



Welcome to Ground Work

A High Yield System

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What is a High Yield Crop Production System? It is a system that rewards the grower with high yields because he/she recognizes the importance of each of the following system components:

- Air and Water Management
- Unrestricted Root Growth
- Adequate Fertility Throughout the Season
- Pest Management
- Residue Management
- Genetic Selection

Let's take a closer look at each component of a High Yield System.

1. Manage air and water.

Oxygen is the most limiting element impacting yield in many cases. Roots need oxygen to grow and most beneficial microbes need oxygen to thrive.

Soil pore space needs to be maintained to allow for movement of air and water within the soil. This pore space is maintained by limiting compaction and

unnecessary tillage. You should do no more tillage than what is necessary to keep the soil aerobic, decompose residue and control weeds. Excess tillage will reduce pore space.

Pore space is also maintained (1) by having adequate available calcium in the soil and (2) as a byproduct of microbial activity. Calcium changes the electrical charge on clays, causing them to clump together and form microaggregates. Microbes produce polysaccharides that bind these microaggregates with soil particles to form large water stable soil aggregates and create “coffee grounds” soil tilth.

2. Unrestricted root growth.

Roots need to be able to explore the whole soil profile to find nutrients needed by the crop. The practices that maintain pore space are the ones that allow roots to grow freely. Putting calcium and biology on together, using products such as **SP-1™** and **Practi-Cal**, can help create that favorable environment.

3. Adequate fertility all season long.

You really don't want the crop to be short of nutrients at any point in the growing season, especially at fruit initiation and the final stages of bulking a crop or grain fill. This makes split applications of nutrients a high priority and a paying proposition. Applying nutrients closer to when the crop needs them allows you to use less total nutrients and be more efficient. Foliar applications can be used to supplement soil fertility. Active soil biology speeds nutrient cycling and promotes the availability of crop nutrients all season.

4. Manage pests.

You need to do what you can to protect the genetic yield potential that you have. That means controlling insects, weeds and diseases. Having a healthy soil and a healthy crop will do a lot to minimize all of these threats. Healthy crops can only be grown in healthy, fertile soils.

5. Manage residue.

Too much residue can interfere with crop growth, weed control and also harbor diseases and insects. Residue can be turned into a very valuable asset by decomposing it to build soil humus, a storehouse of water and crop nutrients. The key is getting the residue to break down rapidly before the carbon is oxidized from the soil surface.

Using **Residue™** is the key to put residue decomposing microbes in your soils to speed this process up. Good management of oxygen and the carbon cycle will make all of the other nutrient cycles more efficient.

6. Plant the right seed in the right place at the right time.

Choosing the right genetics for your soil types and management practices can still do as much as anything to influence yield, no matter what crop you are growing. Careful selection needs to be made to fit your farm.

Putting all of these components together into a system that fits your farm will put you on the road to Biological Farming. Enjoy the journey!