Erin Small ANR Agent
Prince Edward Extension Presents

Field to Vase

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Content Synopsis

TODAY'S AGENDA

Growing Zinnias and Sunflowers
The Art of Flower Arrangement
Choosing Flowers
Flower Care Tips

Growing Zinnias and Sunflowers

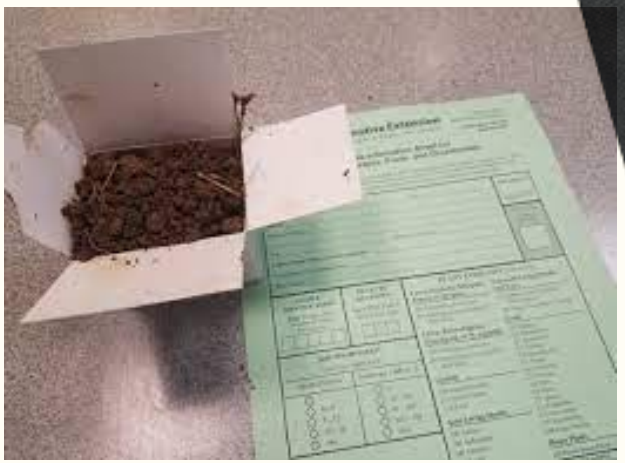
Step 1: Choose a Flower Bed Site

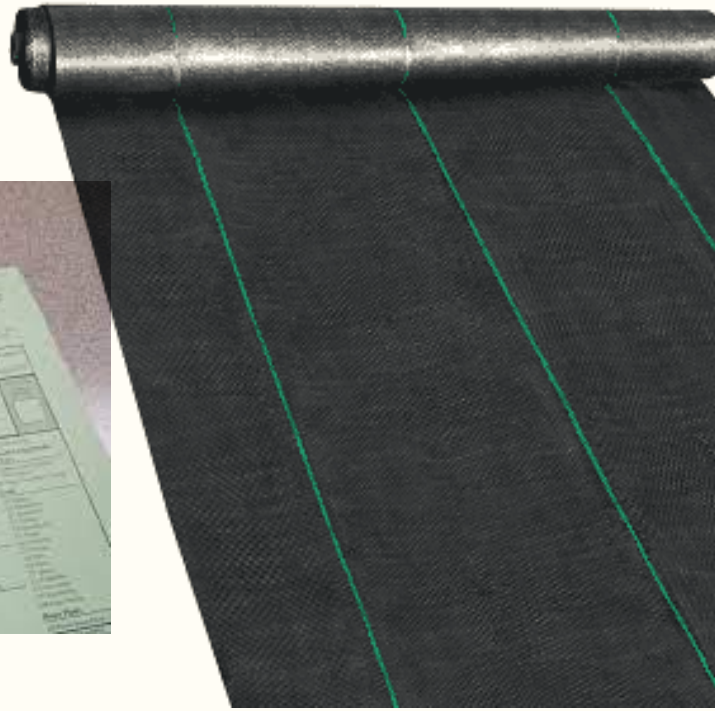
ZINNIAS & SUNFLOWERS

- Prefer at least six hours of direct sun
- Well drained soils
- Should bloom 8-12 weeks after sowing
- Plants are usually spaced 6 to 18 inches apart, so ensure adequate space is provided

