Msg # 5151

Date: 03 May 93 20:36:00

From: Jeff Burns

To: Anyone Interested

Subj: Plant Accumulators

AREA:SUST_AG

MSGID: 1:346/16.0 2be5ba8c

Well I feel like writting and since I haven't recieved any mail lately (yeah I know I have to write to recieve), I thought I would put out some more information. Hope it helps.

Plant Accumulators

A plant accumulator is a crop that is grown specifically to take nutrients out of the soil or the air and make them avalible for future crops.

The following list are in order of plants that "fix" the most amount of the nutrient to the least amount of the nutrient. I.E. Alfalfa fixes more nitrogen than Sweet Clover.

Nitrogen:

(All legumes should be innoculated with proper rhizobial bactrium).

Alfalfa

Sweet Clover

fenugreek

clovers

pea

vetch

sweetpea

lentil

beans

lupines

serradella

soybean

cowpea

lespedeza

crotalaria

kudzu

peanut

lima bean

Zinc:

Corn

ragweed

horsetail, scouring rush

vetch

alfalfa

Phosphorus:

hemp

mustard

flax

alfalfa

sweet clover

lupin

swedes, rutabaga

turnip

mustard

buckwheat

millet

henbane

jimson weed

Chrysanthemum segetum

field sorrel

horseradish

German chamomile

plantain

knapweed

parsnip

Calcium:

melon

lambs quarter

dandelion

alfalfa

burnet

plantain

buckwheat

broom (grows in very acidic soil)

oak

nettle

horseradish

German Chamomile

cactus

yarrow

onion

broom shrub

English daisy

foxglove

yellow locust

dock

mustard

flax

poppy

hemp

--- Maximus 2.00

 * Origin: King Morpheous BBS - Dedicated to the Family Farm - (1:346/16)

SEEN-BY: 105/200 334 138/112 346/10 16 352/11 409 410 777

PATH: 346/16 10 105/200 334 138/112 352/11 409 410

Msg # 5152

Date: 03 May 93 20:55:00

From: Jeff Burns

To: All

Subj: plant accumulators part 2

AREA:SUST_AG

MSGID: 1:346/16.0 2be5bef8

Boron;

soybean

sweet potato

sunflower

alfalfa

clover

vetch

muskmelon

Sodium

seaweed

lettuce

shepards purse

Silicon

horsetail

rice-hulls

Spanish Moss

foxglove

dandelion

Chrysanthemum seqetum

dock

yarrow

stinging nettle

Urtica urens

fern

moss

onion

wheat

Iron:

Stinging nettle

cleavers (goosegrass, bedstraw, sweethearts)

parsley

Spanish Moss

oak

Acacia cebil

pine

salsify

parsnip

beet

radish

Potassium

Sweet clover

beet

german Chamomile

yarrow

rice-hulls

comfrey

tea

braken fern

flax

Manganese

foxglove

grape

tea

Lead

hard fescue

Randia dumetorum

Magnesium

beet

European beech

birch

Prunus

maple

heather

Scrophularia nodosa

potatoe (just for the memories)

chickenweed (chickweed)

holly

Herniaria glabra

Spiraea ulmaria

Chrysanthemum segetum

dock

seaweed

fir

almond

cotton

flax

corn

Copper

oats

broadbeans

barley

wheat

rye and finally potatoes.

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Msg # 5153

Date: 03 May 93 21:09:00

From: Jeff Burns

  To: All

Subj: Phosphorus

AREA:SUST_AG

MSGID: 1:346/16.0 2be5c266

Sources of Phosphrus (greater than 1%)

Ground bone, burned	34.70
Bone meal	21.00
Animal tankage	20.00
Fish Scrap (red Snapper)	13.00
Dog manure	9.00
Tankage	8.00
Incinerator ash	5.15
Lobster shells	3.52
Activated Sludge	3.00
Dried Blood	3.00
Cottenseed meal	2.50
Hoof and horn meal	1.75
Hen Manure (fresh)	1.54
Castor pomace	1.50
Wood Ashes	1.50
Greensand	1.50
Bloodmeal	1.30
Coca shell dust	1.49
Cottonseed	1.25

Mineral

Rock:

Rock Phosphate	30-50%
Colloidal Phosphate	18-30%

--- Maximus 2.00

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Msg # 5154

Date: 04 May 93 08:06:00

From: Jeff Burns

To: All

Subj: More stuff

AREA:SUST_AG

MSGID: 1:346/16.0 2be65c3c

Summary of Roles of Mineral Elements in Plant Nutrition

Primary Nutrients

Element: Nitrogen

Function in Plants: Synthesis of amino acids, proteins, chlorophyll, nucleic

acids and coenzymes.

Forms in the soil: Organic compounds, nitrites, nitrates, and ammonium (soluble forms).

Deficiency Symptoms: Stunted growth, thin stems, delayed maturity, light green leaves: lower leaves turn yellow and die (chlorosis).

Losses from soil: Erosion, leaching, crop removal.

Organic Fertilizers: Legume crops; animal manures, crop residues, animal waste.

Natural sources: Organic matter; atmospheric nitrogen fixed by microbes; small amounts disolved in water.

Deficiency may be induced by excess of: Carbon, phosphorus

Excess may induce a deficiency of: Phosphorus

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Element: Phosphorus

Function in plant: Used in proteins, nucleoproteins, metabolic transfer processes, ATP, ADP, photosynthesis, and respiration. Component of phospholipids.

