A Book Review
For
Project Requirements
Of
Bernalillo County Extension Master Composters
Spring 2011 Master Composter Training
By
Rod Reay

Let It Rot!

By

Stu Campbell

This book is available in the Albuquerque Public Library System; I checked it out of the San Pedro Branch. I had not had a library card for decades, but it was easy to get one simply by completing a form and showing an ID.

The 152-page book was originally published in 1975, but has been updated twice, with the latest edition being 1998. It is an easy-to-read, folksy how-to for the beginning composter and a good complement to the Master Composter Training. While it introduces the scientific basics of composting, it focuses primarily on the art, with lots of practical applications, options, and anecdotal examples.

As this book is not only a good overview of composting but also a helpful reference once you have read it, I have elected to review it by chapter. In this way, you don't have to go back through the whole book to find the particular chart or subject for which you are looking. The book is organized as follows:

Contents

1 Home Composting: Art or Science?

In this introductory chapter, Stu Campbell asserts man has been composting since he domesticated animals and discovered the value of their waste products in growing things. But since there was not enough, man looked for ways to make "synthetic manure." Early man did not know the science of what occurred on the forest floor, so early composting was trial and error. Once man figured out the science, Campbell contends it developed into "an air of cultist mysticism around the art of composting," giving the impression there is only one way to compost. While he recognizes the value of the scientific research, he cautions against getting bogged down in it

because, left alone, organic material will decompose anyway. He suggests successful composting requires:

1. Realizing that no matter what you do, you will probably get usable compost
2. Basic understanding of the life forms and processes that operate in a compost pile
3. Willingness to experiment
4. A little effort
5. A little artistry

Campbell promotes what he calls the Principle of Return, where composting is a way of using up what we have in excess (waste material) to repay our debt to the earth. Here again, he challenges the reader to not go overboard trying to compost everything; he says to be guided by common sense and the materials most available to you.

2 Why compost?

In this short chapter, Campbell presents the argument about our landfills filling up at alarming rates. Then he concentrates on how compost benefits the long term health of the soil by adding not only N, P, and K, but also the micronutrients and how they are released slowly over time. In his chart on How Compost Helps Your Soil, he also talks about how compost binds with soil particles, increases the soil's water holding capacity, neutralizes some toxins, and buffers the pH.

3 How Decomposition Works

This is the meat of the composting science, although it is simplified to an easily understood 10-page presentation. Campbell begins with microorganisms, without which decomposition would not occur. It is the microorganisms that release the vital elements tied up in organic matter. To function, they need (1) an energy source, carbon; (2) protein source, nitrogen; (3) oxygen, for an aerobic environment; and (4) moisture. Three main groups of bacteria are also at work in a compost pile. Psychrophiles, mesophiles, and thermophiles metabolize organic matter through different temperature ranges. Fungi and actinomycetes then consume the toughest things the bacteria leave behind. And finally, macroorganisms like earthworms, insects, grubs, spiders, and nematodes dig, chew, digest, and mix organic matter in compost piles.

4 Compostable Materials Are All Around You

Campbell advises that variety is a good thing for a compost pile. Having some knowledge of the biological processes and the organic matter one is using in the mixture will help in creating this variety. He presents a simple guide: compost = two

parts vegetable (grass, leaves, straw) + one part animal (manure). In addition to a one-page list of materials, he also gives a short explanation of several commonly used materials: ashes, feathers, garbage, grass clippings, ground stone and shells, hay or straw, hedge trimmings, hops, leaves, leather waste, newspapers, peat moss, pine needles, sawdust, seaweed, sod, weeds, plus some stubborn materials. He also discusses some materials to avoid: coal or charcoal, colored paper, diseased plants, nonbiodegradable items, pet litter, sludge, and toxic chemicals. Lastly, a short pitch on C/N ratio advises 25 to 30 parts carbon to 1 part nitrogen. This does not have to be exact since there is no precise way of measuring it, but in general, add 2 to 3 pounds of nitrogen materials for every 100 pounds of carbon materials.

