

Long Lane Farm

Cut Flower Program Guidebook
Summer 2024

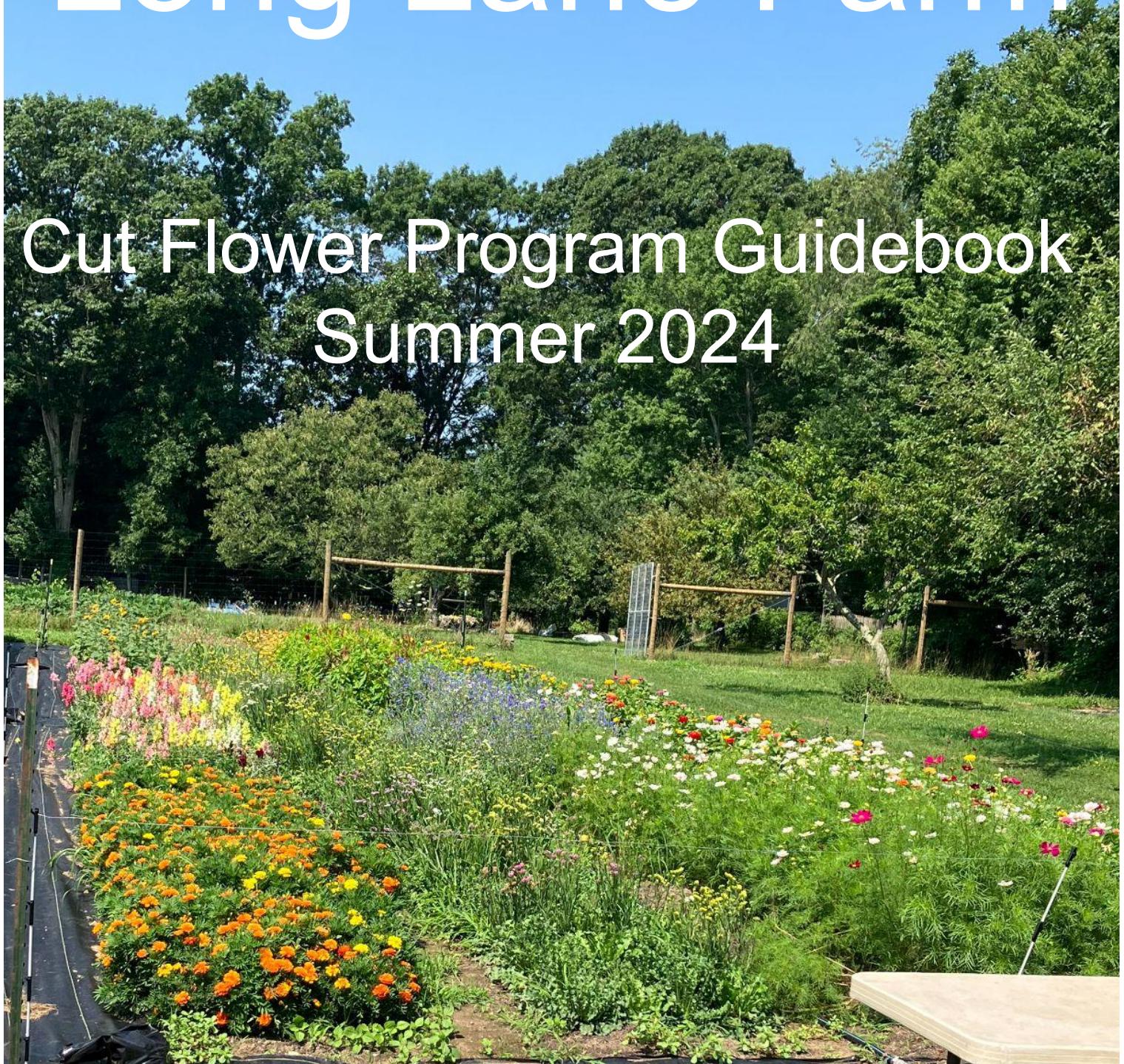


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Flower Pinching - Quick Guide

General rule of thumb: when plants are 8-12 inches tall, with 3-5 sets of true leaves, ideally before buds form. Cut off the top 3-4" just above a leaf node with sharp pruners. Don't remove more than 50% of the leafy growth.

