Vegetable Gardening II

Garden Planning and Basic Sustainable Practices

Presented by
Stephanie Johnson, Andrea Kinder, Jean Meink, Pam Rockx, Thomas Bolles

- Questions from Part I
- Using the Planting Calendar
- Seed Starting
- Crop Rotation and Succession
- Plant Families
- Small Space Gardening
- Container Gardening

- **What is the best cover crop for a small raised bed?**

  It depends on what you are trying to do. Any of them work well if you are trying to just keep the soil covered. Legumes are helpful to add nitrogen, mustards can help with some nematode issues, etc.

- **Are there any none negative impacts to the soil from using GMO seeds?**

  Not that I have seen. GMO seeds exist for relatively few crops and it is unlikely you will get ahold of GMO seeds as a non-farmer.

  - **Open Pollinated (heirloom) varieties** = varieties with enough genetic consistency to breed back consistently; seeds are true to their parent plant; these seeds can be saved and used the following year.
  - **Hybrid varieties** = varieties that are created by crosses other varieties together; seeds from hybrids are highly unlikely to be true to their parent and should not be saved.
  - **GMO varieties** = varieties where DNA strands have been added via lab processes. These seeds are patented and it is actually illegal to use seed saved from a GMO plant
    - Apples (2017), Potatoes (2016), Sugar Beets (2006), Canola (1999), Papaya (1997), Cotton (1996), Corn (1996), Soybean (1995), Squash (1995)

- **What small space and container gardens?**

  Andrea and Stephanie will speak on these today

- **What about straw bale gardening?**

  Requires fertilizer. Isn't often HOA-compliant Long term, in-ground planting or making a proper raised bed is often a better way to go.

  - grayson.ca.uky.edu/files/straw_bale_gardening_presentation.pdf
  - counties.extension.wisc.edu/douglas/files/2015/07/StrawBaleUWV.pdf
  - s3.wp.wsu.edu/uploads/sites/2071/2013/12/Straw-Bale-Gardening.pdf
  - extension.umd.edu/sites/extension.umd.edu/files/_docs/locations/frederick_county/MG%20Fair%202016-How%20to%20Condition%20Straw%20Bale%20For%20Planting.pdf

- **Is there a way for class to be more interactive?**

  Come spent Saturday in the Garden with us. The Cook's Garden Team is there each month.

  - April 13 - Container Gardening with Native Plants and Spring Lawn Care
  - May 11 - Gardening in Small Spaces and Swallowtail Saturday **+ Plant Sale**
  - June 8 - Celebrate Pollinator Week with the Capital Naturalist
  - July 13 – Wildlife Gardening with the Humane Gardener
  - August 10 – Groundcovers for your Landscape and Feed Your Soil to Feed Your Plants
  - September 7 – Color Your Yard This Fall and Yoga for Gardeners **+ Plant Sale**
  - October 5 – The Great Plant Migration – Safely and Happily Moving Plants Indoors

- **What about Fruit?**

  Tree fruits, generally, have more issues than vegetables

  - Most need multiple pest control applications annually
  - Don’t start producing significantly for 3-5 years after planting
  - Many require multiple compatible varieties for pollination
  - Native fruits – **Red Mulberry, Paw-Paw, Persimmon** are options but they have issues
  - **Figs** do reasonably well in the DC metro area

  See pubs.ext.vt.edu/426/426-841/426-841.html

Small fruits, usually are a better choice over tree fruits; they can have insect/bird issues; require regular pruning

- Grapes
  - Heavy pest pressure, require trellising
  - Muscadines (natives) do better than European varieties
- Blackberries/Raspberries
  - Limited Virginia-suitable varieties, come in primocane and floricane varieties
- Blueberries
  - High bush or rabbiteye (native) work best, need multiple varieties, love acidic conditions
- Strawberries
  - Short lived, come in June-bearing and ever-bearing varieties

See pubs.ext.vt.edu/426/426-840/426-840.html

How do you know when to plant to get the harvest you want?

Solution – Planting Calendar

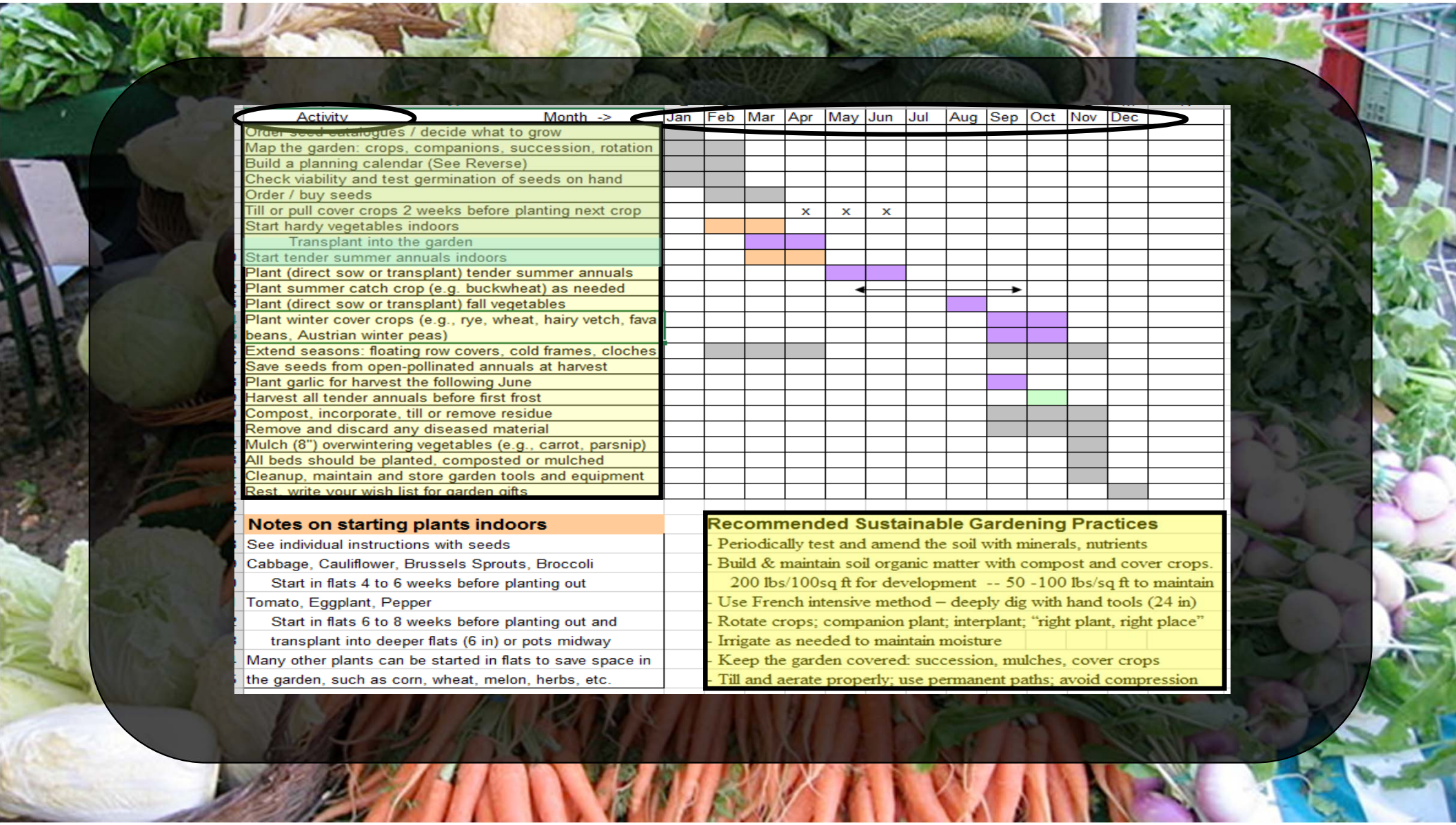
Month	March				April			May			June			July			August			September			October		
Date	1	11	21	31	10	20	30	10	20	30	9	19	29	9	19	29	8	18	28	7	17	27	7	17	27
Crop																									
Collards	P								H								P							H	→
Onion, set	P				P&H					H															→
Peas, garden	P						H																		
Radish	P		P&H				H										P		P&H						→
Spinach	P				H															P				H	→
Turnips	P				H												P				P&H		H		→
Potatoes		P									H														
Beets			P						H									P						H	→
Cabbage*			P						H							P						H			→
Carrots			P						H				P&H			P			H						→
Lettuce, bibb			P							H						P					H				→
Lettuce, leaf			P					H								P				H					→
Broccoli*				P							H					P&H	P						H		→
Brussels sprouts*				P								H				P							H		→
Cauliflower*				P					H							P					H				→
Beans, bush						P					P&H						H								
Beans, pole						P								P&H		H									
Corn, sweet						P							P&H				H								
Cucumbers							P					P&H								H					
Eggplant*							P								H										
Muskmelons							P							H											
Cantaloupe							P							H											
Peppers*							P							P&H	H										
Pumpkins							P								H										
Squash, summer							P				P&H								H						
Squash, winter							P									H									
Sweet Potato							P									H									
Tomatoes*							P						P&H		H										
Watermelon							P								H										

