SDSU Extension

VOLUNTEER
Master Gardener Program

Timing is Everything

April 2019

Yankton Seed Library

In Cooperation with Missouri Valley Master Gardeners

Planning a Garden

- Zone 4—short growing season
- Last frost date: Mid May
- First frost date: Mid September

- Watch weather forecasts before planting

 |

Soil Preparation

Wait for proper soil condition

Too wet: Sticks to shoes or shovel

Ideal: crumbles in hand & breaks into small clumps

If tilled, rake before planting

 |

Soil testing

Determines pH & fertility

- Collect samples

- 8” deep
- 15-20 ramdom samples
- Mix together well in pail
- Air dry
- Place in sample bag

 |

Testing Sites

Extension

- University of Minnesota
- Midwest Laboratories, Omaha

Commercial

- Aglab Express, Sioux Falls
- Northern Technologies, Sioux Falls
- Soil Works, Yankton

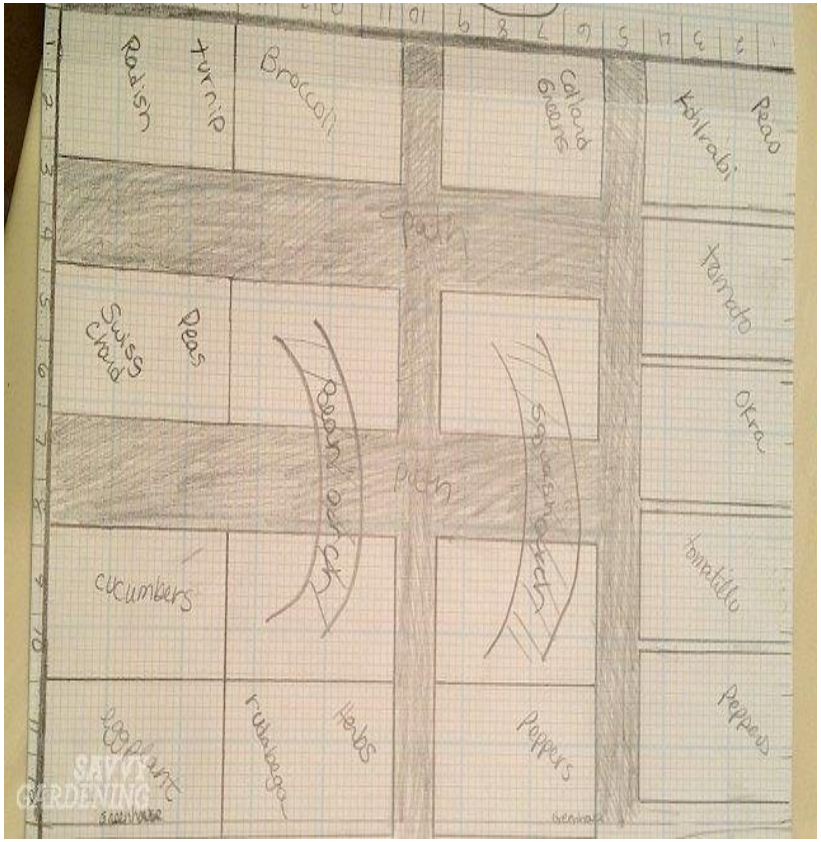
 |

Mapping your Garden

Rotate Crops—

- Reduce insect damage
- Reduce diseases
- Manage soil fertility

Keep a garden log or map as a reminder of where vegetables are planted each year (include varieties)



 |

Cool Season Crops

- Can be planted right after garden is ready
- Must mature before hot weather
- Start indoors or buy plants
- Lettuce, spinach
- Onions (long day)
- Cabbage family
- Peas

 |

Warm Season Crops

- Plant after last frost
- Need long growing season
- Will not mature if seeded directly
- Warm soil for 1 week with hot caps
- Tomatoes, peppers, eggplant
- Melons, squash
- Cucumbers

 |

Resources

- Using Crop Rotation in the Home Vegetable Garden:https://hort.extension.wisc.edu/articles/using-crop-rotation-home-vegetable-garden-0/
- Planting a Vegetable Garden: https://extension.umn.edu/planting-and-growing-guides/planting-vegetable-garden

 |

SDSU Extension

VOLUNTEER Master Gardener Program

Light?
Light?
Light?

