

Ch 1

Wednesday, August 20, 2008

1:16 PM

Horticulture

Hortus - garden
Culture
Cultivate

Pomology - tree fruits

Olericulture - vegetables

Floriculture - Flower

Landscaping + Nursery

Jobs

GH.

Grounds Keeper

Golf Course Employee

Park Employee

Opportunities

Opportunities

Selecting a Career

ch. 2

Thursday, August 30, 2007
8:51 AM

Plant Taxonomy

Linnaeus - Binomial System

Genus species

Acer - maple
rubrum - red

Pinus - pine
Alba - white

Betula - Birch
lutea - yellow

Quercus - Oak
rubra - red

Q.

T .1

Family

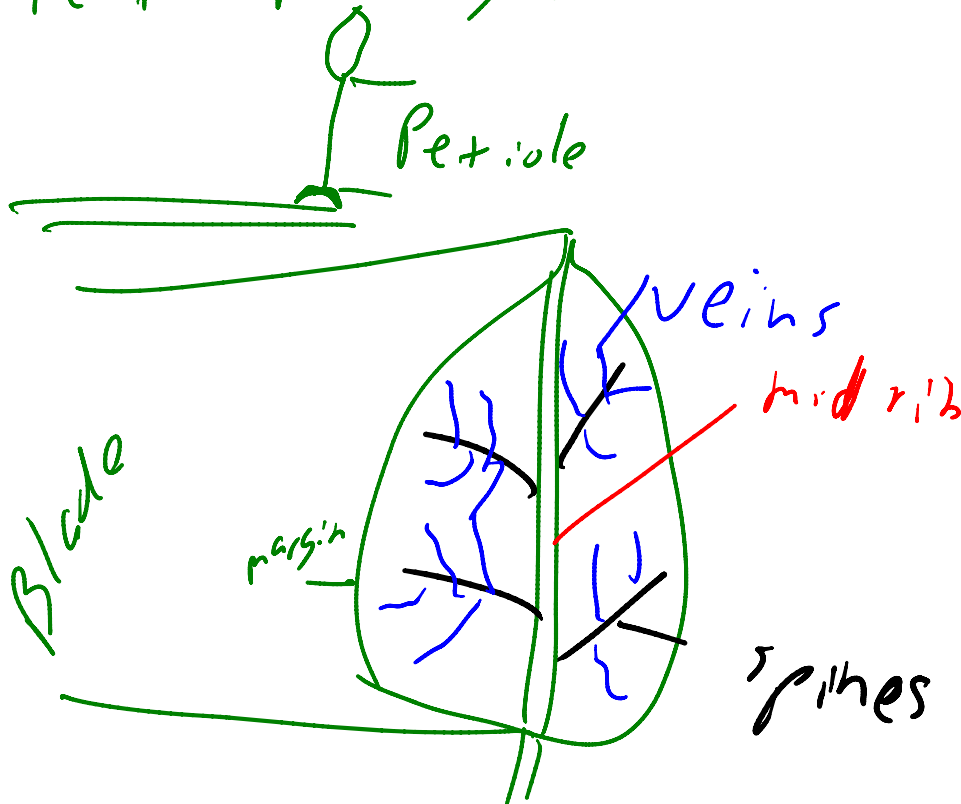
Rosaceae - Roses, plums,
Strawberry, bramble, Apples

TAXONOMIST

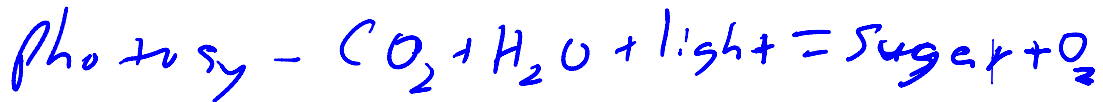
BOOK OF BOTANICAL NOMINCLATURE

Plant Parts & Functions

leaf - photosynthesis

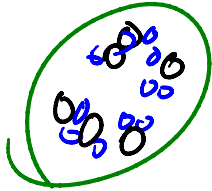
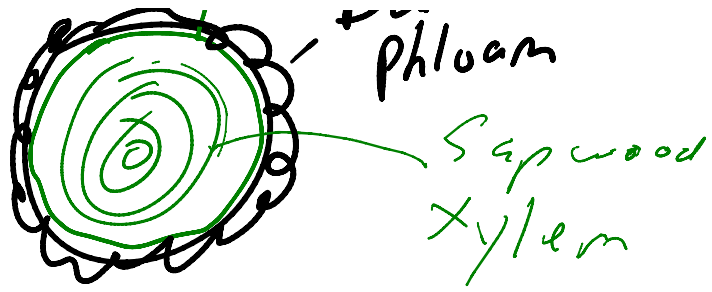


Stoma / stomas
transpire



Respiration

Stems Cambium
 | bark



Roots

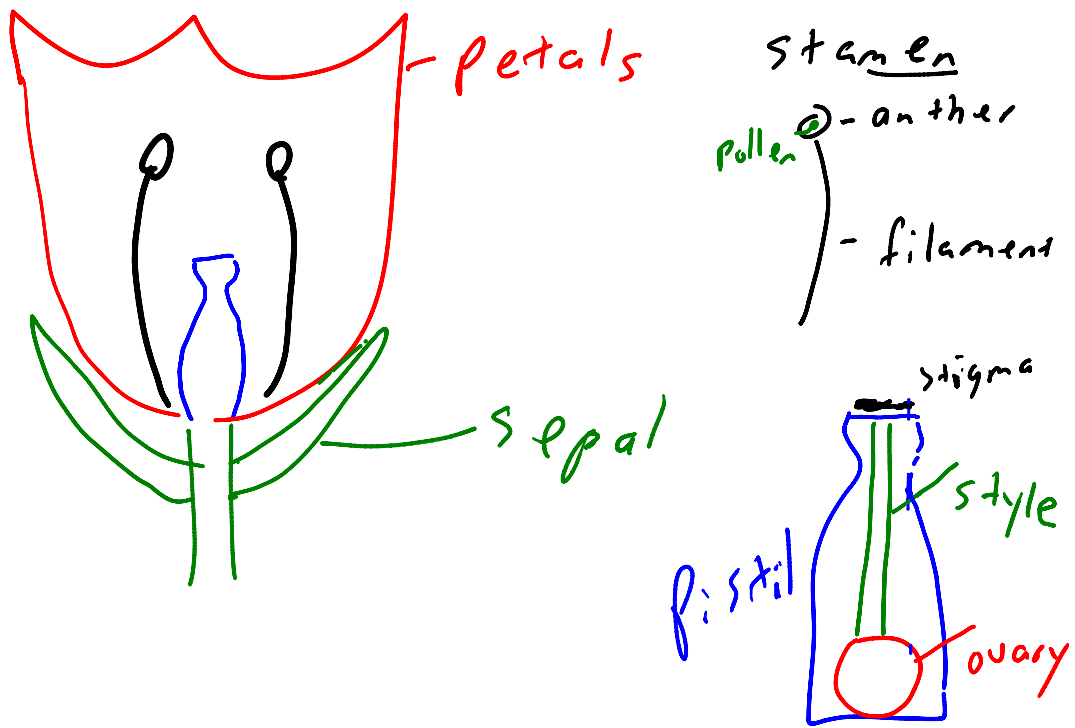


Fibrous
grasses

Tap
Dandelion
Alfalfa

Flowers

sepal, petal, stamen, pistil.



