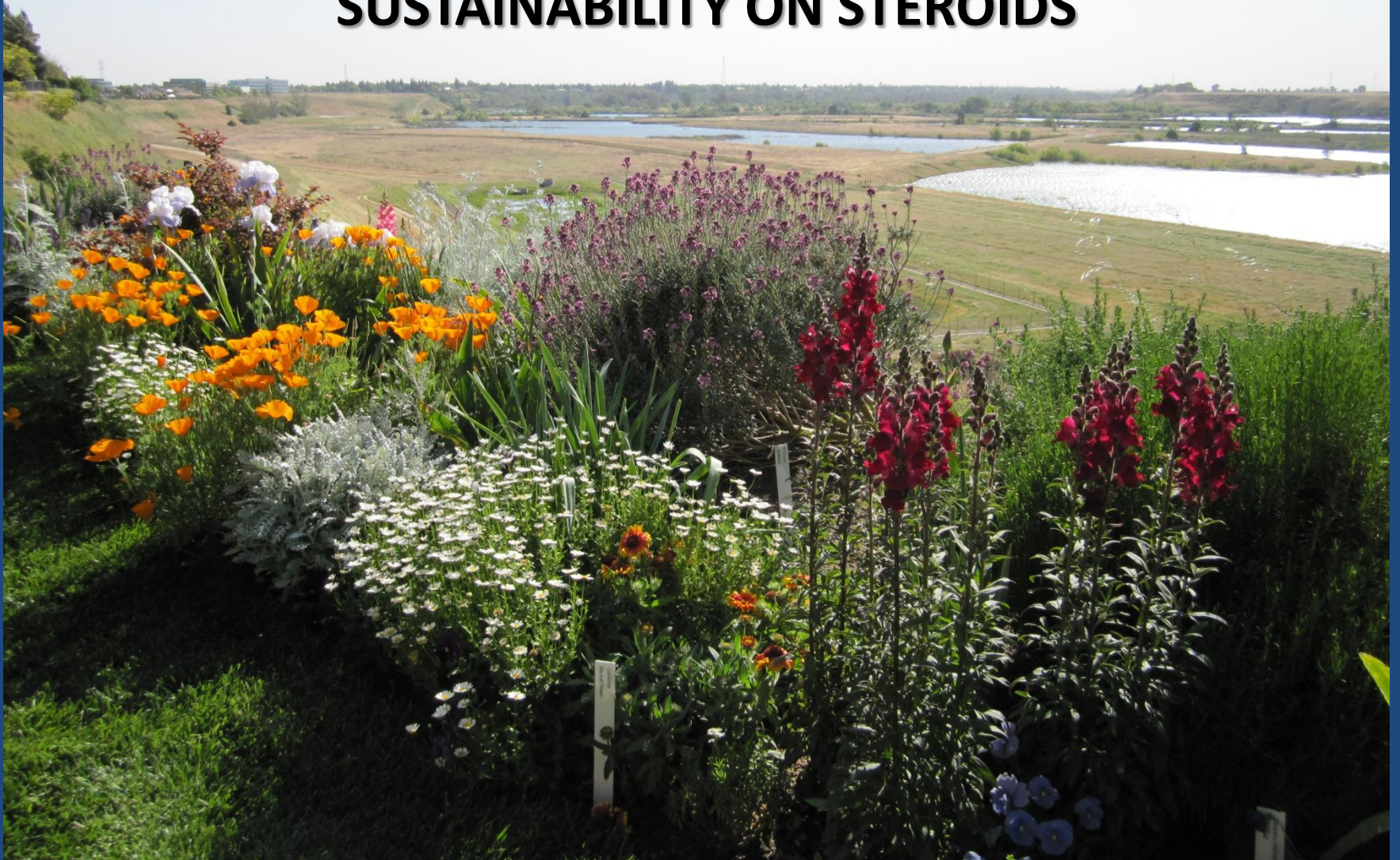
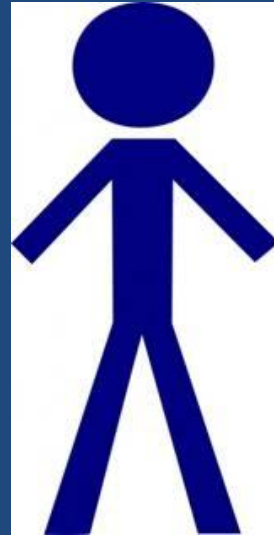


PERMACULTURE...