Growing Zinnias and Sunflowers

Step 2: Preparing the Flower Bed





Growing Zinnias and Sunflowers

Step 3: Sow Seeds

Growing Zinnias and Sunflowers

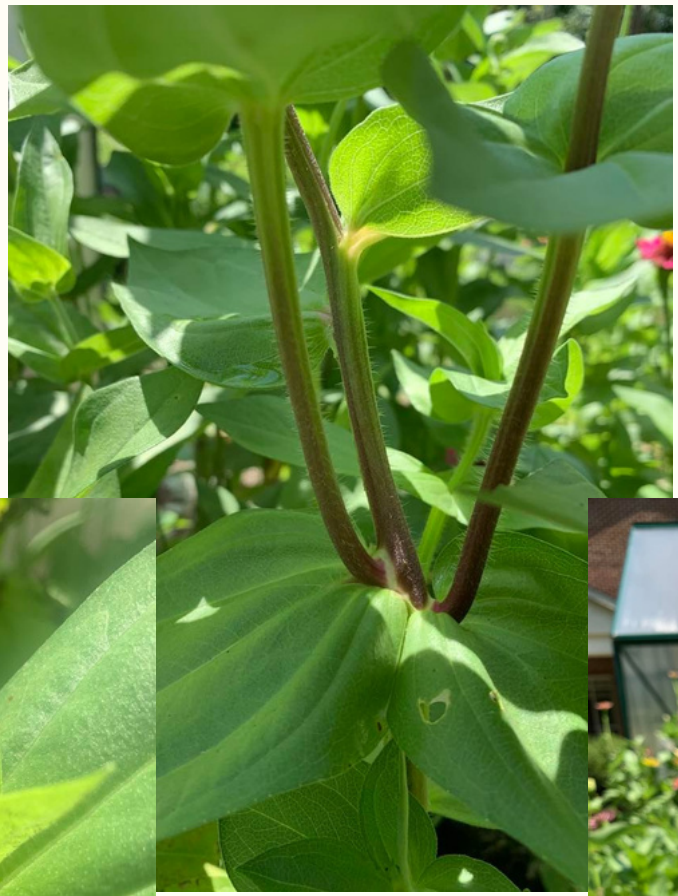
Step 4: Space Seeds

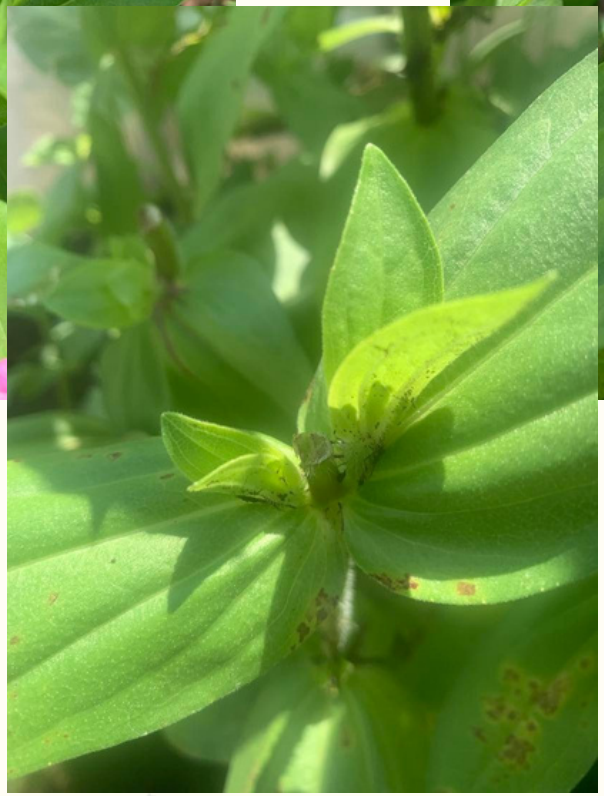
- As your seeds emerge, they will need to be spaced to the adequate recommendations according your seed packet

Growing Zinnias and Sunflowers

Step 5: Pinching

- Both sunflowers and zinnias can be pinched. It is more commonly seen in zinnia production.
- Pinching encourages branching, longer stems, and more blooms.
- If you are looking for a low flower border, rather than long vase-length stems, you need not pinch.





Growing Zinnias and Sunflowers

Step 6: The Wiggle Test

LET`S GO OUTSIDE & PRACTICE!!

Varieties of Zinnias

Zinnia elegans: **The most widely known species & widest range of flower size**

Dreamland
Envy
Giant Cactus
Magellan
Oklahoma
Benary's Giant
Thumbelina
Queen
Zinderella
Ruffles
Swizzle
Whirligig

so many more....

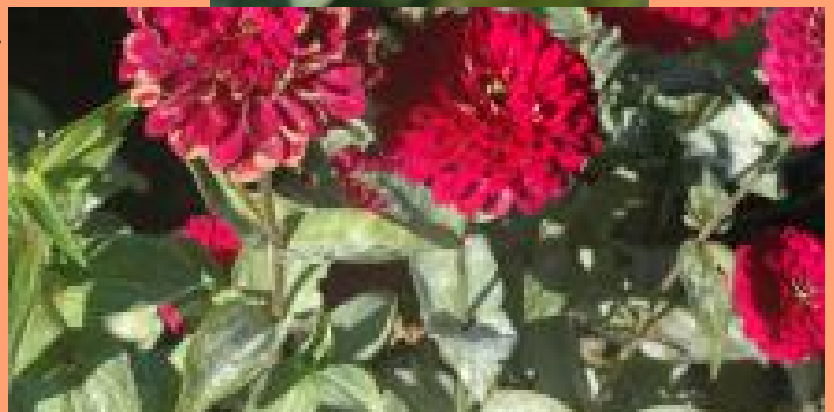
Zinnia Diseases

Looking for a cause??