Bachelor's Button (Blue Boy): Yes, follow general guidelines.

Calendula (Flashback Mix): Yes, but might make too bushy/encourage shorter stems to grow- var. dependent.

Celosia (Pampas Plume): Yes, follow general guidelines.

Cosmos (Versailles Mix): Yes, follow general guidelines.

Craspedia (Sunball/Drumstick): Can be pinched, done at the base of first central stem to encourage more to grow.

Gomphrena (QIS Formula & QIS Carmine): Naturally branching, can pinch but not necessary.

Marigold (Durango Outback): Yes, follow general guidelines.

Rudbeckia (Indian Summer): Pinching not required, vigorous branching variety.

Snapdragons (Potomac Mix/Rocket Mix/Madam Butterfly): Yes if bushier plants desired but will take up slightly more room, space 6-12" apart. Single stems can get longer, up to 60" vs. multi stems 12-36".

Statice (Mixed Color): No.

Strawflowers (Sultane Mix): Yes, follow general guidelines.

Sunflowers (Sonja): Yes because this is a branching variety. Do not pinch single stem sunflowers.

Zinnias (Benary's Giant): Yes, try to time pinching to be away from transplanting - transplant shock and stress can cause smaller blooms temporarily.

When to Harvest - Quick Guide

Bachelor's Button: When blooms are $\frac{1}{4}$ to $\frac{1}{2}$ way open.

Calendula: When blooms are about $\frac{1}{2}$ way open.

Celosia: When flowers are fully formed and stems are firm at the base.
(Same for drying)

Cosmos: When petals are just starting to open.

Craspedia: When flowers are fully formed and uniform in golden color.
(Same for drying)

Gomphrena: When flowers have good color but before fully open. (Fully open for drying)

Marigold: When flowers are mostly open but centers are still tight.

Rudbeckia: Before flowers are fully open.

Snapdragons: When only the florets on the lower $\frac{1}{3}$ - $\frac{1}{2}$ of the stem are open.

Statice: When most of the florets are open and showing color. (Same for drying)

Strawflowers: When 2-3 layers of outer petals have opened but center is still tight. (Same for drying) *Note that on overcast days, flowers past the optimal stage can close back up and appear good for harvest, but will reopen when exposed to light.

Sunflowers: Before blooms are fully open, about $\frac{1}{4}$ to $\frac{1}{2}$ of the way.

Zinnias: When blooms are almost fully open and stems are firm. Perform the wiggle test to check.

General Harvest Guidelines

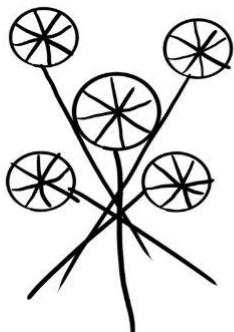
- The best time to harvest is mid morning, after the dew has dried off of the flowers but before the full heat of the day.
- Place flowers into clean buckets of water and get them into the shade, or into the cooler as soon as possible.
- All foliage that would potentially make contact with the water in the buckets should be stripped off of the stems before they go in the bucket.
- Keep all tools, buckets clean and sanitized to prevent spread of pests and diseases. Clean /sanitize pruners when switching between flower types.
- Most cut flowers prefer storage at temps between 32-35 F and 90% relative humidity. Some tropical varieties dislike cold storage.

