



Urban Agriculture

The Future of Farming

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- Arizona Native
- Owner of Southwest Victory Gardens
- Former Pima County Certified Master Gardener
- Former President of Tucson Organic Gardeners
- SmartScape Certified

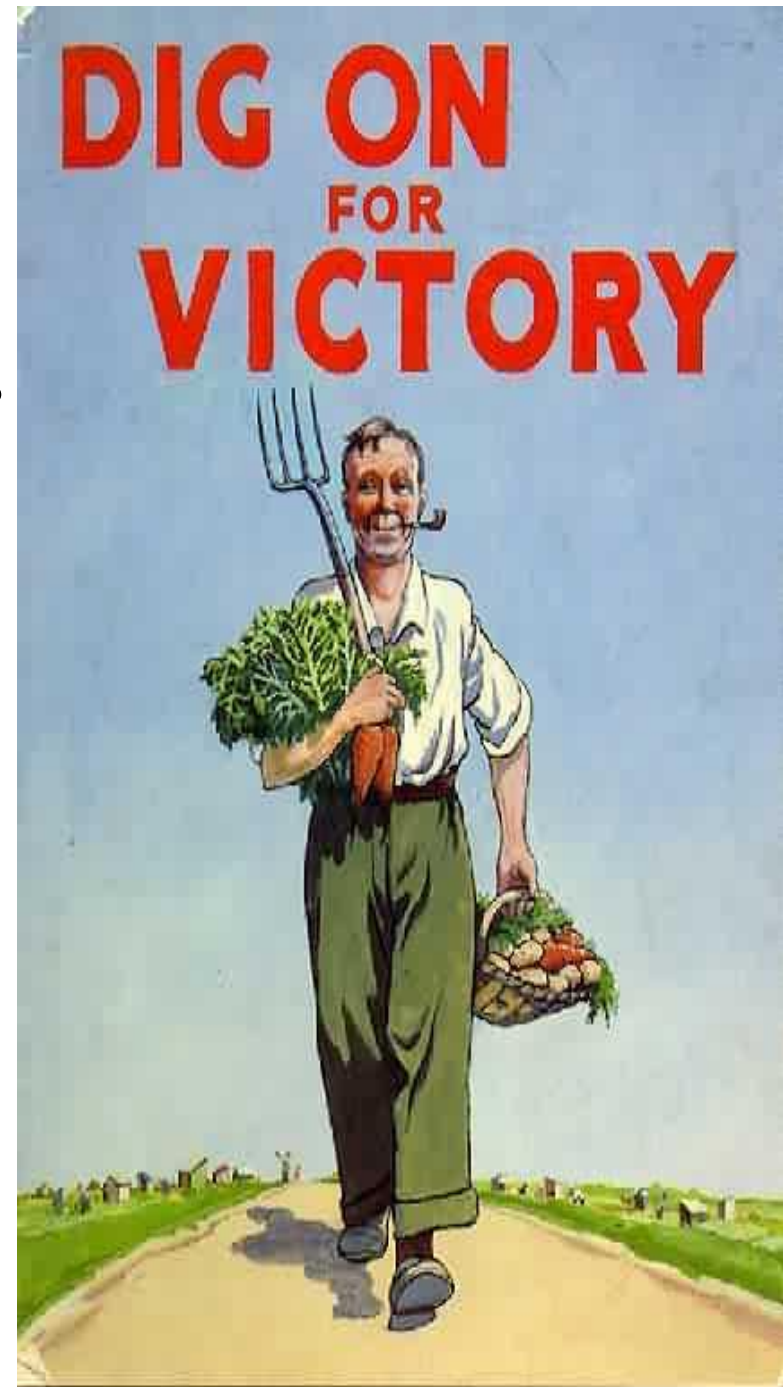




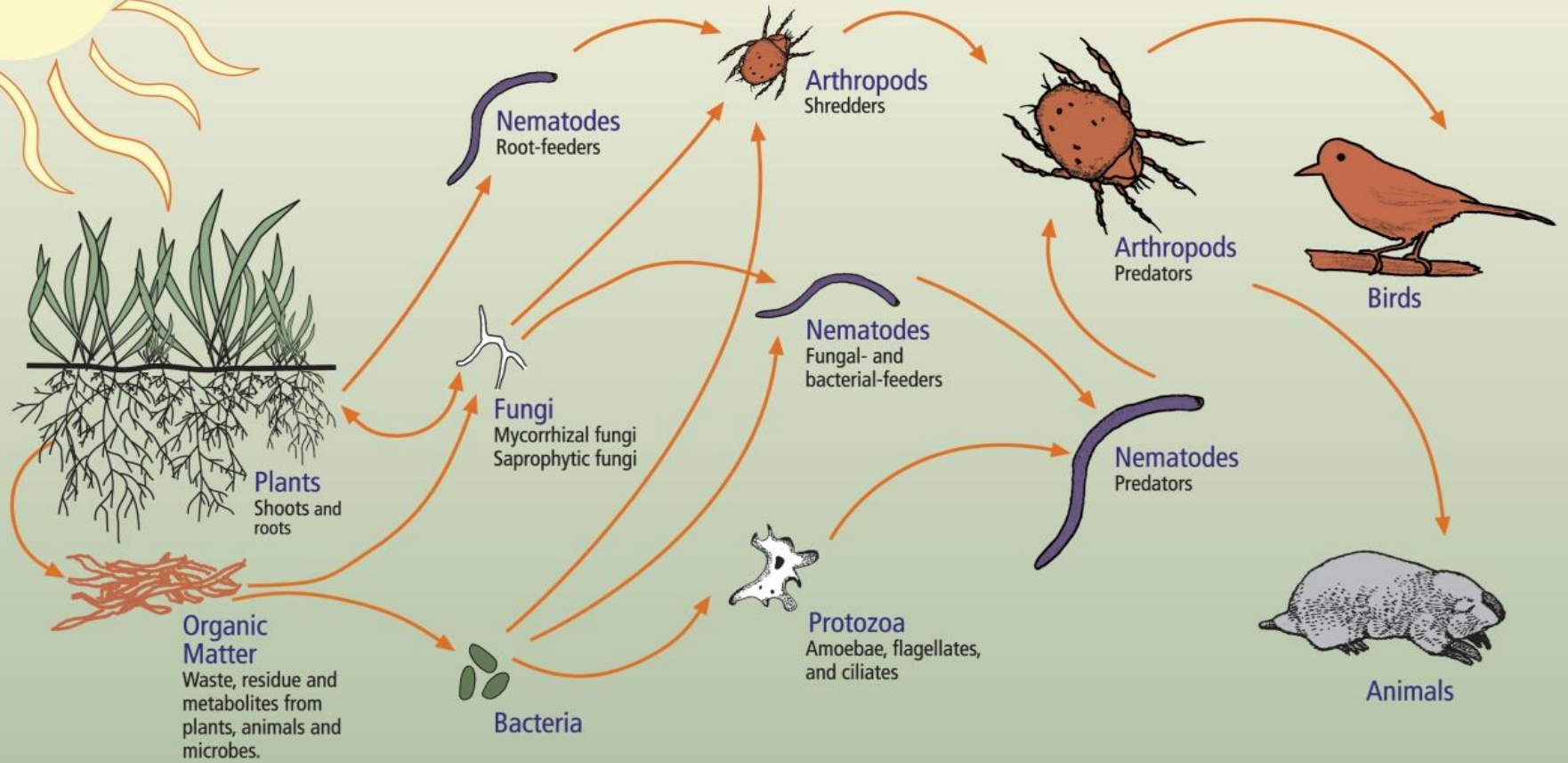
WWW.SOUTHWESTVICTORYGARDENS.COM/DOCUMENTS

Our Philosophy

- Healthy soil encourages healthy plants
- Healthy plants care for themselves
- Limit external inputs
- Reduce water usage
- Garden with our climate not against it
- Encourage a natural ecosystem
- Build community through gardening



The Soil Food Web



First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, Parasites
Root-feeders

