1635 Compost Thermometer

Insert the stem of the thermometer into the center of the compost pile. Leave in place until the needle comes to a rest. Note temperature.

Temperature plays an important part in the composting process. Decomposition occurs most rapidly between 110° and 160° F. Within two weeks a properly made compost pile will reach these temperatures. At this point you will notice your pile settling, which is a good sign that the pile is working properly. Now you must decide how you want to compost. Do you want to add to you pile or just let it continue as is? If you want to add to your pile, you can do so throughout the growing season and into the winter months. As you add fresh material you will need to turn and water your pile more often. Monitoring the temperature and turning whenever the pile's temperature dips below 110° keeps your pole active at its highest level, and you will have the fastest breakdown. This means turning the pile more often. This can be weekly as it is work!

There are different types of aerobic bacteria that work in composting piles. Their population will vary according to the pile temperature. Psychrophilic bacteria work in the lowest temperature range. They are most active at 55° F and will work in the pile if the initial temperature is less than 70° F. They give off a small amount of heat in comparison to other types of bacteria. The heat they produce is enough however, to help build the pile temperature to the point where another set of bacteria, mesophilic bacteria, start to take over.

Mesophilic bacteria rapidly decompose organic matter, producing acids, carbon dioxide and heat. Their working temperature range is generally between 70° to 100° F. When the pile temperature rises above 100° F, the mesophilic bacteria begin to die off or move to the outer part of the heap. They are replaced by heat loving thermophilic bacteria.

Thermophilic bacteria throve at temperatures ranging from 113°to 160° F. Thermophilic bacteria continue the decomposition process, raising the pile temperature to 130° - 160° F, where is usually stabilizes. Unless a pile is constantly fed new material, and turned at strategic times, the high range temperatures typically last no more than three to five days. Thermophilic bacteria use up too much of the degradable materials to sustain their population for any length of time. As the thermophilic bacteria decline and the temperature of the pile gradually cools off, the mesophilic bacteria again become dominant. The mesophilic bacteria consume remaining organic material with the help of other organism.

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