SOP for Flower Harvest

1. In the morning, gather any buckets and tools needed for harvest and bring them to the wash station.
2. Spray the buckets with a bleach solution and use a scrub brush to remove any visible debris.
3. Rinse buckets thoroughly with the hose, and then fill them with fresh clean water about half of the way full.
4. Spray pruners with the approved sanitizing solution.
5. Bring all buckets, any tools needed to the flower field with the golf cart.
6. Start to harvest flowers one variety at the time, snipping stems that are at least a forearm's length long, making sure to cut above a leaf node whenever possible to encourage branching regrowth.
7. Most flowers should be harvested before they are fully open, with some exceptions such as Zinnias (see individual variety notes on harvest).
8. Strip off any undesired leaves along the stem, especially any that would make contact with the water in the bucket.
9. Place the stems into the water as quickly as possible and keep the buckets in the shade until they can be placed in the cooler/storage area.
10. Make sure to keep equipment clean and respray pruners to sanitize between flower types to prevent spread of disease.

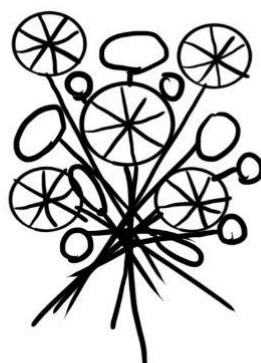
Bouquet Making 101

Start with some larger “focal” flowers to build the bouquet around (ie. zinnias, sunnies, rudbeckia).



Criss cross the stems in your non dominant hand with a loose grip so you can stick more stems into the bunch as you build.

Add in more small and medium flowers to fill out the bunch.



Add filler flowers and foliage to fill in the gaps.

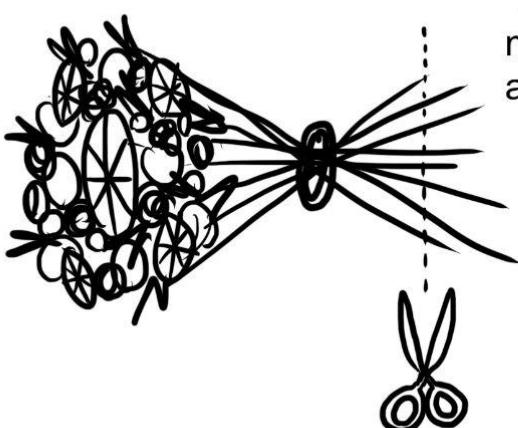
Aesthetic tips

1. It can be helpful to choose a color story for your bouquet(s) before you begin arranging, based on the blooms available that day. This will help it to look more cohesive. (Ex: pastels, deep reds and purples, sunny orange and yellow)
2. Try to use odd numbers of everything as it is more interesting to the eye.
3. Work in the round, so that the bouquet looks good from all angles.
4. Think of building a rounded dome shape, but add some dynamic movement by varying the heights of the stems.

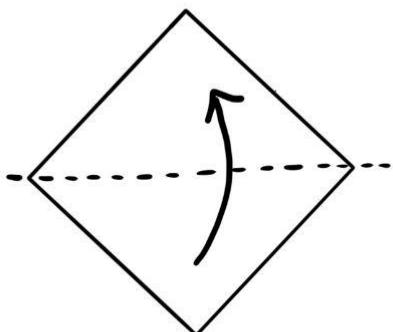


Once everything is looking how you want it, secure the base of the bouquet with a rubber band 2-3 times around.

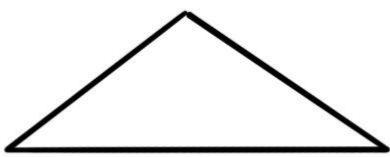
Trim the stems to all be the same length, always matching the shortest stem so that everything will always reach the water in the bucket..



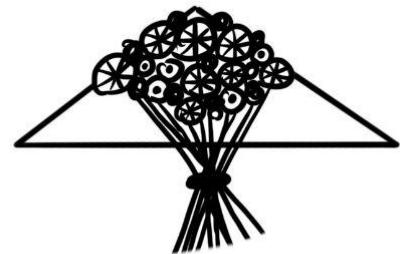
Bouquet Wrapping



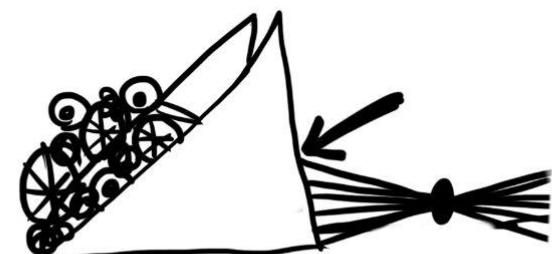
Lay a piece of 18"x18" Kraft paper on the bias, and fold the bottom point up to meet the top point, creasing in half.