Complete flower
 Incomplete flower

Environment - Above
Below

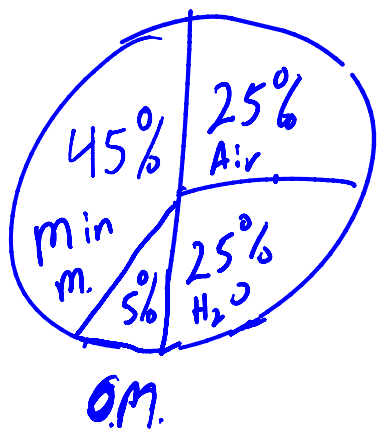
Water
Nutrients - N-P-K
pH
temp

N-P-K
18-4-2

Underground

TOP 24" - Rhizosphere

Soil - medic or medium



Water
Gravitational -
- "

Capillary

15 atmosphere
200 psi

Sterile Soil - heat 180°F
for 30 min

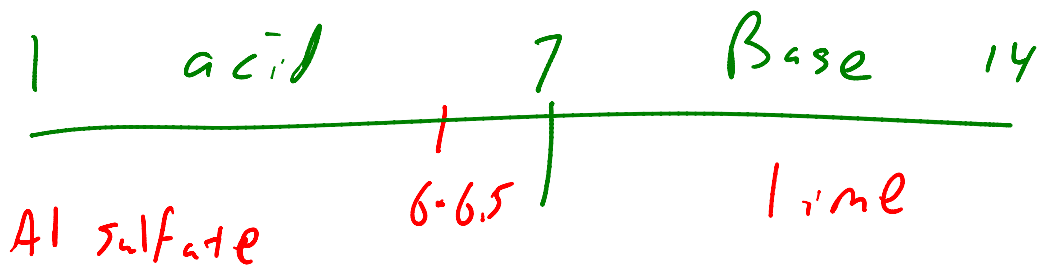
Fert.

N - grasses

$$\begin{array}{r} 100 \\ \times 100 \\ \hline 10,000 \text{ sq ft} \end{array}$$

$$1 \text{ Acre} = 43,560 \text{ sq ft}$$

Soil Acidity - pH



Above Ground

1 . . .

light

Temp

Insects + Diseases

Gases + Air particles

Humidity - 40-80%

Adaptability - Zone 5

Growth Regulators

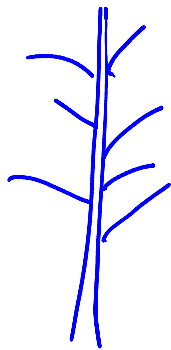
Wednesday, September 12, 2007

2:01 PM

Growth Regulators

1. Auxins
2. Gibberellins -
3. Cytokinins -
4. Inhibitors

Apical Dominance



Stimulant

Gibberelic Acid
Alfalfa

Chem. Retardant

PCP - grass

Cycocel
R. nino

A. Rest
Phosphon

B nine

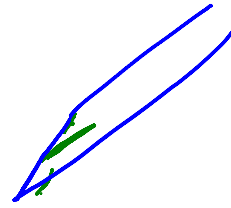
1500 ppm

Rooting Hormones

Indolbutyric Acid - 99.7% inert

Dwarfing

rooting Stock



Allelopathy - plant chem. slows
or stops growth of another plant

Test review

Pomology - tree fruits

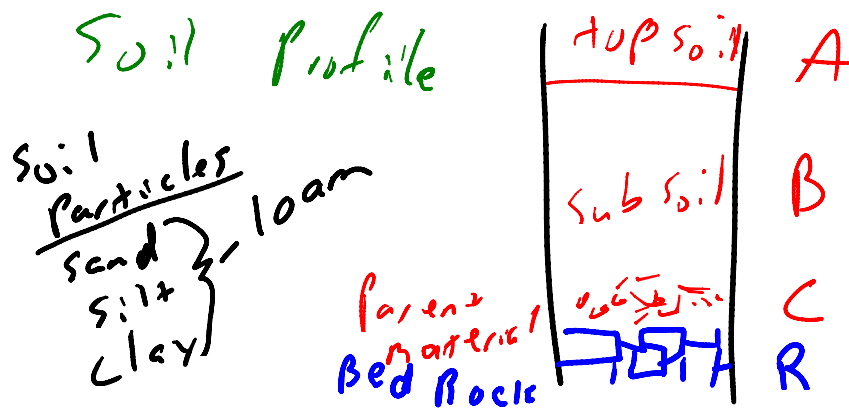
Olericulture - Veggies

Floriculture - Flowers

male - stamen

female - pistil

Sandy soils - good drainage + aeration
lg particles low OM



Horticulture.

Hortus culture

garden
cultivation

Food & O₂

Plants to us

Cool - shade
warm - wind block
prevent Erosion
provide Beauty
perfume air
building supplies

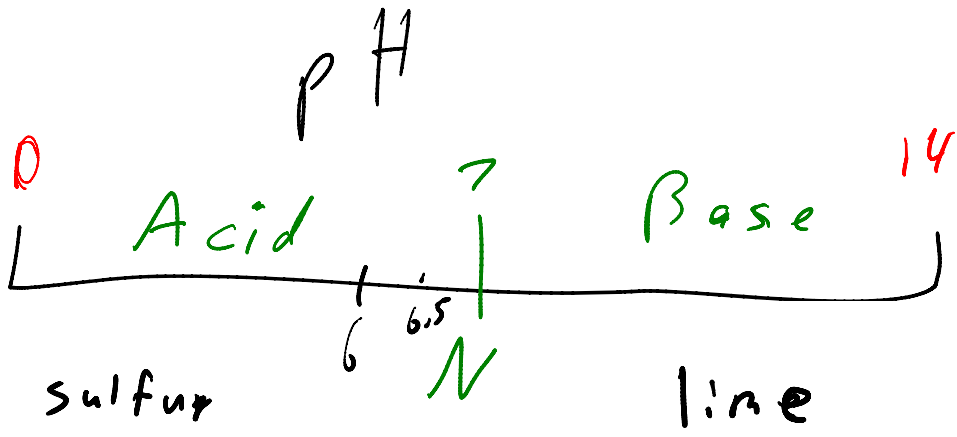
Plant

roots
stems
leaves
flower

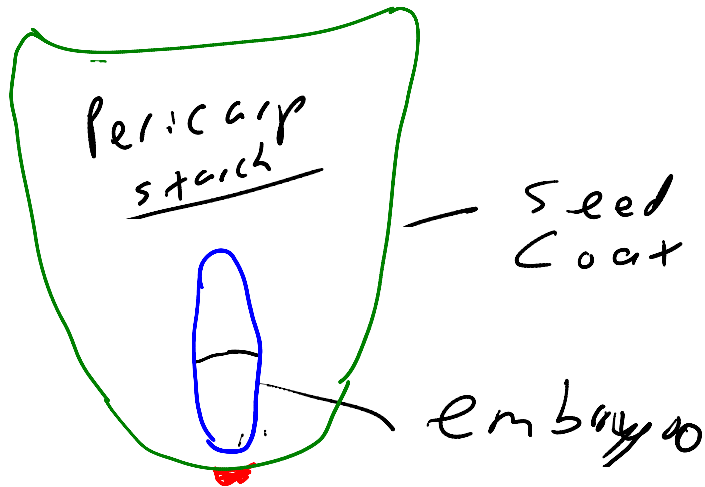
Flower

sepal
petal
stamen
pistil

pH

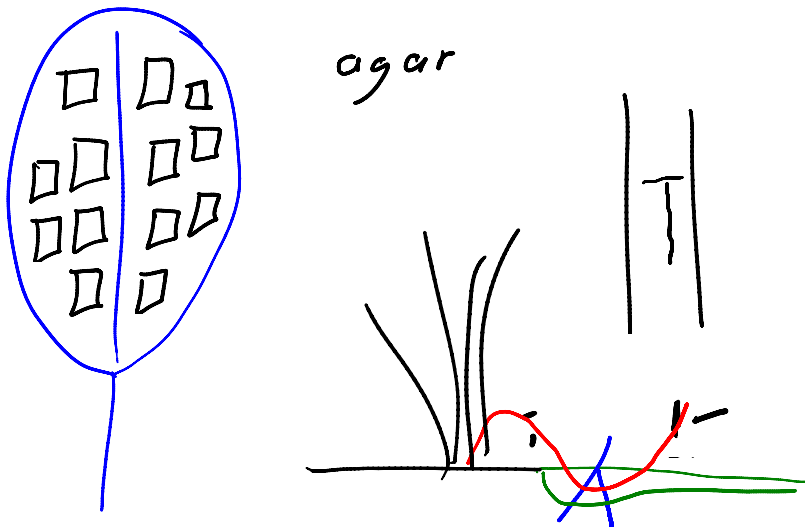


Seeds



Propagate - to grow

Sexual - male + female - seeds
asexual - vegetative repro.