Is there poor air circulation & uneven moisture?

Powdery Mildew

Causes: overcrowding, drought, dampness, or cool weather



Gray Mold, Leaf Blight, and Root Rots attack zinnias as well.

Zinnias:
Cut and Dried Flowers

Last 1-2 weeks in vase with proper care

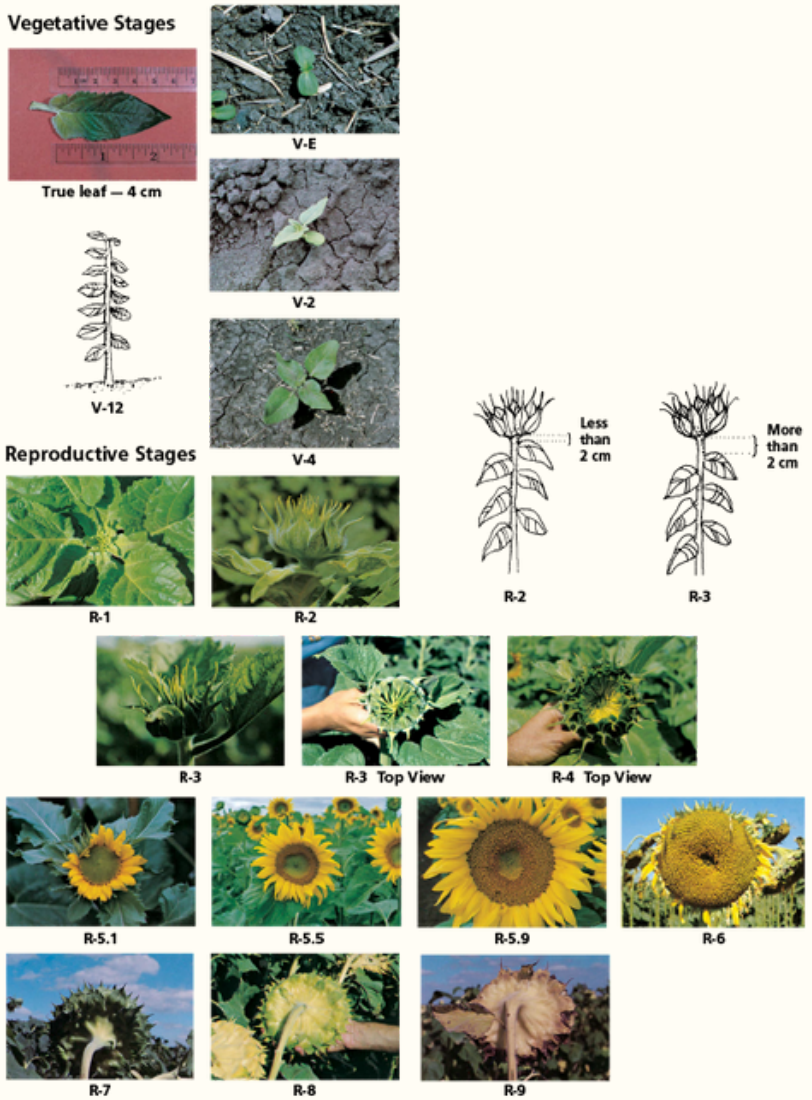
Change water to avoid algea growth

Double flowers are best for drying. Hang in bunches out of direct light

Sunflower Development

Sunflower Stage	Plant Description	Average GDD[1] units from planting and days from planting	
		GDD Units	Days
VE	Emergence	206	10
V4	4 true Leaves	347	20
V8	8 true Leaves	487	28
V12	12 true Leaves	627	34
V16	16 true Leaves	767	38
V20	20 true Leaves	908	44
R1	Miniature terminal bud	1,048	46
R2	Bud <1" from leaf	1,188	61
R3	Bud >1" from leaf	1,328	67
R4	Bud open ray flowers visible	1,469	71
R5.1	Early flower	1,609	73
R5.5	50% flowered	1,749	77
R6	Flowering complete	1,889	84
R7	Back of head - pale yellow	2,030	86
R8	Bracts green - head back yellow	2,170	104
R9	Bracts yellow - head back brown	2,310	119