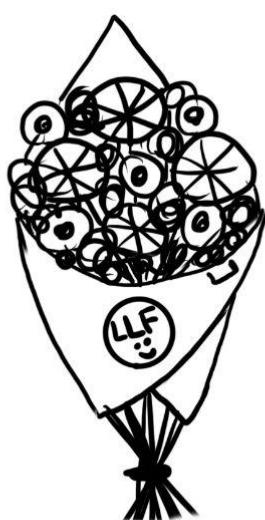
Place the bouquet in the center of the triangle so that the top tip peeks out over the blooms by about half an inch.



Gather the two side points up to meet in the middle to cradle the bouquet, and with your other hand, pinch together the base of the cradle to get a secure fit around the stems.



Keeping the base of the bundle pinched, take both side points and fold them over to the right top side of the bouquet, keeping all top edges of the paper in line with each other.



Secure through all layers of this top right section with a staple, and place a circle sticker on the center of the paper bundle.

Make sure the paper is high enough on the stem bundle that it will not sit in the water once it is placed in the bucket for display or storage.



Bachelor's Button

Centaurea cyanus

Variety Grown: Blue Boy

Life cycle: Annual, 65-75 days to maturity. Readily self-seeds.

Sowing: **Direct seed-** (recommended) Sow thinly in rows 6-9" apart as soon as soil can be worked. Cover lightly and keep moist until seedlings emerge. Requires several weeks of night time temps in the low 50's to develop strong root ball. **Transplant-** sow 3-4 weeks before planting out. 7-14 days to germination at 60-65* F.

Height: 30 - 38" tall.

Growing info: Drought tolerant and resistant to most disease. Full sun preferred. Likes well drained soil and can tolerate poor to medium fertility. Flower petals are edible.*Considered invasive in some US states including West Virginia, Maryland, parts of California, and borderline invasive in many others.

Harvest info: When blooms are $\frac{1}{4}$ to $\frac{1}{2}$ way open.

Bachelor's Button

Centaurea cyanus



Family: Asteraceae

- a. Bachelor's button seeds with tufts for wind dispersal
- b. inflorescence with ray petals and central cluster of disc florets
- c. alternately arranged lanceolate pinnatifid leaves
- d. seedling stage with true leaves

Calendula

Calendula officinalis

Variety Grown: Flashback Mix

Life cycle: Annual. 50-55 days to maturity.

Sowing: **Direct Seed-** (recommended) sow $\frac{1}{4}$ " deep after danger of frost. **Transplant-** sow 4-5 weeks before planting out. Can tolerate some frost, successive plantings can be done throughout the season about 3 weeks apart up to heavy frost. Will self reseed readily if not deadheaded/cut back. 7-14 days to germination at 70* F.

Height: 12-24" tall.

Growing info: Space plants 6-12" apart. Prefers full sun to partial shade, and rich well draining soil. Susceptible to powdery mildew. Flowers are medicinal and petals are edible. Can also be used for dye stuffs.

Harvest info: When blooms are about $\frac{1}{2}$ way open.

Calendula

Calendula officinalis



Family: Asteraceae

a. *Calendula* seeds

b. inflorescence with inner disc florets and outer ray florets

c. alternately arranged lanceolate to oblong-ovate leaves

d. seedling stage with true leaves

Celosia

Celosia argentea plumosa

Variety Grown: Pampas Plume

Life cycle: Annual. 90-95 days to maturity.

Sowing: **Transplant-** (recommended) sow in 72 cell flats or preferred container 6-8 weeks before planting out after danger of frost. Light required for germination, cover very lightly. 8-14 days to germination at 70-80* F. **Direct seed-** only in locations with long growing season.

Height: 24-36" tall.

