



Compost Recipe Overview

A compost “recipe” is a specific blend of materials mixed together in a compost system – tumbler, bin, pile, or windrow. Having different recipes, based on the type of feedstock materials used, will help the system reach the optimum carbon to nitrogen (C:N) range for the decomposing microbes to do their work (20:1 – 60:1; preferred 30:1-50:1).

All organic materials have some carbon and some nitrogen. They are classified as “browns” or “greens”, depending on whether they’re higher in carbon or higher in nitrogen.

Bin, Pile, and Windrow Systems

Even though there’s variation, a good basic recipe for most feedstocks (organic material) used in bin, pile, and windrow systems is 2 to 3 parts carbon to one-part nitrogen:

- **2 to 3 Parts Carbon (C) - “Brown” materials**
 - Woody, dry materials (e.g., wood shavings, leaves, soiled/shredded paper, straw, animal bedding)
- **1 Part Nitrogen (N) - “Green” materials**
 - Fresh, “wet” materials, such as kitchen scraps, grass clippings, garden trimmings (no weeds), manures

Tumbler Systems

Many community composting sites choose compost tumblers to manage food scraps, as they are closed vessels, often raised up off the ground – making it harder for wildlife to get into the compost system.

In compost tumblers, using a material with a higher carbon content, like wood shavings, is recommended. This allows for a smaller volume of carbon material (compared to, say, dry leaves) to achieve the recommended C:N ratio, leaving more space for composting food scraps in the tumbler.

If using an integrated composting system (see *Community Compost Systems & Operation Tip Sheet*), other bulkier feedstocks, or ones you might have in larger quantities such as horse manure, can be integrated into once the material is emptied from the tumbler.

Estimated Carbon to Nitrogen Ratios	
Carbon Sources	C:N
Yard wastes (leaves, dried grass clippings, chopped branches)	50 - 90:1
Straw	60 - 80:1
Paper (shredded)	160 - 180:1
Cardboard (shredded)	250 - 350:1
Wood shavings, chips, dust	250 - 500:1
Nitrogen Sources	C:N
Vegetable scraps	10 – 30:1
Fruit scraps	10 – 30:1
Grass & garden gleanings	10 – 20:1
Chicken manure	10 – 25:1
Cow manure	20 – 30:1
Horse manure	25 – 30:1

Adapted from Robert Rynk, “*On-Farm Composting Handbook*,” Natural Resource, Agriculture, and Engineering Service, 1992.

- **1 Part High Carbon (C) - “Brown” materials**
 - Woody, dry materials (e.g., wood shavings, shredded cardboard, animal bedding)
- **1 Part Nitrogen (N) - “Green” materials**
 - Fresh, “wet” materials, such as kitchen scraps, grass clippings, garden trimmings (no weeds), manures

Best Management Practices for Mixing a Compost Recipe

- ✓ Mix ingredients together to create a balanced, homogeneous mix
- ✓ Keep it small! (mow, grind, chop, chip, shred your feedstocks)
- ✓ Balance the C:N ratio to approximate the ideal conditions (20:1 – 60:1; preferred 30:1-50:1).
- ✓ To speed decomposition, monitor:
 - Temperature
 - Moisture level
- ✓ Don't forget bulking agents (wood chips, animal bedding, vegetable stalks), as needed for:
 - Porosity
 - Pile stabilization
 - Aid in air flow

Carbon sources are ideally kept dry:

- ✓ Store wood shavings in bucket or garbage can with tight fitting lid.
- ✓ Store leaves, other yard or garden trimmings, straw, etc. in a bin or garbage can.
- ✓ Cover piles of manure/ animal bedding with a tarp.

Good management is based on regular observation!

- ✓ Monitor the temperature
- ✓ Is it too moist or too dry?
 - It should feel like a damp sponge
 - If it's too dry, water it or leave the lid or cover off of the compost system during rain
 - If it's too wet, add carbon and protect it from rain
- ✓ Is it too dense or compacted?
 - Turn the pile to loosen and aerate
 - Mix in more bulking agents to add structure if the compost material particle size is too small

For tried and true recipes:

- ✓ Search online for recipe calculators.
- ✓ Talk with other composters.
- ✓ While some trial and error is fine – know when to get expert advice!

Other Community Composting Tip Sheets to consult: [Science of Composting](#); [Systems & Operation](#); [Troubleshooting](#).

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