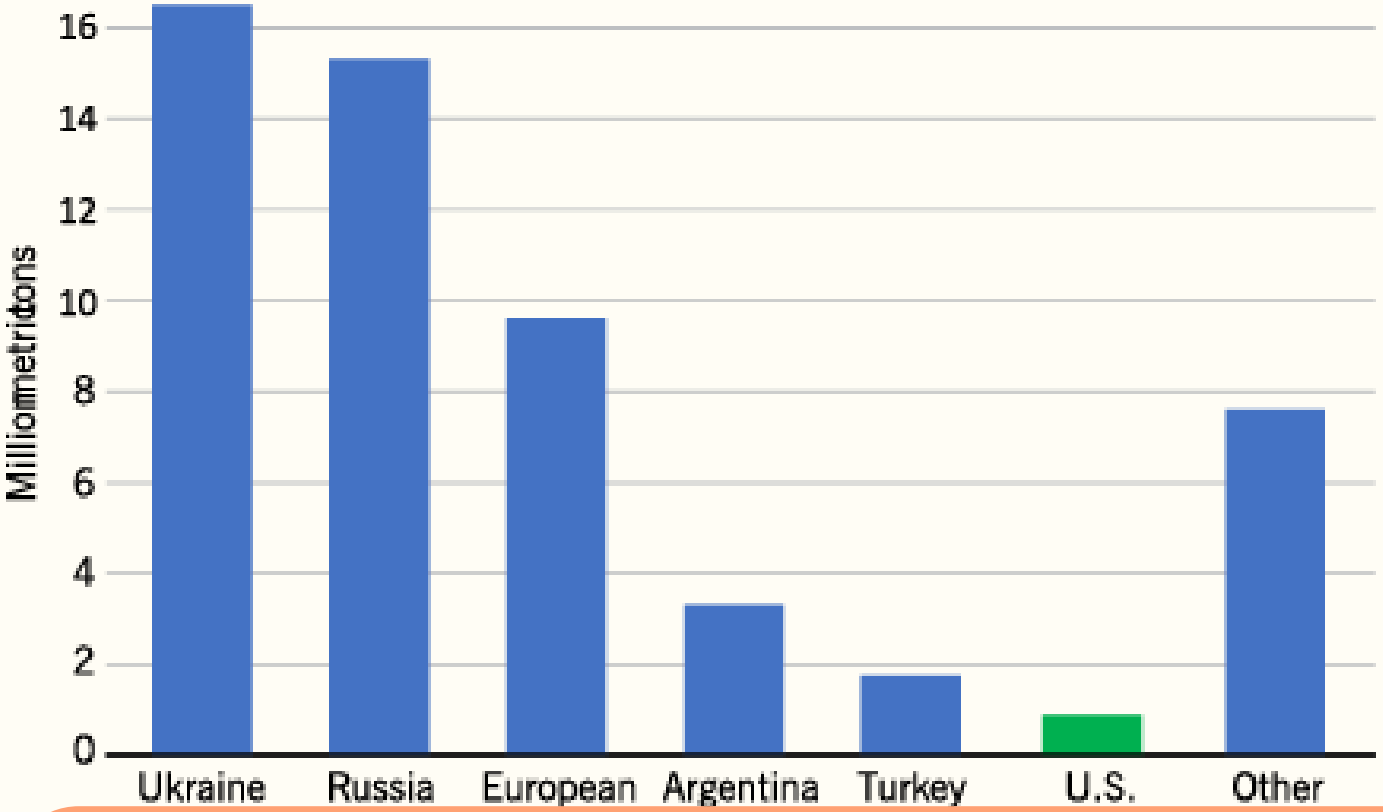
[1]Sunflower growth and development respond to heat units similar to corn and several other crops. In sunflower, the base temperature of 44 F is used to determine growing degree days (GDD). The daily GDD formula is: GDD = [(daily maximum temperature + daily minimum temperature) ÷ 2] – 44 F. Source: North Dakota Agricultural Weather Network



Sunflower Production Guide — Publications

The sunflower production guide...

ag.ndsu.edu



Global Production

- **Native to North America**
- **Commercialization of the plant occurred in Russia**
- **Sunflower oil is the most preferred in Europe, South American countries, and Mexico**
- **The countries listed in the chart above produce about 86% of the world's oilseed and nonoilseed sunflower**

Sunflower Production Guide — Publications

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Water Requirements for the Sunflower

- Deep roots from depths unreached by most other crops, which is why it is viewed as drought-tolerant.
- Effective root depth of 4 feet, but can remove water from below this depth
- More efficient at extracting water than corn from an equal root zone volume, but corn has greater water use efficiency
- Effective root depth of 4 feet, but can remove water from below this depth
- Good crop in rotation as it uses N and other nutrients that leach below shallow-root crops
- Fertility has little influence on total water use, but as fertility increases, water use efficiency increases because yield increases

