Mulch bare dirt before rain compacts it.**
- **Keep grass clippings, leaves and mulch out of storm water drains.**
- **Keep fertilizers off the lawn and off paved surfaces. Use a broom to sweep up excess fertilizer on paved surfaces and reapply it to the lawn.**
- **Use lawn mowers that chop up or mulch grass clippings and leave them on the lawn. These mulching mowers also reduce the need for fertilizer. Grass clippings are the ideal food source for a lawn, providing essential nutrients by releasing them slowly into the soil. Grass clippings also provide organic matter, which reduces soil compaction.**