Key

Plant
Plant & Harvest
Harvest

* Transplants - See notes on reverse

Start

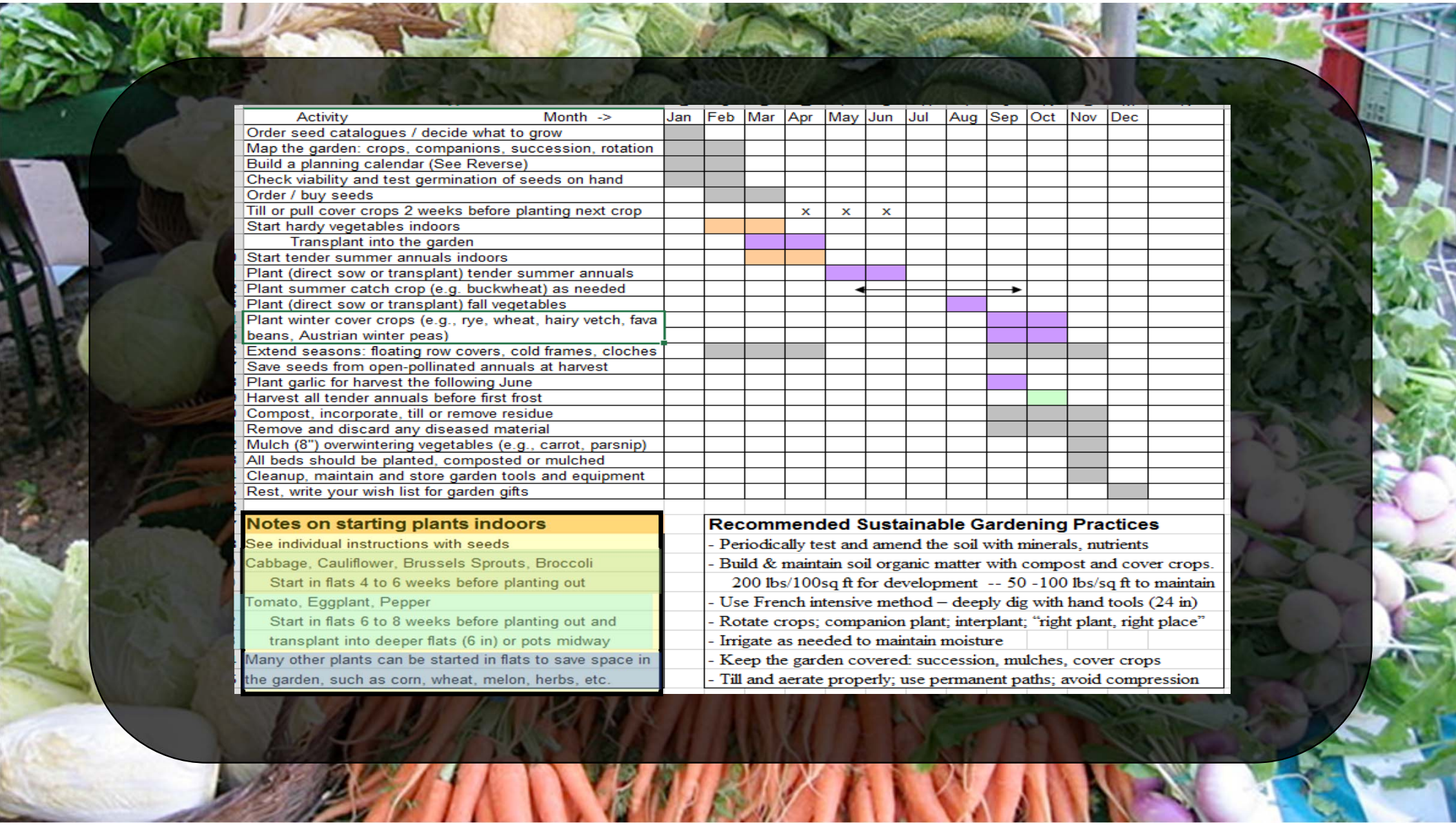


Activity	Month ->	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Order seed catalogues / decide what to grow													
Map the garden: crops, companions, succession, rotation													
Build a planning calendar (See Reverse)													
Check viability and test germination of seeds on hand													
Order / buy seeds													
Till or pull cover crops 2 weeks before planting next crop					x	x	x						
Start hardy vegetables indoors													
Transplant into the garden													
Start tender summer annuals indoors													
Plant (direct sow or transplant) tender summer annuals													
Plant summer catch crop (e.g. buckwheat) as needed													
Plant (direct sow or transplant) fall vegetables													
Plant winter cover crops (e.g., rye, wheat, hairy vetch, fava beans, Austrian winter peas)													
Extend seasons: floating row covers, cold frames, cloches													
Save seeds from open-pollinated annuals at harvest													
Plant garlic for harvest the following June													
Harvest all tender annuals before first frost													
Compost, incorporate, till or remove residue													
Remove and discard any diseased material													
Mulch (8") overwintering vegetables (e.g., carrot, parsnip)													
All beds should be planted, composted or mulched													
Cleanup, maintain and store garden tools and equipment													
Rest, write your wish list for garden gifts													

Notes on starting plants indoors
See individual instructions with seeds
Cabbage, Cauliflower, Brussels Sprouts, Broccoli
Start in flats 4 to 6 weeks before planting out
Tomato, Eggplant, Pepper
Start in flats 6 to 8 weeks before planting out and
transplant into deeper flats (6 in) or pots midway
Many other plants can be started in flats to save space in
the garden, such as corn, wheat, melon, herbs, etc.

Recommended Sustainable Gardening Practices

- Periodically test and amend the soil with minerals, nutrients
- Build & maintain soil organic matter with compost and cover crops.
  200 lbs/100sq ft for development -- 50 -100 lbs/sq ft to maintain
- Use French intensive method – deeply dig with hand tools (24 in)
- Rotate crops; companion plant; interplant; "right plant, right place"
- Irrigate as needed to maintain moisture
- Keep the garden covered: succession, mulches, cover crops
- Till and aerate properly; use permanent paths; avoid compression



Activity / Month ->	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Order seed catalogues / decide what to grow												
Map the garden: crops, companions, succession, rotation												
Build a planning calendar (See Reverse)												
Check viability and test germination of seeds on hand												
Order / buy seeds												
Till or pull cover crops 2 weeks before planting next crop				x	x	x						
Start hardy vegetables indoors												
Transplant into the garden												
Start tender summer annuals indoors												
Plant (direct sow or transplant) tender summer annuals												
Plant summer catch crop (e.g. buckwheat) as needed												
Plant (direct sow or transplant) fall vegetables												
Plant winter cover crops (e.g., rye, wheat, hairy vetch, fava beans, Austrian winter peas)												
Extend seasons: floating row covers, cold frames, cloches												
Save seeds from open-pollinated annuals at harvest												
Plant garlic for harvest the following June												
Harvest all tender annuals before first frost												
Compost, incorporate, till or remove residue												
Remove and discard any diseased material												
Mulch (8") overwintering vegetables (e.g., carrot, parsnip)												
All beds should be planted, composted or mulched												
Cleanup, maintain and store garden tools and equipment												
Rest, write your wish list for garden gifts												

Notes on starting plants indoors

See individual instructions with seeds

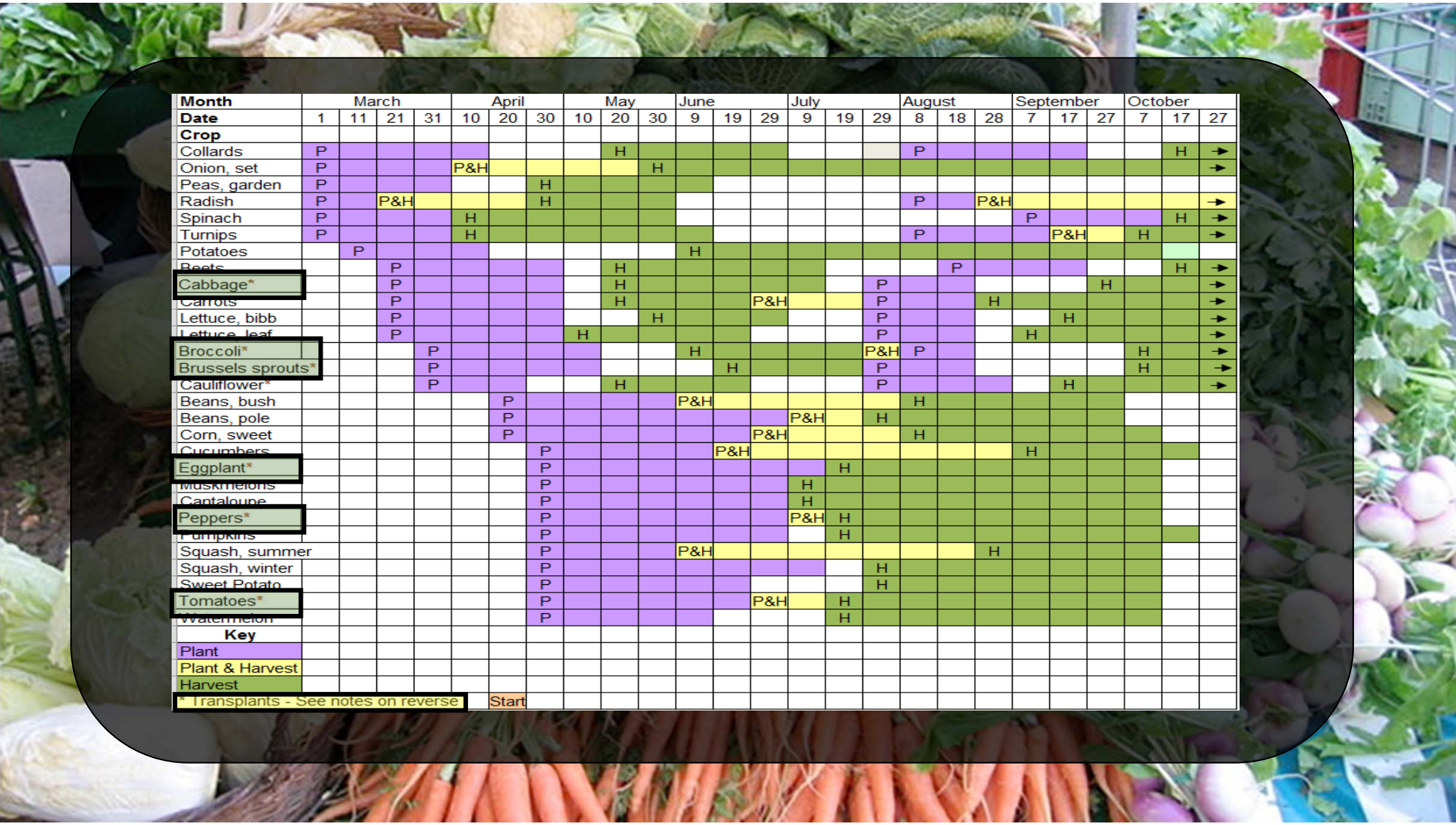
Cabbage, Cauliflower, Brussels Sprouts, Broccoli
Start in flats 4 to 6 weeks before planting out

Tomato, Eggplant, Pepper
Start in flats 6 to 8 weeks before planting out and transplant into deeper flats (6 in) or pots midway