Growing info: Prefers rich, moist, well draining soil. Susceptible to root rot if soil remains wet. Space plants 6-12" apart. Pinching is recommended to encourage branching growth.

Harvest info: When flowers are fully formed and stems are firm at the base. (Same for drying)

Celosia

Celosia argentea plumosa



Family: Amaranthaceae

- a. inflorescences are terminal spicate cymes
- b. tiny round *Celosia* seeds
- c. alternately arranged lanceolate-ovate leaves
- d. seedling stage with true leaves

Cosmos

Cosmos bipinnatus

Variety Grown: Versailles Mix

Life cycle: Annual, very frost sensitive. 90-110 days to maturity

Sowing: **Transplant**- Sow in 50 cell flats or preferred container 5-7 weeks before planting out, covering seeds lightly. Harden off and plant out after danger of frost. **Direct Seed**- Sow after danger of frost, cover seeds lightly. Soil should be above 60* F. 7-10 days to germination at 68-72* F.

Height: 40-48" tall. May benefit from hortonova support if windy.

Growing info: Space 9-12" apart. Pinching encourages branching. Will be happy in most soil types, full sun preferred. Resistant to most pests and diseases. Continuous deadheading required to keep plants blooming.

Harvest info: When petals are just starting to open.

Cosmos

Cosmos bipinnatus



a.



c.



b.



d.

Family: Asteraceae

- a. *Cosmos* seeds
- b. inflorescence with ray florets surrounding inner disc florets
- c. seedling stage with cotyledons and two sets of true leaves
- d. leaves are oppositely arranged and bipinnately compound

Craspedia

Craspedia globosa

Variety Grown: Sunball

Life cycle: Tender perennial, hardy to zones 8-11. 110-120 days to maturity.

Sowing: **Transplant-** (recommended) sow 6-8 weeks before planting out after danger of frost. Cover seeds lightly. Direct seeding not recommended. 14-18 days to germination at 70-75* F.

Height: 24-30" tall. May benefit from support to keep stems growing straight.

Growing info: Space plants 9-12" apart. Likes average soil with good drainage.

Harvest info: When flowers are fully formed and uniform in golden color. (Same for drying)

Craspedia

Craspedia globosa



Family: Asteraceae

- a. Craspedia seeds, one shown with fluff still attached
- b. ball shaped inflorescence with lots of tiny yellow flowers
- c. basal rosette of leaves in a whorled arrangement
- d. seedling stage

Gomphrena

Gomphrena globosa

Variety Grown: QIS Formula Mix & QIS Carmine

Life cycle: Annual. 85-100 days to maturity.

Sowing: **Transplant**- Sow into 72 cell flats or preferred container 6-8 weeks before planting out after danger of frost. Cover seed lightly. Direct seeding not recommended. 5-14 days to germination at 70-78* F.

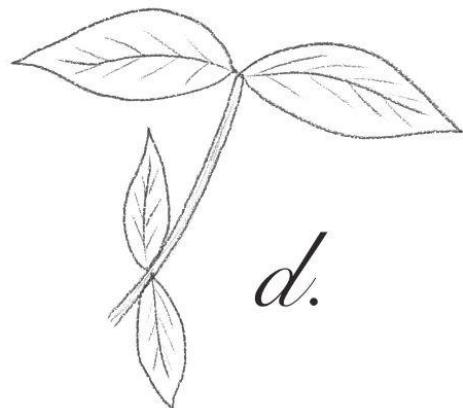
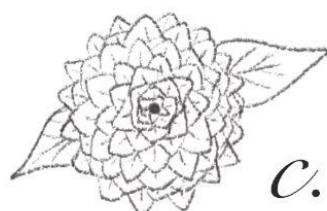
Height: 18-28" tall.

Growing info: Space plants 6-12" apart. Prefers full sun and any soil with good drainage. Quite drought tolerant, and likes soil to dry out between waterings. Naturally branching, not necessary to pinch.

