

## NATURAL SOURCES OF PLANT NUTRIENTS

For those of you who use organic material with which to fertilize, the following is a partial list and their approximate nutrient levels. There can be minor variations due to packaging, handling, growing conditions, etc.

SOURCE		PER CENT COMPOSITION					
Rate of Availability		N	P	K	Ca	Mg	S
<b>ANIMAL MANURES</b>							
M	Cattle (fresh)	0.3 - .6	0.1 - .3	0.2 - .5	0.3		0.1
S	Cattle (dry)	1 - 2	0.7 - 3	1.5 - 3			
M-R	Chicken (fresh)	0.9 - 1.5	0.5 - 1	0.5 - .8	0.4		0.1
M-R	Chicken (dry)	2 - 6	2 - 4	1 - 3			
	Duck (fresh)	0.6 - 1	1.4 - 1.5	0.5			
	Goose (fresh)	1	0.5	0.5			
M	Horse (fresh)	0.3 - .7	0.1 - .3	0.5 - .6			
S	Mushroom Compost	0.4 - .7	57 - 62	0.5 - 1.5			
	Rabbit (dry)	2.3 - 2.4	1.4	0.6 - .8			
	Sheep (fresh)	0.6 - 1	0.3 - .7	0.7 - .9	0.2		0.1
	Sheep & Goat (dry)	1.4 - 2	1 - 1.5	2 - 3			
<b>ANIMAL TANKAGE</b>							
M-R	Bloodmeal (dry)	7 - 15	1.3 - 2	0.6 - 1			
S	Bonemeal (raw)	2 - 6	15 - 27	0			
S-M	Bonemeal (steamed)	0.7 - 5	15 - 34	0 - .2			
S	Egg Shells	1 - 1.2	0.4	0.1	HIGH		
	Fish Emulsion	5 - 10	1 - 3	1 - 2			
	Fish Meal (dry)	10	4	0			
S	Fish Scrap (dry)	3.5 - 12	1 - 13	0 - 3.8			
M	Tankage (dry)	5 - 10	6 - 10	1 - 0.5			
R	Urea	42 - 46	0	0			
<b>PLANT RESIDUES</b>							
	Alfalfa Hay	2.4	0.5	2.5			
	Barley Hay	1.2	0.5	1.6			
	Cantaloupe Rind		9.8	12.2			
	Clover Hay	1.7 - 3.1	0.5 - 1	1.8 - 3.5			
S	Cocoa Shell Meal	1 - 2.5	1 - 1.5	2.5 - 2.7			
	Coffee Grounds (dry)	2	0.3 - .4	0.3 - .7			
S	Compost (unfortified)	1.5 - 3.5	0.5 - 1	1 - 2			
	Corn cobs			50			
S-M	Cottonseed Meal (dry)	6 - 9	1 - 3	1 - 2			
VS	Garbage Tankage (dry)	1.5 - 2.9	1.1 - 3	0.7 - 2.2			
	Grapefruit Rinds		3.6	30.6			
S	Kelp (seaweed)	0.9 - 3.3	0.5 - 2	3 - 13			
	Leaves (various)	0.7 - 1.4	0.1 - .3	0.1 - .6			
	Oat Hay	1.3	0.5	1			
	Orange Rinds		2.9	27			
VS	Peat & Muck	1.5 - 3	0.2 - .5	0.5 - 1			
	Ryegrass Hay	1.3	0.5	1.2			
	Rye Straw	0.5	0.2	1.1			
VS	Sawdust	4	2	4			
S-M	Soybean Meal (dry)	6 - 6.7	1 - 1.6	2 - 2.3			
	Sweet Corn Fodder	1.5	0.4	1.2			
	Wheat Hay	1	0.4	1.8			
	Wheat Straw	0.6	0.1	1			
R	Wood Ashes (unbleached)	0	1 - 2	3 - 10	23		
<b>PULVERIZED ROCK</b>							
	Basic Slag	0	8 - 17	0	33 - 41.6	3.4 - 6.1	3
	Dolomitic Limestone	0	0	0	22	13	
	Epsom Salts (Mg sulfate)		0	0		9.6	13
	Granite Meal			3 - 5			
	Greensand (glauconite)		1.3	4 - 9.5		1.6	
	Gypsum (calcium sulfate)				22.3 - 32.6		18.6
	Limestone (Ca carbonate)				40		
	Rock Phosphate (apatite)		20 - 41	0			
<b>SEWAGE SLUDGE</b>							
M	Activated (dry)	2 - 6.4	2.5 -	0 - 2			
S	Digested (dry)	1 - 3	0.5 - 4	0 - 1			
S	Chicago (digested)	1.4 - 8.8	1.5 - 11.1	0 - 0.1	0 - 2.4	0.4 - 2	
S	Deerfield (digested)	1					
M-R	Milorganite (act.)	6	2	0.3	0.7	0.3	
M	Tex-Organic (act.)	4.2 - 4.8	6 - 6.7	0.5	3.9 - 4.4	1	

Rate of availability: S=slow; M=moderate; R=rapid; VS=very slow

Headings: N=Nitrogen; P=Phosphorus; K=Potassium; Ca=Calcium; Mg=Magnesium; S=Sulfur