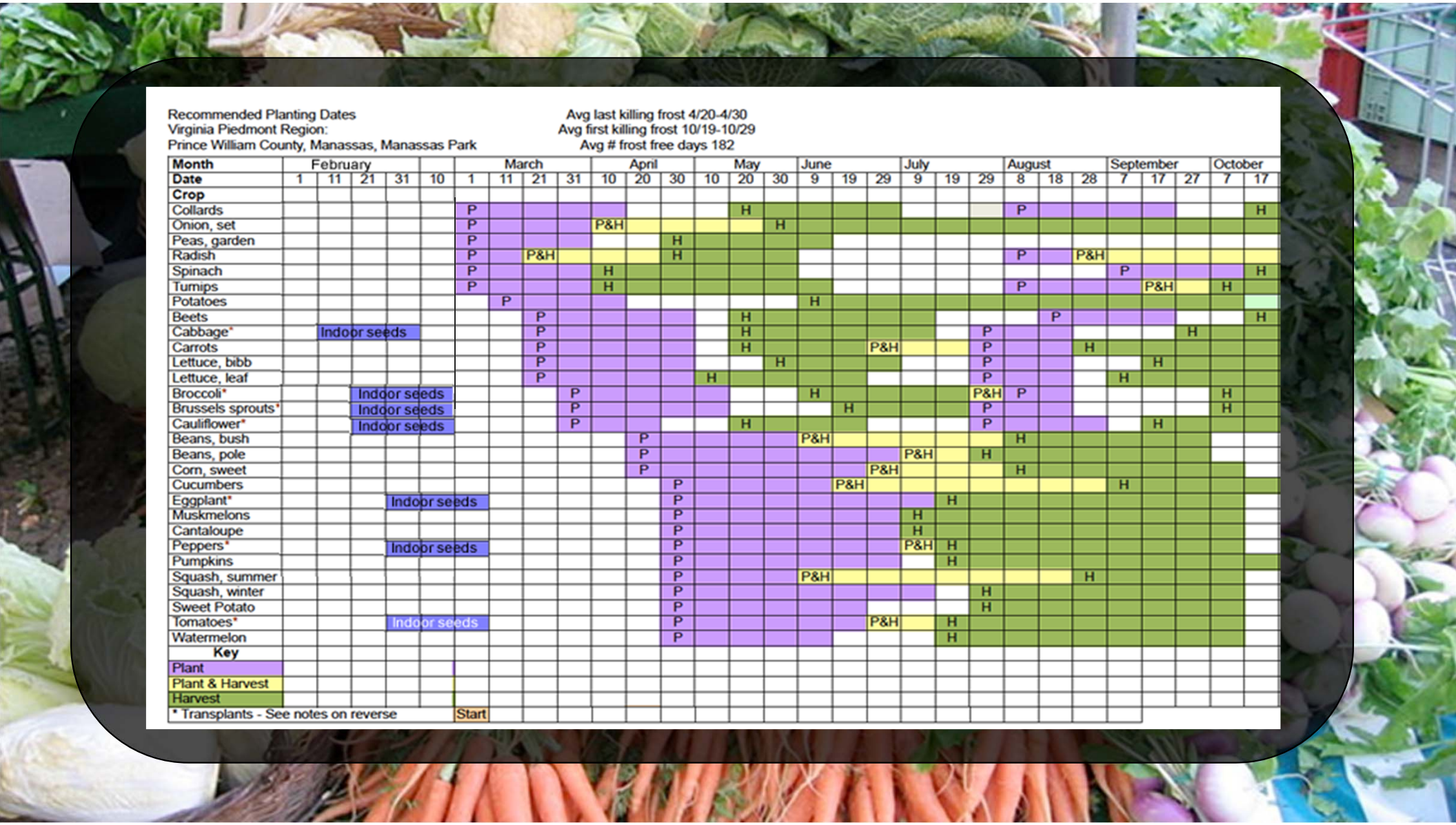
Many other plants can be started in flats to save space in the garden, such as corn, wheat, melon, herbs, etc.

Recommended Sustainable Gardening Practices

- Periodically test and amend the soil with minerals, nutrients
- Build & maintain soil organic matter with compost and cover crops.
  200 lbs/100sq ft for development -- 50 -100 lbs/sq ft to maintain
- Use French intensive method – deeply dig with hand tools (24 in)
- Rotate crops; companion plant; interplant; "right plant, right place"
- Irrigate as needed to maintain moisture
- Keep the garden covered: succession, mulches, cover crops
- Till and aerate properly; use permanent paths; avoid compression



Month	March				April			May			June			July			August			September			October		
Date	1	11	21	31	10	20	30	10	20	30	9	19	29	9	19	29	8	18	28	7	17	27	7	17	27
Crop																									
Collards	P								H								P							H	→
Onion, set	P				P&H					H															→
Peas, garden	P						H																		
Radish	P		P&H				H										P		P&H						→
Spinach	P				H															P				H	→
Turnips	P				H												P				P&H		H		→
Potatoes		P									H														
Beets			P						H									P						H	→
Cabbage*			P						H							P						H			→
Carrots			P						H				P&H			P			H						→
Lettuce, bibb			P							H						P					H				→
Lettuce, leaf			P					H								P				H					→
Broccoli*				P							H					P&H	P						H		→
Brussels sprouts*				P								H				P							H		→
Cauliflower*				P					H							P					H				→
Beans, bush						P					P&H						H								
Beans, pole						P								P&H		H									
Corn, sweet						P							P&H				H								
Cucumbers							P					P&H								H					
Eggplant*							P								H										
Muskmelons							P							H											
Cantaloupe							P							H											
Peppers*							P							P&H	H										
Pumpkins							P								H										
Squash, summer							P				P&H								H						
Squash, winter							P									H									
Sweet Potato							P									H									
Tomatoes*							P						P&H		H										
Watermelon							P								H										
Key																									
Plant																									
Plant & Harvest																									
Harvest																									
* Transplants - See notes on reverse						Start																			



Recommended Planting Dates
Virginia Piedmont Region:
Prince William County, Manassas, Manassas Park

Avg last killing frost 4/20-4/30
Avg first killing frost 10/19-10/29
Avg # frost free days 182

Month	February					March				April			May			June			July			August			September			October	
Date	1	11	21	31	10	1	11	21	31	10	20	30	10	20	30	9	19	29	9	19	29	8	18	28	7	17	27	7	17
Crop																													
Collards						P								H								P							H
Onion, set						P				P&H					H														
Peas, garden						P						H																	
Radish						P		P&H				H										P		P&H					
Spinach						P				H															P				H
Turnips						P				H												P				P&H		H	
Potatoes							P									H													
Beets								P						H									P						H
Cabbage*		Indoor seeds						P						H							P						H		
Carrots								P						H				P&H			P			H					
Lettuce, bibb								P							H						P					H			
Lettuce, leaf								P					H								P				H				
Broccoli*			Indoor seeds						P							H					P&H	P						H		
Brussels sprouts*			Indoor seeds						P								H				P							H		
Cauliflower*			Indoor seeds						P					H							P					H			
Beans, bush											P					P&H						H							
Beans, pole											P								P&H		H								
Corn, sweet											P							P&H				H							
Cucumbers												P					P&H								H				
Eggplant*				Indoor seeds								P								H										
Muskmelons												P							H										
Cantaloupe												P							H										
Peppers*				Indoor seeds								P							P&H	H										
Pumpkins												P								H										
Squash, summer												P				P&H								H						
Squash, winter												P									H									
Sweet Potato												P									H									
Tomatoes*				Indoor seeds								P						P&H		H										
Watermelon												P								H										
Key																													
Plant																													
Plant & Harvest																													
Harvest																													
* Transplants - See notes on reverse						Start																							

Seed starting

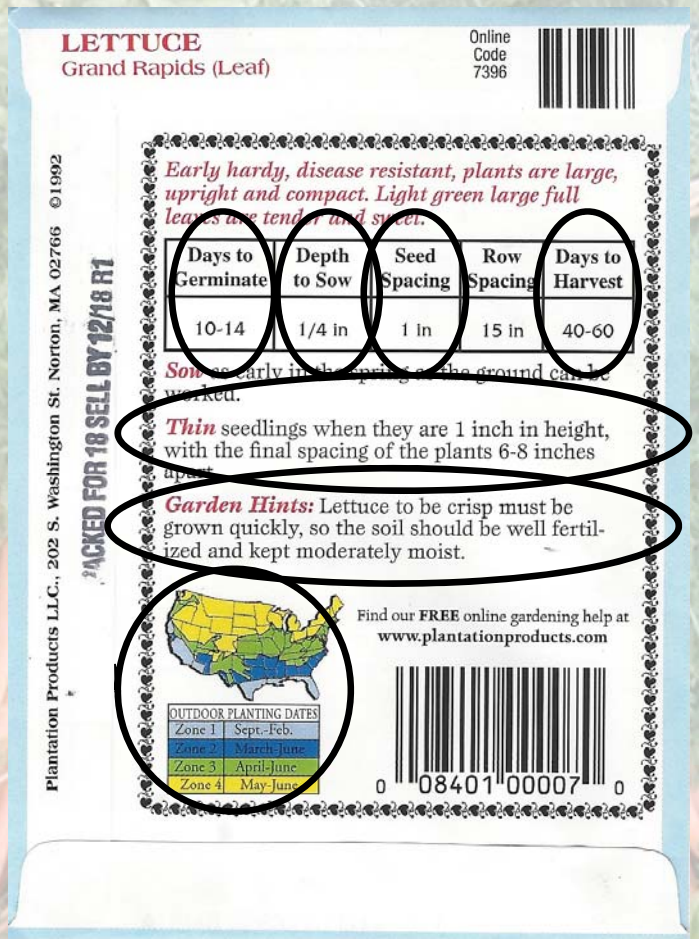
- Pros
  - ✧ Save $ depending on quantity
  - ✧ Satisfaction
- Cons
  - ✧ Time
  - ✧ Some initial cost & consumables

Buying seeds

- How to test your seeds from last year
- Good sources for seeds
  - Burpee - www.burpee.com
  - High Mowing - https://www.highmowingseeds.com/
  - Sample Seed Shop - www.sampleseeds.com
  - Seed Savers Exchange - www.seedsavers.org
  - Southern Exposure - www.southernexposure.com
  - Territorial – www.territorialseed.com