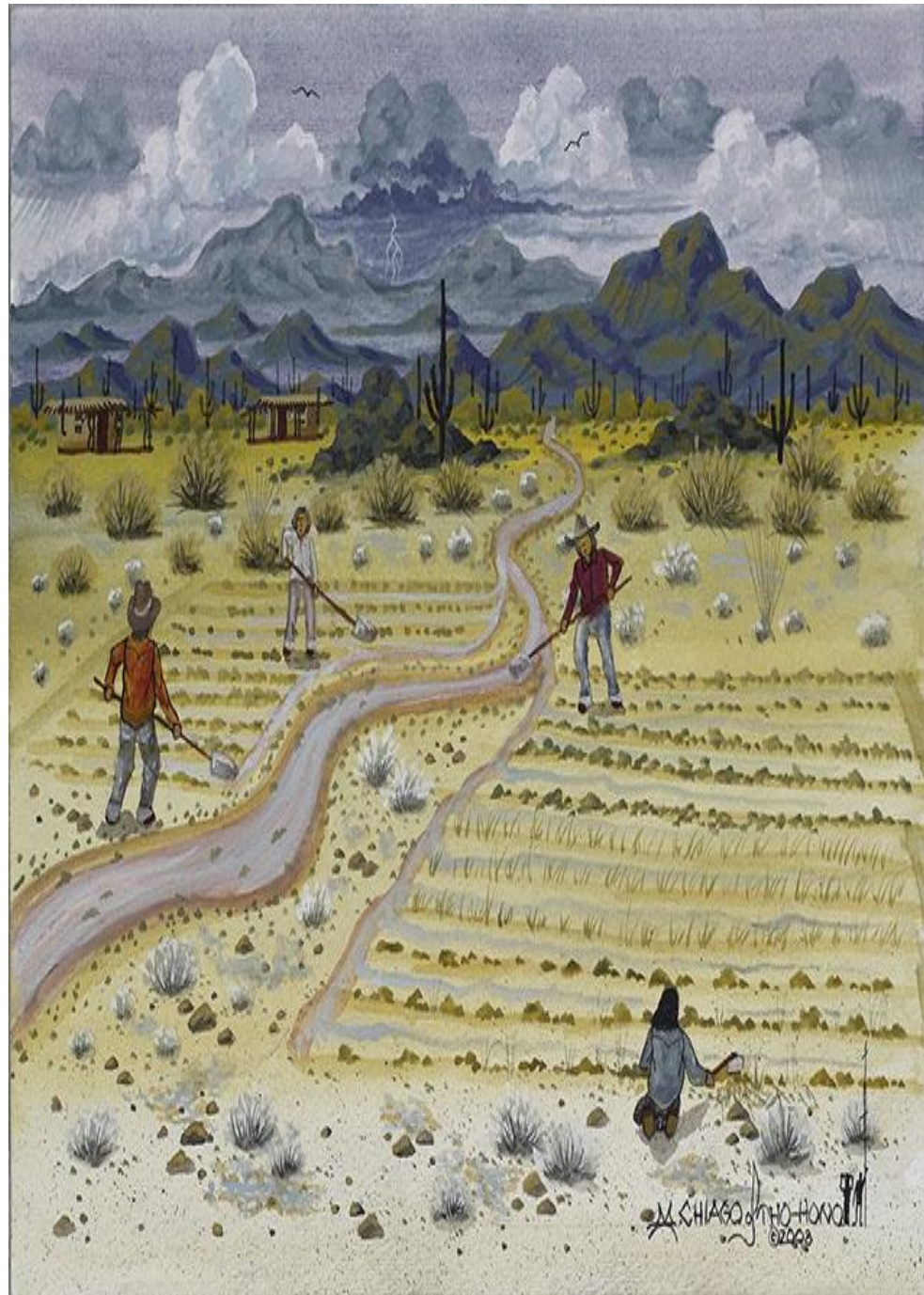
Third trophic level:
Shredders
Predators
Grazers

Fourth trophic level:
Higher level predators

Fifth and higher trophic levels:
Higher level predators

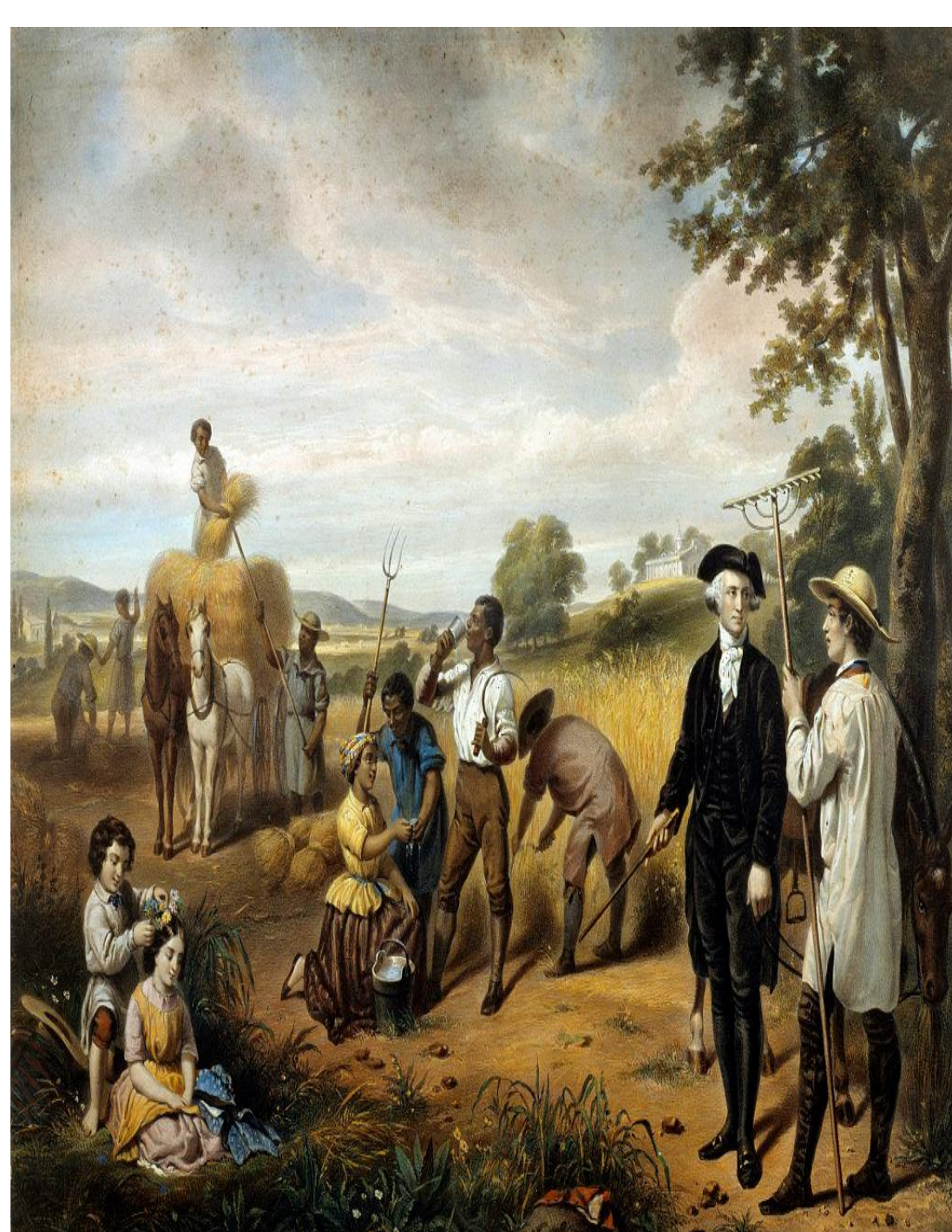
History of Agriculture

- Foraging/Hunting
- Cultivation of Native Crops
- Herding/Domestication
- Modern Agriculture



Agrarian Capitalism

- Land Accumulation
- Resource Exploitation
- Human Exploitation



Modern Agriculture

- Manifest Destiny (agrarianism) & the Homestead Act
- Industrial Revolution
- Haber-Bosch
- Genetic Engineering





Vox

Modern Agriculture is Killing our Planet



- 2nd Largest Carbon Reservoir on the Planet.
- Holds 4x More Carbon than Trees and Plants.
- In last 40 years, 1/3rd of World's Farm Land has been Destroyed
- 40% of World's Soils are Classed as "Degraded" or "Seriously Degraded"