Forms in the soil: Organic compounds; soluble phosphates; insoluble compounds of iron, aluminum, manganese, magnesium, and calcium.

Deficiency symptoms: Purplish leaves, stems, and branches; reduced yeils of seeds and fruits, stunted growth, stunted roots.

Losses from soil: crop removal, fixation in soil. Reversion to unavailable form in soil.

Natural sources: Organic matter; mineral powders; some parent materials, animal manures.

Deficiency may be induced by excess of: Calcium, nitrogen, iron, aluminum, manganese.

Excess may induce a deficiency of: Zinc, copper, nitrogen.

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Element: Potassium

Function in plant: Sugar and starch formation, synthesis of protiens. Catalyst for enzyme reactions, neutralizes organic acids, growth of meristemtic tissue.

Forms in soil: Available as K+ on cation exchange sites or in soil solution. (less than 1% of total soil K+ is in avalible form).

Deficiency symptoms: Reduced yields; mottled, spotted or curled older leaves;

marginal burning of leaves; weak root system, weak stalks.

Losses from soil: Crop removal. Soil fixation, leaching.

Natural sources: Feldspars; mica; granites; certain clays.

Deficiency may cause an excess of: Magnesium, calcium, ammonium.

Excess may induce a deficiency of: Magnesium, boron

Secondary Nutrients

Element: Calcium

Function in plant: Cell walls, cell growth and division; nitrogen assimilation. Cofactor for some enzymes.

Forms in soil: Most is present as Ca++ ion on cation exchange sites, or in soil solution.

Deficiency symptoms: Deformed terminal leaves, reduced root growth. Some plants turn black, dead spots in midrib in some plants. Failure of terminal bud.

Losses from soil: leaching, crop removal.

Natural sources: Dolomite, calcite, apatite, calcium feldspars.

Deficiency may be induced by excess of: Aluminum

Excess may induce a deficiency of Magnesium, potassium, iron, manganese, zinc, phophorus, boron.

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PATH: 346/16 10 105/200 334 138/112 352/11 409 410

Msg # 5155

Date: 04 May 93 22:23:00

From: Jeff Burns

To: All

Subj: More stuf part 2

AREA:SUST_AG

MSGID: 1:346/16.0 2be72514

Secondary Nutrients (cont.)

Element: Magnesium

Function in Plant: Essential in chlorophyll, formation of amino acids and vitamins. Neutralizes organic acids. Essential in formation of fats and sugars. Aids in seed germination.

Forms in soil: Present as Mg++ ion on cation exchange sites, or in soil solution.

Deficiency symptoms: Plants usually chlorotic (interveinal yellowing of older leaves); leaves may droop.

Losses from soil: Leaching, plant removal, and erosion. Some losses by fixation to unavailable form in acid peaty soils.

Natural Sources: Mica; hornsblende; dolomite; serpintine; certain clays.

Deficiency may be induced by excess of: Calcium, potassium, ammonium.

Excess may induce a deficiency of: Potassium, zinc, boron, manganese.

Element: Sulfer

Function in plant: Essential ingrediant in amino acids and vitamins. Flavors onions and cruciferous plants. Necessary for oil formation and nitrogen fixation by legumes.

Forms in soil: Organic compounds; soluable sulfates, sulfites, and sulfides.

Deficiency Symptoms: Light green leaves, reduced growth, yellowing of leaves. Weak stems. Similar to Nitrogen deficiency.

Losses from soil: Erosion, leaching, crop removal.

Natural sources: Organic matter, atmospheric sulfer fixed by microbes;
pollutants in rain water.

Deficiency may be induced by an excess of: Carbon, Nitrogen

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PLANTING BY MOON PHASE

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Planting seeds by the phase of the moon is a controversial aspect of the
biodynamic/French intensive gardening method.

Short and slow germinating seeds are planted two days before the New
Moon, when the first significant magnetic forces occur, and up to seven
days after the New Moon.
Long germinating seeds are planted at the Full Moon and up to seven days
afterward. Seedlings are transplanted at the same time. Both planting

periods take advantage of the full sum of the forces of nature, including gravity, light, and magnetism. The greatest sum of increasing forces occurs at the New Moon. The lunar gravitational pull which produces high tides in the oceans and water tides in the soil is very high. During the first seven days of the New Moon, the lunar gravitational pull decreases and the amount of moonlight increases, causing plants to undergo a period of balanced growth. The decreasing lunar gravity (and the corresponding increase in earth gravity) stimulate root growth. At the same time the increasing amount of moonlight stimulates leaf growth.

Phases and their actions:

2 days before New Moon
Plant short and extra long germinating seeds (most vegetables and seeds)

New Moon (first seven days)
Balanced increase in rate of root and leaf growth.
Moonlight +
Lunar Gravity -

First Quarter (second seven days)
Increased leaf growth rate.
Moonlight +
Lunar Gravity +

Full Moon
Transplant seedlings from flats into beds and plant long germinating seeds (most flowers) into flats or beds.

Full Moon (third seven days)

Increased root growth rate.

Moonlight -

Lunar Gravity -

Fourth Quarter (fourth seven days)

Balanced decrease in rate of root and leaf growth (resting period).

Moonlight -

Lunar Gravity +

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