Harvest info: When flowers have good color but before fully open. (Fully open for drying)

Gomphrena

Gomphrena globosa



Family: Amaranthaceae

- a. inflorescence and oppositely arranged oblong leaves
- b. a single flower “petal” and the seed contained within
- c. top view of an inflorescence
- d. seedling stage with first set of true leaves

Marigold

Tagetes patula

Variety Grown: Durango Outback Mix ****note: this variety ended up staying very short and compact, need a different variety for cut flowers.**

Life cycle: Annual. 50 days to maturity.

Sowing: **Transplant-** (recommended) sow into 72 cell flats or preferred container 4-6 weeks before planting out after danger of frost. Lightly cover seeds. **Direct seed-** $\frac{1}{4}$ " deep after danger of frost. 4-7 days to germination at 75-80* F.

Height: Varies with var., around 12" tall.

Growing info: Space plants 8-18" apart. Full sun preferred. Likes average, well draining soil. High temperatures can cause plant growth and blooming to stall. Deadhead frequently to keep producing blooms. Pinching encourages branching growth. Flowers and leaves edible and medicinal, can use flowers for dye stuffs. Scent can deter pests and root exudates deter soil nematodes.

Harvest info: When flowers are mostly open but centers are still tight.

Marigold

Tagetes patula



Family: Asteraceae

- a. Marigold seeds have tufts for wind dispersal
- b. seedling with first set of true leaves
- c. oppositely arranged pinnately compound leaves

Rudbeckia

Rudbeckia hirta

Variety Grown: Indian Summer

Life cycle: Tender perennial, hardy to zones 9-10. 90-105 days to maturity.

Sowing: **Transplant**- sow into 50 or 72 cell flats 5-7 weeks before planting out. Light required for germination, cover very lightly. **Direct seed**- cover seeds very lightly to maintain moisture for germination. 8-14 days to germination at 68-72* F.

Height: 24-48" tall.

Growing info: Likes full sun and average well draining soil, but can tolerate poor soil. Space 12-18" apart. Tolerant to drought and heat once established. Readily self seeds. Naturally branching, pinching not required.

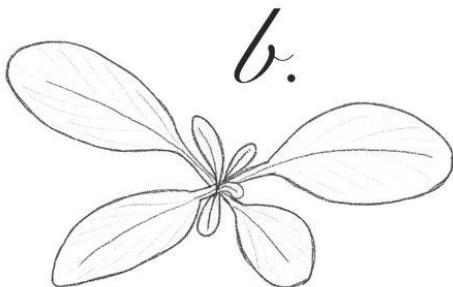
Harvest info: Before flowers are fully open.

Rudbeckia

Rudbeckia hirta



a.



b.



c.

Family: Asteraceae

a. Rudbeckia seeds

b. seedling stage with three sets of true leaves

c. open inflorescence with ray florets and central disc florets

d. alternately arranged broadly ovate or lanceolate leaves with toothed margins

Snapdragons

Antirrhinum majus

Variety Grown: Potomac Mix, Madame Butterfly

Life cycle: Annual. 110-120 days to maturity.

Sowing: **Transplant**- Surface sow in 128 cell flats or preferred container 8-10 weeks before planting out after danger of frost. Light required to germinate, can cover lightly with vermiculite to maintain moisture levels. Transfer to cell packs or larger containers after 3-4 weeks or when the first set of true leaves appear. **Direct seed**- Not recommended. 7-14 days to germination at 70-75* F.

