Compost Guidelines

General: < 1% of a compost application may actually become stable soil humus (depending on soil conditions, climate, and the way the soil is managed).

- If compost being used is 50% organic matter, it would take 40,000 lbs (20 tons) per acre to temporarily raise the soil organic matter by 1%.
- Applications of > 30 tons per acre are not recommended unless incorporated into the soil.
- Like layers of topsoil, layers of compost can disrupt the flow of air and water through the soil, with incorporation into the subsoil preferable.
- Compared to topsoil, compost usually contains little or no weed seeds.

Evaluating Compost Lab Analysis

1. ***Organic Matter*** Desired Range, depending on feedstock= 40 - 60%
    - Lower levels may be due to significant amounts of soil added during processing.
    - Higher amounts may indicate naturally low mineral content of ingredients
    - Component most responsible for improving existing soil: composts with lower levels will need to be applied in relatively greater amounts to provide the same benefits that composts with considerably higher levels will provide

2. ***pH*** Should be near neutral- desired range= 6.0 - 8.0
    - Biological activity that creates compost cannot function at extremely high or low pH levels
    - It is more unusual to find a compost with a pH lower than 6.0 than it is to find one with a pH higher than 8.0
    - Compost with a high pH can contribute toward neutralizing an acid soil, but may create more problems on an already too alkaline soil
    - A slightly acid compost will rarely have an effect on a very acid soil, but may provide some neutralization on alkaline soils
    - Amendments to correct pH would be best applied after the compost has been incorporated
3. ***Moisture Levels*** do not make a significant difference in the quality of the finished product or the effect it has on the soil (unless excessively wet or dry), but may have some economic impact.
    - 10 ton load at 50% moisture contains 5 tons of water – if hauled long distances, the cost of trucking the water becomes a significant expense.
    - Soggy (high moisture content) composts have relatively lower levels of everything else, including organic matter and nutrients

4. ***Conductivity*** measures the level of soluble salts.
    - Very important if compost is used for seeding projects
    - Levels > 3 mmhos need to be diluted with soil (1 mmhos = 640 ppm salt)
    - Generally compost salt levels are not dangerous to established lawns/turfs
    - Levels < 3 mmhos can be used as a seed carrier: where compost is pre-mixed with seed and the two are applied together. Good spot seeding technique because compost holds more moisture than soil and contains compounds that enhance seed germination.
5. ***Nutrient Levels*** in compost normally are not high.
    - It is rare to find N levels > 3% and all other nutrients are usually lower.
    - Phosphate is often about 1/3 the level of N, and
    - Potash is often about 2/3 the level of N,
    - Micronutrients are generally found in trace amounts, but can vary if raw materials containing high levels of certain nutrients were composted.
    - If a one-inch layer is incorporated into 1000 ft^2 of soil, and contains only 1% N, more than 30 lbs of total N have been applied. This may seem excessive (and would be with conventional fertilizers), but compost will release N slowly without burn potential and provides valuable food for soil biology.