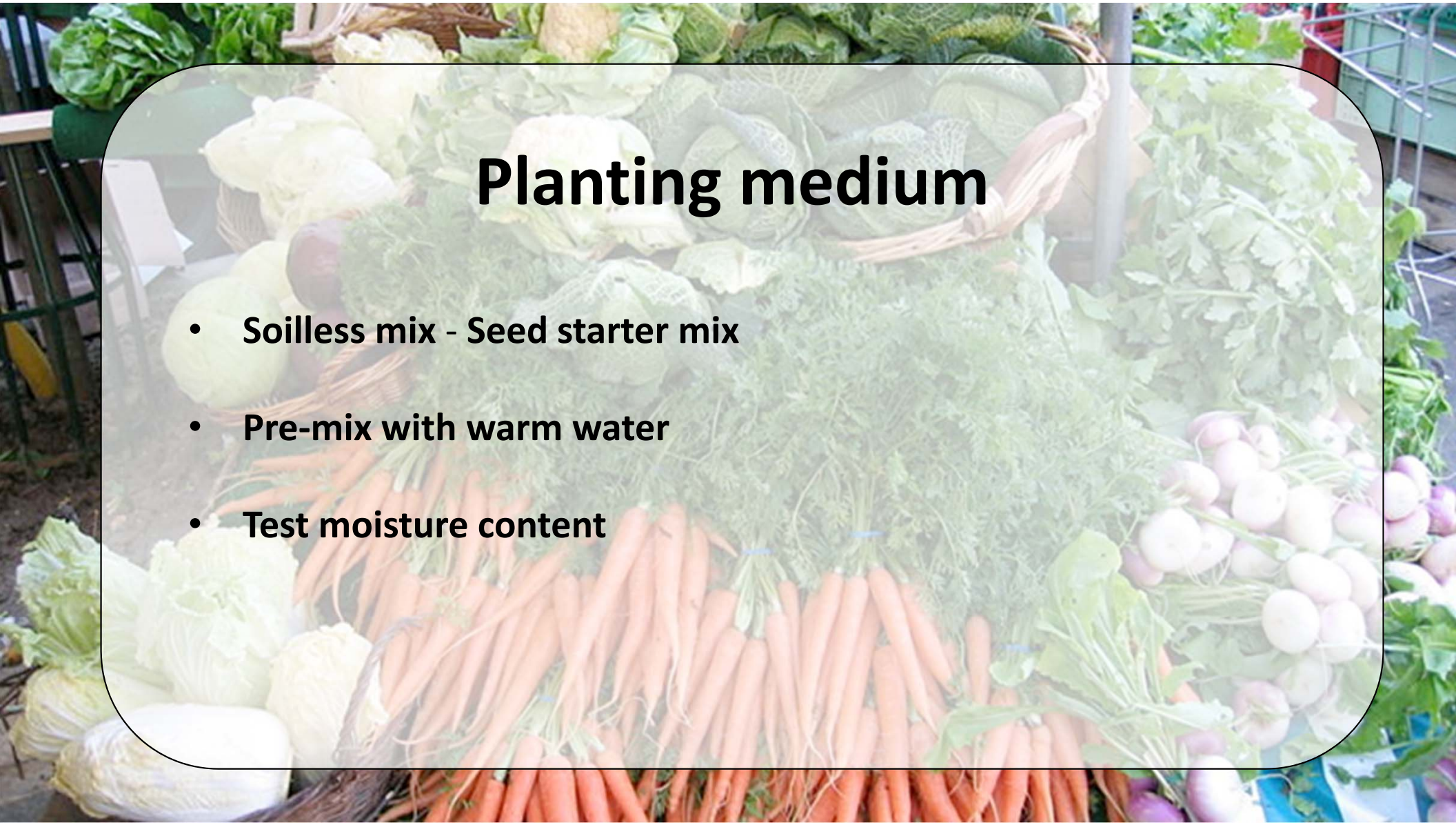
Buying seeds

- **Seed packet -**
- **Wealth of**
- **information**



Seeds Need

- Water
- Light
- Temperature
- Oxygen



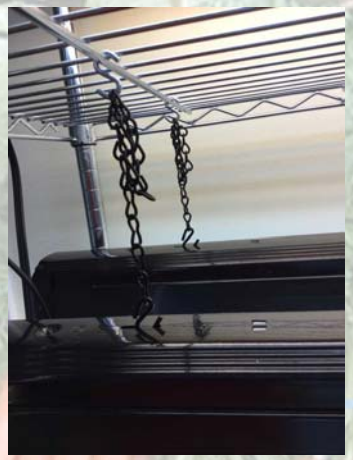
Planting medium

- Soilless mix - Seed starter mix
- Pre-mix with warm water
- Test moisture content

Placement & light

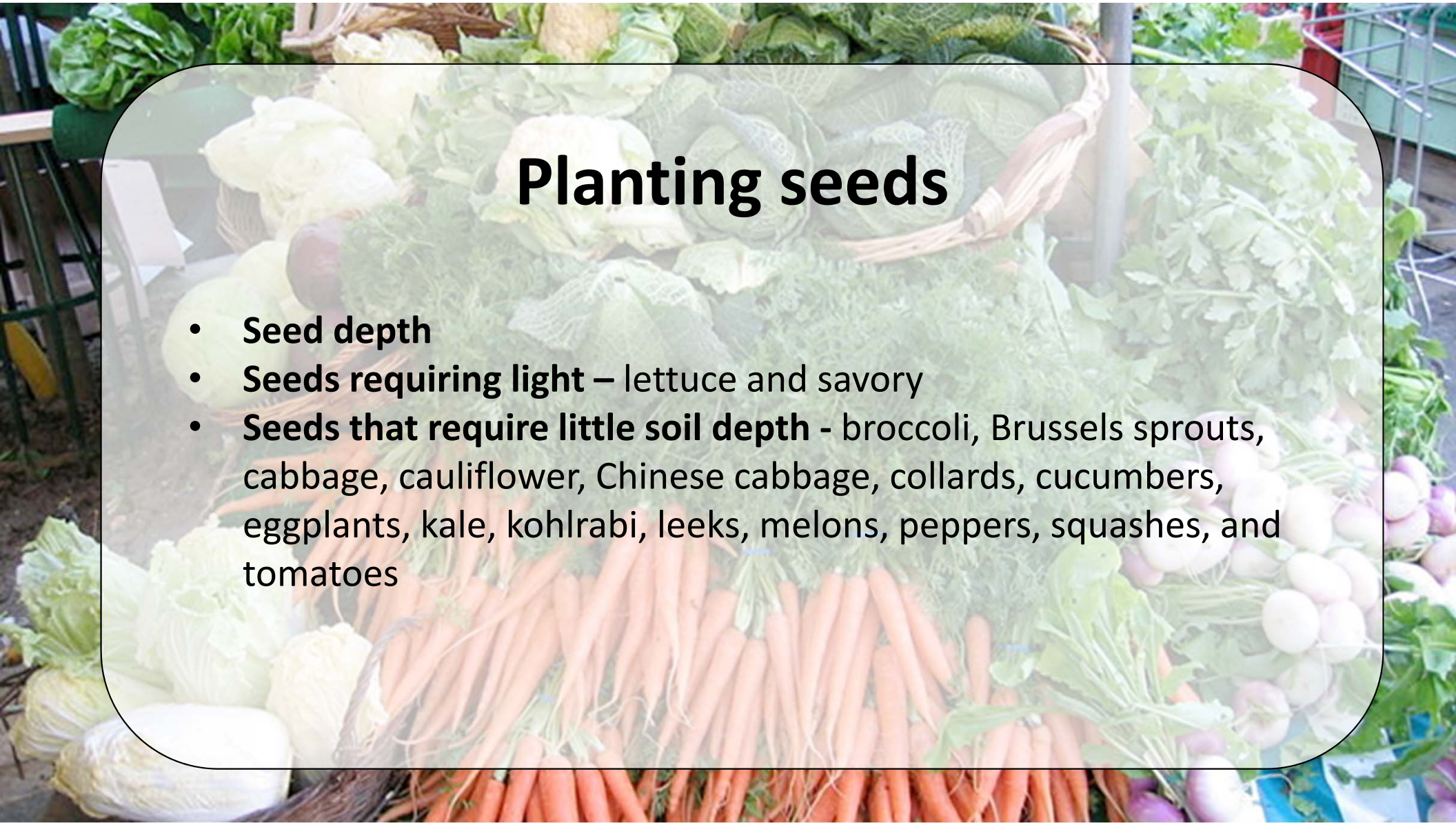
- Lights vs. window sill vs. outside
- Under lights with a shelving unit
  - ✧ fluorescent work light with one warm and one cool
  - ✧ LEDs – full spectrum, blue and red
  - ✧ chains to move up and down - about 2” from plant
  - ✧ 14-16 hours daily