Yankton Seed Library

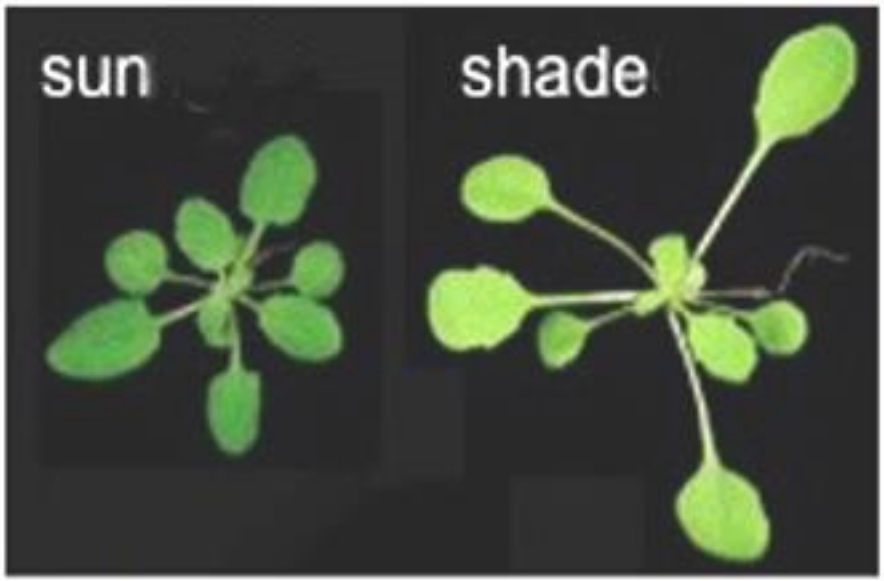
Time to start Seedlings Indoors

- Last frost normally May 15
- We are about 5 weeks before that date
- Most Seedlings should be planted indoors 4 to 6 weeks before Last Frost Free date

 |

Key to Success is LIGHT

After sprouting seedlings need at least 16 hours of light to grow successfully into strong healthy plants



Sunlight

- Sunlight gives plants exactly what they need blue portion of the spectrum promotes healthy leaf growth a d red hues foster flowering and fruiting.
- Do best in a south-facing window unobstructed by trees, roof overhangs or other obstacles.
- Make note of the temperature on your windowsills as well as light levels.
- Free and plentiful (maybe)

Fluorescent

- The most popular type of light for indoor growing
- Fluorescent bulbs run cool, so they can sit about one foot away from your plants
- Emit lots of the blue light wavelength lack the important red hues
- Buy the whitest fluorescent bulb they encompasses all the colors of the spectrum
- Price about $30

Incandescent Bulbs

- Emit a very warm light that is rich in red wavelengths
- Lack the blue light that plants need for healthy leaves
- Generate a lot of heat and so must be at least one foot away from plant foliage at all times
- Cost about $8

LED Lights

•Cool to the touch and extremely energy efficient,

•choose the right ones, basic LED lights tend to have a blue hue but are sorely lacking on the red spectrum

•horticultural LED lights are rich in both red and blue lights.

•LED bulbs are inexpensive to operate

•Cost about $80

SDSU Extension

Full Spectrum Wavelength Details

380nm - 390nm Ultraviolet	Guide the plant flowering,Inhibit leggy,Sterilization.
400nm - 410nm Blue Violet	Promote green leaf growth, deepen the color of plant flesh.
440nm - 460nm Blue(440nm)	Promote root growth green leaf growth, inhibit the role of leggy.
515nm - 535nm Green	Plants almost do not absorb, So less green light.
585nm - 595nm Yellow	Enhance the taste.increase the nutritional content and trace elements.
600nm - 610nm Orange	Improve the quality of root and leaf and gloss, fruit taste.
660nm - 670nm Red (660nm)	Low chlorophyll absorption rate, Great effect photosynthesis and photoperiod.
730nm - 840nm Deep Red	Promote the growth of plant rhizomes and Flowering results, increase yield.

SDSU Extension

VOLUNTEER Master Gardener Program

Seeds or Seedlings Which should I Plant?