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Sunflower Diseases and Pests

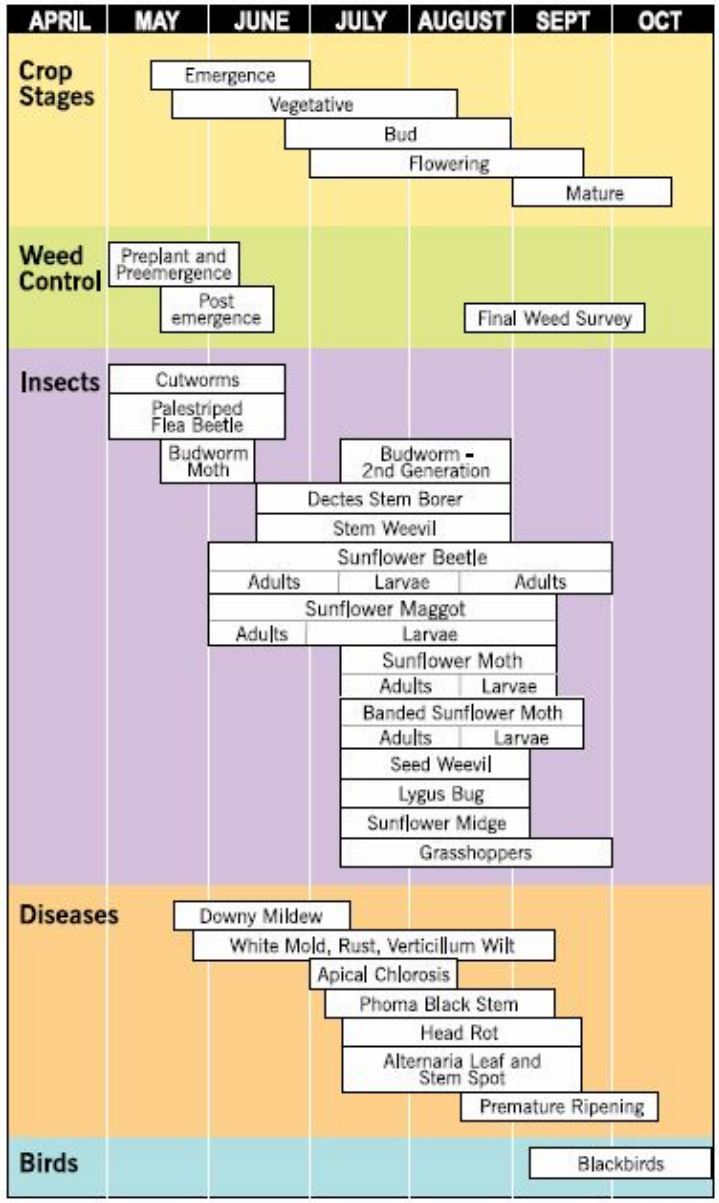
- Can be a high-risk crop because of losses due to diseases, insects, birds, and weeds
- IPM used to minimize losses to quality or yield

Sunflower-Cutworm

Sunflower-Seed Weevil

Sunflower Beetle

Just to name a few of the many sunflower pests...



If a flower doesn't grow, change the environment not the flower.

The Art of Flower Arrangement

Materials Needed

- FOCAL FLOWER, FILLER FLOWERS, LINE FLOWERS
- SHEARS
- CONTAINER

WATCH AND LEARN

Tent Method

WHY DO FLOWERS DIE PREMATURELY IN YOUR VASE?

- Stem diameter and thickness
- Genetics
- Inability of the stem to absorb water
- Lack of carbohydrates
- Excessive transpiration
- Bacterial growth and disease
- Ethylene gas
- Improper surrounding conditions