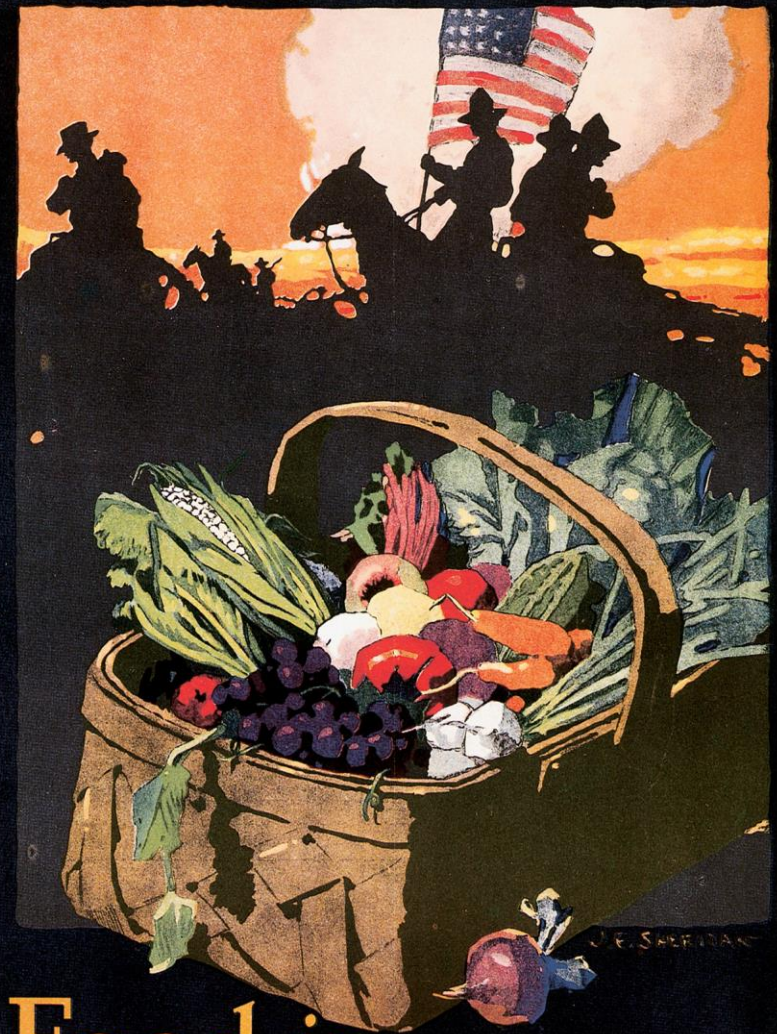


Food Waste from Modern Agriculture

- 40% of all food in the US is wasted
- 365 Million lbs. per day
- 1/8 Americans lack access to food
- Major contributor to global climate emissions

Urban Agriculture in America

- 1600's – Orchard Laws
- 1700's – “Pleasure Gardens” overtake “Kitchen Gardens”
- Provision Gardens of the Enslaved
- 1800's - Cities open vacant lots during depression
- 1900's – Victory Garden and “Back to Land” Movements
- 2000's – Michelle Obama Re-Establishes White House Kitchen Garden



Food is
Ammunition-
Don't waste it.

- 2010's AOC tweets/snaps about Victory Gardens



 Alexandria Ocasio-Cortez 
@AOC

Growing your own food is very satisfying.

We like to pop outside, pluck some greens, & throw them on the pan after a rinse.

It's WAY better for the environment, too. Gardens can sequester more carbon than lawns. Plus: no mowing (& no gasoline)!

Let's bring back victory gardens 🌱

 **NowThis**  @nowthisnews · 1d
Americans use roughly 7 billion gallons of water a day to irrigate lawns. What if instead of well-kept



FOOD IS A WEAPON



DON'T WASTE IT!

BUY WISELY - COOK CAREFULLY - EAT IT ALL

FOLLOW THE NATIONAL WARTIME NUTRITION PROGRAM

food

- 1- buy it with thought**
- 2- cook it with care**
- 3- use less wheat & meat**
- 4- buy local foods**
- 5- serve just enough**
- 6- use what is left**

don't waste it

U. S. FOOD ADMINISTRATION

Uncle Sam says -

GARDEN

To Cut Food Costs



Ask the -

U.S. Department of Agriculture Washington, D.C.

For a **FREE** Bulletin on Gardening - *It's food for thought*

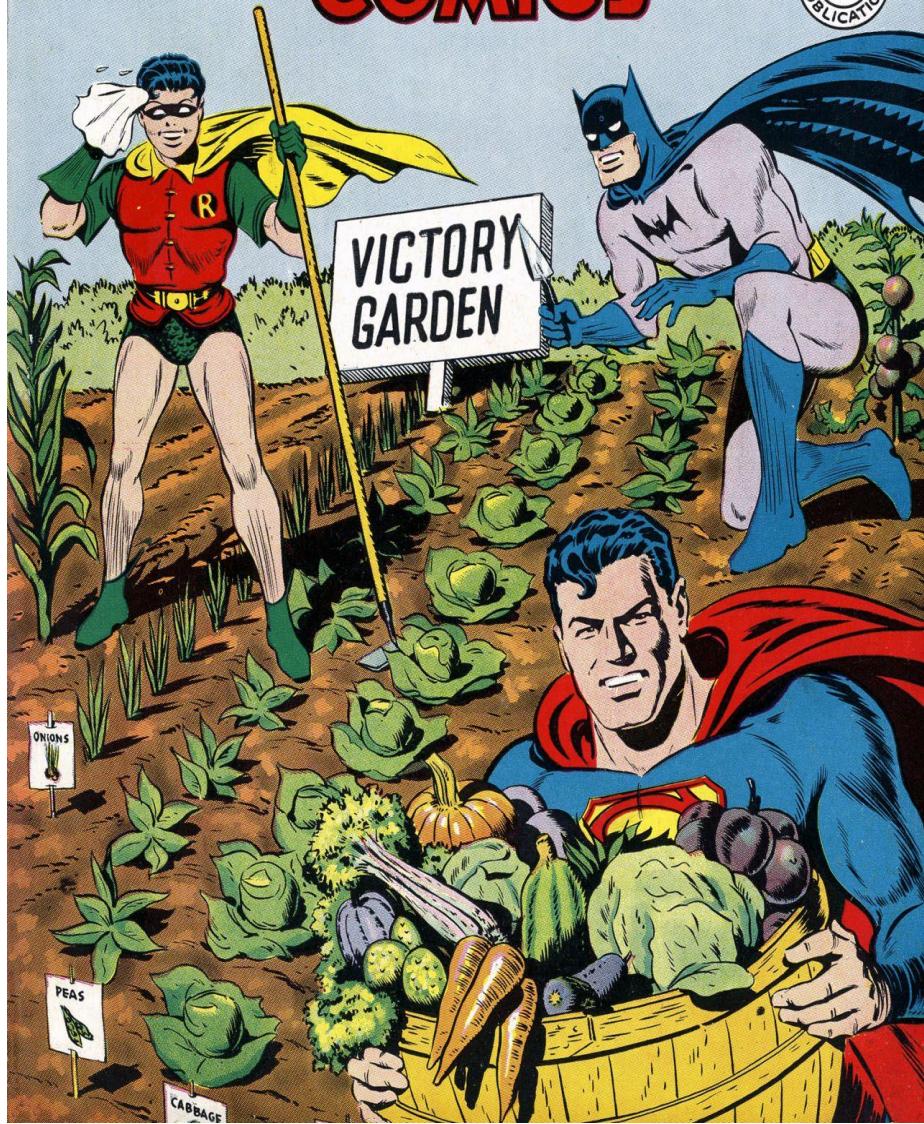
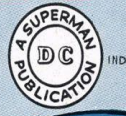


No. 11

FALL ISSUE

15¢

WORLD'S FINEST COMICS



SCRAM!

© WALT DISNEY PRODUCTIONS

THIS IS A

VICTORY GARDEN

Pests... Keep Out!

BY W. L. STINEBAUGH AND ASSOCIATES, INC. CHICAGO

SHOOT TO KILL!



What is Organic Gardening?

- Gardening without the use of synthetic pesticides or fertilizers
- Uses Conventional Farming practices with more expensive inputs

What is Sustainable Gardening?