Yankton Seed Library

Benefits of Seeds

- Seeds cost less, free at Yankton Seed Library!
- More varieties available
  - countless possibilities in seed catalogues
- Some plants very quick to germinate and allows for successive plantings, for example planting lettuce every 2-3 weeks
- Some plants don’t transplant well
  - Carrots, beans, corn, peas, beets, spinach, poppies, snap dragons, nasturtiums
- Seeds can be started indoors (good for winter doldrums)
- Rewarding to watch your seeds grow into plants

Downside to Seeds

- Takes more time, in zones with short growing season may not have enough time to mature and produce
- Environmental conditions unpredictable and uncontrollable, new seedlings fragile and susceptible to temperature, drought, wind, flood, weeds
- Some seeds fail

Downside to seeds

- Be prepared to thin plants
- Crowded plants compete for light, nutrients, water
- Lack of airflow in crowded plants
  - increases the chance of plant diseases
  - increases the risk of pests and insects
  - hampers growth and the development of fruit and flowers,

Plants to Direct Seed

- Beans
- Beets
- Carrots
- Melons
- Peas
- Radishes
- Spinach
- Squash
- Turnips
- Zucchini
- Melons

Benefits of Seedlings

- Quick
- Easy
- Increases your chance for success since plants are more mature and stronger
- Mature more quickly and allow earlier harvest and even increase harvest
- Can extend growing season for your zone

Downsides of Seedlings

- Can be expensive
- Less variety
- Important to harden off before planting

Hardening Off Plants

- “Hardening off” means acclimatizing plants to the new, harsher environment of outdoors
- Start about 1 week before your last frost date
- Ease plants into their new environment by placing them outdoors for a few hours daily and gradually increasing
- Protect from sun, wind, and critters

Plants to Transplant

- Celery
- Eggplant
- Collards
- Kale
- Broccoli
- Kohlrabi
- Leeks
- Peppers
- Scallions
- Tomatoes
- Onions

Gardening as an Experiment

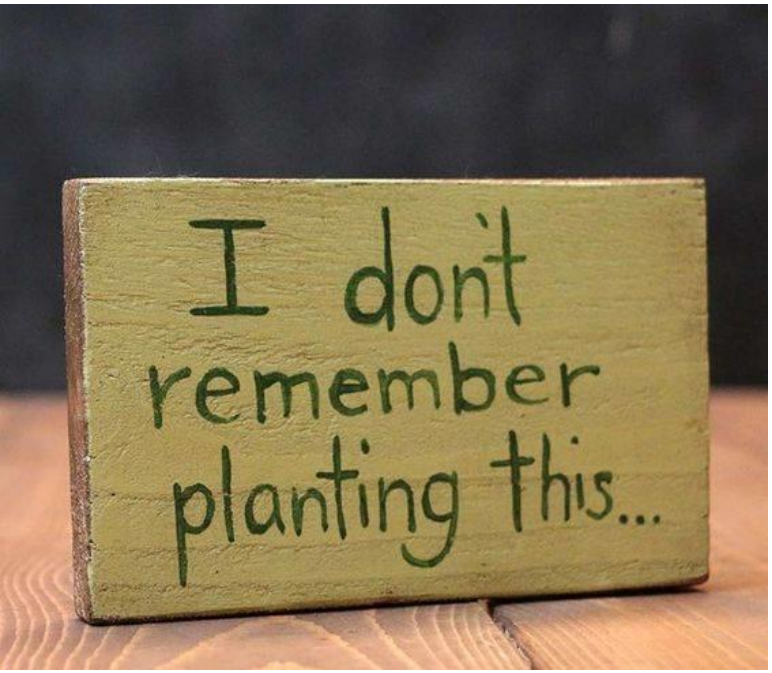
- Most gardeners use a combination of both seeds and seedlings
- Do both and chart their growth rates and growth in your garden
- Growth depends on your garden's zone, soil, and environmental conditions
- Different plants react differently to each method
- Note this and plan for next year

SDSU Extension

VOLUNTEER Master Gardener Program

Questions?

Natural Weed Control in Gardens, Flower Beds and Yards



- Hosted by Healthy Yankton
- Gared Shaffer, SDSU Extension Weeds Field Specialist, will be joining us from Aberdeen to share his expertise on natural weed control. All are welcome!
- April 11 Thursday at 5:15 PM – 6:15 PM
- Avera Pavilion, 409 Summit, Yankton, SD