## **Organic Fertilizers**

An organic fertilizer is a material having fertilizer value, which is derived from plant or animal substances. Some add humus to the soil. The analysis of a fertilizer material indicates the amount of nitrogen (N), phosphate  $(P_2O_5)$ , and potash  $(K_2O)$  in the material. For example, a 7-3-1 analysis material contains 7% nitrogen, 3% phosphate, and 1% potash. The application rates below are suggested.\*

Fertilizer and Average Analysis	lbs. per 100 square feet	Notes
Blood 13-1.5-0	3	Rapidly available nitrogen. Collected blood of slaughtered animals dried and ground, and containing not less than 12% nitrogen in organic form.
Fish scrap 9-7-0	3-4	Do not confuse with fish emulsive, which is low in fertilizer content. Dried, ground product derived from rendered or unrendered fish.
Guano, Bat 6-9-3	3-4	Partially decomposed bat manure found in caves.
Guano, Bird 13-11-2	2-3	Partially decomposed manure of sea birds of South America
Kelp or Seaweed 1-0, 5-9	5	Used fresh as a green manure. Contains a substantial quantity of potash.
Bone meal, raw 4-22-0	5	Main value in nitrogen; most of the phosphorus is insoluble. Exerts little effect on soil pH. It is less dangerous than quickacting fertilizers when used on sensitive plants, such as roses, tulips, etc. Availability of plant food depends upon the fineness of grinding.
Cottonseed meal	3-4	Generally very acid; for acid soil plants. Part of nitrogen and the essential elements are readily available; the remainder become available more slowly.
Hoof and bone meal	2	The steam treated and ground material is an available source of nitrogen.
Cattle manure	20-30	Although manures are generally low in fertilizer, when used in relatively large amounts, they provide many of the essential nutrients for plant growth but are more commonly used to improve soil structure. Damage may occur to plants if too much manure is used, particularly after steaming of the manure.
Horse manure 0.6 - 0.3 - 0.5	10-20	
Chicken manure	10-20	Chicken manure must be used with extreme care and never

0.9 - 0.5 - 0.8		used fresh just prior to planting. Best used after becoming well-rotted.
Oyster shell 0.2 - 0.3 - 0	5	Best for raising pH rather than a fertilizer.
Peat (reed or sedge) 2 - 0.3 - 0.3	5	Best used as a soil conditioner. Breaks down rapidly.
Sewage sludge 2-1-1	5	Be sure that sludge contains no toxic substances.
Sewage sludge, Activated 6-5-0	3-4	Special microorganisms added. Examples are Milorganite (Milwaukee, Wis.), Chicagrow (Chicago, Ill.), and Nitroganic (Pasadena, Cal.).
Tankage 7-14-0	4	By-products of slaughterhouses, processed, dried and ground. Usually used as a top or side-dressing. Must be kept perfectly dry in storage or will decay quickly.

<sup>\*</sup> The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement is implied.