Lighting



Planting seeds

- Containers
- Labeling
- Top or enclosure



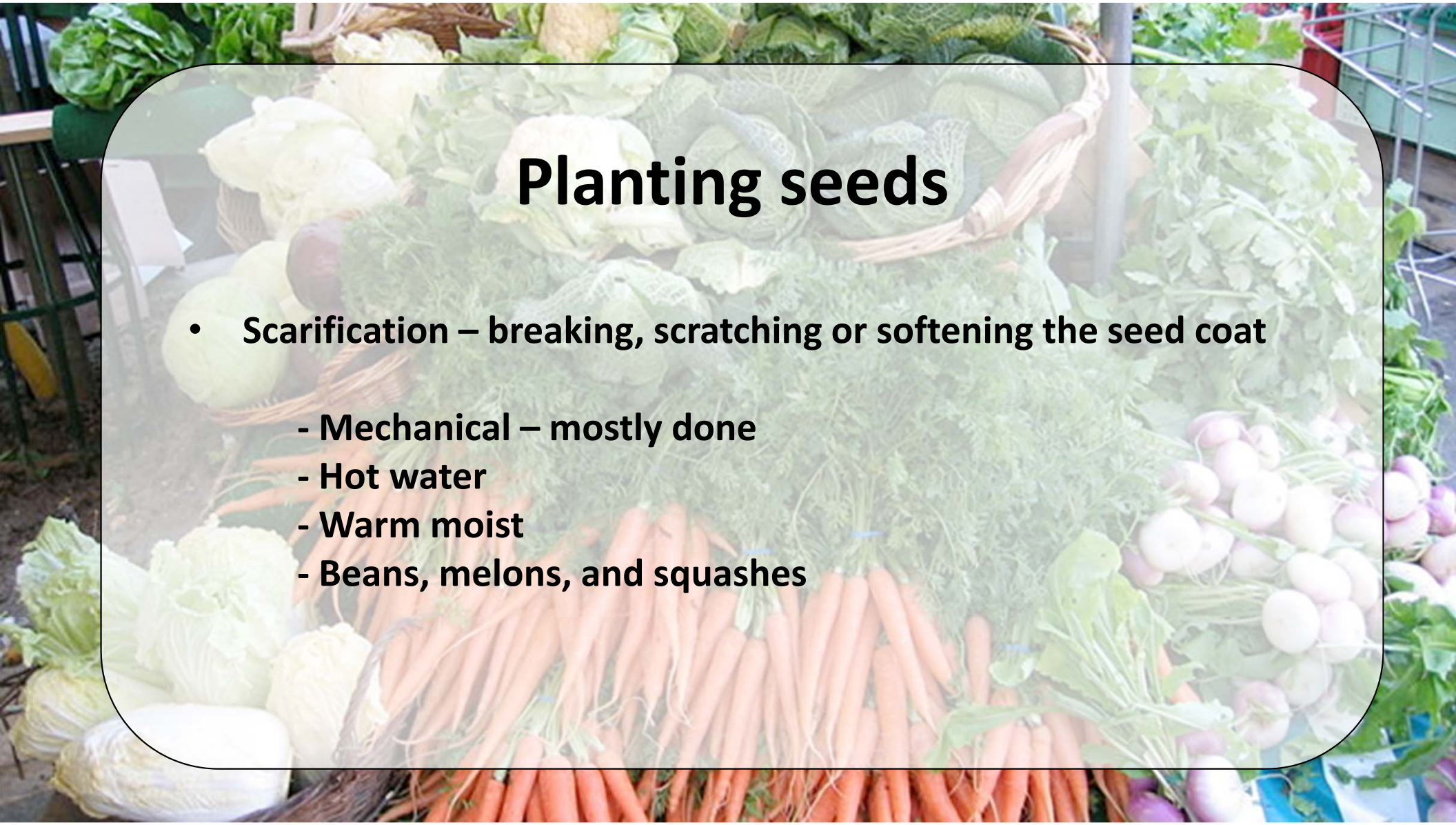
Planting seeds

- **Seed depth**
- **Seeds requiring light –** lettuce and savory
- **Seeds that require little soil depth -** broccoli, Brussels sprouts, cabbage, cauliflower, Chinese cabbage, collards, cucumbers, eggplants, kale, kohlrabi, leeks, melons, peppers, squashes, and tomatoes

Planting seeds

- **Seeds with hard coats, big seeds, and seeds with wrinkled coats benefit from soaking in water before** - asparagus, beans, carrots, corn, okra, parsley, peas, pumpkins, squash, beets and Swiss chard

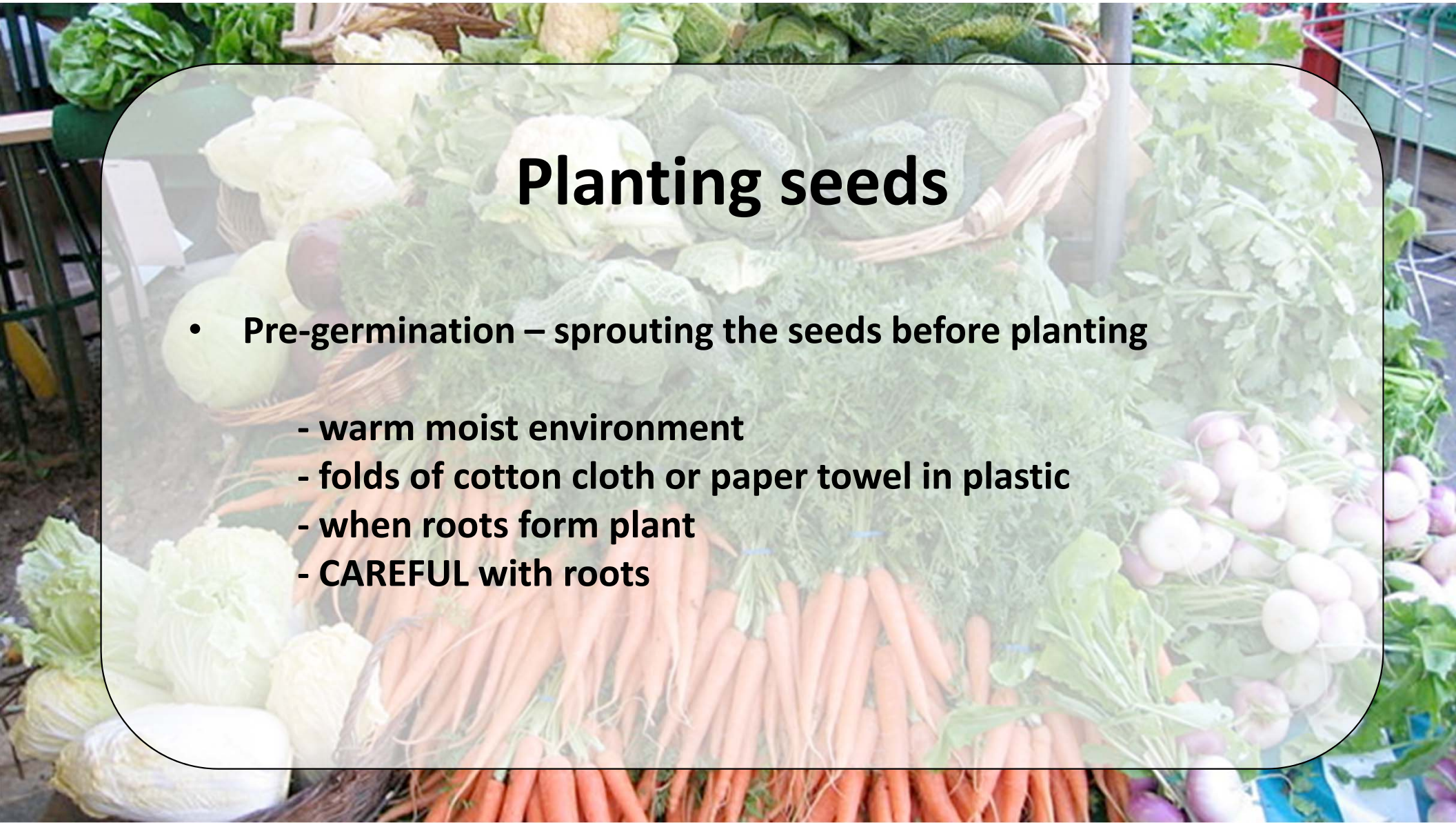
- Shallow dish or paper towel in a plastic bag
- warm water
- few drops of vinegar
- over night or 12 hours



Planting seeds

- **Scarification – breaking, scratching or softening the seed coat**

  - Mechanical – mostly done
  - Hot water
  - Warm moist
  - Beans, melons, and squashes



Planting seeds

- **Pre-germination – sprouting the seeds before planting**

  - warm moist environment
  - folds of cotton cloth or paper towel in plastic
  - when roots form plant
  - CAREFUL with roots

Demo seed planting

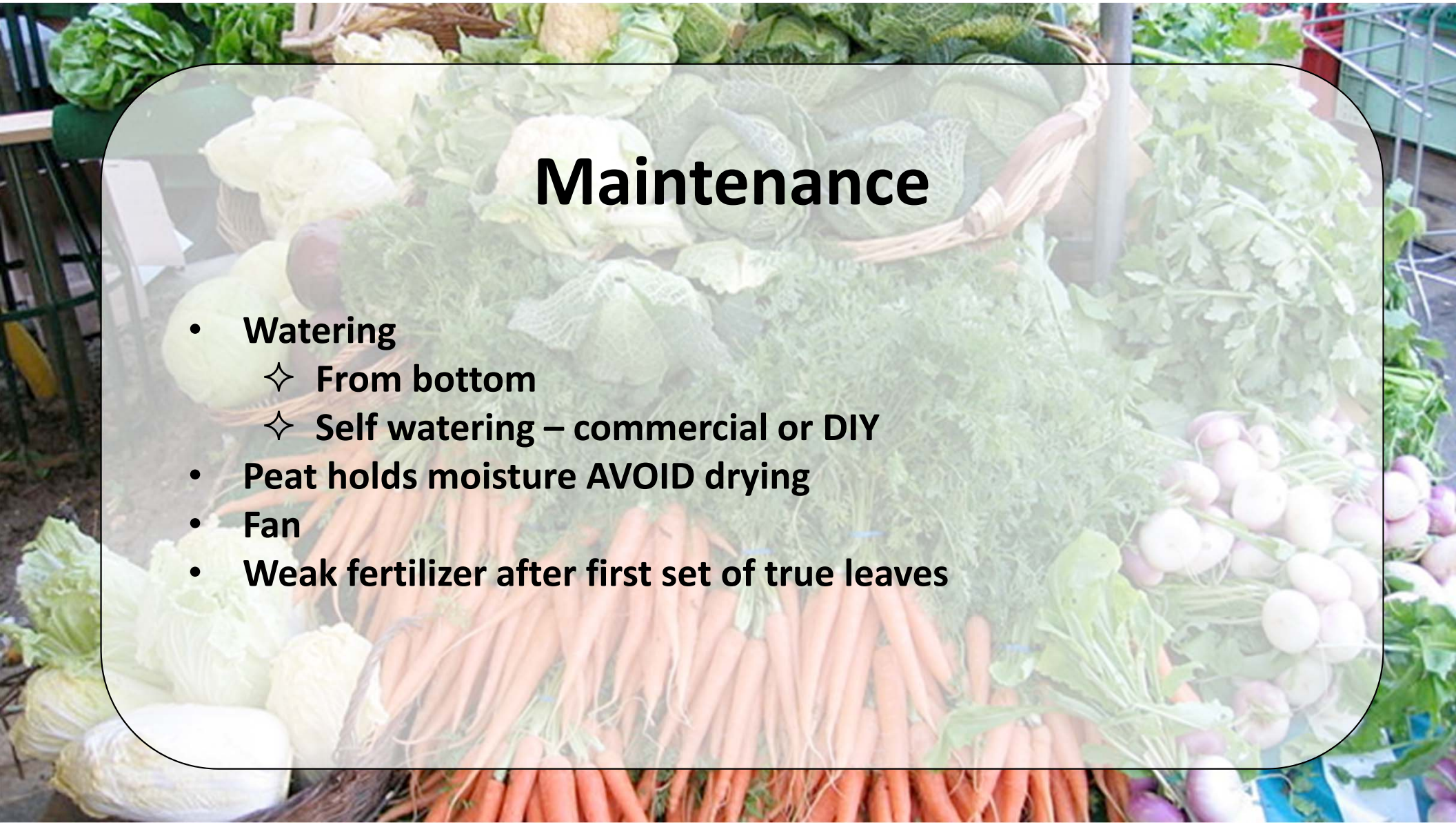
Maintenance

- Temperature
- Seedling heating mat
- 65-75 ideal for most plants

Table 1. Soil temperature conditions for vegetable crop germination.