SUSTAINABILITY ON STEROIDS





PERMACULTURE ----- A DESIGN SYSTEM

EACH ELEMENT --- IS THERE FOR A PURPOSE
--- IS INTERCONNECTED WITH
OTHERS
--- HAS MULTIPLE FUNCTIONS

RESULT:

LESS WORK



HIGHER YIELD



PATTERNED AFTER NATURAL SYSTEMS



BUILD HEALTHY SOIL



SOIL ORGANISMS TURN FALLEN LEAVES AND OTHER ORGANIC MATTER....



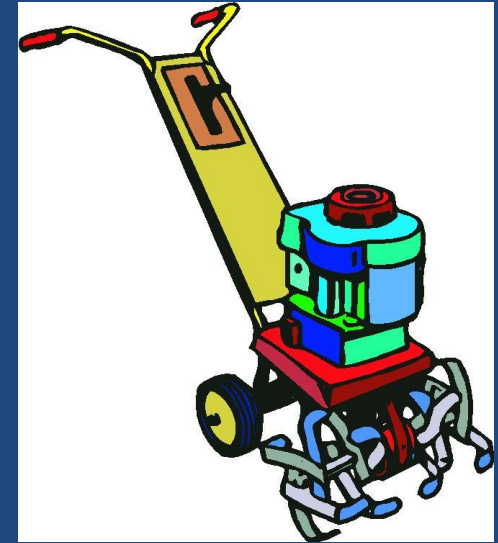
....INTO HEALTHY SOIL



AVOID DISTURBING OR COMPACTING THE SOIL



NO TILLING



**ADD PATHWAYS,
PLANKS OR
STEPPING STONES**

ADD ORGANIC MATTER AS MULCH

LEAVES, CHIPPED WOOD, PINE NEEDLES,
STRAW, NUT SHELLS,
NEWSPAPER,
CARDBOARD



CONSERVE AND RECYCLE RESOURCES

--- LEAVE THE LEAVES

--- KEEP ALL ORGANIC MATERIAL ON THE SITE



AMAZING MULCH

- CUSHIONS IMPACT OF RAINFALL
- HELPS MAINTAIN SOIL TEMPERATURE
- HOLDS MOISTURE IN SOIL
- SUPPRESSES WEEDS
- CREATES IDEAL CONDITIONS FOR SOIL ORGANISMS
- BREAKS DOWN SLOWLY, RELEASING NUTRIENTS TO PLANTS AND IMPROVING SOIL TEXTURE