Germination - seed actively begins to grow

Sprouting - plant emerging

Seed treatment - Captan

Annual - seed - flower - die 1 growing season

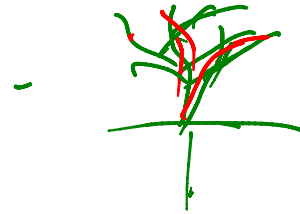
Biennial - seed - winter over -
flower - die

Perennial - come back every year

Monocot
grasses



Dicot
broadleaf

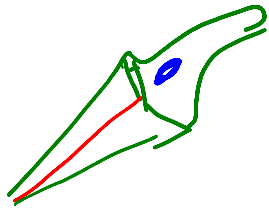
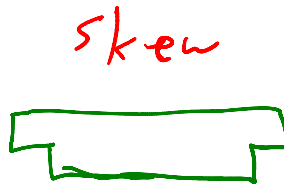
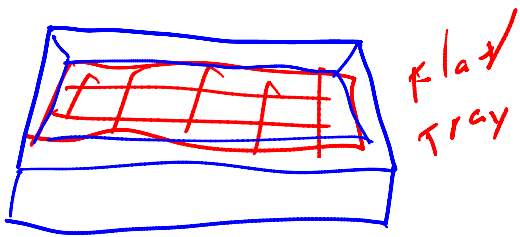


Vigor

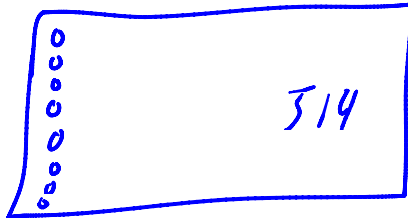
Media - Soilless
Sphagnum moss

Jiffy Mix

Indirect Seeding



plug s-

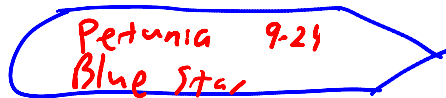


Germ

moisture
Heat
Air

when to seed

label

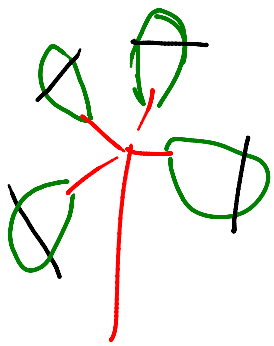
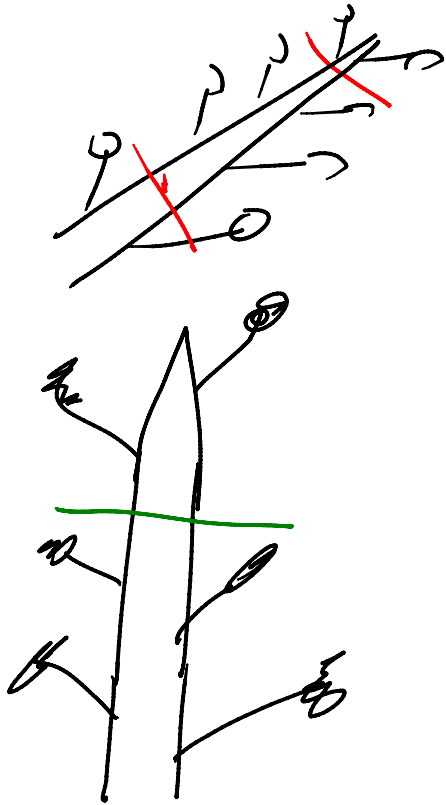


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o o	o o				o o
o o	o o				

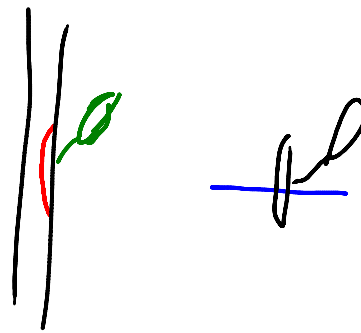
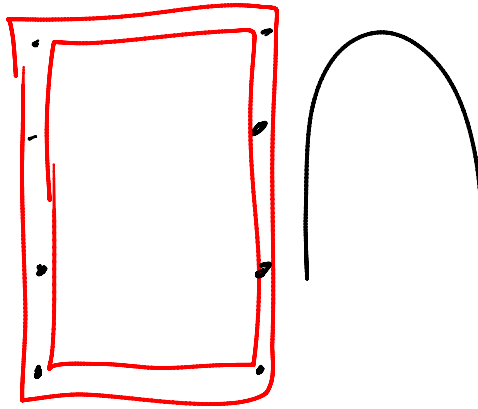
Cuttings

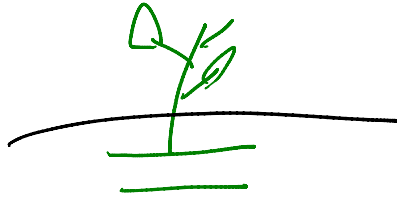
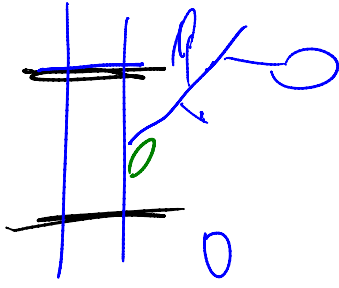
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Cuttings - asexual Reprod.



Perennials





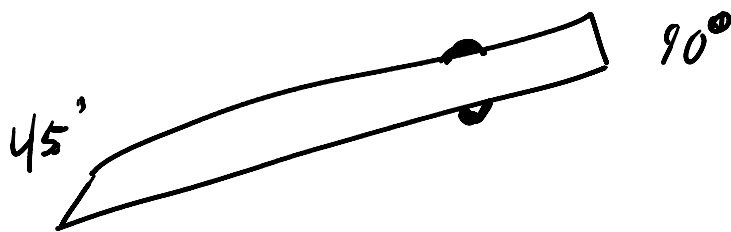
4'

Friday, September 28, 2007
2:48 PM

Hardwood Cuttings

dormant

Storage



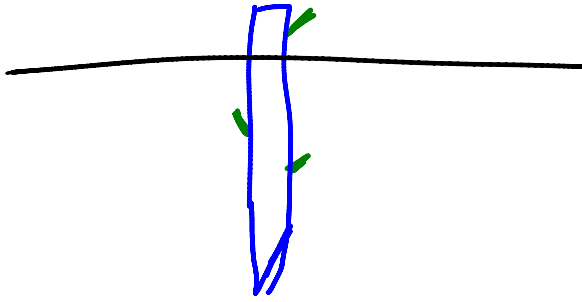
6-8" long

over cut - Callus

Store 4 wks
remainder

50-55° F
32-40° F

Lining Out

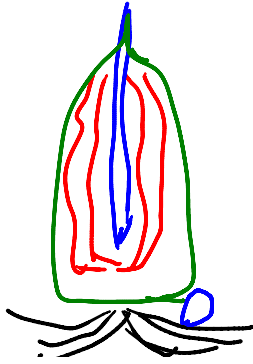


60 - 80% should root

Separation + Division

Monday, October 01, 2007
2:48 PM

Separation - Natural
bulbs + Corm



baby bulb
bulblet

Single nosed - leaves

double nosed - Flowers

Corms -  Cormlets

Division - iris, potato, Sweet potato

Rhizome - underground horizontal stem

IRIS

Tuber - Potato
modified stem

Tuberous Roots = Sw. Potato

Research Plants

Bulbs

tulip
Amaryllis
lily
daffodil

Tubers

Peony
Irish Potato

Corms

gladiolus

Tuberous Roots

Dahlia

Gloxinia
Bleeding Heart
Sweet Potato

Rhizome

Iris
Canna
Calla lily

Grafting

(1000 B. C.
Romans)

