

Gardening for All



- What?
 - The practice of cultivating and caring for plants.
 - Includes seed selection and preservation, planting, watering, weeding, pruning, pest and disease control, harvesting, etc.
 - Creating and maintaining a visually appealing and productive outdoor space.
- Why?
 - Beauty, Physical Health, Mental Health, Connection to Nature, Food Security, Environmental Benefits, Social Connection, Personal Satisfaction, ...
- Types:
 - Vegetable, Herb, Flower, Rock, Water, Container, Vegetative or Fruit Orchard (Butchart Gardens, Tulip Festival), Medicinal, Mittleider, Bee, Wildlife, Japanese, etc.



Highlights

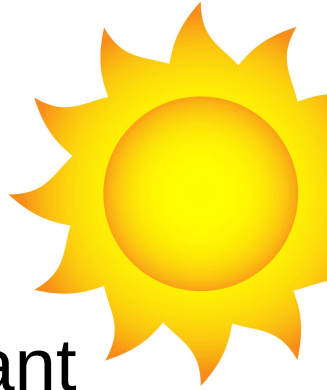
- Laws / Principles
- Traditional Gardening
- Container Gardening
- Mittleider (vertical gardening)



Laws of Plant Growth

#1: Light

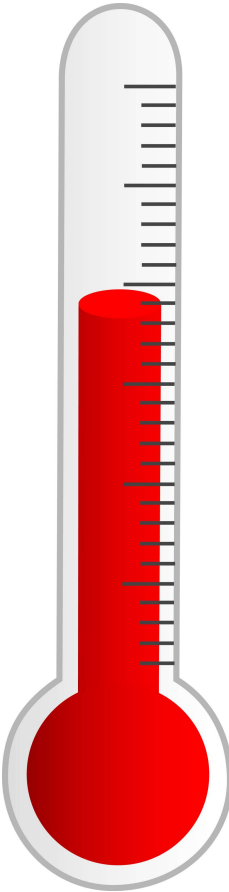
- Source of all life
- Produces photosynthesis – essential to plant growth
- Direct sunlight, all day long is best
- Avoid shade, even from other plants and trees



Laws of Plant Growth

#2: Temperature

- Plants require a very narrow temperature range
- Ideal: Seed germination ~70-85F
- Consider partial shade during extreme heat
- Provide shelter and supplemental heat during cold



Laws of Plant Growth

#3: **Air**

- Plants primarily take in air from their roots
- Proper soil drainage provides soil-air to plants
- Plants receive 3 nutrients from the atmosphere: carbon, oxygen, and hydrogen



Laws of Plant Growth

#4: **Water**

- A plant is over 80% water
- Water carries nutrients from the soil through roots to plant
- Water must be available to root zone of plants
- A wilting plant is dying
- In hot weather water cools the plant by transpiration



Laws of Plant Growth

- **#5: Nutrition**

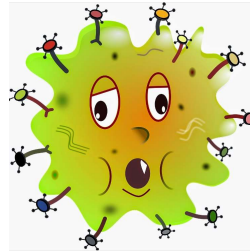
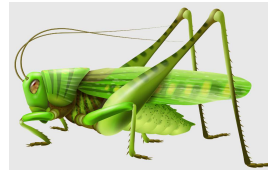
- 16 nutrients essential for plant growth
- 3 (carbon, oxygen, and hydrogen) from the air
- 13 from the soil
 - Macro-Nutrients: Nitrogen, Phosphorus, Potassium
 - Secondary Nutrients: Calcium, Magnesium, Sulfur
 - Boron, Chlorine, Copper, Iron, Manganese, Molybdenum, Zinc