- Reducing or Eliminating the Use of Inputs
- Focus on improving soil
- Enhancement of entire ecosystem
- Reduction of water use
- Working Smarter



Bio-Intensive Agriculture

- Maximum yields from minimal land
- Closed system, long term and sustainable
- Developed from “Bio-Dynamic” and French Intensive
- Techniques from indigenous cultures worldwide



June 21, July 21, & Aug 21, 1988

December 21, 88
January 21, 1989

May 21, 1989

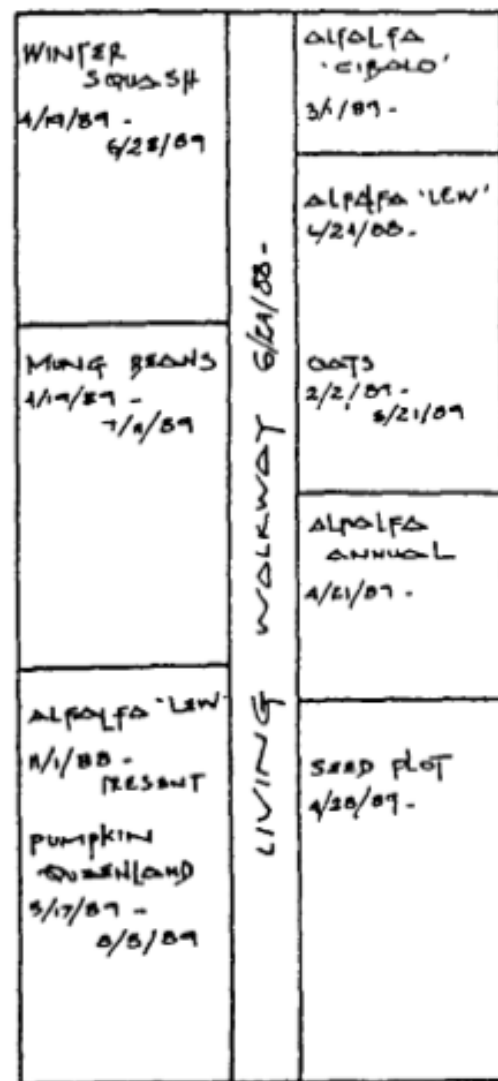
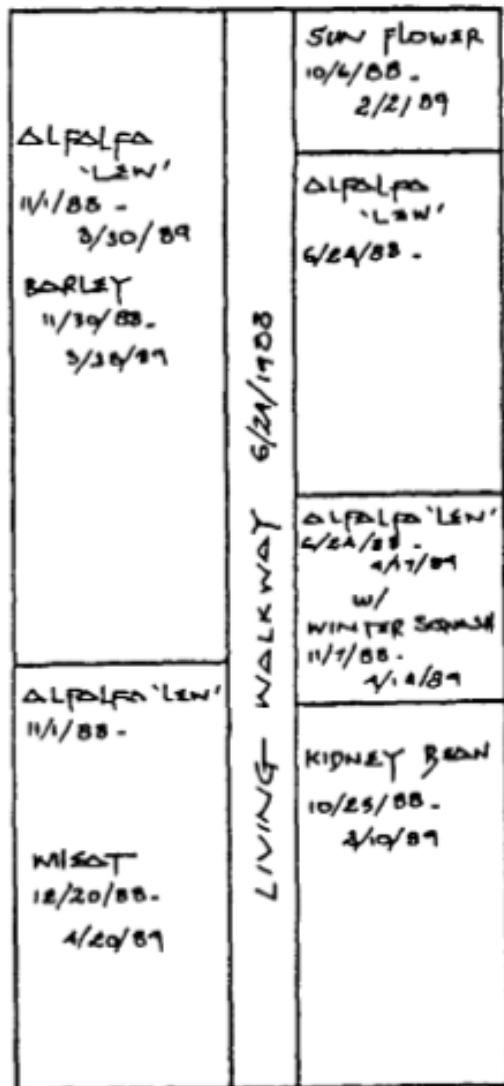
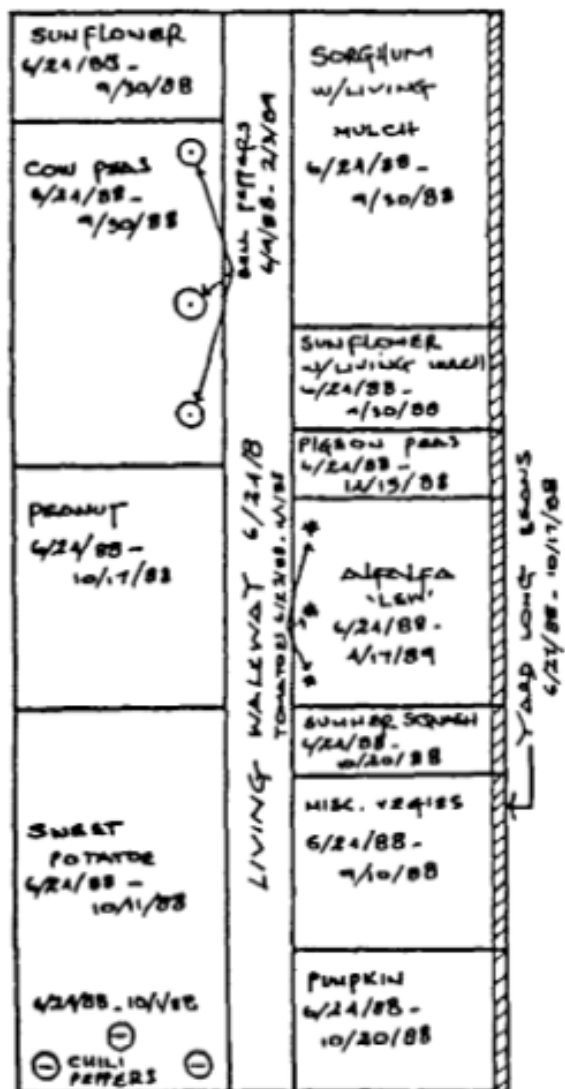


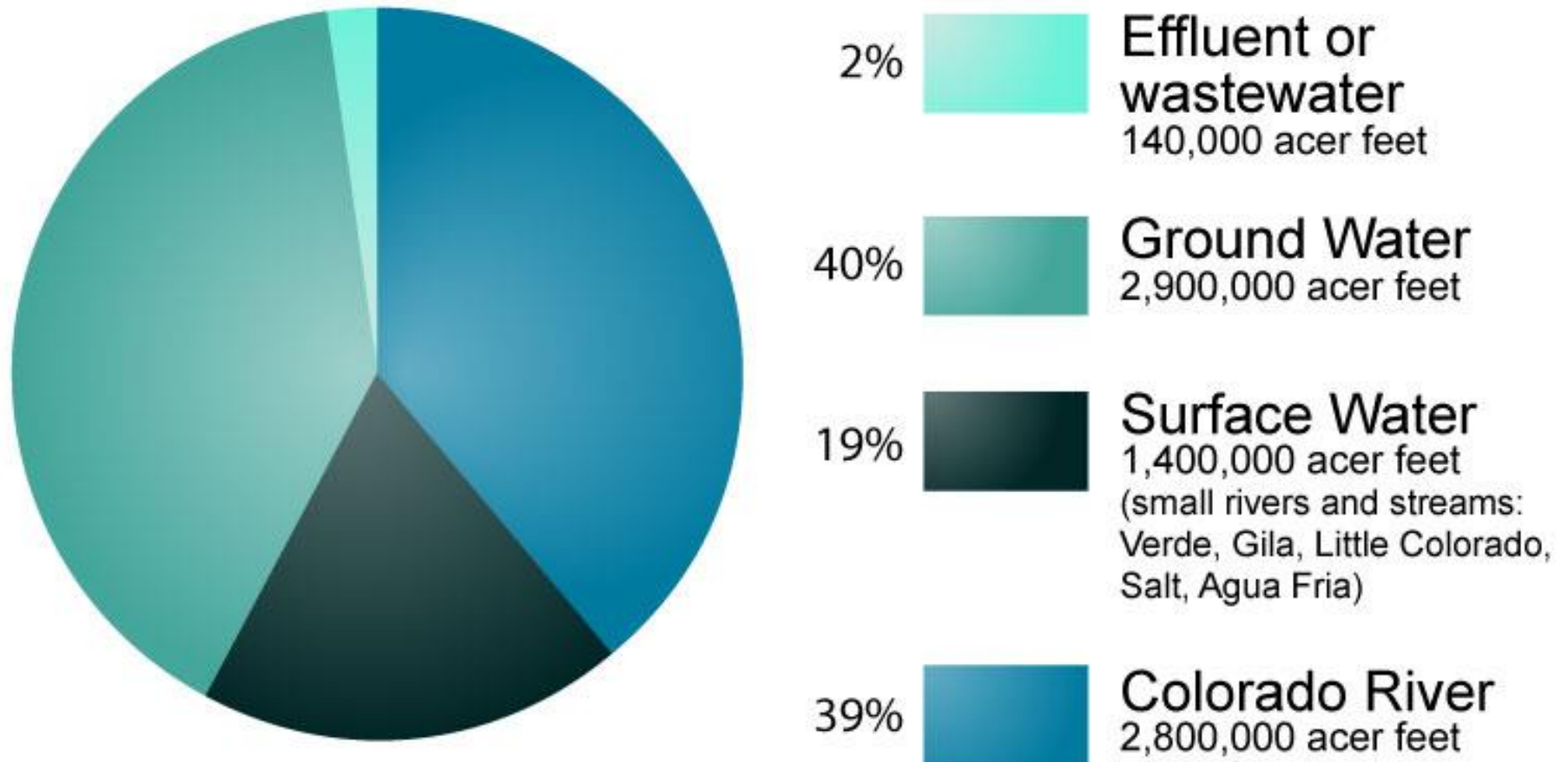
Fig. 1. Layout of crops in the sustainable garden at three points in the rotation plan.