COMPOST PILE = SURPLUS RESOURCES RECYCLING STATION



USE EVERYTHING – NOTHING GOES TO WASTE



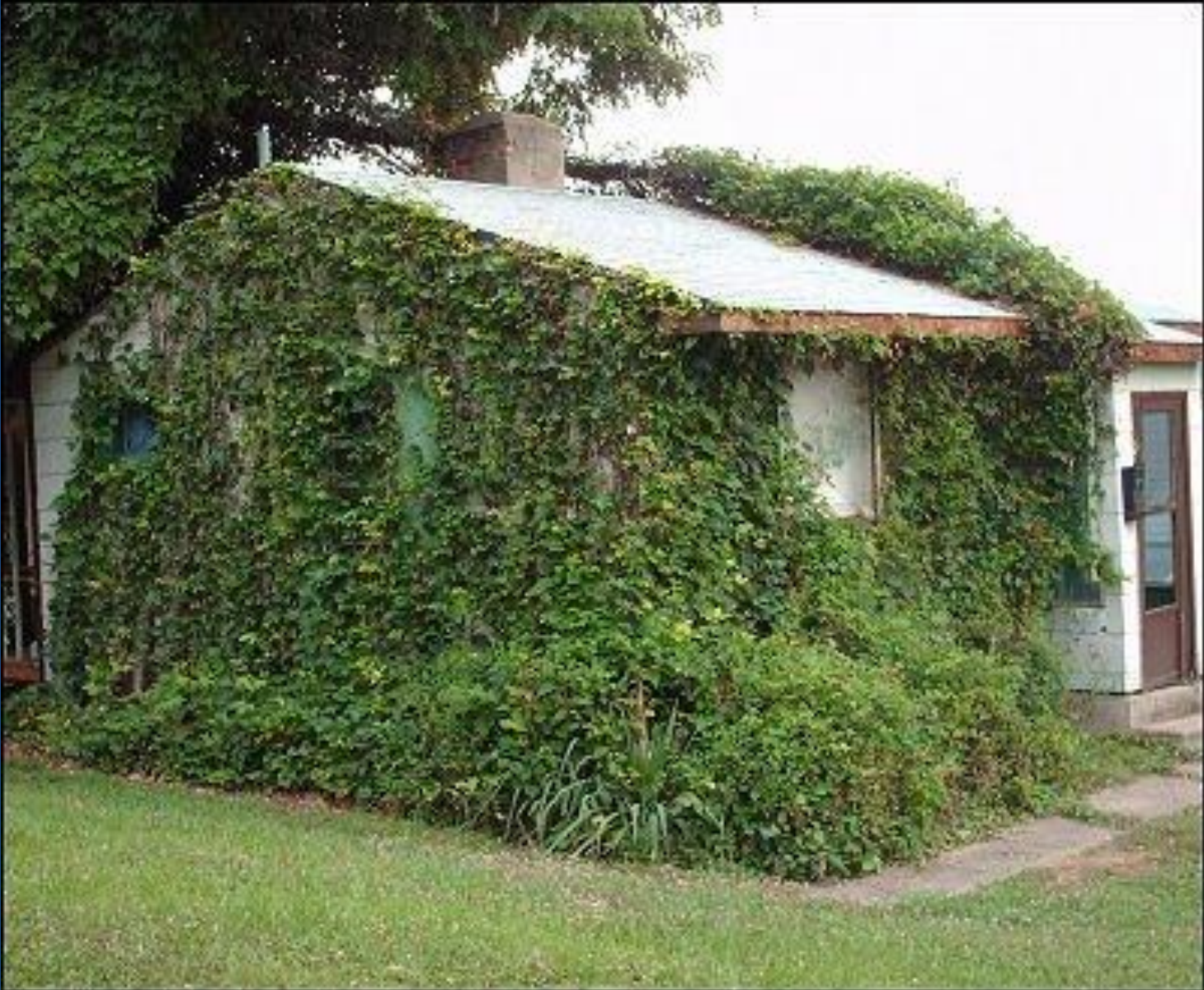


GARDEN ART ?





MINIMIZE PRUNING



**FOR SMALLER YARDS---
CHOOSE DWARF OR COMPACT FORMS**



DWARF BOTTLEBRUSH
(Callistemon citrinus 'Little John')



DWARF VALENCIA ORANGE

CHOP-AND-DROP PRUNING METHOD



LOSE THE LAWN



OR MINIMIZE IT

TRY A MEADOW GRASS



**USE A PUSH MOWER
ON SMALLER LAWNS**



HARVEST & CONSERVE WATER

--- KEEP IT ON THE PROPERTY

KEYLINE DESIGN -- USES SITE TOPOGRAPHY
TO DETERMINE WATER FLOW



SWALE IN PARKING STRIP COLLECTS WATER



MORE RAINWATER HARVESTING





**CATCHMENT
SYSTEM**

**FRENCH
DRAIN**



GRAYWATER COLLECTION FROM SINK, SHOWER, LAUNDRY



**USED FOR NON-FOOD
CROPS**



CONSTRUCTED WETLANDS FOR PURIFICATION



MINIMIZE IMPERMEABLE PAVING

--- ALLOW WATER MORE PLACES TO SOAK IN



WOOD CHIP OR DECOMPOSED GRANITE PATHS

PAVER OR BRICK-ON-SAND PATIOS



USE NATIVE PLANTS

**.....OR PLANTS FROM OTHER MEDITERRANEAN
CLIMATES THAT NEED LESS WATER,
FERTILIZER AND MAINTENANCE**



CALIFORNIA LILAC
(Ceanothus spp.)



