

Ornamental Sunflowers for Texas Enjoyment—“*It is ‘mental’ because they are so attractive!*”



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TEXAS A&M
AGRILIFE
EXTENSION



Texas; April 2025

Right: Early morning sun on Texas A&M
sunflower hybrid trial, Lubbock; Below:
dryland sunflower field, Lamb Co., Texas



Hybrid Seed Characteristics

Commercial Sunflowers

◎ Confection

- ◎ In-shell (confection types only)
- ◎ Kernel or hulling (dehulling minimal in Texas); often a special sunflower hybrid used for dehull market that is intermediate in seed size but has reduced oil content

◎ Oilseed

- ◎ Linoleic (regular oil type)—not grown much anymore
- ◎ NuSun (mid-oleic > 60%)
- ◎ High oleic (> 80 or 85%)
 - ◎ Increasing market share—price premium often available



The True Flower...

- ⦿ The showy ray petals are not the true sunflower bloom.
- ⦿ Notice as the ray petals are lifting off the face underneath are individual “florets” that each produce one seed. These are the true flowers.
- ⦿ You can see on the left face a few individual “spikes”, the male portion of the flower, are standing up with pollen on the tip.



Seed Spirals!

- ◎ The seeds of a sunflower form two spirals, called *parastichies*, one set emanating from the center in a clockwise direction, the other in a counter-clockwise direction. This is a “Fibonacci” mathematical sequence (named after a Italian mathematician).
- ◎ How does something like this occur in nature!



Sunflower Nutation

- ⦿ Nutation.
- ⦿ Sunflower buds and especially blooms until fully flowers follow the sun. In the morning they face east. As the day progresses, they turn and are generally facing west at the end of the day. Overnight they revert to easterly facing. This is caused by different rates of growth (one side vs. the other) on the upper stalk under the head.

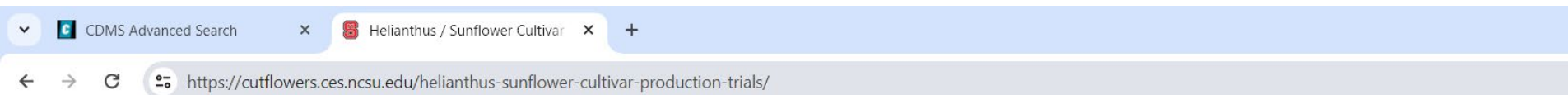
My first encounter with ornamental sunflowers

- ◎ Garza Co., Texas, 2000.
- ◎ For two years a local grower family grew for the local fresh cut flower market...
- ◎ **They quit. Why?**
 - ◎ Secondary buds
 - ◎ “Too much work to pinch.



Many Online Sunflower Garden Guides

<https://cutflowers.ces.ncsu.edu/helianthus-sunflower-cultivar-production-trials/>



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A Brief History of Specialty Cut Flower Production Where to Start – Information for Beginning Cut Flower Growers Support

[Postharvest Trials](#)

Postharvest Information Trial Results by Year Trial Results by Cultivar

[Production](#)

Production Trials

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Association of Specialty Cut Flower Growers (ASCFG) NC Commercial Flower Growers Association (NCCFG)

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If you are
really
choosy
about your
sunflowers!

(from
Harris
Seeds)

