Synthetic vs. Organic Fertilizers

The controversy over which to use, synthetic or organic fertilizers, has been ongoing for many years and will be debated for many years to come.

When it comes to fertilizers the belief is that the nutrients released in synthetic fertilizers are different chemically than the nutrients released in organic fertilizers. Nutrients are nutrients and the plants do not care and do not differentiate because there is no difference.

The disparity between these two types of fertilizers is in how they are produced, packaged, applied, and nutrients released. Both types of fertilizers have positive reasons for use and the choice is more personal than scientific.

Synthetic fertilizers are odorless compared to organics such as different types of manures and fish emulsions. They are consistent in their nutritional content. A bag of fertilizer with a blend of 10-6-6 will have that ratio of nitrogen-phosphorus-potassium (NPK) throughout. An organic fertilizer will vary greatly in its ratio based on many factors of how it was produced. Also since synthetics are blended to certain ratios some nutrients can be added or detracted. With phosphorous being a great concern with surface water contamination it can easily be omitted from synthetic fertilizer but cannot be removed from organic fertilizer.

When it comes to applying the proper amount of nutrients needed for the plants you may need to use 50 to 80lbs. of synthetic fertilizer per acre compared to possibly 600 to 800lbs. of organic fertilizer per acre. Also the organic may need to be worked in to the soil, whereas the synthetic will start to penetrate the soil as soon as water is added. For both the above reasons the synthetic is usually less expensive to apply. Since synthetic starts moving into the soil with water it is usually taken up quicker by the plants and does not need to be broken down like organic fertilizers. This will produce a quicker green up of the plants being treated. Many people believe that synthetic fertilizers leech into our ground water- and they can. But so can the nutrients from organic fertilizers. It is not the fault of the fertilizer but the over application of the products and not following the labeled rates.

Organic fertilizers also have some positive reasons to use. They are very slow release and continue to release nutrients much longer then synthetic fertilizer. They are very good for the soil by improving the soil structure and increasing the soil microbiology. Synthetic fertilizers cannot do this. Once their nutrients have been absorbed by the plants they are gone.

Both of these fertilizers have their place. If the soil has adequate organic matter and good soil structure a synthetic fertilizer may be all that is needed. But if the soil is very low in organic matter, which usually means poor soil structure, an organic fertilizer may be beneficial.

Investigate what is below the grass in the backyard. This will help determine what plan of action should be taken. The common belief is that to have a thick green lawn regular applications of fertilizer are needed; but this is not the case with a little exploring and a little patience. What really needs to be done is to produce an environment for the grass to thrive, not just survive. They way to do this is to have enough organic matter and good soil structure.

The best way to help is to leave the grass clippings on the lawn and mulch fall leaves. This will slowly increase organic matter for your lawn. Use a mulching mower or mow more frequently. Aerate your lawn. Do not roll your lawn. Soil structure means air space in the soil for better water retention and air for the roots. Mow 3" plus; this helps shade the soil, helps hold moisture, and shades out weed seeds reducing the chance of them germinating.

If you follow these few simple rules you can reduce your fertilizer use no matter which fertilizer you choose.

Written by: Gary Coroneos, Certified Arborist, Pesticide Applicator, Member: ISA, WAA

Ranger Services Inc., Landscape and Urban Forest Management