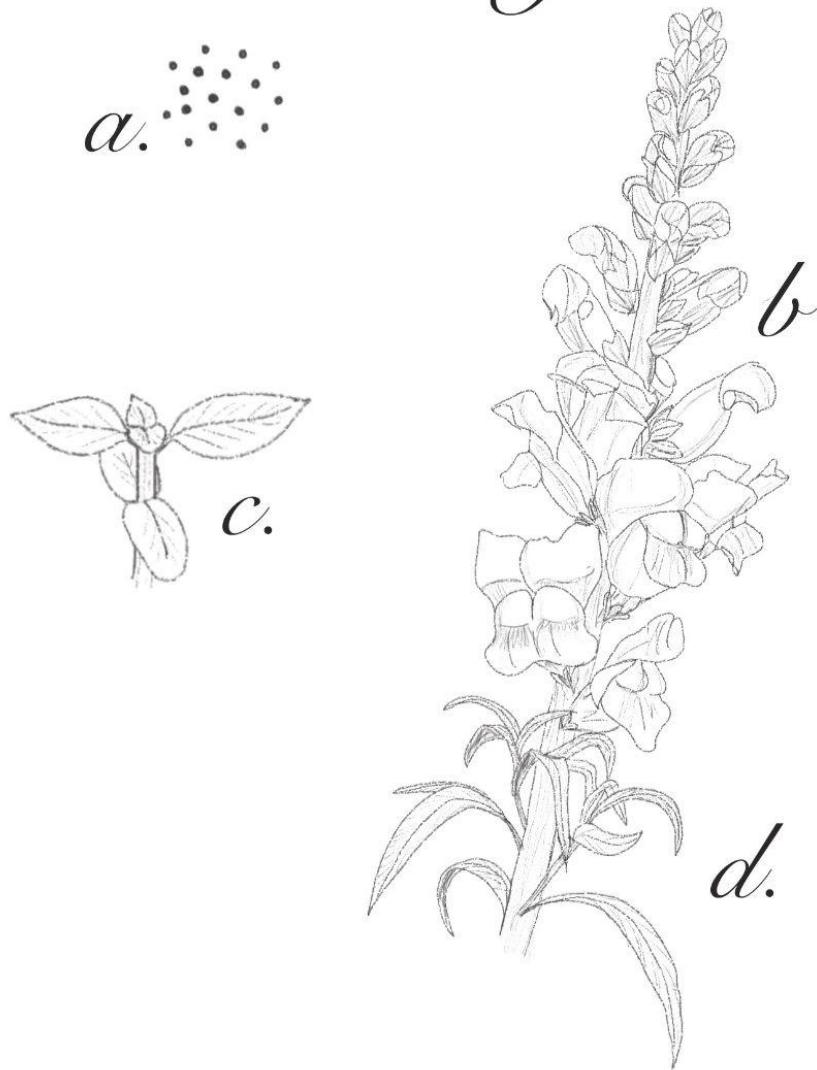
Height: 40-60" tall for once-cut stems. 12-36" tall for branching stems. Hortonova or other support recommended to keep stems straight and tall.

Growing info: Can grow either as taller single stems spaced closer together (4-6" apart), or pinch them out to get bushier plants with multiple flowering stems (12" apart). Moist, well draining, rich soil with neutral pH preferred. Sun to partial shade preferred. Flowers are edible.

Harvest info: When only the florets on the lower $\frac{1}{3}$ - $\frac{1}{2}$ of the stem are open.

Snapdragons

Antirrhinum majus



Family: Plantaginaceae

- a. many tiny Snapdragon seeds per flower head
- b. bilateral tubular florets along the spike
- c. seedling stage with true leaves
- d. lanceolate leaves oppositely arranged in the lower region and alternately arranged on upper region

Statice

Limonium sinuatum

Variety Grown: Mixed Color

Life cycle: Annual. 110-120 days to maturity.

Sowing: **Transplant-** (recommended) Sow in 50 cell flats or preferred container 5-6 weeks before planting out after danger of frost. Light required to germinate, cover very lightly. Cooler temps around 60°F can encourage 1-2 week old seedlings to develop strong roots. Direct seeding not recommended. 5-14 days to germination at 70°F.

Height: 18-36" tall.

Growing info: Full sun preferred. Space plants 8-12" apart. Likes sandy-loam, well draining soils. Allow to dry out between waterings to prevent root rot.

Harvest info: When most of the florets are open and showing color. (Same for drying)

Statice

Limonium sinuatum



Family: Plumbaginaceae

a. panicle inflorescence with funnel shaped papery florets

b. Statice seeds

c. winged stems have few lanceolate leaflets

d. seedling stage showing the lobed pinnatifid leaves that make up the plant's basal rosette

Strawflowers

Xerochrysum bracteatum

Variety Grown: Sultane Mix

Life cycle: Annual. 75-85 days to maturity.