physical union cambium
grow layer

match - compatible
Apple - Apple

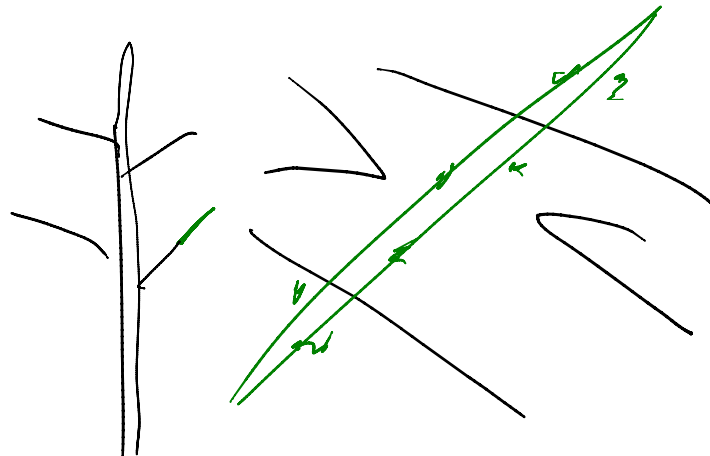
plant A. - root stock
B. - Donor - scion

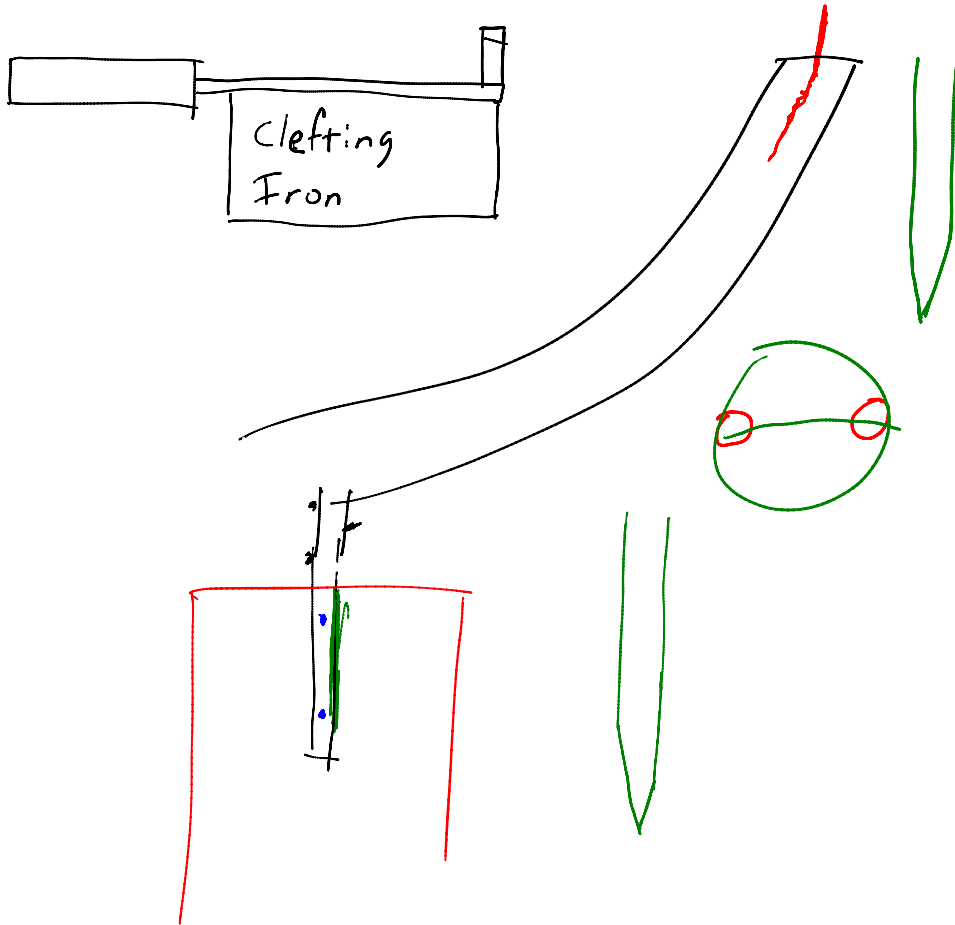
time - early spring - March

maturity 

Whip & tongue 

Cover with 1/2" plastic tape for
1 yr.



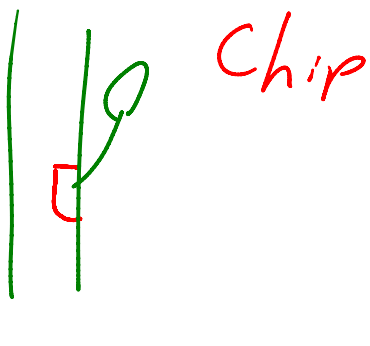
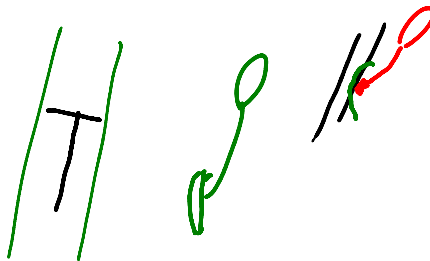


Budding

leaf Buds

T-Budding

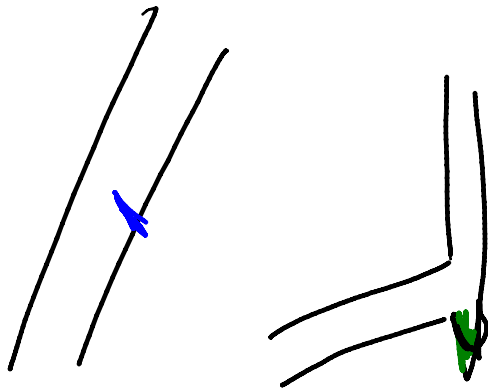
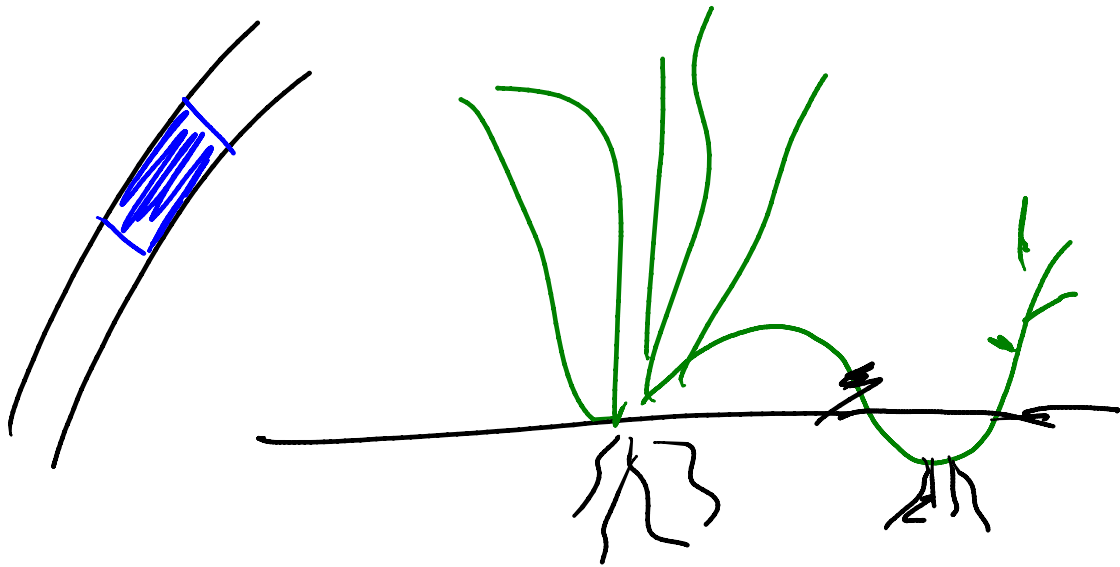
Grafting knife

