

Soil Health



Grassroots
Gardens
of Buffalo

If you want a full harvest then you need to take a serious look at your soils. All of the soils given to you by GGB are fully nutritional, but over the years the plants can strip them of their nutrients.

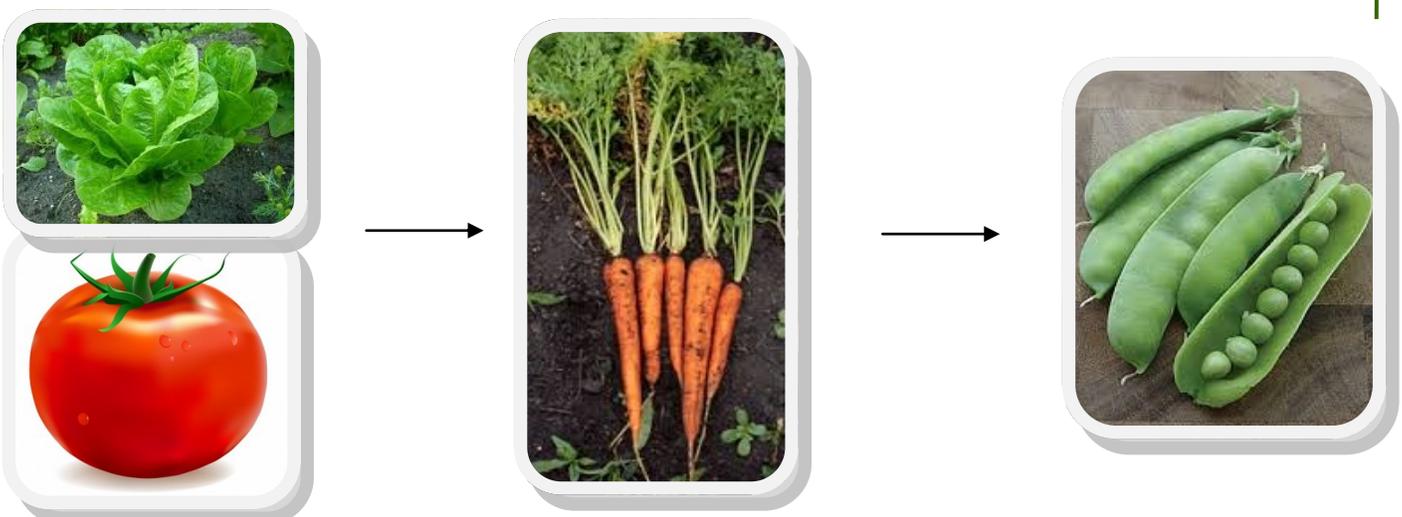
There are many ways to feed nutrients back into your soil and this guide will help you choose which one or ones you want to apply in your garden.

Crop Rotation:

Each crop that you plant takes certain nutrients out of the soil and replaces them with other nutrients. If you rotate where each crop is planted every season then you can manage your soils nutrients. The easiest way to rotate crops is through a garden plan that tells you where you have planted and what should be planted next. For example if last season you planted tomatoes, a high nitrogen taker, then this season you should plant, in the same location, a legume such as peas, these give off nitrogen into the soil.

The typical rotation you should stick to is leaf/fruit, root, legume. A leaf/fruit plant would be one where you eat the leaf or fruit of the plant such as anything from the brassica family. A root is a plant where you eat the root such as beets and carrots. A legume is any plant that you eat the seed of such as peas or beans.

Crop Rotation also protects against disease and pests spread in your garden. Most diseases and pests can over winter. If you encounter a particular disease, research it to make sure the next crop in your rotation can't be fed on by it. Most diseases and pests will die after one season without a crop to feed on.





Cover Cropping:

Cover cropping is a method of adding nutrients back into the garden. It also helps keep the soil from eroding over the winter months. Planting a cover crop is fairly simple and require little maintenance.

A cover crop is a crop that you plant at the end of your season. It is a type of grass or legume that will feed essential nutrients back into the soil, survive the frost, increase earthworm activity, break disease cycles, and can be tilled down into a living mulch. Examples include: hairy vetch, crimson clover, rye, buckwheat,

A cover crop is planted after the last harvest of your cold season crops. Then are then allowed to grow as they will until right before seed. Right before they seed you want to either cut them down, turn them into your soil, or pull them out entirely.



Clover



Hairy Vetch

Living Mulch:

A living mulch is a cover crop during your growing season. It's a cover crop that you interplant with your food producing crops to invest nutrients back into the soil through the whole season. This can be done with any of the above mentioned cover crops. Simply plant the cover crop with your vegetables and grow them the same as you would any other plant. You can also mulch down the cover crops at the end of their lifecycle by turning or tilling them into the soil and planting on top of the living mulch. You will also do a lot less weeding with this intensive planting method.

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Nutrient Management:

Many methods of conventional gardening use soil additives for fixing nutrient problems in their soil. There are many safe and even organic methods of using soil additives and here are some tips on what to look for before adding anything to your soil:

A fertilizer should be of a low even mix, always use a mix no higher than a 5x5x5 which simply means it is 5 percent nitrogen, 5 percent phosphorous, and 5 percent potassium.

Worm Castings is a grouping of organic matter left after worms eat through a pile of soil and leave behind a mixture of minerals, bacteria, and animal manure. This is a powerful soil additive that with even a tablespoon can dramatically transform your soil health. Worm Castings mainly affect root health of plants and can build up soil health to avoid root rot.

Bone Mill is the ground up remains of animal bones from slaughter houses. This adds calcium to your soil through a completely natural way, in a similar manner to the Native American tradition of burying fish next to their vegetable crops to increase the organic matter and calcium of their soils. Bone Mill breaks down faster and can be used by the soil faster than an actual decomposing animal body.

Composting is a free and great soil enhancer. It completes the cycle of your garden by returning the plants that you have harvested back into the soils after they have decomposed. Compost must reach a temperature of 122 degrees F to be used as compost to breakdown the plants and kill any weeds or plant diseases. To learn more about composting attend our composting workshop which is held every year during the spring.

Manure is animal compost. Similar to the worm casting any animal castings can be used as a soil additive once it is fully rotted and composted. It must reach a temperature of 135-150 degrees F (Washington State University) to kill off pathogens and be used in the garden. It is not suggested that you use manure from dogs, cats, or any meat eating animals due to pathogens that don't burn out as easily. The Buffalo Equestrian Center offers free horse manure to gardeners willing to pick it up from their stables. Call ahead for times available for pick up.





References:

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