We Live in a Desert

- 3% of World's water is potable
- 66% of that is Frozen
- .001% is Easily Accessible
- Water is NOT a renewable resource



Arizona Water Sources

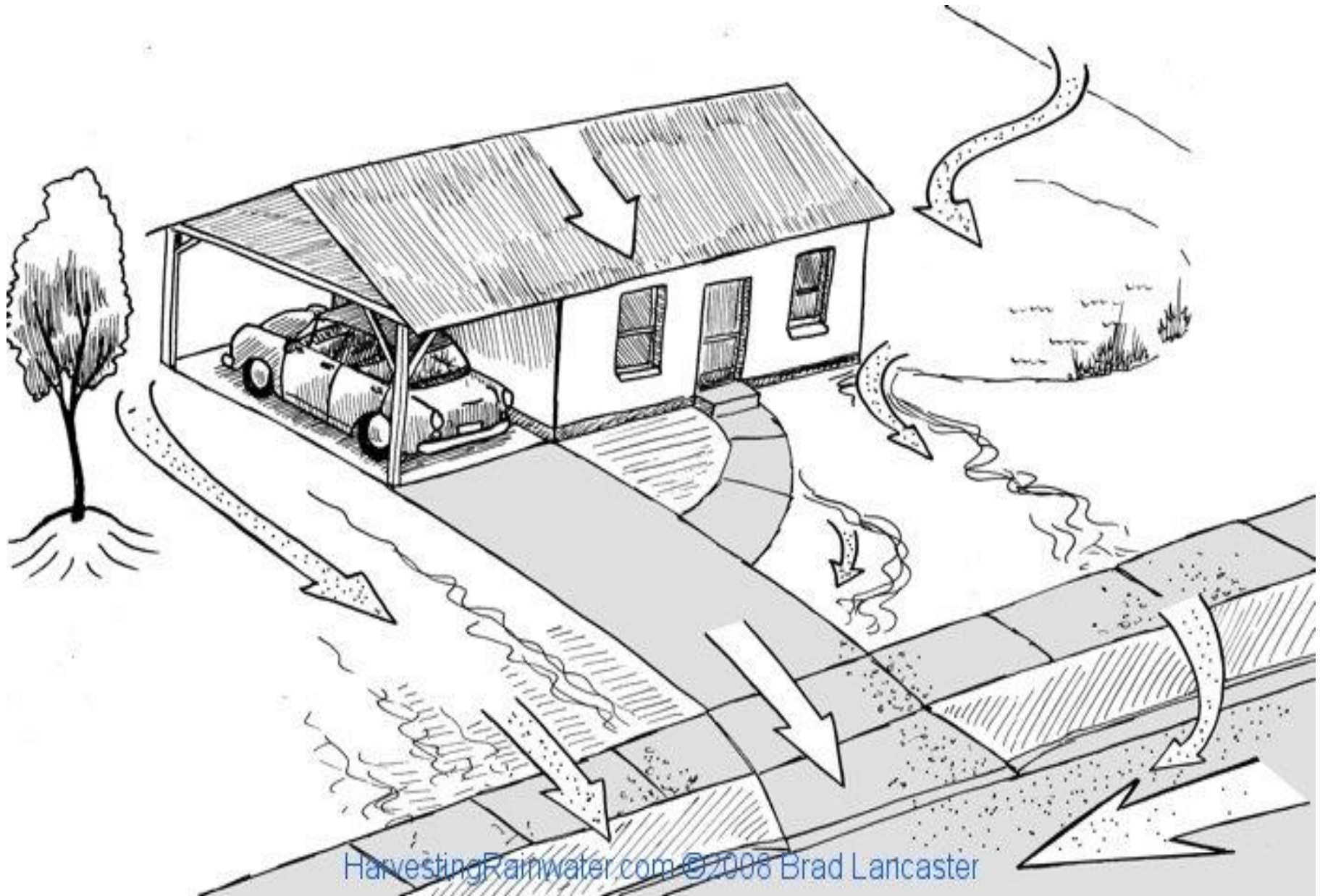


Values based on Arizona Department of Water Resources ABC's of Water
<http://www.azwater.gov/AzDWR/PublicInformationOfficer/ABCofWater.htm>

Permaculture



Rain Treated as Waste



Rain Treated as a Resource







Sustainable Gardening Techniques

- Nutrition
- Resistant varieties
- Interplanting and Companion Planting
- Crop Rotation
- Enhancement of naturally occurring Biological Controls
- Timed Planting
- Mulch and Ground Covers
- Trap Cropping
- Clean Cultivation
- Ongoing Education



Characteristics of Soil

Desert Soil

- Low Populations of Micro-Organisms
- Low in Organic Matter
- Lacks Nutrients
- Compacted
- High Ph

Healthy Soil

- High Population of Micro-Organisms
- High in Organic Matter
- No Toxins/Pesticides
- Balanced Nutrients/Ph
- Porous
- Good Tilth/Texture