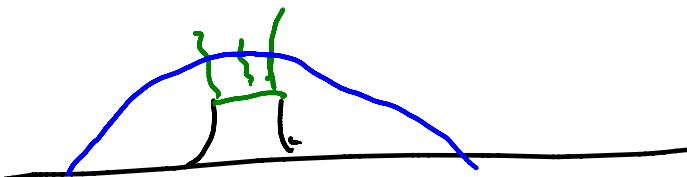
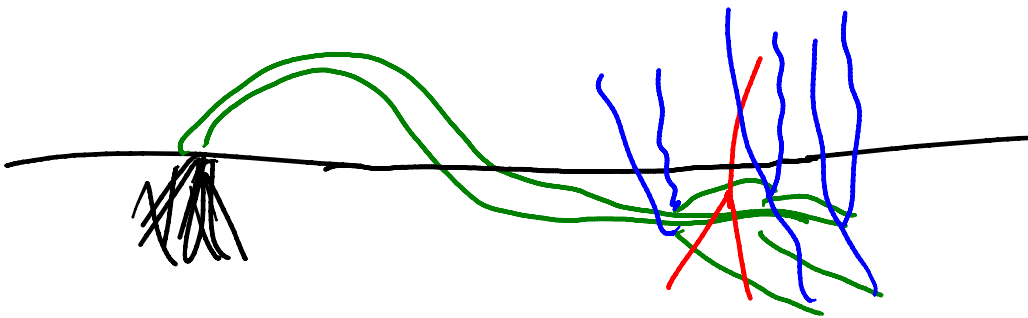
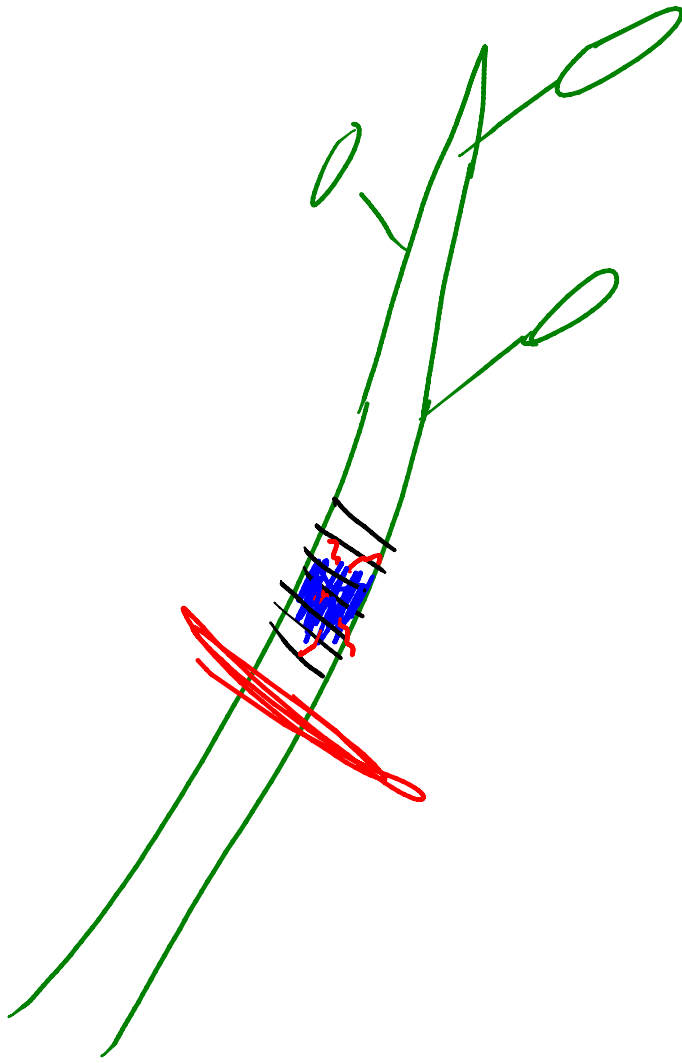


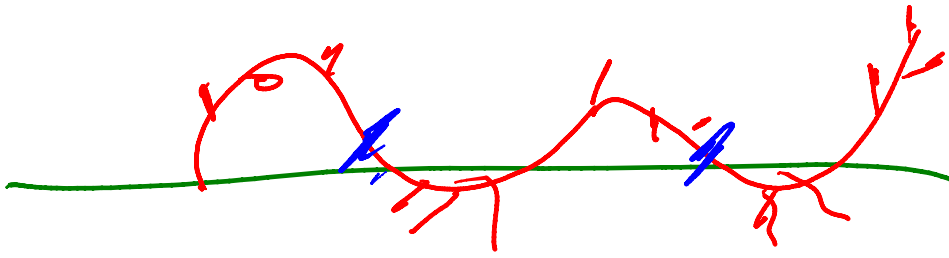
Layering

Friday, October 12, 2007

2:48 PM







Poinsettia

Tuesday, October 16, 2007

3:00 PM

J. R. Poinsett

flower - yellow

bracts - give color

pests -

white fly △

Mums

Monday, October 22, 2007

2:54 PM

Short day plants

Response time

8, 10, 12, 14 week variety

Starter Plants

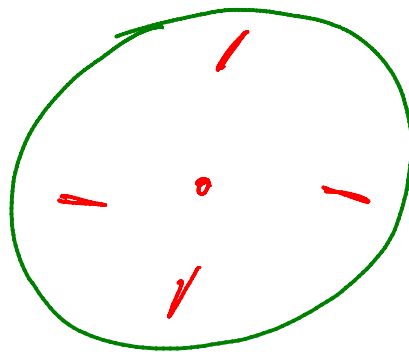
GH

Growing

Schedule

Date of Sale

Pot,



Uneven bed set - improper temp

Fert

15-10-30

N - P - K

Growth Reg.

B-Nine + A-Rest

PINCHING - APICAL DOMINANCE

Spacing-

Easter Lilies

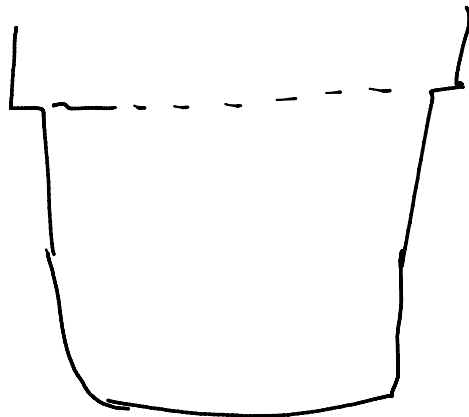
Tuesday, October 23, 2007
2:50 PM

Varieties

Ace

Nellie white

Michigan



Night temp 60°F
day temp 76°F

Kill Fungus: - Chlorox 1:9

Tomato V FN

Endophyte - Fungus or Bacteria
that live in plants

Bacillus Thuringensis
Bt

Near tree

Metamorphosis

Complete - Butterfly
incomplete - Grasshopper

Crop Rotation

Hand Picking

..

Allelopathy - black Walnut

Safe use

Monday, November 12, 2007

2:46 PM

Toxicity -

how poisonous


oral
dermal
inhalation

Acute

Chronic

LD - lethal Dose

Signal Words

I	Danger		0-50
II	Warning		50-500
III	Caution		500-5000
IV	Caution		↑ - 5000

Dr. F +

TYPES

INSECTICIDE

MITICIDE

FUNGICIDE

HERBICIDE

RODENTICIDE

NEMATOCIDE

MOLLUSCICIDE

Insecticides

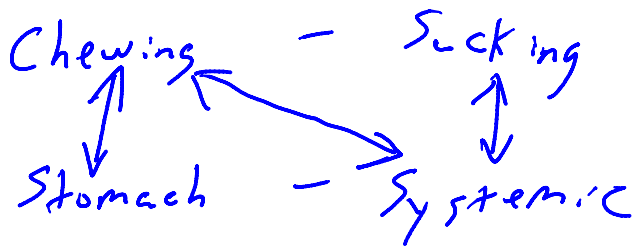
Thursday, November 15, 2007
2:52 PM

Insect - 3 body parts

Head

Thorax - legs

Abdomen



Fumigant - Fumes or gas

Repellent.