	Minimum (F)	Optimum Range (F)	Optimum (F)	Maximum (F)
Beet	40	50-85	85	85
Cabbage	40	45-95	85	100
Cauliflower	40	45-85	80	100
Celery	40	60-70	70	85
Chard	40	50-85	85	95
Cucumber	60	60-95	95	105
Eggplant	60	75-90	85	95
Lettuce	35	40-80	75	85
Melons	60	75-95	90	100
Onion	35	50-95	75	95
Parsley	40	50-85	75	90
Pepper	60	65-95	85	95
Pumpkin	60	70-90	90	100
Spinach	35	45-75	70	85
Squash	60	70-95	95	100
Tomato	50	70-95	85	95

Soil temperatures should be taken by inserting a soil thermometer 3-4 inches deep into the soil surface and noting temperature. Adapted from Kemble and Musgrove (2006).

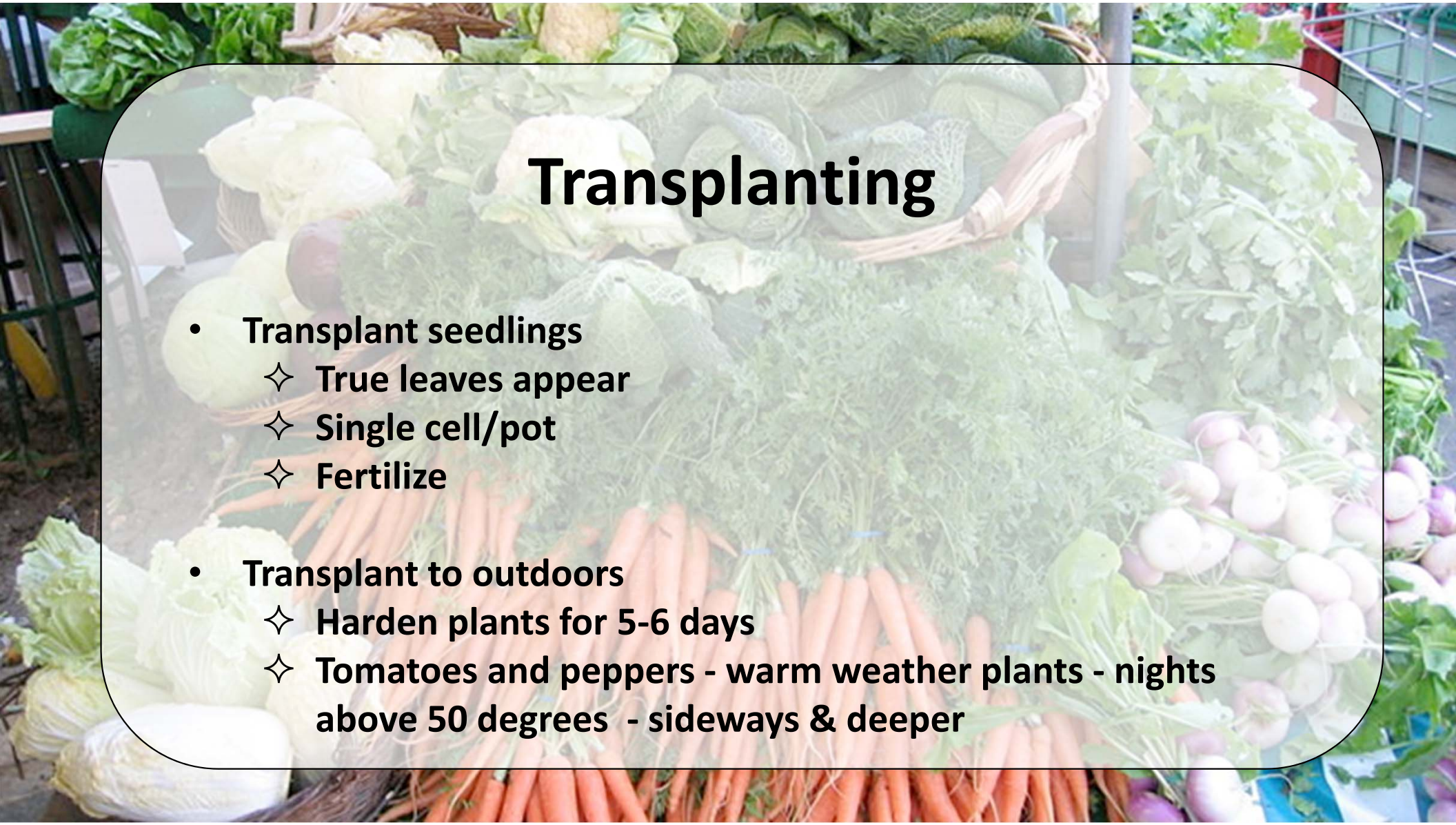


Maintenance

- Watering
  - From bottom
  - Self watering – commercial or DIY
- Peat holds moisture AVOID drying
- Fan
- Weak fertilizer after first set of true leaves

Troubleshooting

- Damping Off - wet, not sterile, ventilation & watering
- Weak seedlings – light
- Discolored or faded leaves – fertilizer, wet & sunburn
- Soil Gnats – wetness & sterile soil



Transplanting

- Transplant seedlings
  - ✧ True leaves appear
  - ✧ Single cell/pot
  - ✧ Fertilize
- Transplant to outdoors
  - ✧ Harden plants for 5-6 days
  - ✧ Tomatoes and peppers - warm weather plants - nights above 50 degrees - sideways & deeper

Winter Sowing

- Sowing seeds in containers outside
- Better results than in ground
- Greenhouse effect
- Restricted variety of seeds

Winter Sowing

- Pros
  - ✧ Space
  - ✧ Timing
  - ✧ No need to harden
- Cons
  - ✧ Not as reliable results
  - ✧ Not as early
  - ✧ Need care for longer time

Winter Sowing

- Opaque or clear containers
- Cold weather vegetables (and tomatoes)
- Three to four inches of soilless
- Avoid “weed free”, fertilizer and water crystals
- Seed depth different
- Ventilation
- Placement
- Additional ventilation

Winter Sowing

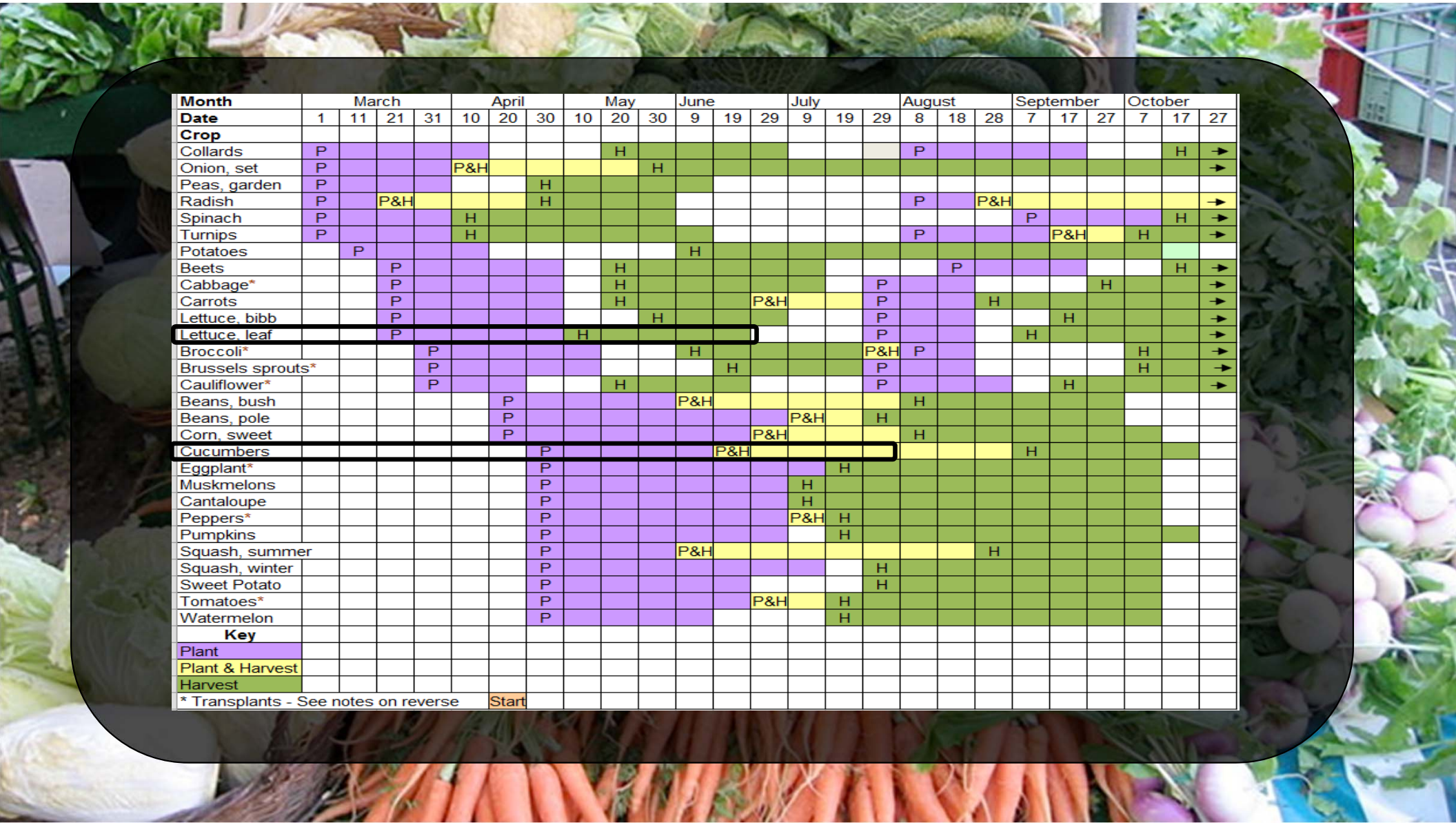
Succession/ Relay Planting

"refers to several *planting* methods that increase crop availability during a growing season by making efficient use of space and timing."