SULFUR FLOWER
(Eriogonum umbellatum)

SELECT PLANTS THAT ARE WATER THRIFTY ... AND ARE MULTI-TASKERS



**TICKSEED (*Coreopsis* spp.)
ALSO ATTRACTS BIRDS AND
BENEFICIAL INSECTS**



**WESTERN REDBUD (*Cercis occidentalis*)
ALSO FIXES NITROGEN IN SOIL AND
PROVIDES HABITAT FOR BIRDS**



BEARBERRY COTONEASTER
(Cotoneaster dammeri)
PROVIDES FOOD FOR BIRDS AND
SERVES AS A GROWDCOVER



LAVENDER (*Lavandula* spp.)
ATTRACTS BENEFICIAL INSECTS
AND PROVIDES CRAFT MATERIAL

MAINTAIN AN EFFICIENT IRRIGATION SYSTEM AND MONITOR IT REGULARLY



**DRIP IRRIGATION TUBING,
MICROSPRAYERS,
SLOW-DISTRIBUTION
ROTATING SPRINKLER HEADS**



**JUST SAY NO!...TO CHEMICAL
PESTICIDES AND HERBICIDES**

**THEY CAN DESTROY BENEFICIAL
INSECTS AND AFFECT WATER
QUALITY**



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USE NATURAL BIOLOGICAL INSECT CONTROL

--- ATTRACT BENEFICIAL INSECTS WITH INSECTARY PLANTS
IN THE CARROT (APIACEAE), DAISY (ASTERACEAE), AND
MINT (LAMIACEAE) FAMILIES



DILL



CHAMOMILE



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CATMINT



EAT YOUR WEEDS!

DANDELION



MINER'S LETTUCE



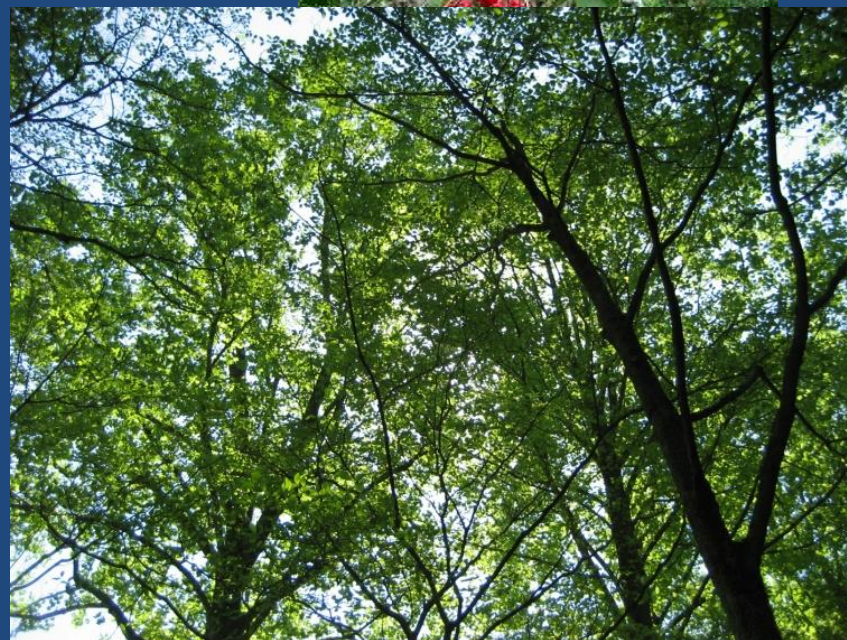
PURSLANE



STINGING NETTLE



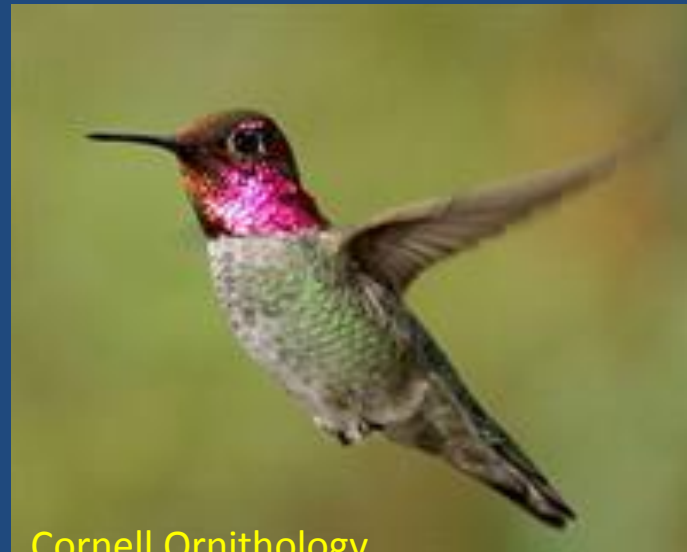
ENCOURAGE WILDLIFE & CREATE HABITAT



HELP EXTEND WILDLIFE CORRIDORS



INVITE POLLINATORS: BUTTERFLIES, BEES, HUMMINGBIRDS



Cornell Ornithology

PLANT NECTAR PLANTS FOR POLLINATORS

**BEES – BLUE AND YELLOW
FLOWERS**



GOLDENROD
(Solidago spp.)