Attractant

Chem.

Inorganic Compound - mineral origin

Organic Compound - living

Synthetic Organic Compounds -

Chlorinated Hydrocarbons
residual control - DDT

Organophosphates - 15-30 days

Carbamates - 2-7 days

Applications

Dusts

WP

Emulsifiable Concentrate

Granules

Baits

Aerosols

Spikes

Before you spray
ID the pest

Fungicides, Rodenticides, etc.

Monday, November 19, 2007

2:48 PM

Fungicides - prevent germ. of spores

Fungi - tiny non-green plants

rusts, mildew, molds, smut

damping off.

Rodenticides - baits - stomach
poison. / Warfarin

Molluscicides -

snails - slugs

Nematocides -

Herbicides

Tuesday, November 20, 2007

2:52 PM

Types -

Selective - 2,4-D

non- II - Round-up

Applying Chem - preplant, pre-emergence, Post-emergence

Atrazine - prevent photosynthesis

2,4-D = causes abnormal growth

Dacthal - destroys sprouting seeds

Calibration -

ex - 1 pt / Acre

garden - $10 \times 45 = 450 \text{ sq}'$

43,560 sq ft / Acre .0103 A

16 oz / pt

.16 oz

1. measure $10' \times 10' = 100 \text{ sq}'$

Drift - mist carries on wind

Breaking down by Microorganism

CALIBRATION WORKSHEET

Wednesday, November 18, 2009
12:28 PM

CALIBRATE THE FOLLOWING

LABEL CALLS FOR 16 OZ OF
CHEMICAL/ACRE. HOW MUCH CHEM.
WILL YOU USE ON 5000 SQ FT.?

YOUR SPRAYER HAS A 24 FOOT BOOM
WITH 12 SPRAY NOZZLES. IF YOU COLLECT
2.3 OZ OF WATER IN A 100 FOOT RUN,
HOW MANY GALLONS OF WATER WOULD
YOU APPLY/ACRE?

