



Tucson
Organic
Gardeners

soiling our hands since 1971

Manure... Soil Food

Manure is the excrement of animals used to enrich the soil as fertilizer, and was the only fertilizer known until 1940. A farmer using wise management could return to the soil more than 70% of nutrients in manure. Since manufactured fertilizers were introduced, and mechanization was brought to farms, most manure is now produced in feed lots. There manure is considered waste and removed to landfills. Farmers today under utilize manure. The loss of nutrients results for several reasons. It is not applied to the fields in the proper season, manner, or rate, or to the crop which it will most benefit. These facts also translate into direct money loss.

VEGETARIAN ANIMALS

Only manure from vegetarian eating animals should be used on food crops. Bacteria from meat eating animals contain pathogens that cause disease. When animals are fed rich essential elements, the manure is richer. Poultry and sheep manures are "hot" because they are richer in nitrogen than cow or horse manure. Not only does manure provide the three well known elements, NPK, it also adds organic matter and trace minerals. Bagged fertilizer, on the other hand, has none of these qualities. Poultry manure supplies 30% nitrogen, (N), 14% phosphate, (P), and 7% potash (K). Horse manure has 45% N, 5% P, and 13% K. Sheep manure has 23% N, only 7% P, but 22% K. Here in the West, most cow manure contains too much salt to be used.

Depending on what nutrient the soil lacks, a mixture of manures could be the answer. Also this information points out that fresh manure should never be used in gardens UNLESS it is worked into the soil for weeks before planting. Soil mixed with manure will slow fermentation and lessen the danger of overheating

DRY MANURE.

Manure can dry to the point of having little nutrient value. When it has turned white, most of the nitrogen has evaporated. Manure sold in bags has lost most of its heating capacity because of the drying and shredding process. Use it sparingly on perennials, but even small amounts may generate heat and the plant could die. Otherwise handle it as one would fresh manure. Also manure in bags could contain harmful salts.

The safest way to use manure in the home garden is to add it to the compost pile. Composted manure is richer in plant nutrients than fresh manure. All the heat is removed from manure when it has been composted, and in most cases the alkalinity has also disappeared. Since fresh manure contains up 80% water, let it dry out for a few weeks. It could clump and prevent air from passing through the pile. Fresh manure can also kill beneficial organisms, both micro and macro, such as earthworms. Well-rotted manure is not nearly as smelly as fresh. Mix poultry manure and its litter with the same amount of soil and compost it before applying. Since poultry manure is so hot, it will decompose newspaper fast. Many times weed seeds are not killed in the pile. Therefore do not use range fed animal manure.

QUALITY

Manure varies greatly in quality according to the bedding supplied. When sawdust is used for bedding material, the unrotted wood waste gives off harmful acids and encourages fungous growth. Straw makes the best manure for general purposes. Also straw benefits the soil. Manure saturated with urine is useful in hotbeds and mushroom farming.

In the garden, Curcubitaceae such as melons, squash and cucumber, like a large shovelful of fresh manure in the bottom of the hill. This method should not be used except for this kind of rampant-growing annuals. Corn and leafy crops such as lettuce, spinach and chard should be given more composted manure than root crops. Carrots and beets are best not manured at all. Potatoes need a small amount of composted manure

WHEN TO USE.

Use composted manure on deciduous trees and shrubs. If fresh manure is placed in the bottom of a hole when transplanting any woody plants, the quick growth could mean disaster to the plant. It should be spending its energies on root-growth to prepare for either drought or frost, not on increasing top growth. Flowers such as iris and delphinium are subject to root-rot, so manure should be used sparingly. Annuals thrive best when heavily manured. Only use composted manure as top dressing on transplanted shrubs and trees. Use poultry litter to mulch blackberries and raspberries. Please remember, even well rotted manure used as mulch will nourish and encourage weeds as well as crops.

Treat rabbit manure the same as poultry manure. Guano is the accumulated deposit of the droppings of seafowl and bats. It is highly concentrated manure.

Rock phosphate and gypsum scattered lightly over fresh manure in the compost pile not only add their own fertilizing value to the value of the manure, but prevent the escape of important nitrogen compounds.

GREEN MANURE

Green manure means one grows a crop to turn under to rot in the soil. Cowpeas or vetch planted in the vegetable garden when it is idle adds more nitrogen to the soil through the action of beneficial bacteria in their roots.

Ruth Stout wrote a most wonderful book, *How to Have a Green Thumb Without an Aching Back*, in 1955. If you get a chance to purchase it at a used bookstore, I highly recommend it. Just a quote or two. "No poet I've ever heard of has written an ode to a load of manure. Somebody should, and I'm not trying to be funny. You take your pitchfork and lift off a big hunk of the rich, gorgeous smelly stuff and bring to light a colony of earthworms. It would be difficult to think up anything more repulsive-looking than a lot of earthworms wriggling around in moist manure. My respect for their role in the scheme of things overshadows my distaste. A poet might say; 'We need you more than we need flaming sunsets or sweet lilacs or graceful deer. Must you have beauty also?'"

*Sources of information: The Encyclopedia Of Organic Gardening by the staff of Organic Gardening magazine; Let It Rot by Stu Campbell; The Wise Garden Encyclopedia, edited by E. L. D. Seymour, BSA.
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