

# BASIN BITES

and

## TECHNICAL TIDBITS

SPRING 2012 EDITION

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of the  
St. Joseph River Basin  
Commission*

### 2012 ST. JOSEPH RIVER BASIN COMMISSION

#### MEETING SCHEDULE:

March 13\*\*  
June 5\*  
September 11\*\*  
December 4\*

All meetings are open to the public and begin at 10:00 a.m.

\*Elkhart County Public Services Building  
4230 Elkhart Road (US 33), Goshen



\*\*Elkhart County Administration Building  
117 No. Second Street, Goshen



12<sup>TH</sup> ANNUAL INDIANA-MICHIGAN

ST. JOSEPH RIVER BASIN  
SYMPOSIUM at FERNWOOD

May 18, 2012

### KNOW THE LABEL

The temperatures are a little higher, the sunset is a little later, and we are all thinking about lawn care, field preparation, and garden development. That thought usually includes application of products that will give us the best lawns, the biggest yield and the nicest flowers. Unfortunately it is human nature to believe that “if a little works, a lot will be even better” when it comes to fertilizers and pesticides.

STOP! That philosophy will only hurt. Fertilizers contain “nutrients”—nitrogen, phosphorus and potassium—along with other filler material or carriers of the nutrients. Growing plants have a limit to the amount of a nutrient they can consume. The remaining material results in a risk to the environment—potential groundwater pollution through infiltration of the product beyond the root zone, and runoff to neighboring ditches, creeks and lakes.

Read the label. Fertilizers come in a variety of bags and boxes, developed to grab your attention and convince you that one product or another is better. However, the most important



information on a fertilizer bag is prominently displayed on the front—three numbers usually separated by dashes—along with the table on the back of the bag.

Each number represents a percentage, by weight, of the amount of the nutrient present. The order of the nutrients is always the same unless the fertilizer is specially formulated—nitrogen (N)-phosphorus (P)-potassium (K).

Why are these three nutrients included in the general fertilizer mix? Nitrogen stimulates overall growth of the plant, but particularly leaf growth. Phosphorus strengthens root growth and enhances flower buds, size and color. Potassium serves as the overall energizer of the plant and is necessary for photosynthesis-- the process that converts carbon dioxide and sugars into the fuel for plant growth.

### KNOW YOUR NUTRIENT NEEDS—BE REALISTIC

While nutrients help produce healthy plant growth—the expectations need to be realistic. Is routine use of fertilizer necessary? No. Periodic soil testing identifies deficiencies. The environment naturally contributes some levels of these nutrients and unless we know those amounts, we could be threatening the environment, and wasting money.

Nitrogen is present in the atmosphere. In fact 80 percent of the atmosphere is nitrogen. Did you know that soils such as muck or peat naturally contain nitrogen that is released as these soil components decompose?

Phosphorus occurs naturally in the soil environment and is bound to soil particles. If soil is allowed to erode off the land surface, so too is the phosphorus carried away.

Potassium (common form is potash) is naturally occurring in soils but may not be present in a form essential for plant uptake.

### NUTRIENTS AND POLLUTION

When does a nutrient become a pollutant? Nitrogen, Phosphorus and Potassium are essential, but without proper management they leave the application site, are not available for the targeted plants, and end up in neighboring water resources increasing plant growth and algae blooms in receiving waters. Did you know that

phosphorus levels in our streams and ditches are consistently above the recommended limit because of soil erosion and storm water runoff? The aquatic plant growth cycle adds phosphorus to the waterbody as increased plants and algae die off, further accelerating the “eutrophication” or death of the waterbody.

### PLAYING A PART TO REDUCE NUTRIENT POLLUTION AND IMPROVE WATER QUALITY

Our actions play a big part to insure that the introduction of nutrients to the plant environment won't result in nutrient pollution to neighboring waterbodies. Consider these factors:

Amount. Application rates of fertilizers are developed based on observation and extensive research. Expect realistic goals. Not following those rates, increases the potential that over-application of nitrate-rich compounds and phosphorus-rich sediments will runoff to neighboring waterways, contaminate groundwater (nitrates), or settle in tiling systems where it will be flushed out during a heavy storm. With record levels of phosphorus detected in our water resources—start using phosphorus-free lawn care products, and native plants that require less fertilizer.

Remember all inputs count when calculating nutrient loading—soils, manure and fertilizers.

Timing. Potential pollution impact can be controlled by simply timing the application. Logical as it may seem, observations prove that nutrients are often applied when no plants or seeds are present to take up the nutrients. Why? Manure is applied when the skies are dark with an impending storm. Where



will those nutrients go? Lawn care “packages” often include four applications during a season. Does your lawn need all those fertilizer applications or is one, properly timed and applied, sufficient.

Follow these rules—read the label, apply only when needed, under conditions when the least amount of runoff can be expected and the plants will get the most benefit.

Best management practices. While application rates and timing safeguard against nutrient impacts to water quality, the use of best management practices establishes an extra layer of protection.

- Accurately apply nutrients—calibrate equipment
- Mulch bare soil associated with lawns and gardens, to reduce soil loss and attached nutrients
- Use cover crops on production fields for the same reason
- Develop and consistently use a Nutrient Management Plan (NMP) for farming operations that realistically sets yield goals, accounts for all nutrient inputs, establishes procedures to control migration of nutrients from targeted crops, and includes regular calibration of irrigation and application equipment
- Install filter strips around field tile ventpipes and along waterways—Did you know a 20-foot filter strip can reduce 65 percent of sediments, 75 percent of phosphorus and 70 percent of nitrogen leaving an unvegetated field in runoff?

Hypoxia in the Gulf of Mexico and other “dead zones” in the Great Lakes are increasing because of the over abundance of nutrients in our waterways. Do your part to reduce these impacts through responsible application and control of nutrients.

*Basin Bites and Technical Tidbits* is a periodic publication of the  
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