How to Build Healthy Soils

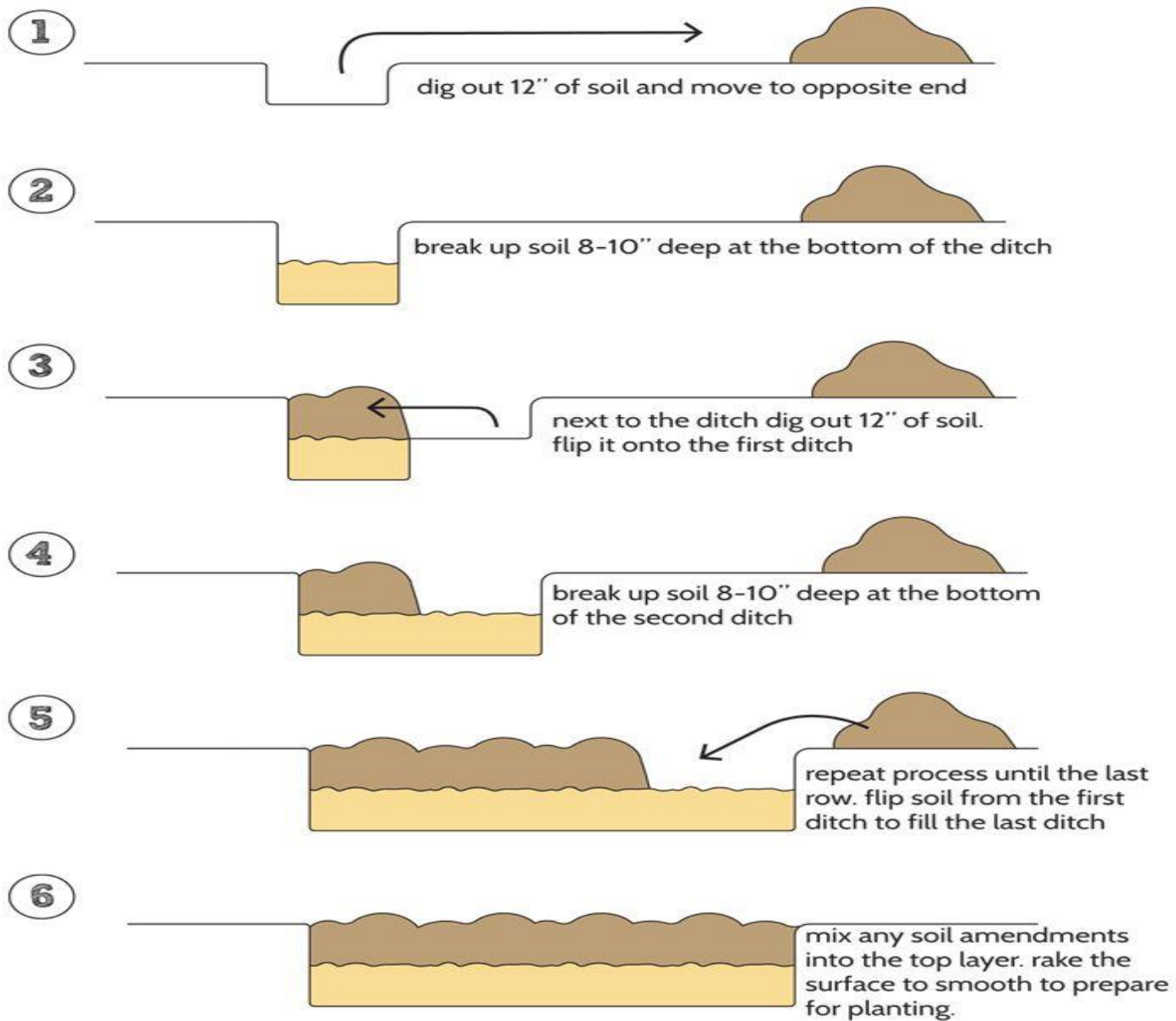
- Eliminate Synthetic Pesticides/Fertilizers
- Encourage the Soil Food Web
- Use Compost and Compost Teas
- No Till or Low Till
- Use Supplements if Needed
- Grow Roots Not Plants



Build the Soil – Compost



- Adds Soil Life
- Improves Tilth and Water Holding Capacity
- Balances Ph
- Eliminates Food Waste
- For New Gardens, Replace 50% of Native Soil with Compost.



double digging

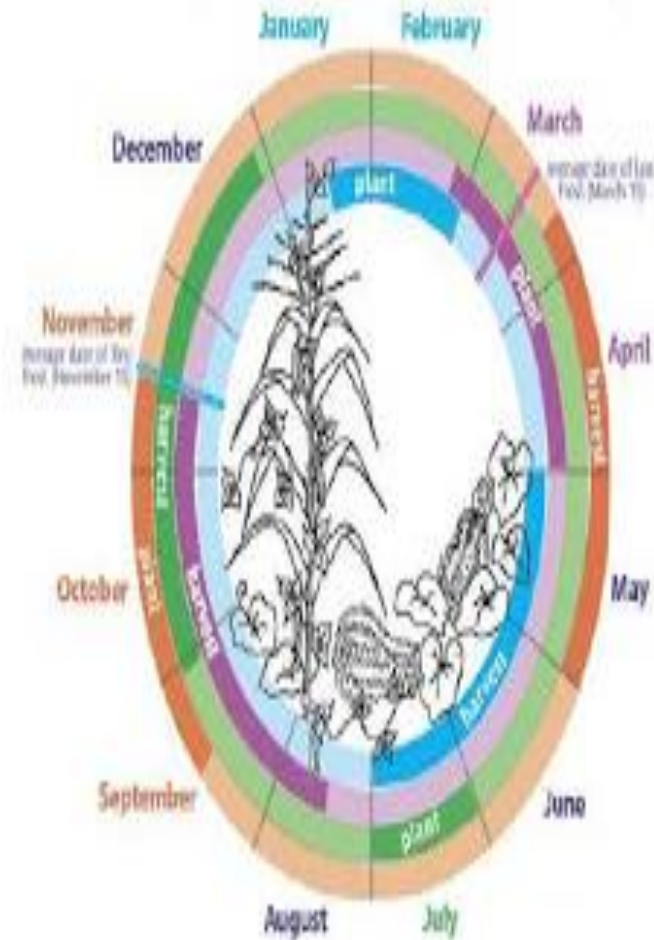
thisnaturaldream.com

Build the Soil – Mulch and Cover Crop

- Mulch, Mulch, Mulch
- Wood Chips for Trees and Shrubs
- Alfalfa Hay for Vegetable Gardens
- Avoid Straw
- Biologic not Geologic



Follow Nature – Timed Plantings



- Use Local Planting Guides, not seed packets
- Plants growing out of season will always struggle
- Follow the weather, not the calendar



Tucson
Organic
Gardeners

soiling our hands since 1971

TUCSON ORGANIC GARDENERS PLANTING GUIDE

FOR TUCSON AND THE LOW DESERT

Jan 1 – Feb 15

FROM SEED

Arugula, Broccoli, Cabbage, Chinese Cabbage, Cauliflower, Celery, Cilantro, Collards, Dill, Fennel, Kale, Lettuce, Mustard Parsley, Bulb Onion (See Graphic), Potato

FROM SEEDLING TRANSPLANT

Artichoke, Broccoli, Cabbage, Chinese Cabbage, Cauliflower, Celery, Cilantro, Collards, Dill, Fennel, Kale, Lettuce, Mustard, Parsley, Spinach, Swiss Chard.

April 15 – May 31

FROM SEED

Amaranth, Basil, Cantaloupe, Cowpea, Cucumber, Malabar Spinach, Melon, Okra, Sorghum, Sweet Potato Slips, Summer Squash, Watermelon

FROM SEEDLING TRANSPLANT

Basil, Eggplant, Pepper

July 15 – August 31

FROM SEED

Bush Beans, Pole Beans, Corn (all types), Cowpea, Cucumber, Cantaloupe, I'tois Onion (See Graphic), Pumpkin, Sorghum Summer and Winter Squash

FROM SEEDLING TRANSPLANT

Tomato (July 15 - Aug 15)

Oct 15 - Nov 15

FROM SEED

Beets, Carrots, Garlic, Greens, Lettuce, Mustard, Pea, Radish, Turnip, Wheat (December – January)

FROM SEEDLING TRANSPLANT

Broccoli, Cabbage, Chinese Cabbage, Cauliflower, Celery, Cilantro, Collards, Dill, Fennel, Kale, Lettuce, Mustard Parsley, Spinach, Swiss Chard

LATE WINTER

SPRING

LATE SPRING

EARLY SUMMER

MONSOON

EARLY FALL

LATE FALL

March 1 – April 15

FROM SEED

Amaranth, Basil, Bush Bean, Corn (Sweet), Cucumber, Jerusalem Artichoke, Malabar Spinach, Melon, Pumpkin, Sesame, Sorghum, Summer and Winter Squash, Tobacco, Watermelon

FROM SEEDLING TRANSPLANT

Basil, Eggplant, Pepper, Tomato, Tomatillo

June 1 – June 15

FROM SEED

Pole Beans, Cantaloupe, Cowpea, Melon, Sweet Potato Slips

Sep 1 – Oct 15

FROM SEED

Arugula, Beet, Bok Choy, Broccoli, Brussels Sprouts, Cabbage, Carrot, Cauliflower, Celery, Chia, Chicory, Chinese Cabbage, Cilantro, Collards, Escarole, Fava, Garbanzo, Greens, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mache, Mustard, Onion (See Graphic), Parsley, Parsnip, Pea, Radish, Rape, Rutabaga, Turnip, Spinach, Swiss Chard

FROM SEEDLING TRANSPLANT

Broccoli, Brussels Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Celery, Cilantro, Dill, Fennel, Kale, Lettuce, Mustard, Parsley, Spinach, Swiss Chard