Succession/ Relay Planting

1. plant same crop at intervals

    - Continuous harvest in manageable amounts



Month	March				April			May			June			July			August			September			October		
Date	1	11	21	31	10	20	30	10	20	30	9	19	29	9	19	29	8	18	28	7	17	27	7	17	27
Crop																									
Collards	P								H								P							H	→
Onion, set	P				P&H					H															→
Peas, garden	P						H																		
Radish	P		P&H				H										P		P&H						→
Spinach	P				H															P				H	→
Turnips	P				H												P				P&H		H		→
Potatoes		P									H														
Beets			P						H									P						H	→
Cabbage*			P						H							P						H			→
Carrots			P						H				P&H			P			H						→
Lettuce, bibb			P							H						P					H				→
Lettuce, leaf			P					H								P				H					→
Broccoli*				P							H					P&H	P						H		→
Brussels sprouts*				P								H				P							H		→
Cauliflower*				P					H							P					H				→
Beans, bush						P					P&H						H								
Beans, pole						P								P&H		H									
Corn, sweet						P							P&H				H								
Cucumbers							P					P&H								H					
Eggplant*							P								H										
Muskmelons							P							H											
Cantaloupe							P							H											
Peppers*							P							P&H	H										
Pumpkins							P								H										
Squash, summer							P				P&H								H						
Squash, winter							P									H									
Sweet Potato							P									H									
Tomatoes*							P						P&H		H										
Watermelon							P								H										
Key																									
Plant																									
Plant & Harvest																									
Harvest																									
* Transplants - See notes on reverse						Start																			

Succession/ Relay Planting

2. different varieties of the same plant

   - Early , mid and late season varieties

   - Plant at same time

Radishes

1. *Cabernet* 22d
2. *Cherry Belle* 20-30d
3. *Mino Early* 40d
4. *Minowase* 45d
5. *Watermelon* 50-60d
6. *Okhura* 65-70d
7. *Giant White* 70d


Long White
French Breakfast
Starburst

Succession/ Relay Planting

3. plant by season – mixing Spring, Summer and Fall crops

Month	March				April			May			June			July			August			September			October		
Date	1	11	21	31	10	20	30	10	20	30	9	19	29	9	19	29	8	18	28	7	17	27	7	17	27
Crop																									
Collards	P								H								P							H	→
Onion, set	P				P&H					H															→
Peas, garden	P						H																		
Radish	P		P&H				H										P		P&H						→
Spinach	P				H															P				H	→
Turnips	P				H												P				P&H		H		→
Potatoes		P									H														
Beets			P						H									P						H	→
Cabbage*			P						H							P						H			→
Carrots			P						H				P&H			P			H						→
Lettuce, bibb			P							H						P					H				→
Lettuce, leaf			P					H								P				H					→
Broccoli*				P							H					P&H	P						H		→
Brussels sprouts*				P								H				P							H		→
Cauliflower*				P					H							P					H				→
Beans, bush						P					P&H						H								
Beans, pole						P								P&H		H									
Corn, sweet						P							P&H				H								
Cucumbers							P					P&H								H					
Eggplant*							P								H										
Muskmelons							P							H											
Cantaloupe							P							H											
Peppers*							P							P&H	H										
Pumpkins							P								H										
Squash, summer							P				P&H								H						
Squash, winter							P									H									
Sweet Potato							P									H									
Tomatoes*							P						P&H		H										
Watermelon							P								H										
Key																									
Plant																									
Plant & Harvest																									
Harvest																									
* Transplants - See notes on reverse						Start																			

SPRING

spinach

turnips

peas

onions

radishes

SUMMER

peppers

tomatoes

SUMMER

MORE VEGGIES

corn

melons

cucumbers

eggplant

pumpkins

Green beans

sweet potato

watermelon

Winter squash

Summer squash

FALL

collards

turnips

spinach

beets

radishes

Break

Vegetable Families

- **Legumes ***
  - beans, peas
- **Crucifers ***
  - broccoli, radish
- **Cucurbits ***
  - cukes, squash
- **Solanaceous ***
  - tomato, pepper
- Umbels
  - carrot, parsnip, cilantro, dill
- Alliums
  - onions, garlic, shallot
- Chenopods
  - spinach, beet, chard
- Composites *
  - lettuce, artichoke, endive, greens
- Grasses *
  - corn, cover crop grains

*** Rotate every year, 3-4 year cycle**

Legumes

Members

- Peas
- Cowpeas
- Snap beans
- Dry beans
- Soybeans
- Clovers
- Vetches
- Fava beans
- Winter peas
- Alfalfa

Characteristics

- Add nitrogen to Soil
- Stimulate beneficial soil organisms
- Don’t grow well with onion family

Crucifers/Brassicas

Members

- Broccoli
- Cabbage
- Cauliflower
- Collards
- Brussels sprouts
- Kale
- Mustard
- Chinese cabbage
- Radish
- Rutabaga
- Turnips

Characteristics

- Radishes and Mustards are good early trap crops
- Heavy nitrogen feeder

Cucurbits

Members

- Cucumber
- Squash
- Melon
- Gourd
- Pumpkin

Characteristics

- Pests: Squash bugs, Squash Borers, Cucumber Beetles (spotted and striped)
- Diseases: Bacterial Wilt (mainly cukes and melons)

Solanaceous

Members

- Tomato
- Pepper
- Eggplant
- Potato
- Tomatillo

Characteristics

- Heavy nitrogen users
- Pests
  - Tomatoes: Hornworm
  - Potatoes: Colorado Potato Beetle
  - Tomatillos & Eggplants: Flea Beetles
- Diseases – Blights, Fusarium Wilt, Verticillium Wilt, Root Knot Nematodes

Grasses

- Corn
- Cover grains
  - Wheat
  - Barley
  - Oats
  - Rye

Composites

- Lettuce
- Endive
- Sunflower
- Artichoke

Chenopod

- Spinach
- Beets
- Chard
- Quinoa
- Lambs Quarters

Allium

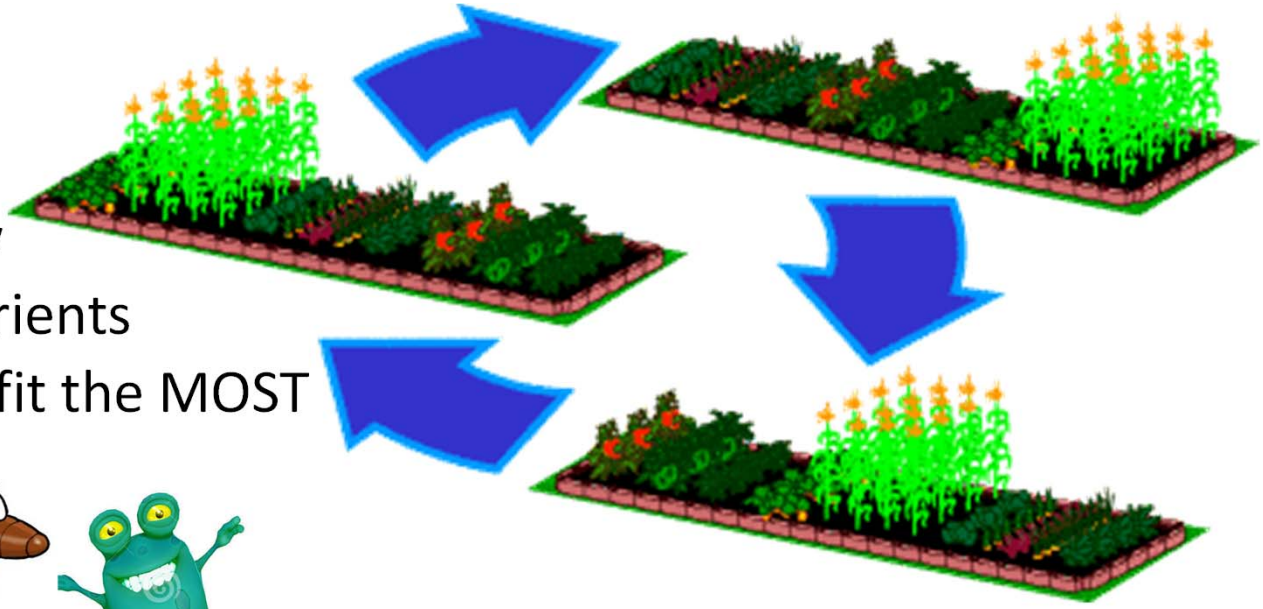
- Onions
- Garlic
- Chives
- Shallots
- Leeks

Umbels

- Carrots
- Parsnips
- Parsley
- Celery
- Celeriac
- Cilantro
- Dill
- Fennel

Crop Rotation

- One of agriculture's oldest cultural practices
- Change planting location of vegetables within the garden each season.
- Benefits:
  - Interrupts disease cycles
  - Keeps insect numbers low
  - Prevents depletion of nutrients
  - Soil microorganisms benefit the MOST from crop rotation



4 Year Crop Rotation

	Bed 1	Bed 2	Bed 3	Bed 4
2016	Legumes	Cucurbits	Solanaceous	Crucifers
2017	Crucifers	Legumes	Cucurbits	Solanaceous
2018	Solanaceous	Crucifers	Legumes	Cucurbits
2019	Cucurbits	Solanaceous	Crucifers	Legumes




Small Scale Garden Options

- Try to Balance Nutrition Needs
  - Heavy Feeders – Tomatoes, Corn, Leafy Crops
    - Deplete Nitrogen (N) & Phosphorus (P)
  - Root veggies are light feeders
  - Beans add nitrogen
- Use succession planting
- Use cover crops to deter pests and improve soil

