



Potential Carbon Sources for Composting

Composting requires an optimum ratio of carbon, nitrogen, oxygen and moisture in order for aerobic microorganisms to generate enough heat to inactivate the avian influenza virus. Poultry carcasses provide nitrogen; addition of water provides moisture; wood chips or other materials provide the carbon source and a permeable matrix for oxygen to enter the composting windrows.

The minimum amount of carbon to achieve proper temperatures is approximately 1.5 parts carbon to 1 part poultry carcasses. Although 3-inch wood chips can provide an ideal carbon source, they may become scarce or difficult to acquire in some regions during a response. However, there are many materials that can be used, as detailed in the table below. In addition to the materials in the table, corn stover, oat hulls, and sunflower seed hulls were successfully used in the spring response.

Cornell Waste Management Institute
Appendix A Characteristics of Raw Materials
Table A.1

Material	Type of value	% N	C:N ratio	Moisture	Bulk density
		(dry weight)	(weight to weight)	content % (wet weight)	(pounds per cubic yard)
Crop residues and fruit/vegetable-processing wastes					
Apple filter cake	Typical	1.2	13	60	1,197
Apple pomace	Typical	1.1	48	88	1,559
Apple-processing sludge	Typical	2.8	7	59	1,411
Cocoa shells	Typical	2.3	22	8	798
Coffee grounds	Typical	-	20	-	-
Corn cobs	Range	0.4-0.8	56-123	9-18	-
	Average	0.6	98	15	557
Corn stalks	Typical	0.6-0.8	60-73 a	12	32
Cottonseed meal	Typical	7.7	7	-	-
Cranberry filter cake	Typical	2.8	31	50	1,021
(with rice hulls)	Typical	1.2	42	71	1,298
Cranberry plant (stems, leaves)	Typical	0.9	61	61	-
Cull potatoes	Typical	-	18	78	1,540
Fruit wastes	Range	0.9-2.6	20-49	62-88	-
	Average	1.4	40	80	-
Olive husks	Typical	1.2-1.5	30-35	8-10	-
Potato-processing sludge	Typical	-	28	75	1,570
Potato tops	Typical	1.5	25	-	-
Rice hulls	Range	0-0.4	113-1120	7-12	185-219
	Average	0.3	121	14	202
Soybean meal	Typical	7.2-7.6	4-6	-	-
Tomato-processing waste	Typical	4.5	11 a	62	-
Vegetable produce	Typical	2.7	19	87	1,585
Vegetable wastes	Typical	2.5-4	11-13	-	-
Fish and meat processing					
Blood wastes (slaughterhouse waste and dried blood)	Typical	13-14	3-3.5	10-78	-

Source: Cornell Waste Management Institute. Appendix A from *On-Farm Composting Handbook* (NRAES-54). ©1992 by NRAES (Natural Resource, Agriculture, and Engineering Service).