Soil Fertility Approaches and Grow Your Soil Recommendations

In general, there are four main approaches that have been developed to improve the fertility of agricultural soils with organic fertilizers over the last century. The first is the Base Cation Saturation Ratio (BCSR) which prioritizes achieving an ideal ratio of calcium, magnesium and potassium in the soil. The second is the Sufficiency Level of Available Nutrients (SLAN) which focuses on ensuring a crop has sufficient levels of all nutrients needed to maximize its yield and quality. It can be summarized as feeding the crop. The third approach, called "Maintenance", considers the amount of nutrients that will be removed by a crop and adds that amount back to the soil (typically assuming that nutrients are not returned to the soil through composting and/or safely and properly processed human waste). The fourth approach, called "Build-Up" focuses on ensuring nutrient levels are above the minimum needed for the crops being grown in order to provide a buffer to the farmer if soil testing and fertilization become difficult to do in future years.

The best of all four approaches are utilized, as well as additional factors, in creating a Grow Your Soil organic fertilizer recommendation for your soil. A GYS recommendation is designed for organic farmers and gardeners growing a diversity of crops in a year using sustainable soil management methods. While most recommendations are designed for a specific crop, a GYS recommendation is designed to feed the soil and ensure that it has enough organic matter and nutrients to allow a wide variety of crops to thrive. Many small scale farmers and gardeners grow a wide variety of crops and they do not want to have to deal with a different fertilizer recipe for each of their crops. Not only is working with many fertilizer recipes a very error-prone approach for most small scale growers, but having a fertilizer recipe specialized for a particular crop can be non-optimal for a grower rotating crops within a year. In addition, GYS ensures that the organic fertilizers that we recommend are available to you, and will amend our recommendations if you find them not to be. A recommendation is of little use if you can't find the fertilizers or apply them at the rates recommended. Application rates in a GYS recommendation are designed to ensure sufficient nutrient availability while gradually building up soils that are less fertile based on past performance and responses by the soil, the degree to which nutrients are being retained in and returned to the soil by the grower, and the availability of soil testing and fertilization to the grower in the future. Small scale growers are often faced with resource constraints that limits the amount of soil testing they are able to do, with some only able to test their soil every few years or more. Grow Your Soil takes all of these factors into consideration, and aims to ensure that the soil not only has sufficient nutrients for that season for the crops being grown, but has some reserves that for the most part will be replenished through the sustainable soil management practices such as GROW BIOINTENSIVE. The goal of Grow Your Soil is to provide an organic fertilizer recommendation that helps

you create a soil that is able to support a wide variety of crops, hold and store a maximum amount of water and nutrient, and able to minimize the loss of its nutrients, so that when you then recycle crop nutrients by adding compost, you are able to maintain and even improve your soil's overall fertility.