SUNFLOWER QUICK FACTS *organized by height*

height	series	color	type	days to flower	branching	pollen-free
3 ft.	Buttercream	pale yellow	bedding/cut	75-90	yes	yes
3-4 ft.	Sunfinity	golden yellow w/ dark disk	bedding/cut	75-85	yes	no
3-4 ft.	Zohar OG	orange-gold	cut	40-50	no	yes
3-4½ ft.	Sunrich Summer Series	varies	cut	50-65	no	yes
3½-4 ft.	Helios Flame	gold & mahogany	cut	45-50	no	yes
3½-4 ft.	Premier Series	varies	cut	45-60	no	yes
3½-4 ft.	Ring of Fire	red & gold single	bedding/cut	70-75	yes	no
4 ft.	Sunfill Series	for Calyx not blooms	cut	50-55	no	yes
4 ft.	Sunrich Series	varies	cut	55-85	no	yes
4½-5 ft.	Dafna	yellow-orange	cut	55-60	no	yes
4-6 ft.	Gold Rush	golden orange w/ dark disk	cut	45-55	yes	yes
4-6 ft.	Moon Series	varies	cut	65-75	yes	yes
5 ft.	Pro Cut Series	varies	cut	50-60	no	yes
5 ft.	Valentine	pale yellow w/ dark disk	cut	70-80	yes	no
5-6 ft.	Copper Queen	golden yellow to orange	cut	55-65	yes	yes
5-6 ft.	Goldy Double OG	orange-gold	cut	45-50	yes	no
5-6 ft.	Peredovick	golden yellow w/ light disk	black oil	80-100	yes	no
5-6 ft.	Taiyo OG	golden yellow w/ dark disk	cut	70	no	no
5-6 ft.	Vincent Series	varies	cut	55-70	no	yes
5-7 ft.	Autumn Beauty Mix OG	yellow, bronze red shades	cut	75-90	yes	no
5-7 ft.	Full Sun	golden w/ dark disk	cut	65-75	no	yes
5-7 ft.	Max Series	varies	cut	45-85	no	yes
6 ft.	Infrared Mix	soft to dark red shades	cut	60-70	yes	yes
6 ft.	Monet's Palette	yellow/red bicolor mix	cut	65-80	yes	yes
6 ft.	Moulin Rouge	red w/dark disk	cut	65-70	yes	yes
6 ft.	Rayo de Sol	classic orange w/ dark disk	cut	50-60	no	yes
6 ft.	Shock-o-Lat	choc. petals w/ gold-rimmed edges	cut	50-60	yes	yes
6 ft.	Soraya	orange w/ dark disk	cut	95-100	yes	no
6 ft.	Starburst Panache	varies	cut	60	yes	yes
6-7 ft.	Sunbright Supreme	classic orange w/ dark disk	cut	60-70	no	yes
6-8 ft.	Evening Sun OG	bronze/red bicolor mix	cut	75	yes	no
8-10 ft.	Mammoth	yellow w/ brown disk	hedge	65-80	yes	no
8-15 ft.	American Giant	yellow w/ dark disk	hedge	65-80	yes	no
12-14 ft.	Titan OG	golden w/ dark disk	hedge	75	no	no

A factor in my idea about ornamental sunflowers:
Hokum Rock Blueberry Farm, Cape Cod, Mass.



Expanded Effort in Ornamental Sunflower

- ◉ Texas Dept. of Agriculture Specialty Crop Block Grant program, 2022-2024
 - ◉ “Improving and Expanding Ornamental Sunflower Management for the Texas Cut Flower Market”
- ◉ Commercial sunflower growers:
 - ◉ **branching sunflowers** (pick 1 stem or a bunch)
 - ◉ larger sunflowers on **single stem**
- ◉ **Up to \$20,000 per acre revenue?**

Cut Ornamental Sunflower

- ◉ Ornamental sunflowers bred for **single stem** (also pollenless):

ProCut series

- ◉ Total of 50+ varieties developed by Dr. Tom Heaton, carried by many garden seed suppliers



<http://www.sunflowerselections.com>

Expanded Effort in Ornamental Sunflower

- ◎ Shift in Objectives...
- ◎ Commercial sunflower growers have one or the other or both:
 - ◎ branching sunflowers (pick individual stem or a bunch)
 - ◎ larger flowers on single stem

Expanded Effort in Ornamental Sunflower

- ◎ Shift in Objectives...
- ◎ Focus now is on the arrangement, or plant spacing, at planting or transplanting
- ◎ For example: 4 seeds per foot of row on 10" rows vs. 3 seeds per foot on 20" rows.
- ◎ Measure size of heads, lack of branching, estimate \$ value.