WREATHS & DOOR SWAGS

Thursday, November 29, 2007
2:49 PM

BOX WREATHS

FRAME

SPHAGNUM MOSS

PLASTIC RIBBON

GREENERY

HILMAN WREATH

DOOR SWAGS

KISSING BALL

DELLA ROBBIA WREATH

CENTERPIECE

Tuesday, December 04, 2007
2:50 PM

OASIS -

CENTERPIECE

FLORAL DESIGNS

Wednesday, December 05, 2007
1:57 PM

WEDDINGS, FUNERALS, FORMAL OCCASIONS, HOLIDAYS

DESIGNS -

SYMMETRY

FOCAL POINT

PROPORTIONS - 1.5-2 X HIGHER & WIDTH

SCALE

ACCENT

REPETITION

RHYTHM

HARMONY

UNITY

FLOWERS

LINE - SNAPDRAGONS

MASSING - MUMS, ROSES, CARNATION

FILLER - BABY'S BREATH

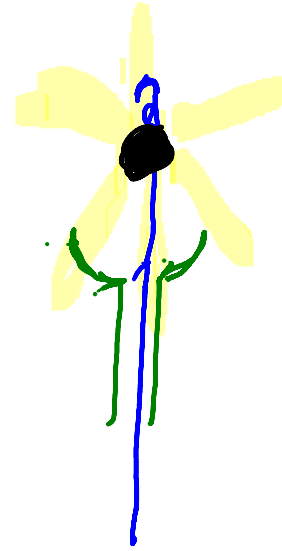
BASIC DESIGNS

OVAL, VERTICLE, HORIZONTAL, ROUND

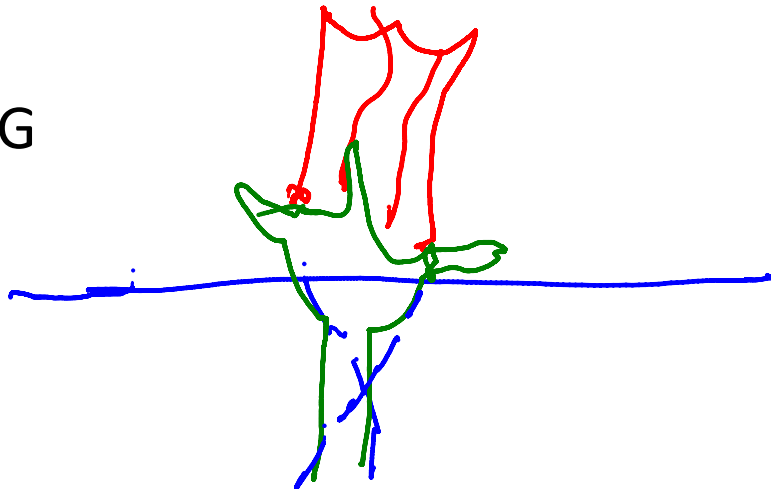
COURSAGE

Friday, December 07, 2007
2:46 PM

COURSAGE - HOOK METHOD

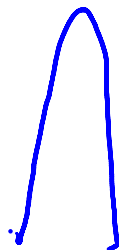


PIERCING



CLUTCHWIRE

HAIRPIN



BOUTONNIERE

PLANTING A VEGGIE GARDEN

Monday, December 10, 2007
2:52 PM

SELECTING VARIETIES OF PLANTS

SHORT-LIVED

LONG-LIVED

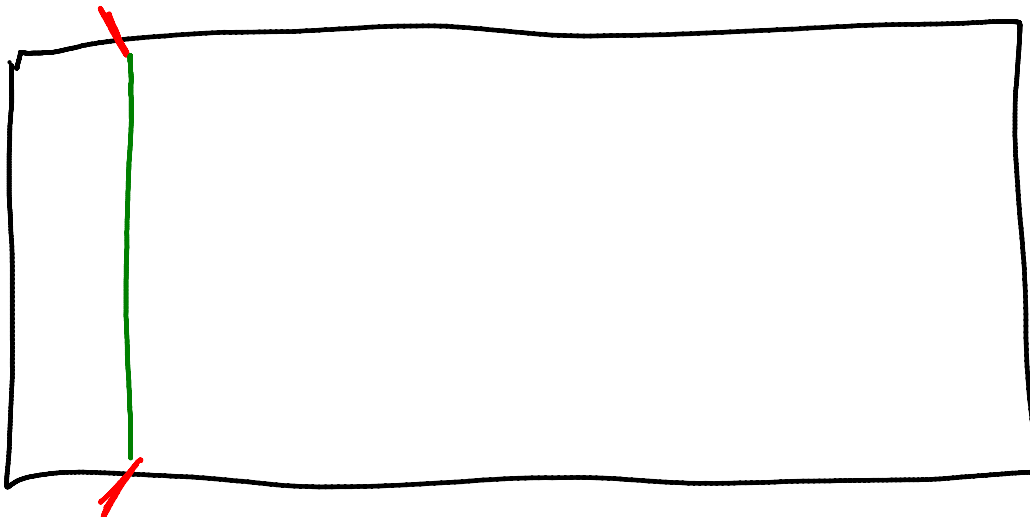
ONLY BUY THE SEED FOR 1 YR

SIZE OF GARDEN

WHEN TO PLANT

PHENOLOGY - RELATIONSHIP BETWEEN
PLANTS & CLIMATE

PLANTING - SMALLER THE SEED THE FINER
THE SOIL



ALLELOPATHY - SW. POTATO

WORK IT UP - TILLER

RAKE IT - LEVEL

MAKE ROWS

PLANT SEED OR TRANSPLANT

TRANSPLANTING SHOCK - HARDENING OFF

EARLY PLANTING - COLD FRAMES

DOUBLE CROPPING

HIGH TUNNELS

TOOLS

HOE

RAKE

TILLER - RENT

POTATO FORK

MANTIS - 2-STROKE TILLER

WHEEL BARROW/LAWN CART

CARE FOR GARDENS

Thursday, December 13, 2007
3:07 PM

WATERING -

FERT -

WEED CONTROL
CULTIVATION
MULCH
SPRAYS

THINNING

DISEASES
DISPOSE OF RESIDUE
CROP ROTATION
TREATED SEEDS - CAPTAN
RESISTANT VARIETIES

VEGGIES & HERBS

Monday, December 17, 2007

2:46 PM

ASPARAGUS

LIMA BEANS

SNAP BEANS

BEETS

BROCCOLI

BRUSSELS SPROUTS

CABBAGE

CARROTS

CAULIFLOWER

CELERY

CHARD

ONIONS - CHIVES, GARLIC, LEEK, SHALLOT,
ONION

COLLARDS

SWEET CORNS

CUCUMBER, MUSKMELON

EGGPLANT

KALE

KOHLRABI

LETTUCE

MUSTARD

OKRA

PARSLEY

PEAS

PEPPERS

POTATO

RADISH

RUTABAGA & TURNIP

SPINACH

SQUASH

SW. POTATO

TOMATO

INTERIOR & EXTERIOR

DISH GARDEN

BONSAI - TRAY PLANTING

INTERIOR LANDSCAPING -
ATRIUM

CARE OF PLANTS

PROPER WATERING

LIGHT

TEMPERATURE

PLANTING MEDIA

PESTS & DISEASES

MEALY BUGS

WHITE FLIES

MITES

APHIDS

SCALES

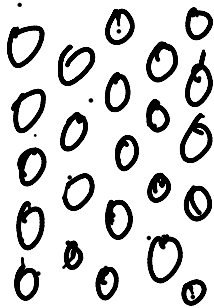
Ch. 24

Thursday, January 10, 2008

2:44 PM

SHRUBS & TREES

CONTAINER PLANTS



SITE - SLIGHT SLOPE

WINDBREAK

CONTAINERS

GROW MIXES

PLANTING

SPACING

WATERING

HANDWATER

TRICKLE TUBES
OVERHEAD SPRINKLERS

FERTILIZER
N - P - K

NITROGEN - PHOSPHEROUS - POTASSIUM

LIQUID
SLOW-RELEASE

DISEASE & INSECTS

PRUNING

WINTER STORAGE

MKTING

Ch 25

Wednesday, January 16, 2008

1:53 PM

ANNUALS BEDDING PLANTS

ANNUAL - LIVES FOR 1 GROWING SEASON

JIFFY MIX - SPAGNUM MOSS &
VERMICULITE

FILL 1/2 FULL

LEVEL WITH SKEW -



DRAG LABEL
PLANT SEEDS
WATER

CH 26

Tuesday, January 22, 2008
2:47 PM

PERENNIALS, ORNAMENTAL GRASS, VINES, BAMBOO, & PRAIRIE GARDENS

PERENNIALS - \$\$\$\$\$\$\$\$\$

WHERE ITS PLANTED, IT STAYS

SOIL PREP

MULCHING

pH

ORNAMENTAL GRASSES

VINES

CLIMATIS

PURPLE PASSION

TRUMPETER

IVY

MORNING GLORY

BAMBOO

18" - 70'

PRAIRIE GARDEN

EVERGREENS

Friday, January 25, 2008
2:44 PM

NEEDLES - LEAVES

FASCICLES

NEW GROWTH - CANDLES

USES

FOUNDATION PLANTING

CORNER PLANTING

SPECIMAN PLANT

PURCHASE

BARE ROOT

BALLED & BURLAPPED

CONTAINER

STAKE

FERTILIZING -

5-10-10

WATERING - EVERY 10 - 14 DAYS THE

1ST YR.

PRUNING

WHICH TREE TO USE?

HARDINESS

FOLIAGE COLOR

PERIOD OF INTEREST

LANDSCAPE USE

FOUNDATION PLANTING

ROCK GARDEN

HEDGE

BROADLEAF EVERGREEN

DECIDUOUS TREES

Wednesday, January 30, 2008
2:00 PM

SHADE

FRAME A HOUSE

SOFTEN LINES

RELIEVE BARE SPOTS

SCREEN AN OBJECT

FRAME A VIEW

PRIVACY

ACCENT LANDSCAPE

BREAK-UP MONOTONY

WINDBREAKS

FORM

FLOWER

TEXTURE

COLOR

HOW TO PROPAGATE

HEIGHT

HARDINESS

ORNAMENTAL USE

DECIDUOUS SHRUBS

Monday, February 04, 2008

3:17 PM

PERIOD OF INTEREST

FLOWER COLOR

FORM

BEAR FRUIT

HEIGHT

FOLIAGE

HARDINESS -ADAPTABILITY

WHEN TO PLANT?

PRUNING

BLOOM ON LAST YEAR'S GROWTH - AFTER
FLOWERING

THIS YEAR'S GROWTH - FALL OR SPRING

APICAL DOMINANCE -

GROUND COVERS BULBS

Monday, February 11, 2008
2:51 PM

SOIL?

CAN BE GROWN LOCALLY

HOW IT IS PROPAGATED

HOW LONG TO COVER?

MATURE HEIGHT

INSECT OR DISEASE RESISTANT

COST?

BULBS

WOODLOT

ROCK GARDENS

EVERGREENS

CUT FLOWERS

PRUNING

Thursday, February 14, 2008
2:43 PM

WHY PRUNE?