**BUTTERFLIES – PURPLE,
YELLOW & ORANGE
FLOWERS**



ASTER
(Aster spp.)

**HUMMINGBIRDS – RED
& ORANGE TUBULAR
FLOWERS**



CALIF. FUSCHIA
(Epilobium spp.)

BEE HIVE: A GARDEN ACCESSORY



NATIVE BEES ARE OUT THERE, TOO

LEAFCUTTER BEE



Kathy Keatley Garvey











PLANT GUILD ---

A DESIGNED GROUP OF PLANTS THAT USE THE SAME SOIL AREA AND CONDITIONS AND SUPPORT EACH OTHER



THREE SISTERS GUILD --- CORN, BEANS, SQUASH

APPLE TREE PROVIDES FOOD AND SHADE



DAFFODIL BULBS DETER ROOT-EATING CRITTERS AND INVADING GRASSES



ARTICHOKE PROVIDES FOOD, VISUAL INTEREST, LARGE SOFT LEAVES FOR MULCH



YARROW ATTRACTS BENEFICIAL INSECTS AND ACCUMULATES NUTRIENTS AND MINERALS IN ITS LEAVES



BORAGE HAS LEAVES AND SHOWY BLUE FLOWERS THAT ARE EDIBLE, AND ATTRACTS BENEFICIAL INSECTS



**WHITE CLOVER HOLDS MOISTURE IN THE SOIL,
SMOTHERS OTHER WEEDS, FIXES NITROGEN IN THE
SOIL, AND ATTRACTS BEES TO POLLINATE THE APPLE
BLOSSOMS**



A NEARBY BERRY BUSH DRAWS BIRDS AWAY FROM THE MAIN CROP



FOOD FOREST = LAYERS

1. TREE CANOPY (e.g. NUT TREES)
2. UNDERSTORY TREES (e.g. FRUIT TREES)
3. SHRUBS (e.g. POMEGRANATE)
4. HERBACEOUS PLANTS & PERENNIALS (e.g. RHUBARB)
5. GROUNDCOVER PLANTS (e.g. STRAWBERRIES)
6. ROOT PLANTS (e.g. CARROTS)
7. VERTICAL CLIMBING PLANTS (e.g. GRAPEVINES)





USDA

MONOCULTURE

STRIVE FOR BIOLOGICAL DIVERSITY



**POLY CULTURE:
DIVERSITY IN
PLANTS KEEPS
THEM HEALTHIER**

MAKE USE OF 'EDGES': WHERE TWO TYPES OF PLANTS OR HABITATS MEET



GROWING YOUR OWN FOOD CAN.....



SAVE MONEY

SUPPLY FRESHER PRODUCE

**REDUCE EXPENSE & ENERGY USED TO
BRING FOOD TO MARKET**

**HELP ADD MORE FRUIT & VEGGIES TO
YOUR FAMILY'S DIET**

**GIVE PEACE OF MIND ABOUT FOOD
SAFETY**

**GIVE OPPORTUNITY TO EAT VARIETIES
NOT FOUND IN THE MARKET**



BOK CHOY

**BLACK KRIM
TOMATO**

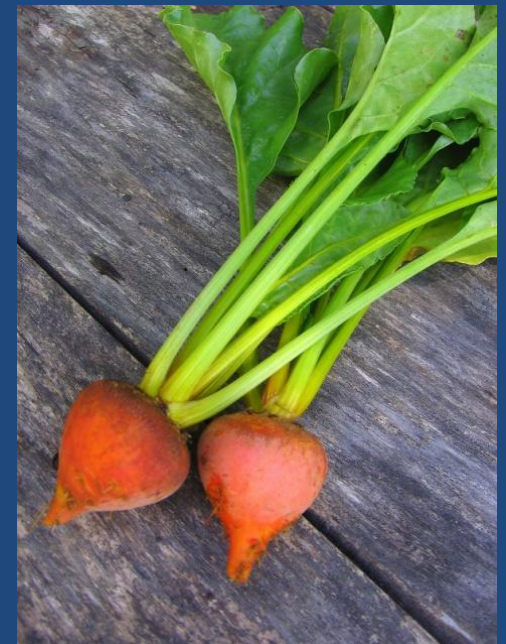


CHINESE LONG BEANS

MACHE (CORN SALAD)