Ornamental Bush Type Sunflowers

Two common
varieties, subject of
Texas A&M
research:

‘**Sunfinity**’ (available
at Home Depot)

‘**Suncredible**’



Single Stem

Single stem sunflowers either from commercial farmer planting seed or ornamental sunflowers (likely the 'ProCut' series) that market single-stem sunflowers for the commercial cut flower market.

Cut flower growers tend to cut the flowers when the showy “ray” petals are flat on the face (arrow) to standing perpendicular to the head. They will continue to open, and this extends their life to the floral customer as it could be several days from cutting to sale.









A Variety of Uses

- Most sunflowers in the commercial floral market remain yellow (like here), but the increase in variety of colors gives the florist more choices in the type of mixed flower arrangements.



Indoor Bouquets?

- ◎ Some ornamental sunflowers are bred to be pollenless.
- ◎ This is preferred for indoor bouquets as sunflower pollen can stain furniture.
- ◎ Use a newspaper or other spread for protection.



- ◎ This is what some gardeners and commercial growers prefer.
- ◎ Branches with many blooms.





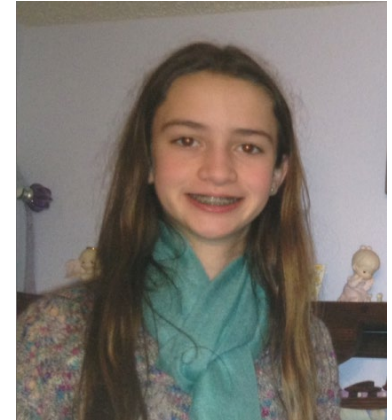
Many Blooms...

- ◎ For non-single stem ornamentals if you want larger primary bloom you may want to “pinch” secondary buds in the leaf/stem crotch or on the underneath side of the head.



Pinching off buds and branches?

- ⦿ My daughter Elida “But Dad...”
- ⦿ “I want lots of flowers!”
- ⦿ I told her I thought you would like larger buds and bigger flowers.
- ⦿ **Grower’s choice.**



⦿ At your local
garden store
or online.



Ornamental Seed Spacing

- ⦿ Your seed package will instruct.
- ⦿ As few as 4 to 8" apart for single stem sunflowers in rows (20" rows?)
- ⦿ Branching sunflower plants have more spacing.

Planting Dates for West TX/NM

- ◎ Seed companies suggest March to May, but you can plant all the way to early August
- ◎ 60-85 days to flowers
- ◎ Plant as early as **last frost** in spring
- ◎ Sunflowers handle the cold! Temps to 28° F should not damage if <2 hours.

Planting Dates for Central TX to Bexar Co.

- ◎ Seed companies suggest March to May, but you can plant all the way to late August (shorter plants, smaller flowers if late-planted)
- ◎ 60-85 days to flowers
- ◎ Plant as early as average **last frost** in spring
- ◎ Sunflowers handle the cold! Temps to 28° F should not damage if <2 hours.

Sunflower Growth

- ⦿ Growth is **heat driven**

- ⦿ Sunflower planted in early June might flower 7 days faster than if planted in mid April
- ⦿ Texas A&M AgriLife trial hybrids, at a range of planting dates, reach “Half Bloom” in 52-57 days at Lubbock vs. 2-3 days longer at Dumas in the same year
- ⦿ This will help you project needed insect control
- ⦿ Commercial farmers: 90-105 days to physiological maturity; another 10-15 days to harvest maturity

Watering?

- ⦿ Early overwatering may limit rooting depth thus curtailing potential drought tolerance & deep moisture extraction
- ⦿ Sunflower can readily root to 6' deep.

Sunflower Diseases—Esp. when humid

- ◉ Powdery Mildew

- ◉ Fungus. Usually upper side of leaves, later in season, usually does not affect flowers.

- ◉ Control?

- ◉ Leaf Rust

- ◉ Fungus. Brown rusty specs on leaf, some varieties highly susceptible. If top 4-6 leaves are relative free, blooms will be near normal.