Laws of Plant Growth

#6: **Competition** – Protecting Against

- Weeds
- Insects
- Animals
- Diseases

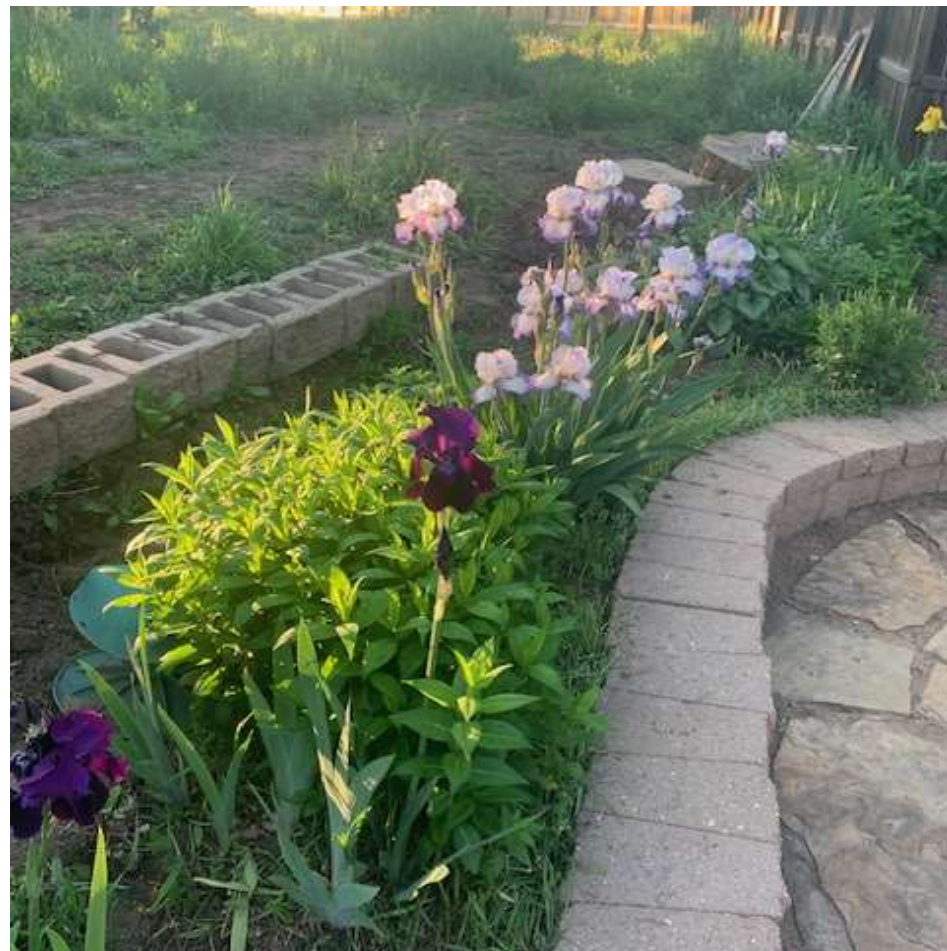


Key to Success



- Begin with a Plan!
 - Site Selection
 - Soil Preparation
 - Seed Selection and Planting (tallest plants go to South West side of garden)
 - Spacing
- Watering and Irrigation
 - Automate, keep water off leaves
- Pruning (Indeterminate Tomatoes, Melons, Squash, Cucumbers) & Thinning
- Weed and Pest Management
- Maintenance and Care
 - Disease control (take preemptive measures to control Powdery Mildew)