SHAPE

CONTROL HEIGHT

REMOVE DEAD OR DAMAGED BRANCHES

REJUVINATE

TOOLS

BOW SAW

LOPPERS

SHEARS

PRUNING SAW

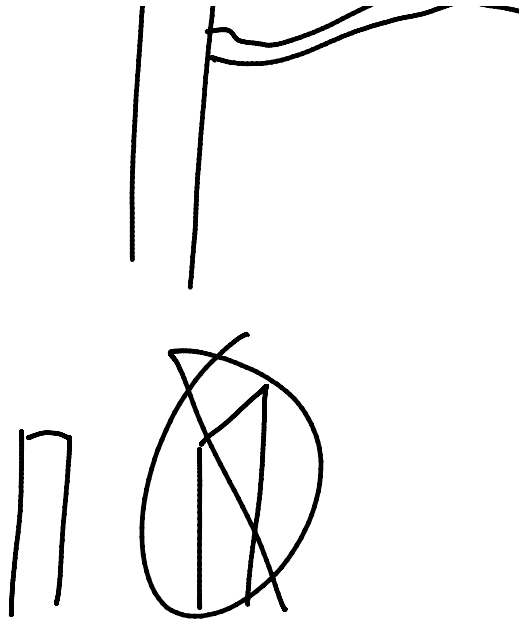
POLE SAW

CHAINSAW

POWER POLE SAW

WHICH BRANCHES TO PRUNE





ESPALIER - TRAINING PLANTS TO GROW ON
FLAT SURFACE

TOPIARY - CREATING ORNAMENTAL SHAPES

LANDSCAPING

Monday, February 18, 2008

1:05 PM

LANDSCAPE ARCHITECT

CONTRACTOR

MAINTENANCE

CAD - COMPUTER AIDED DESIGN

OBJECTIVES

NEEDS & DESIRE OF OWNERS

CAPABILITY OF LAND

DEVELOP LIVING AREAS

MAINTENANCE LEVEL

COSTS WITHIN BUDGET

QUESTIONS FOR OWNER

CONCEPT OF AN OUTDOOR ROOM

SOFT OR HARD PAVING

DESIGNS

SIMPLICITY

BALANCE

FOCAL POINT OF INTEREST

RHYTHM & LINE

SCALE & PROPORTION

XERISCAPING - WATER CONSERVATION

WATER GARDENS

CALCULATING

SQUARE FOOT

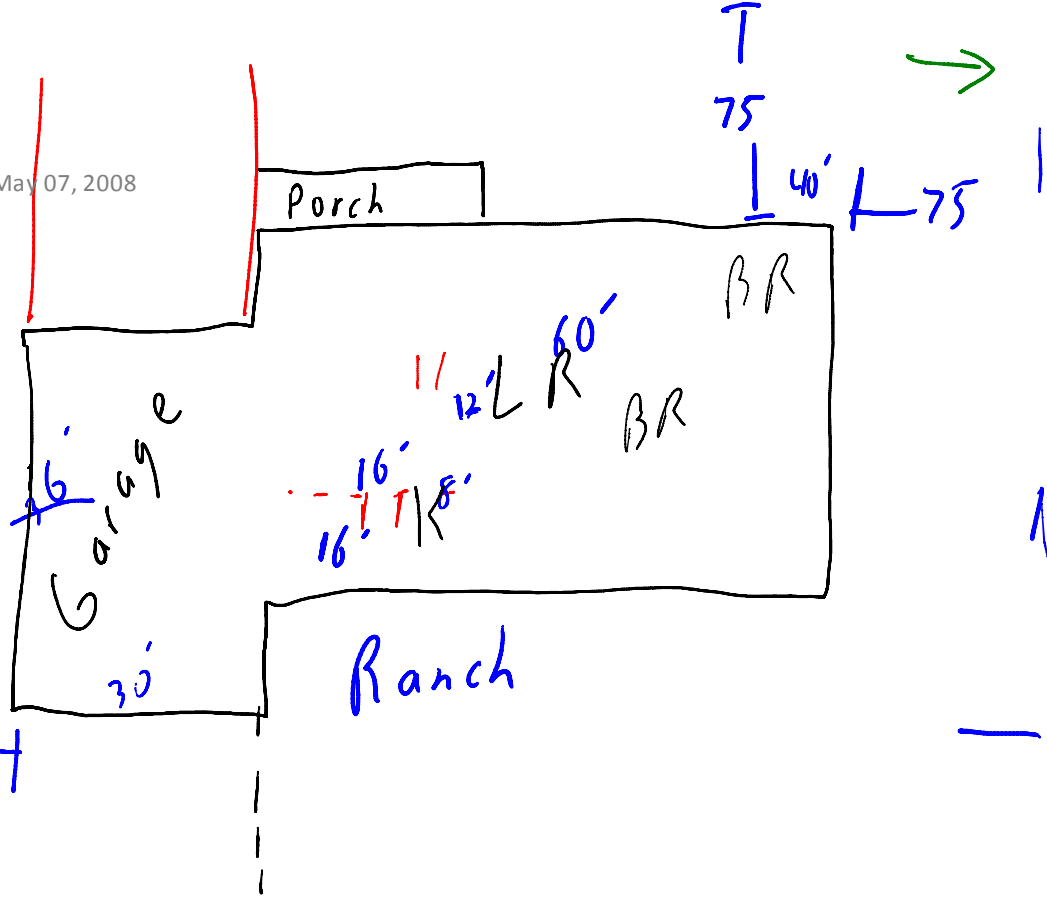
$L \times W \times D$

SQUARE YARDS

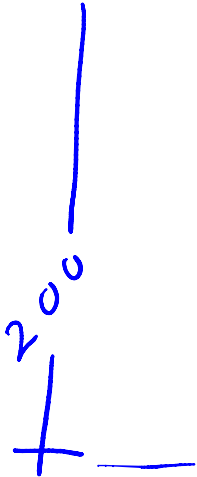
$L \times W \times D / 27$

maple

Wednesday, May 07, 2008
1:51 PM



maple



Establishing the Lawn

Monday, March 29, 2010

1:07 PM

WHAT TYPE OF GRASS?

GRADING

SLOPE - %

TRANSIT & LEVEL

DRAINAGE

PREPARING SOIL

FERTILIZER

APPLY 1/2 BEFORE SEEDING @4" DEEP

N - P - K

Ph - 6 to 6.5

SEEDING

NAME

PURITY

% PERCENT GERMINATION

YEAR TESTED

ENDOPHYTE - FUNGUS LIVES INSIDE PLANT TO

ATTACK INSECTS

Bt - BACILLUS THURINGENSIS

SOWING THE SEED

RAKE - 1/8 TO 3/8 INCH DEEP

PLUGS

SOD

6 REGIONS

TYPES OF GRASS

MAINTAINING A YARD

PROPER VARIETY OF GRASS

PH TEST

NUTRIENT TEST

MOWING -

COOL SEASON - 2 - 3"

WARM SEASON - 1/2 - 1 1/4"

PRIMO MAXX

WATERING - 1/2 GALLON/SQ FT

DISEASES

FUNGUS

INSECTS

GRUBS

RODENTS

MOLES

GOPHERS

THATCH

COMPACTION

AERATOR

RENOVATING THE YARD

PROBLEM YARDS

SOIL TYPE - CLAY/SANDY/ CONTAMINATED

Ph

WRONG VARIETY OF GRASS

COMPACTION - HEAVY TRAFFIC

ANIMALS

INSECTS

WEEDS

IMPROPER MOWING

IMPROPER FERTILIZER

THATCH

OTHER PLANT INFLUENCE - WALNUT TREES

DISEASES

CHEMICAL OVER SPRAY

WRONG CHEMICAL

SPOT SEEDING

SPOT PATHCING

VEGETABLES

Wednesday, April 14, 2010
12:42 PM

LOCATION

SUNLIGHT

SOILS

CONVENIENCE

PLAN

MOUND OR HILL

CROP ROTATION

HARDINESS

HARDING OFF

TRANSPLANT SHOCK

SPACING

ROW

SW. CORN - 3'

TOMATOES - 3'

COLE CROPS - 1.5'

PLANT

CLAY SOILS

ORGANIC MATERIALS
COMPOST
ANIMAL MANURE

SANDY SOILS
ORGANIC MATERIALS
COMPOST
ANIMAL MANURE

FERTILIZER
BAND
BROADCAST
DIGGING IN

PLANTING

VARIETIES
DISEASES RESISTANT
DAYS TO HARVEST

SEEDS
SHORT LIVED - 1 TO 2 YRS
MODERATELY LIVED - 3 TO 5 YRS
LONGER LIVED - M >5 YRS

PLANTING TIME - BACKUP FROM WHEN

YOU WANT TO HARVEST

PHENOLOGY - STUDY BETWEEN CLIMATE &
LIFE CYCLE

DEPTH OF PLANTING
2X THICKNESS OF SEED

ROW

SOW

TRANSPLANTING

COLD FRAMES

EARLY PLANTING
FROST
COVER OR INSULATE
FLOATING COVER

TOOLS

CARING FOR YOUR VEGGIES

WATERING

FERTILIZERS

PESTS

INSECTS

PESTICIDES

SEVIN

ROTATE

TREATED SEEDS

ANIMALS

WEEDS

CULTIVATE

PULL

MULCH

COMPOST

LEAVES

NEWSPAPER

BLACK PLASTIC

THINNING

FAVS

FRUITS & BRAMBLES

Wednesday, May 12, 2010
12:26 PM

STRAWBERRIES

CROWN - GROW POINT

STOLONS - RUNNERS

LEAVES DIE OFF WHEN TEMPS DROP

BELOW 23 DEGREES F.

EACH YEAR - NEW LEAVES & FLOWERS

65% GROWN ON PACIFIC COAST

PH - 6 - 6.5

VARIETIES

PLANTING

HILL SYSTEM

ROW SYSTEMS

RAISED BEDS

PYRAMIDS

HANGING BASKETS

CULTIVATE - 1 - 2"

BLUEBERRIES

PH - 4.6 TO 5.0

SOIL ACIDIFIER - AL SULFATE

SOIL WATER TABLE - 14 - 30 "

RAISE OM - GREEN MANURE

SPACING - 4 TO 5'

1,100 PLANTS / ACRE

FERTILIZER

10-10-10 500LB/ACRE

6 WEEKS AFTER FERT., TAKE 2ND SOIL TEST

APPLY 6" FROM PLANT & AS FOR OUT AS
ROOTS EXTEND

WATERING

1"/WK

MULCH

POLLINATION - SELF POLLINATORS

PRUNING

PRODUCE FRUIT ON PREVIOUS SEASON'S
GROWTH

THIN

HARVEST

8 HRS DAY - 80 PINT

PEST

WEEDS

DISEASES