- ◉ Control?



Powdery Mildew



Light Leaf Rust

Butterflies including “Painted Lady”

Sunflowers can
be “buggy.”



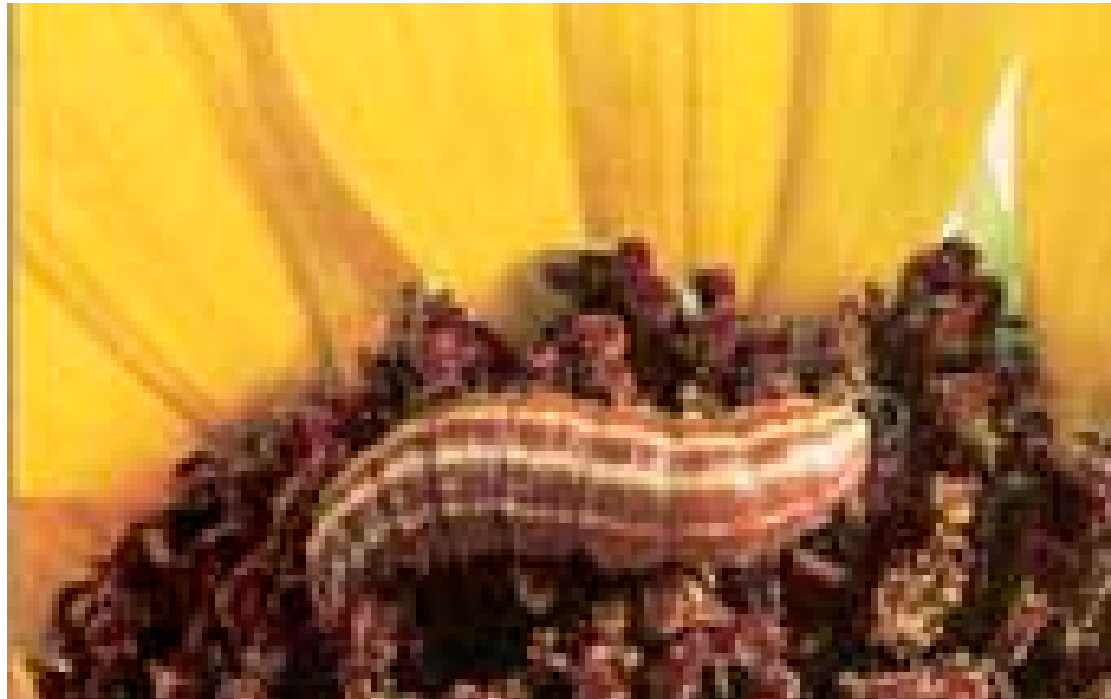


The “Boll Weevil of Sunflowers”—Sunflower Head Moth

Too many growers “**never knew**” about this insect before growing, or if they did they sprayed too late—It will lead to major crop damage if not controlled.

The moth you scout for—
early dawn or nearly dark!

The larvae feeding which
leads to fungal infection.



Sunflower Head Moth

- ⦿ Threat for 7-10 days beginning with initial bloom when pollen becomes available
- ⦿ Uncontrolled larvae eventually burrow into head destroying seed—increasing susceptibility to *Rhizopus* head rot
- ⦿ The worms leave a lot of webbing or “frass” on the head, which would be unattractive in cut flower arrangements.

“Managing Insect Pests in
Texas Sunflower,” Dr.
Holly Duncan, formerly
Texas AgriLife
Extension—Weslaco
(~2018)



Download at <http://Lubbock.tamu.edu/sunflower>

Birds and Sunflowers

- ⦿ Can wreck a crop
- ⦿ Will feed on developing seed before maturity (that's about two weeks after beauty fades)
- ⦿ Bird netting is fine, especially if you want to save the seed to feed

Photography!—Early morning sun.

Gives exceptionally vivid colors vs. bleached-out mid-day sun.



Sunflower Maze!

