



HAWAII COOPERATIVE EXTENSION SERVICE

College of Tropical Agriculture and Human Resources

University of Hawaii

GENERAL HOME GARDEN SERIES No. 15

AVERAGE COMPOSITION OF SOME ORGANIC FERTILIZER MATERIALS¹

by Wade W. McCall*

Material	Percent plant food			Other elements ²	Relative availability of plant food	Effect of 100 pounds of material on soil reaction ³		Salt index ⁴
	Nitrogen (N)	Available phosphoric acid (P ₂ O ₅)	Water-soluble potash (K ₂ O)			Acid	Alkaline	
Calcium Cyanamid	21.0			38.5 Ca	Quick		63	1.5
Castor Pomace ⁵	5.2	1.8	1.1		Slow	6		0.7
Cottonseed Meal	6.0	2.5	1.4		Slow	10		0.7
Dried Blood	12.0	1.5	0.8		Moderate to Slow	23		0.3
Dried Manures ⁶								
Dairy	0.7	0.3	0.6	3.3 Ca	Moderate to Slow		15	
Goat	2.7	1.7	2.8		Moderate to Slow			
Horse	0.7	0.3	0.5		Moderate to Slow			
Pig	1.0	0.7	0.8		Moderate to Slow			
Poultry	4.0	3.2	1.3	3.5 Ca	Moderate to Slow			
Rabbit	2.0	1.3	1.2		Moderate to Slow			
Sheep	2.0	1.0	2.5		Moderate to Slow			
Steer	2.0	0.5	1.9	3.5 Ca	Moderate to Slow			
Fish Scrap	6-10	6-7	0-1	6 Ca	Slow	5		0.3
Guano, Bat	13.0	5.0	2.0		Rapid to Quick			
Guano, Peruvian	12-13	8-11	2-4	9 Ca	Moderate	13		0.3
Hoof and Horn Meal	11-15	2.0			Slow			0.3
Linseed Meal	5.5	2.0	1.5		Slow	10		0.7
Peanut Hulls	0.4				Very Slow		3	
Soybean Meal	5-6	2.0	1.4		Slow	10		0.7
Sewage Sludge								
Activated	5-6	3.4	0.3		Slow	10		0.7
Digested	2-3	1.4	0.8	2.1 Ca	Slow	5		0.7
Tankage								
Animal	7-12	1-10	1-2	0.9-1.5 Ca	Slow		0-20	0.5
Garbage	2.5-3.3	1.5	1.5	4.5 Ca	Very Slow		5-10	1.2
Process	6-9	1-6	0.8	8-11 Ca	Slow	16-23		0.5

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AVERAGE COMPOSITION OF SOME ORGANIC FERTILIZER MATERIALS¹—Continued

Material	Percent plant food			Other elements ²	Relative availability of plant food	Effect of 100 pounds of material on soil reaction ³		Salt index ⁴
	Nitrogen (N)	Available phosphoric acid (P ₂ O ₅)	Water-soluble potash (K ₂ O)			Acid	Alkaline	
Urea	46				Quick	84		1.6
Urea Formaldehyde	38				Slow	68		
Raw Bonemeal	4.2	18.5		18-20 Ca	Slow		5	0.5
Steamed Bonemeal	2.2	27.0		25 Ca	Moderate		10	0.4
Mill Ash		2-3	20-35		Quick			
Wood Ash		1.8	5.5	23 Ca 2.2 Mg	Quick		57	

¹The percentages given in this table are average figures or indicate a range in composition. When obtaining fertilizer materials, always purchase according to the guaranteed analysis of the material. The materials included in this table may not all be available for purchase at any given time.

²Chemical symbols for elements are: Ca, calcium; Mg, magnesium.

³Acid--increases the acidity of the soil as measured by the amount of calcium carbonate (CaCO₃) required to neutralize its effect upon the soil. Alkaline--reduces the acidity of the soil to the extent of an equivalent amount of CaCO₃. "n" indicates negligible effect upon the soil reaction.

⁴Salt index is based upon per unit (20 pounds) of plant nutrient, or 1 percent of a ton. Where no value is given, the effect is negligible or the effect is not known.

⁵Most of the natural organic materials contain traces of one or more of the micronutrients; however, these are not generally guaranteed.

⁶Commercially dried. All manure is highly variable in composition. It should be purchased only on basis of guarantee.

NOTE: The use of trade names is for the convenience of readers only and does not constitute an endorsement of these products by the University of Hawaii, the College of Tropical Agriculture and Human Resources, the Hawaii Cooperative Extension Service, and their employees.

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Reprinted June, 1980—2M