ONIONS



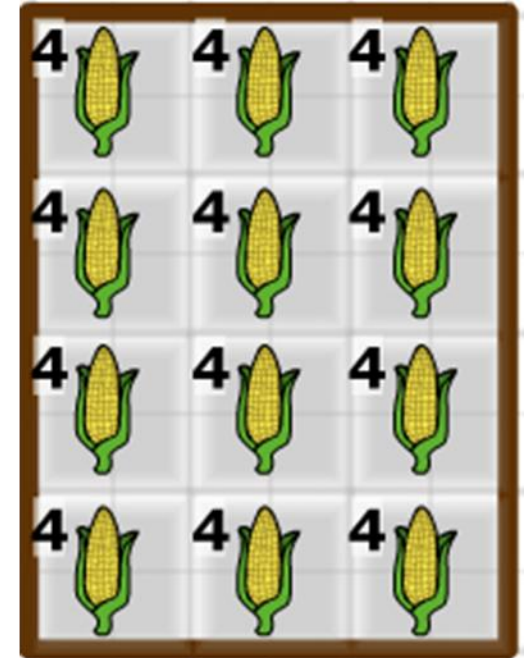
"SHORT-DAY" BULB ONION SETS
January 1 – February 15

TOHONO O'ODHAM I'TOIS MULTIPLIER ONION
July 15 – February 1

GREEN BUNCHING/SCALLION
August 15 – February 1



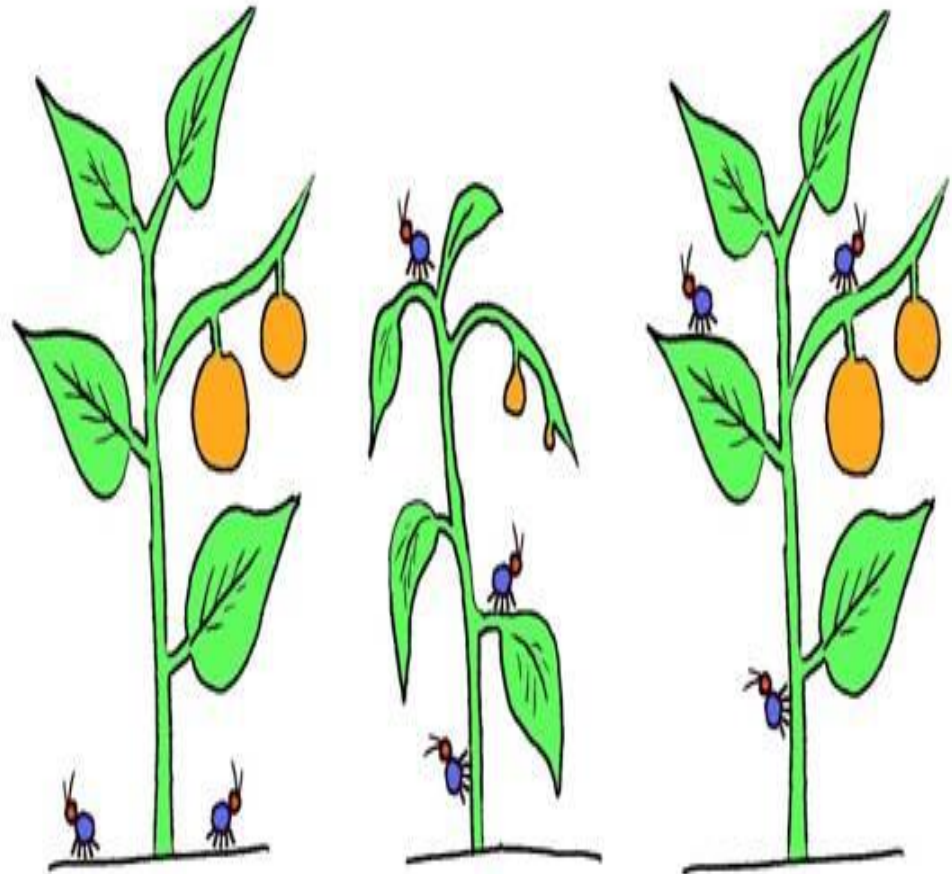
Follow Nature – Crop Rotation



- For large gardens rotate crops by plant family
- For small gardens rotate crops by nutrient requirements