Sowing: **Transplant-** (recommended) Sow into 72 cell flats or preferred container 4-6 weeks before planting out. Harden off and plant out after danger of frost. Light required for germination. 7-10 days to germination at 70-75* F.

Height: 36" - 40" tall. May benefit from some support.

Growing info: Space 10-12" apart. Prefers full sun and average, well draining soil. Pinching recommended to encourage branching. Prefers temps between 70-75*F for growing AND storage. Continued harvest/deadheading necessary for optimal yields.

Harvest info: When 2-3 layers of outer petals have opened but center is still tight. (Same for drying) *Note that on overcast days, flowers past the optimal stage can close back up and appear good for harvest, but will reopen when exposed to light

Strawflower

Xerochrysum bracteatum



Family: Asteraceae

- a. strawflower seeds with fluffy tufts for wind dispersal
- b. seedling stage of growth
- c. alternately arranged lanceolate or elliptical leaves
- d. top view of central disc florets surrounded by papery, colorful bracts

Sunflowers

Helianthus annus

Variety grown: Sonja

Life cycle: Annual. 70-85 days to maturity.

Sowing: **Direct seed** (recommended)- After last danger of frost, sow $\frac{1}{2}$ " deep. **Transplant**- sunflowers dislike root disturbance and can experience transplant shock, however transplanting can still give a head start on early blooms. Sow into 50 or 72 cell flats 2-3 weeks before planting out. Pinching recommended to encourage branching. Can succession sow every 2-3 weeks. 7-14 days to germination at 70-75* F.

Height: 38-42" tall.

Growing info: General spacing 18-24" apart. Flower size and stem diameter can be manipulated for your needs through spacing, for ex: closer together will produce daintier stems and blooms. Excess nitrogen may cause malformed blooms.

Harvest info: Harvest before blooms are fully open, about $\frac{1}{4}$ to $\frac{1}{2}$ of the way - depends on market needs

Sunflowers

Helianthus annus



Family: Asteraceae

- a. Sunflower seeds
- b. seedling stage with first set of true leaves
- c. inflorescence with ray florets and center tube florets
- d. alternately arranged heart shaped leaves with serrated margins

Zinnias

Zinnia elegans

Variety Grown: Benary's Giant Mix

Life cycle: Annual, very frost sensitive. 75 - 90 days to maturity.

Sowing: **Direct sow-** Sow $\frac{1}{4}$ " deep after danger of frost. **Transplant-** (recommended by Johnny's, but other sources recommend direct sowing due to transplant shock susceptibility) Sow into 72 cell flats or preferred container about 4 weeks before planting out after danger of frost. 5-7 days to germination at 70-75* F.

Height: 40-50" tall.

Growing info: Pinching recommended to encourage branching and subsequent deadheading to continue strong production. Can succession sow every 2-3 weeks for continuous, strong blooms. Not picky about soil fertility, may even prefer poorer soils. Susceptible to fungal diseases like Powdery Mildew. Sanitation, good air flow and drainage, and full sun can help prevent onset. Allow soil to dry out between waterings once established.

Harvest info: When blooms are almost fully open and stems are firm. Perform the wiggle test to check: tap or wiggle the stem to check if stem stays stiff and blossom doesn't wobble vigorously

Zinnia

Zinnia elegans



Family: Asteraceae

- a. Zinnia seeds
- b. oppositely arranged lanceolate leaves
- c. inflorescence with outer ray florets and inner disc florets
- d. seedling stage

References

<https://extension.psu.edu/cut-flower-production>

<https://extension.sdsu.edu/introduction-cut-flower-production>

<https://ag.umass.edu/greenhouse-floriculture/fact-sheets/field-grown-annuals-for-cut-flowers>

<https://www.johnnyseeds.com/flowers/>

<https://www.youtube.com/@Blossomandbranch>

<https://plants.ces.ncsu.edu/>

<https://gobotany.nativeplanttrust.org/>