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.

--- 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 # 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
 * 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 # 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

--

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.

--

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.

--- 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 # 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

--- 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

==========

PLANTING BY MOON PHASE

==========

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 +

==========