Work With Nature – Resistant Varieties

- Reduce or eliminate need for pesticides
- Heirlooms and hybrids



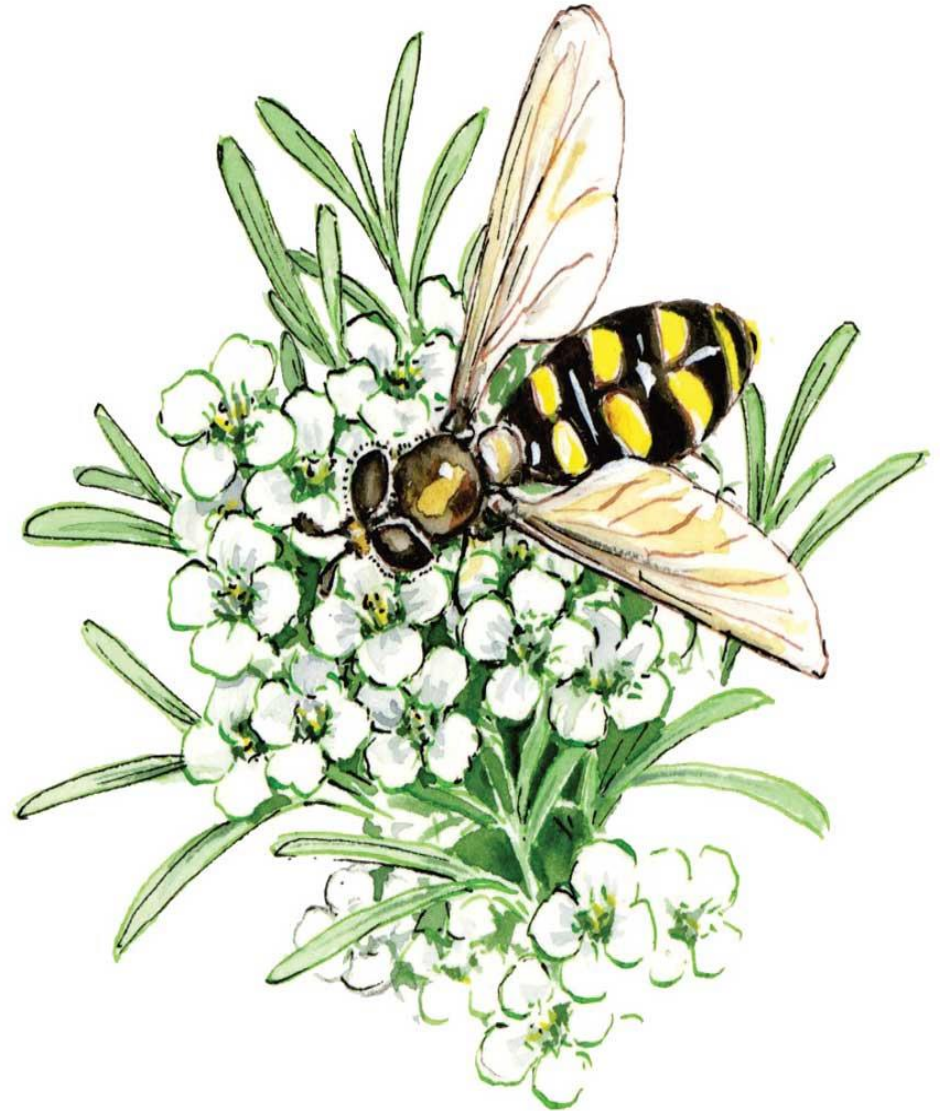
Resistant

Susceptible

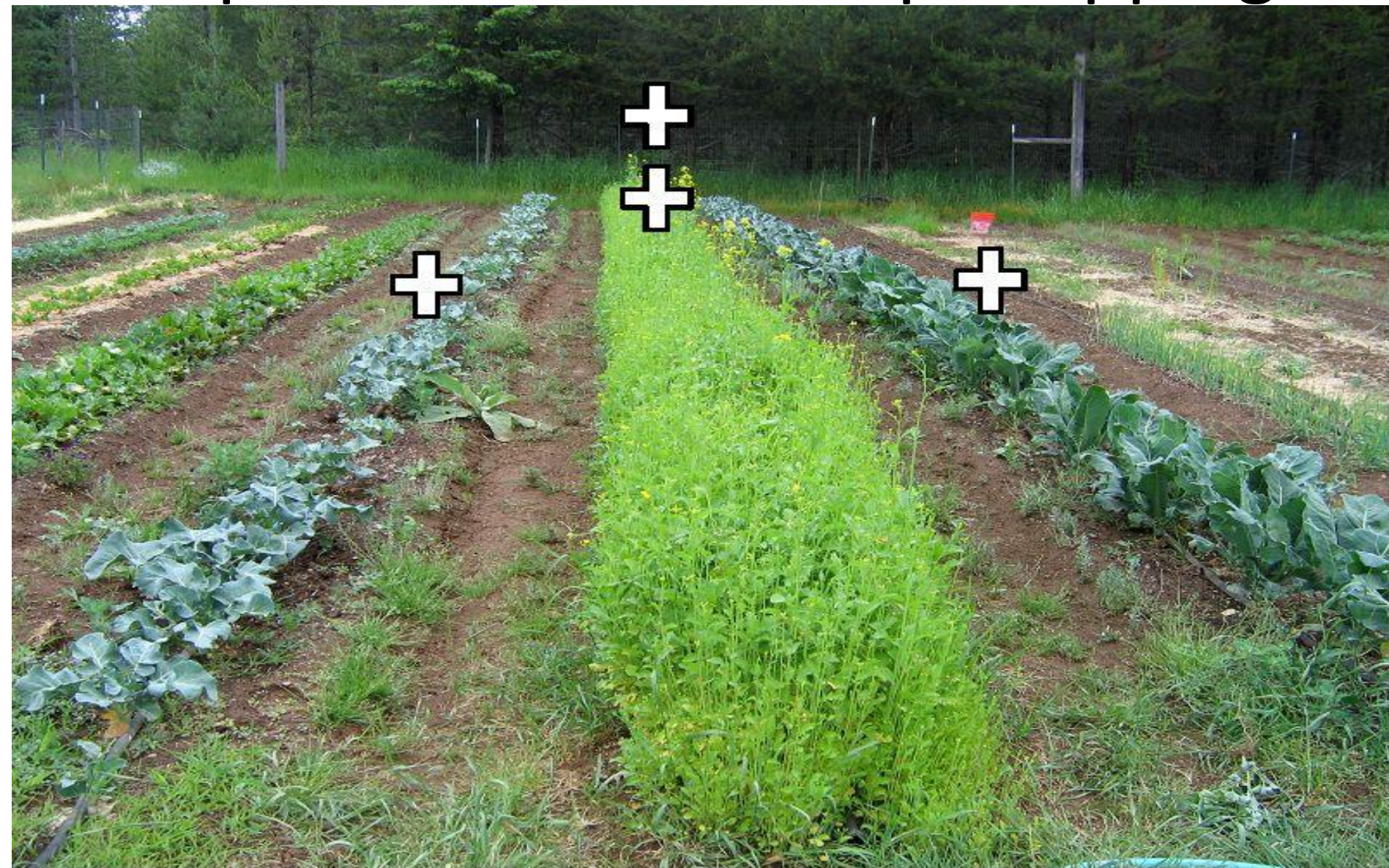
Tolerant

Replicate Nature – Companion Planting

- Nurse Cropping
- Nutrition
- Pest Resistance
- Space Enhancement
- Pollinator attraction
- Trap Cropping



Replicate Nature – Trap Cropping

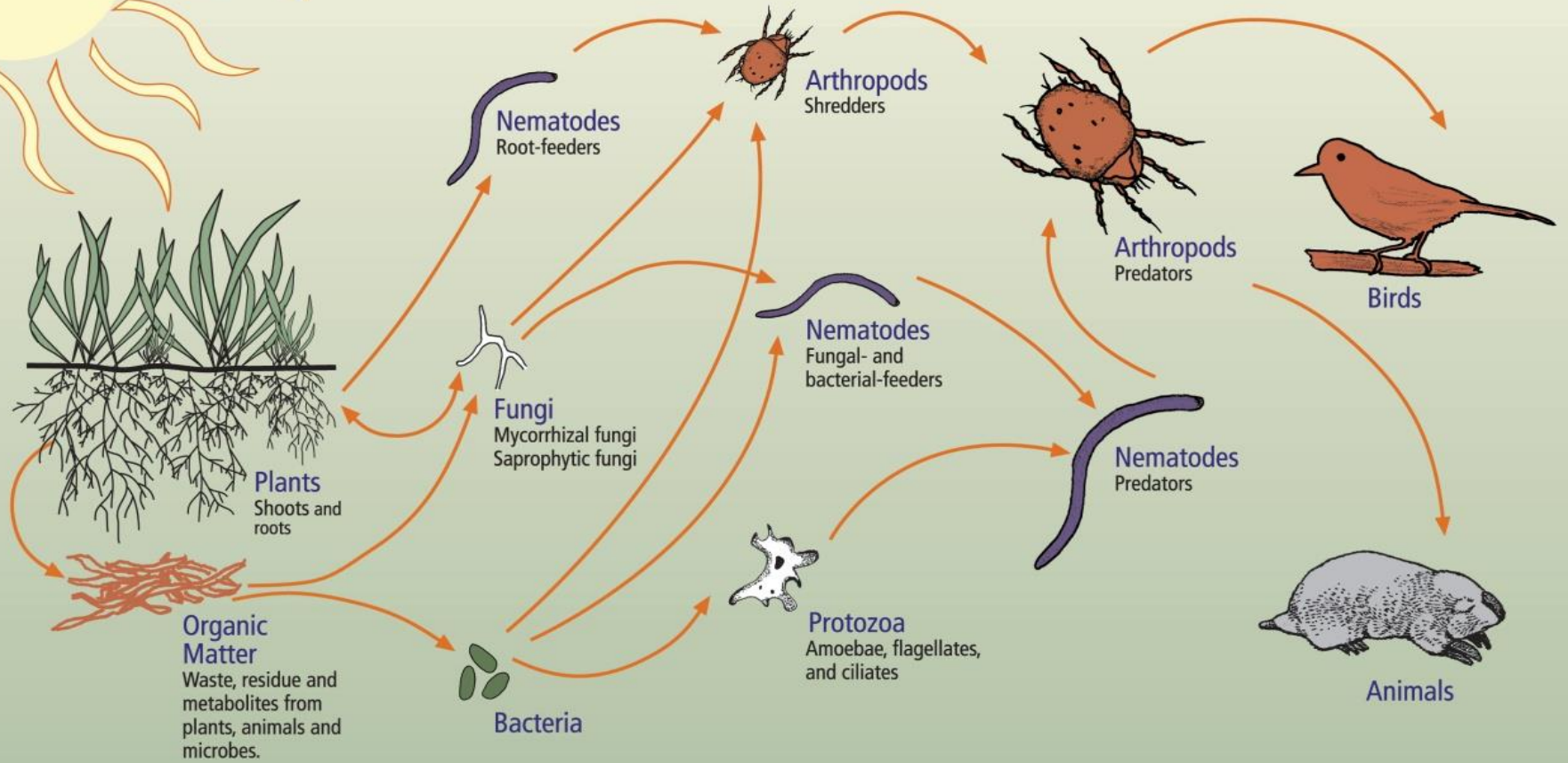


Enhance Nature – Bio Control

- Native plants attract native pollinators
- All year blooming
- Edible and Medicinal Native Plants



The Soil Food Web



First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, Parasites
Root-feeders

Third trophic level:
Shredders
Predators
Grazers

Fourth trophic level:
Higher level predators

Fifth and higher trophic levels:
Higher level predators



Work Smart

- Be Realistic
- Stay Hydrated
- Repetitive Motion
- Healthy Plants
- Clean your tools
- Wash Hands

*Your own vegetables
all the year round . . .*



if you

1378

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**DIG FOR
VICTORY NOW**

Stay Smart

- Congratulations!

RESOURCES

- Community Food Bank
- Tanks Green Stuff
- EcoGro
- Reading List
- Gardening Clubs
- Local Businesses
- Friends and Family





Thank you!

www.southwestvictorygardens.com/Documents

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