5 Activators Get Things Cooking!

Compost piles need an activator to provide a nitrogen-protein source to get the microcommunity "started." Campbell supplies a list of natural activators and presents short discussions of compost, manure, meal, and soil as activators. He broaches the topics of fertilizers and bacterial activators, but places little value in either.

6 Composting Methods to Stimulate Your Imagination

In this chapter, Campbell moves on from composting fundamentals to practical applications, in effect, discussions and, in some cases, construction directions for different ways of composting. This is a great reference chapter for anyone from the beginner looking for how to get started to the veteran interested in branching out. The discussion begins with "Heaps," or essentially, the compost pile. Campbell talks about the Indore Process and includes an inset on how to construct an Indore Pile. His other heap systems include the University of California Method, Ogden Three-pile System, and the Biodynamic Compost Pile. The next topic is sheet composting, with an inset about Green Manure and a two-page chart covering several cover crops. The pit and trench composting discussion presents an illustration of how to do vertical composting. Lastly, under small-scale composting, Campbell touches on (with how-to insets) vermicomposting, plastic bag composting, and the compost pit. The chapter ends with a nice comparison chart on advantages/disadvantages of all these composting methods.

7 Bins, Barrels, and Tumblers

While a compost pile works just fine, an enclosure of some sort is useful in keeping the pile confined. This chapter is primarily a how-to for constructing several different compost pile enclosures, as well as an introduction to some commercial container options. Included for most is a short discussion of advantages and disadvantages.

8 What to Consider Before Building a Compost Pile

Now that the type of compost pile has been selected, here are some things to think about before actually building it. The first issue is where to locate it. Concerns here include proximity to the garden and a water source, sun vs. shade, and neighbors' potential misgivings. Also, the foundation needs to be considered with respect to drainage and airflow. Size is important, as well, when it comes to composting efficiency…at least a cubic yard; no more than 5 to 6 feet wide; any length; 4 to 6 feet high. Materials need to be layered, and here Campbell suggests one such method. Finally, there might be some concerns about weatherproofing, depending on the time of year and part of the country.

9 Methods to Speed Decomposition

Factors influencing decomposition include C/N ratio, particle size, aeration, moisture, and temperature inside and outside the compost pile. This chapter provides some guidance on how to manipulate these factors to hurry along the natural processes. Suggestions are made for building aeration channels into the pile as it is built, as well as ways to aerate after construction. The compost pile should have a moisture content of 40 to 60%, but there really is no good way to measure this. Therefore, wetting the contents as the pile is built and covering it afterwards will help retain the moisture. As decomposition progresses, the pile needs to be turned to keep the process going. Here, Campbell provides some tips on how to turn the pile and general guidance on how often. Material will decompose faster when it has more exposed surface area. Several methods are presented for turning big pieces into small pieces.

10 Composting Concerns

Here is sort of a potpourri of issues concerning composting. It includes a basic introduction to pH (no pun intended). A well-varied compost pile will likely produce a product very close to a pH of 7. Campbell then presents a short discussion each of Nitrogen (N), Phosphorous (P), and Potassium (K) and includes two charts: one shows the approximate NPK composition of some natural fertilizer material, and the other briefly explains the function of each in plants and symptoms of their deficiency and excess. He follows with an explanation of heat in the compost pile and compares hot and cold composting. Pathogens, insects, and weeds rate a short discussion, and the chapter ends with a trouble-shooting chart for common ailments in the compost pile.

11 The End Product and How to Use It

I consider this one of the most valuable chapters in the book, as it talks about how to use the finished product. I found the chart that explains how to tell when the product is "finished"

most interesting because I had always thought when it cooled off, it was done…Wrong! Campbell discusses ways to use compost in various stages of completion for mulch, soil improvement, garden maintenance, and planting amendment for flowers, vegetables, shrubs, trees, seedlings, lawns, potted plants, and fruits. Also included are insets on compost tea and the potential hazards of too much compost. Finally, Campbell presents a short story of a neighborhood that had a successful experience with composting.

12 The Times, They Are A-Changin'

This short chapter concludes that composting is making a difference and "making compost enriches our lives almost as much as it does our gardens."

And finally, the book terminates with a few pages of Sources, Suggested Readings, and a useful Index.