Square Foot Gardening

By: Andrea Kinder

Small Footprint Gardening with a Big Yield in Mind

Thought Behind Square Foot Gardening

- Healthier
- No Food Waste
- Good for Environment


6' tall
12"
12"
Marigolds
Beets
Onions

Filling the Square Foot Garden

Many Ways to Fill the Squares

- Grow what you and your family will eat
- Pay attention to seed packet

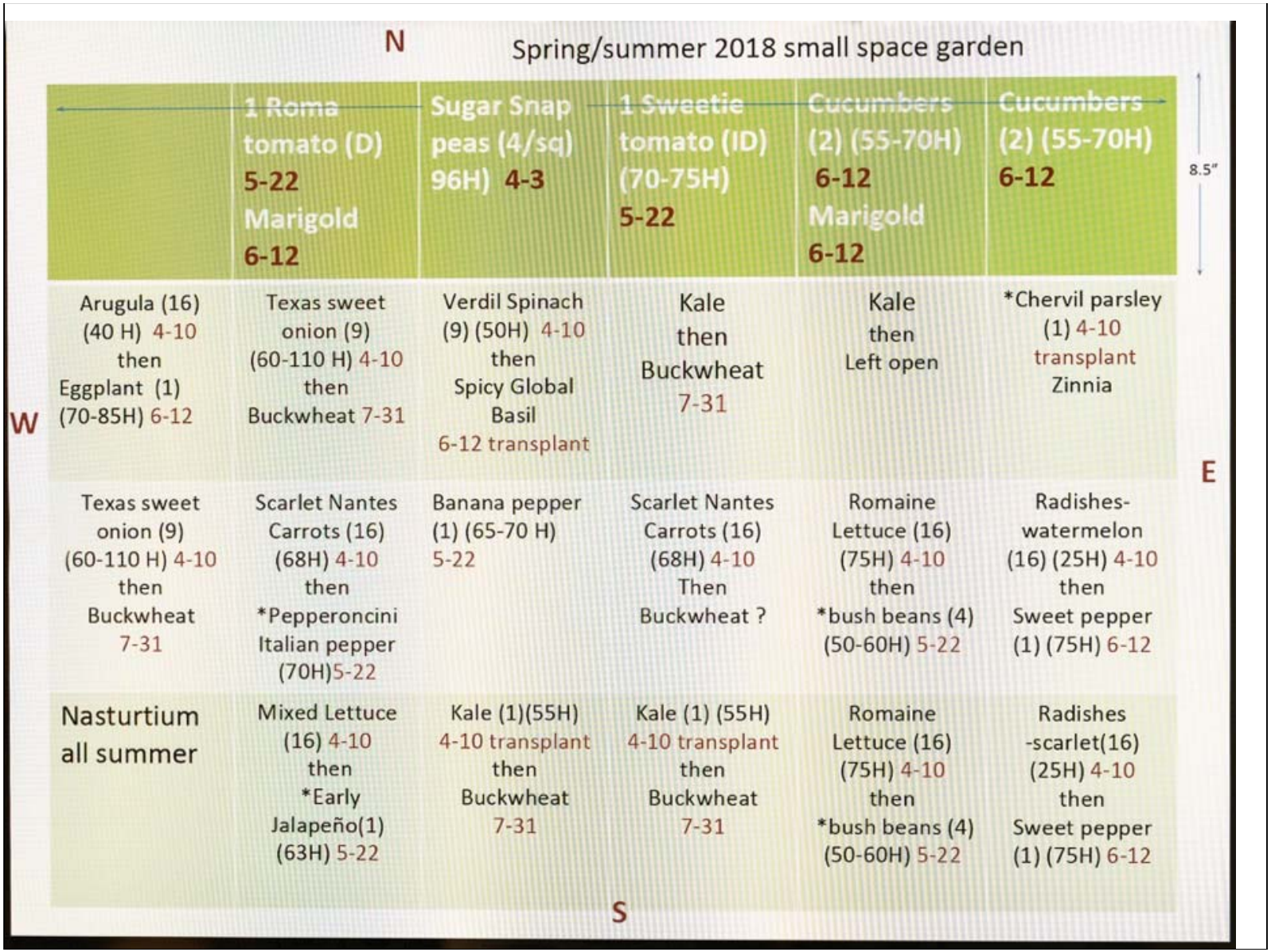

2"
Tomato
Tomato
Cucumbers
Cucumbers
Ruby lettuce
Bush beans
Swiss chard
Chives

Outline of Vegetable Bed

- North facing - tall plants
- Medium sized plants in front of tall plants.
- Start with your cool season seeds first – stagger plantings

Why Flowers?

- Attract pollinators
- Beautiful for the garden
- Taste good & garnish a plate of food


N
Spring/summer 2018 small space garden
1 Roma tomato (D) 5-22 Marigold 6-12
Sugar Snap peas (4/sq) 96H) 4-3
1 Sweetie tomato (ID) (70-75H) 5-22
Cucumbers (2) (55-70H) 6-12 Marigold 6-12
Cucumbers (2) (55-70H) 6-12
8.5"
Arugula (16) (40 H) 4-10 then Eggplant (1) (70-85H) 6-12
Texas sweet onion (9) (60-110 H) 4-10 then Buckwheat 7-31
Verdil Spinach (9) (50H) 4-10 then Spicy Global Basil 6-12 transplant
Kale then Buckwheat 7-31
Kale then Left open
*Chervil parsley (1) 4-10 transplant Zinnia
W
E
Texas sweet onion (9) (60-110 H) 4-10 then Buckwheat 7-31
Scarlet Nantes Carrots (16) (68H) 4-10 then *Pepperoncini Italian pepper (70H)5-22
Banana pepper (1) (65-70 H) 5-22
Scarlet Nantes Carrots (16) (68H) 4-10 Then Buckwheat ?
Romaine Lettuce (16) (75H) 4-10 then *bush beans (4) (50-60H) 5-22
Radishes-watermelon (16) (25H) 4-10 then Sweet pepper (1) (75H) 6-12
Nasturtium all summer
Mixed Lettuce (16) 4-10 then *Early Jalapeño(1) (63H) 5-22
Kale (1)(55H) 4-10 transplant then Buckwheat 7-31
Kale (1) (55H) 4-10 transplant then Buckwheat 7-31
Romaine Lettuce (16) (75H) 4-10 then *bush beans (4) (50-60H) 5-22
Radishes -scarlet(16) (25H) 4-10 then Sweet pepper (1) (75H) 6-12
S

After the Growing Season

- After Harvest in Fall
- Cover Crop
- Before the next garden season
- Document

2018 Teaching Garden Square Foot Garden Yield

- Sugar Snap Peas 1.8 oz.
- Roma Tomatoes 6.26 lb.
- Sweet Tomatoes 6.9 lb.
- Arugula 7.9 oz.
- Texas Sweet Onion 1.05 lb.
- Kale 1.04 lb.
- Scarlet Nantes Carrots 2.33 lb.
- Pepperoncini Italian pepper 10.3 oz.
- Sweet Banana Pepper 10.3 oz.
- Mixed lettuce/Verdil Spinach 3.4 lb.
- Scarlet Radishes 4.4 oz.
- Sweet Bell Pepper 3 lb.
- Jalapeño Pepper 1.45 lb.
- Bush Beans 5.2 oz.

Pros and Cons of Square Foot Gardens

Pros

- Ideal for smaller yards, intensive planting with high yield.
- Set up fast & easy.
- Close to home so no time loss.
- Fresh produce every day without trash or polluting environment.

Cons

- Higher initial cost – raised bed and mixing medium.
- Cramped bed not ideal for every crop.
- 6” sufficient for most plants but better to go deeper.
- Tidy & clean gardener.

Container Gardening

Advantages & Disadvantages

Pros

- Vsdfh#Vdylqj$
- P reldh#) #Dffhvvlech
- Dqp rvw#qr#z hhglqj
- Q r#khdy|#wrrov
- Ohvv#glvhdvh#) #shvww
- Duwlwlf#) #ghfrudwlyh
- Hduo|#wdut#

Cons

- Ohvv#vrla#qxwulhqw
- P lqlp dd#z dwhu#wrudjh

Considerations

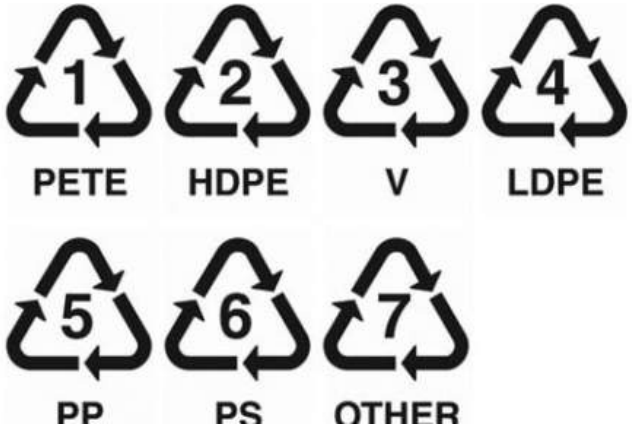
- Ydulhwlhv
- Vsdfh##
- Vxqodjkw
- Z dwhu
- Q xwulhqw
- Vxssruw#
- SK
- D hudwlrq




So Many Choices!

 Terracotta Clay Pot	 Ceramic & Glazed	 Stone
 Concrete	 Metal	 Wood
 Pressed Paper	 Coconut or Grain Husk Coir	 Fiberglass Blends
 Grow Bag	 Plastic	

Food Grade Plastic



Irrg#judgh#sodvwlf
jhqhudoo|#judghq#vdih
&5/#&7/#&8#

Selecting Size

- 8#jdoorqv
- 49õ#z lgwk
  +sdlqw#exfnhw#vl}h,
- Z lghu#v#ehwwhu#

Preparing Containers

- Fdqdq#frqwdlqhuv
- Erwwrp #gudlqdjh#krdv
- Vlgh#dlu#suxqlqj#krdv

Potting Mix

Media Mixtures for Container Vegetables:

- 100% compost
- 100% soil-less mix
- 25% garden soil + 75% compost
- 25% soil-less mix + 25% garden soil + 50% compost
- 25% garden soil + 75% soil-less mix
- 50% soil-less mix + 50% compost

Transplanting Vegetable Starts

- True leaves
- Organic slow release fertilizer according to directions
- Cover root ball
- Well watered soil

Watering

- Fuhdwh#z dwhulqj#vfkhgxoh
- Z dwhu#urp #wkh#erwwrp
- Vhoi0z dwhulqj#frqwdlqhuv

Feeding

- Rujdqlf#oltxlg#ihuwlol}hu#frqyhqlhqw# dqg#hiihfwlyh#ehfdxvh#wkh#qxwulhqwv# duh#lpphgldwho|#dydlodeoh
- Pl{#zlwk#zdwhu#dqg#srxu#durxqg# sodqw#dffruglqj#wr#odeho#gluhfwlrqv

Recycling Soil

- Replenish potting soil after season ends, by adding organic matter
- Vermicomposting used soil during the winter
- Purchase new potting soil

Keys to Success

- ✓Ydulhw|
- ✓Vsdfh
- ✓Vxqodjkw
- ✓Frqwdlqhu
- ✓Vrlo
- ✓Z dwhulqj
- ✓Dhudwlrq#
- ✓Ihuwlol}hu

Thanks for Coming!

Please remember to turn in your class evaluation form and any questions on index cards

Virginia Cooperative Extension
3308 Ashton Avenue, Suite 105
Manassas, VA 20109

Extension Horticulture Help Desk
703-792-7747
Master_Gardener@pwcgov.org