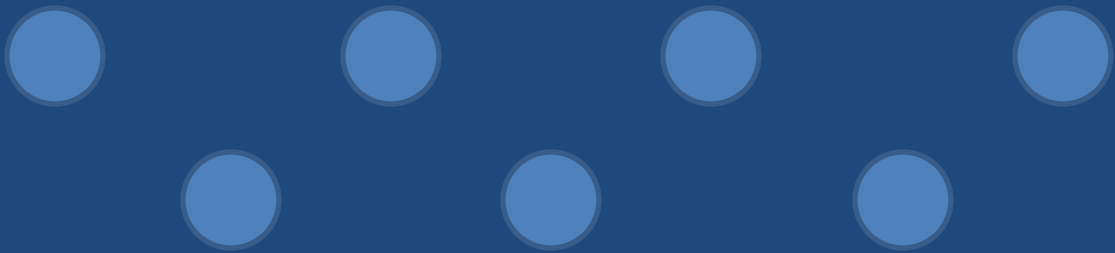


YELLOW BEETS



SAVE SPACE:

PLANT INTENSIVELY, USING AN OFFSET PATTERN



INTERPLANT VEGETABLES WITH DIFFERENT...



LEAF FORMS

LIGHT REQUIREMENTS



ROOT DEPTHS

GROWTH RATES





SPACE-SAVING FRUIT TREE FORMS

DWARF



CORDON



ESPALLIER



FAN



FOUR-IN-A-HOLE



KEYHOLE BED AND SPIRAL HERB GARDEN



EDIBLE LANDSCAPE: MIX FOOD CROPS AND ORNAMENTALS



EDIBLE LANDSCAPE



EGGPLANT



OKRA



'BRIGHT LIGHTS' CHARD



MIXED BED

MORE MULTI-TASKING



SAVE SEEDS AND SHARE THEM



Urban Artichoke

STORE YOUR BOUNTY FOR THE OFF-SEASON



COVER CROPS

CEREAL GRASSES, VETCH, CLOVER, WINTER PEAS, FAVA BEANS



MIX OF COVER CROPS USED TO REJUVENATE A PLANTING BED



LIVING MULCH



STRAWBERRY
(*Fragaria*)



LEMON THYME
(*Thymus x citriodorus*)



FRUITY GERMANDER
(*Teucrium majoricum*)

SUPPLEMENTAL ORGANIC FERTILIZERS

AGED MANURES

WORM CASTINGS

COMPOST / COMPOST TEA

SEAWEED EXTRACT

BONE MEAL

FEATHER MEAL

ADDITIONAL PEST CONTROL MEASURES



CROP ROTATION

**USE OF RESISTANT
VARIETIES**

COMPANION PLANTING

TRAPS

PHYSICAL BARRIERS

LANDSCAPE ZONES

**ZONE 1: SALAD GREENS, KITCHEN HERBS, CHICKENS,
VERMICOMPOSTER**

ZONE 2: VEG GARDEN, ORCHARD, BEEHIVE, COMPOST PILE

ZONE 3: NUT TREES, LARGER SHRUBS, BERRY VINES

ZONE 4: NATIVES, PASTURE, FORAGING AREA

ZONE 5: WILD AREA (FOR OBSERVATION)

PERMACULTURE GARDENS ACCOMMODATE INDIVIDUAL INTERESTS



CRAFTS



PROPAGATION



CUT FLOWERS



CANNING

EXTENDING TO THE COMMUNITY SHARING THE SURPLUS



LOCAL FARMER'S MARKET

**'PLANT A ROW FOR THE
HUNGRY'**

COMMUNITY GARDENS

BARTERING

**NEIGHBORHOOD
PLANTINGS**

PASSIVE SOLAR DESIGN ELEMENTS



ACTIVE SOLAR ELEMENTS





**HOMEMADE
HYDROPONICS**

ROOFTOP GARDEN



BE A 'LOCAVORE'



**BUY IN BULK
& WITH LESS PACKAGING**





**BUILD WITH SALVAGED OR
RECYCLED MATERIALS**



COMMUNITIES WITH COMMON AREAS AND SHARED RESPONSIBILITIES





REFUSE

REDUCE

REUSE

REPAIR

RECYCLE