- ⦿ Not just for taller cornstalks.
- ⦿ Hamilton Farms, Lubbock; the Texas A&M Agronomy Club.
- ⦿ Can mix ornamentals into a commercial variety (early, medium, and late maturity) a farmer would plant.
- ⦿ Lasts about 4 weeks.
- ⦿ In addition to an admission fee, you can charge \$1 a stem to pick sunflowers.



A Recent Trostle Jigsaw Puzzle...



Let's Talk...



Common Questions from TX/NM Gardeners about Ornamental Sunflower

- ⦿ Are sunflowers shade tolerant?
 - ⦿ Not really, but a break from afternoon sun is OK. Remember **sun**flower!
- ⦿ If sunflowers are tall do I need to stake them due to wind?
 - ⦿ No. The only sunflower that might be subject to wind damage are the truly 'giant' sunflowers that can be 10-15' tall.
- ⦿ I have read about perennial sunflowers. Are they good to grow?
 - ⦿ The Land Institute, Salina, KS, the University of Minnesota/USDA, and others have developed perennial sunflower. You can read about them online. I do not have experience with them, but you are welcome to try if you like.

Common Questions from TX/NM Gardeners about Ornamental Sunflower

- ⦿ Can sunflowers be planted in shallow soils?
 - ⦿ Sunflower can typically root to 4 to 6' deep, but they can still grow well on more shallow soils (~12") as the taproot can find its way deeper. If moisture is adequate, they should grow OK.
- ⦿ Do birds like these fancy sunflowers less?
 - ⦿ I think they will eat them like any other sunflower. That is my experience.
- ⦿ Do sunflowers have allergens?
 - ⦿ Sunflower pollen may cause a reaction in some people. This is different than a possible food allergy.

Common Questions from TX/NM Gardeners about Ornamental Sunflower

- ⦿ Do sunflowers need to be started indoors?
- ⦿ No. Sunflower will germinate with temperatures in the range of 50-55° F. This is fairly cold. Emergence like any plant will be slower, but starts inside are not necessary. Sunflowers can be planted even if you still might expect a frost as frost temperatures—and light frost—do not generally injure sunflowers.
- ⦿ Do deer or rabbits eat sunflowers?
 - ⦿ I have rarely heard this is an issue though younger plants could be attractive. In contrast rabbits will definitely eat sunflower. If they nip the growing point off then there will be no future bud or bloom.

Share Your Ornamental Sunflower Experience

- ◎ I welcome questions and pictures!
- ◎ Calvin Trostle, ctrostle@ag.tamu.edu

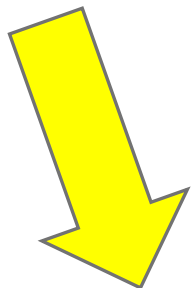
Sources of Chemical Label Information

- ⦿ Labels for herbicides, insecticides, fungicides, seed treatments, growth regulators, etc.—access through <http://www.cdms.net>, click ‘Product Databases’ then ‘Search’ then type in a product name.
- ⦿ Under ‘Product Databases’ you can also choose “*CDMS Advanced Search*” then do a specialized search for an active ingredient, product type (insecticide, fungicide, herbicide, etc.) or a crop/plant species.
- ⦿ This should work for commercial lawn & garden products.



Need help or have a question?

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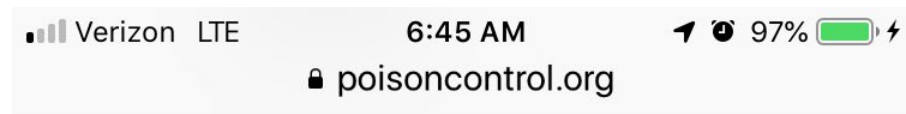
Texas Poison Center Network

⦿ <http://www.poisoncontrol.org>

⦿ (800) 222-1222

⦿ Put this in your
Cell Phone!

If you are blinded and can't
see you can still voice dial (or
call 9-1-1).



POISON CENTER NETWORK