Traditional Gardening



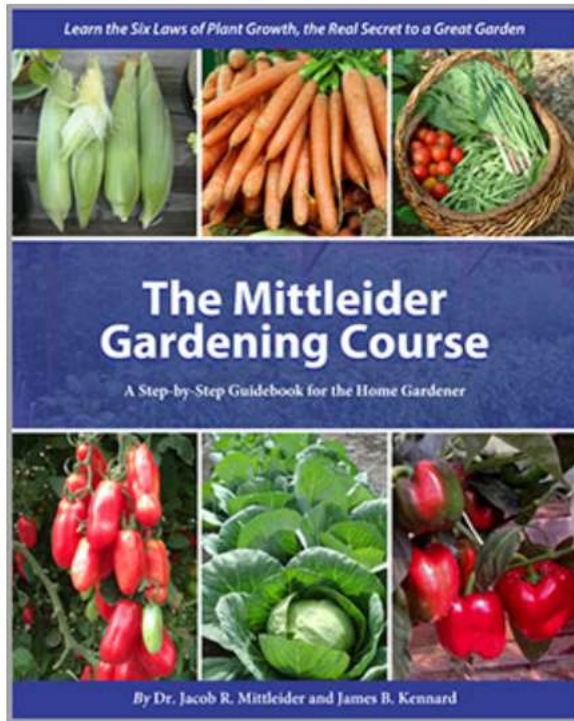


Harvest



Container Gardening

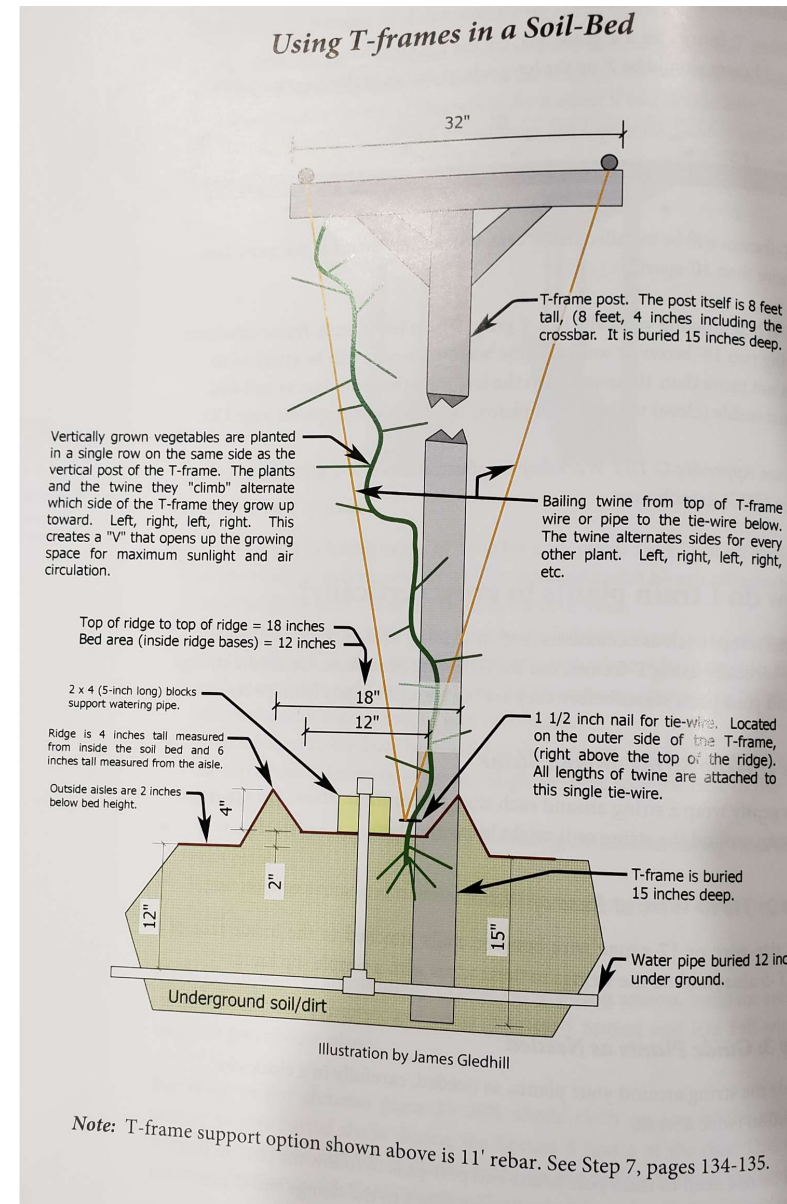
Mittleider Gardening



The Mittleider Gardening
method

Plan

- Narrow beds
- Sand and Sawdust soil
- Wide walk ways
- Weekly feeding
- Automated watering
- Active Pruning