Ethylene Gas

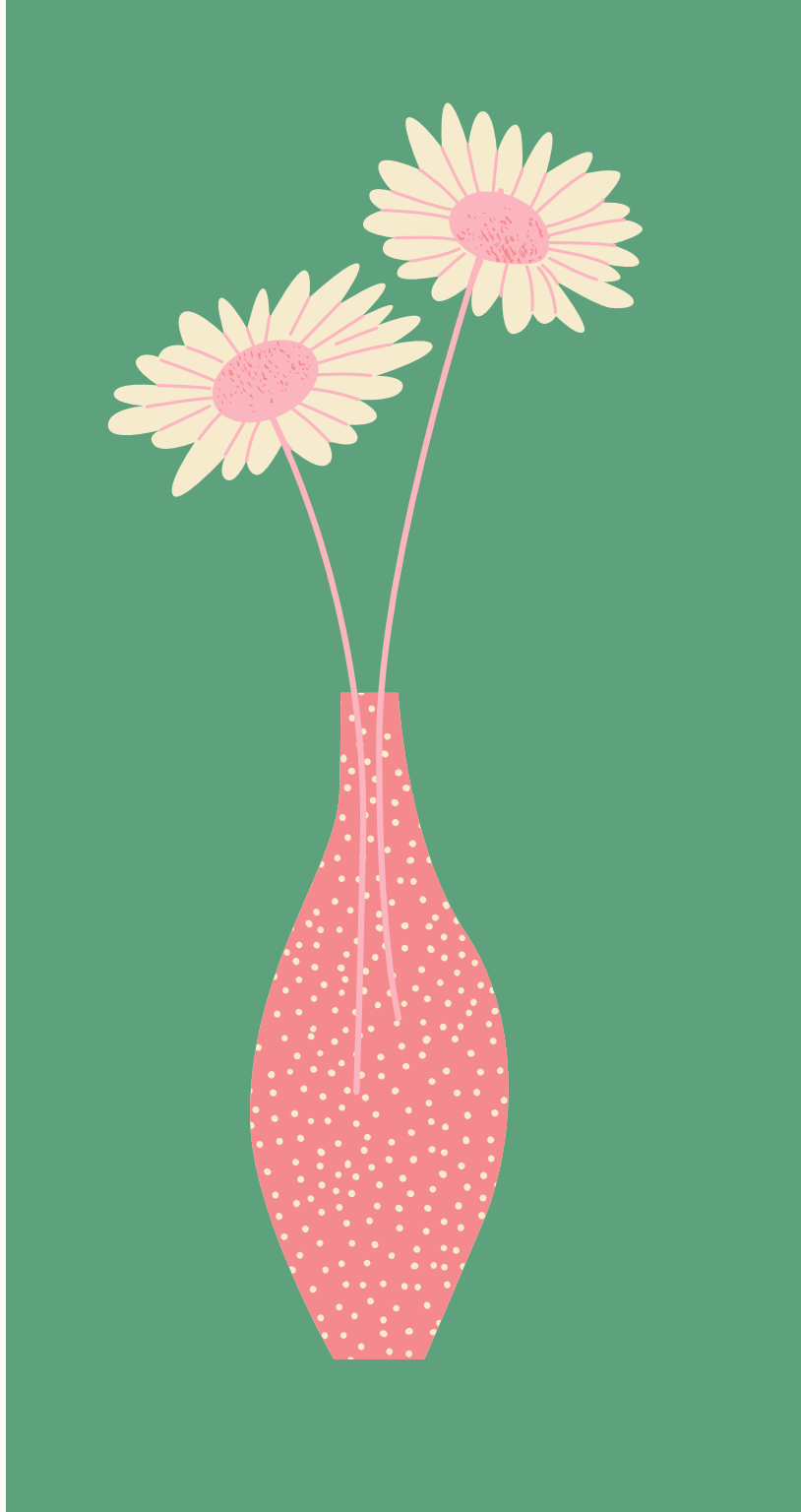
NATURALLY OCCURRING PLANT HORMONE

- INVOLVED IN THE AGING PROCESS
- RELEASED AS AN ODORLESS, COLORLESS GAS
- EXTREMELY HARMFUL TO CUT FLOWERS
- PRODUCED BY RIPENING FRUIT & VEGETABLES, DECOMPOSING PLANT MATERIAL, BACTERIA, AND BURNING OF GASOLINE, DIESEL FUEL, FIREWOOD, AND TOBACCO

How to stop flowers from dying:

DIY FLORAL PRESERVATIVES

- Baby aspirin
- Drop a copper penny into the water.... The copper is an acidifier and decreases the pH of the water
- 1 tsp sugar, 1 tsp bleach, 2 tsp lime or lemon juice, 1 qt lukewarm water



Proper Flower Care

CUTTING

Recut stems every time you change the water

PRUNING

Prune wilted leaves or flowerheads from arrangement

WATERING

Change water every few days, or more often as needed

Resources

https://pnwhandbooks.org/plantdisease/host-disease/zinnia-powdery-mildew

https://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/pests-and-problems/diseases/fungal-spots/alternaria-blight.aspx

https://www.ag.ndsu.edu/publications/crops/sunflower-production-guide

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