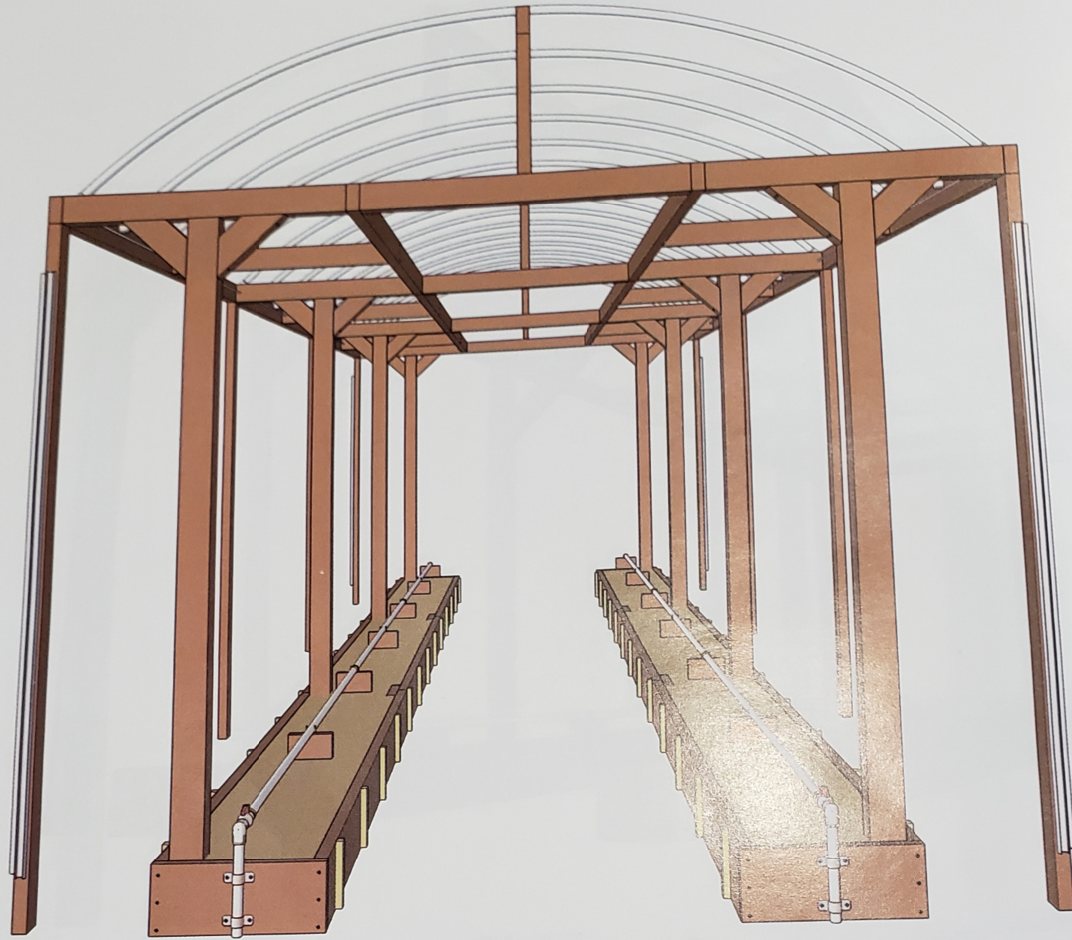


Options

- 18" beds or 4' beds
- Vertical / Horizontal



T-frame In-the-Garden Greenhouse















Preplant Fertilizer

- 5 lbs Gypsum
- 1 oz Boron (20 Mule Team Borax)
- 4 oz magnesium (Epsom Salt)

Apply 1 oz per linear 18" foot before planting

Weekly Feed Fertilizer

- 25 lbs all-purpose fertilizer
(13-13-13, 16-16-16, 17-17-17)
- 4 lbs Epsom Salt
- 10 oz (1 packet) Mittleider Micro-nutrients

Apply 1.2 oz per linear 18" foot garden bed weekly