Sesame for West Texas & Southwest OK (Also Planting Dates for South TX)

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TEXAS A&M GRILIFE EXTENSION



Sesame & Wild Hogs

- ⊙ Based on several observations across Texas:
- Or Charles Stichler, former AgriLife Extension agronomist, Uvalde: "The only damage comes from hogs rooting up plants. Hogs do not eat sesame plants. Now—having said that—deer will munch on a few plants if they are very hungry but will not eat the dry capsules just before harvest. Hogs will walk through sesame fields, but not eat it. Here in the brush country sesame is about their only choice unless they high fence."
- Jerry Riney, former Sesaco: "Yes, most growers in the Rolling/South Plains area grow sesame as a revenue source that has low risk to hog damage. Incidents of hog damage to sesame mainly come from growers not harvesting in a reasonable amount of time from when the crop is ready."
- <u>Dr. David Drake</u>, former extension agronomist, San Angelo: "Hogs have walked through my trials almost all season long, but never damaged it, and they never fed on it."



Region of Application for this Info.

- The information here is generally for the Texas South Plains, Texas Rolling Plains and toward the Concho Valley, and southwest Oklahoma
- In Texas it is anticipated that sesame production closer to I-35 in north and central will lead to increased disease issues.
- South Texas planting date information is mentioned later in the document.



Where is Sesame Grown?

Counties for Crop Insurance... See slide #7



Sesame & Active Companies/Contractors All have non-shattering sesame varieties.

- <u>Sesaco Corp</u>., <u>www.Sesaco.com</u>, headquartered in Austin, TX, corporate phone, (512) 389-0759.
 - Locate regional Texas & Oklahoma field reps at <u>https://sesaco.com/production-team</u>
- <u>Equi-nom</u>, <u>www.equi-nom.com</u>, a genetics company, from Israel. U.S. corporate headquarters, Indianapolis, IN, <u>info@equi-nom.com</u>
 - Sesame seed for planting. Due to a legal issue Equi-Nom has suspended U.S. operations until ~2027.
- Sesajal, www.Sesajal.com, had offered limited contracts in Texas in 2023-2024, but is no longer pursuing U.S. sesame production. (Focusing on production in Mexico.)

Sesame Contacts—Sesaco

- See the regional reps & grower inquiries—e-mail & cell phone contacts at <u>https://sesaco.com/production-team;</u>
 - Be sure to ask for additional Sesaco sesame production resources.
- Sesaco research team, including general manager and weed control expert, <u>https://sesaco.com/research-team</u>
- In addition to Austin corporate:
 - Grain processing: Hobart, OK
 - Tahini manufacture: Taylor, Michigan
- 2025 delivery locations: Texas—Stamford, Uvalde, Tynan, Taylor, San Benito, Edinburg; Oklahoma—Hobart, Hydro, Omega, Seiling, Okeene, Alva, Ames.
- ⊙ Breeding, contracting, and processing in Texas for over 40 years, acreage over 80,000 in some recent years.



Sesame Contracts

- Always call or email contractor for timely pricing information and delivery options.
- Spring 2025 contract prices—contact for delivery terms/locations, premiums/discounts, etc.:
 - Sesaco, irrigated and dryland, Sesaco now prices weekly based on Nov2025 soybean (see next slide)
- Additional considerations:
 - Are these contracts waived if you have storm or drought losses? For lesser acreage crops like sesame they usually are ('act of god').
 - Is the price the same for dryland and irrigated acres?
 - Substitution Usually there are small premiums (rather than discounts) for good color, low broken seed, clean grain, etc.
 - Provisions/prohibitions in using glyphosate (Roundup) as a harvest aid (more common in South Texas)??

Sesaco Pricing Beginning 2025

- Sesaco has switched from a fixed cash bid to a market-based bid tied to Nov2025 soybeans.
- Terms and conditions are outlined in Sesaco's "Crop Marketing Programs" document
 - In the formula at right, the June25 "Multiple" is 2.3.
 Example: Nov25 soybeans are \$1050, then:
 - \$1050 / 60 X 2.3 = \$40.25/cwt. (base price)
 - +/- basis depends on delivery location. The closer to Hobart OK (+\$5.00/cwt) the higher the price. Other OK locations ~+\$3.00; Stamford, TX, +\$2.50; central/south TX, +\$0.50-1.25.



For the 2025 sesame growing season, we have introduced a new and more flexible pricing structure. This new mechanism gives you greater control and transparency, linking sesame prices to soybean futures, with options that allow you to manage market risk based on your preferences.

HOW IT WORKS

The price for sesame is based on a multiple of the soybean futures price. Soybean futures are publically traded and offer clear visibility into market movements, making this pricing mechanism more transparent.

Price Formula:

Sesame Price per CWT = (Soybean Benchmark Price ÷ 60) x Multiple +/- Basis

Soybean Benchmark Price:

The soybean benchmark price is based on the average settlement price of the soybean futures contract (eg. ZSX25 for NOV 25) from the prior week. This will serve as the soybean benchmark price for the week. The new benchmark price will be calculated at the end of each week and applied to contracts starting the following Monday.

Multiple:

A fixed multiple is applied to the soybean benchmark price to calculate the sesame price. The multiple may change during the season based on external market factors.

Basis:

The basis reflects local market conditions, such as transportation costs. It can adjust positively or negatively based on logistical factors.

TYPES OF CONTRACTS

FIXED PRICE ACREAGE CONTRACT

Lock in both the soybean benchmark price and the multiple at the time of signing. This ensures price stability and protects you from future market fluctuations.

DEFERRED PRICE ACREAGE CONTRACT

Lock in the multiple now, but leave the soybean benchmark price open to be locked in at a later date. This option allows you to track market conditions and lock in the price when it is right for you.

VOLUME CONTRACT - CASH BID

SESACO

Sell specific volumes at the current cash price offered by Sesaco.

FREQUENTLY ASKED QUESTIONS

WHY THE CHANGE ?

We are committed to building a sustainable U.S. sesame industry that encourages participation and investment from all stakeholders in the supply chain. By adopting a transparent pricing model, we aim to provide growers and buyers with the tools to manage market positions effectively. This transparency losters stability, encourages further investment, and supports the growth of domestic infrastructure. Our vision is for the U.S. to become the world's leading sesame supplier and to produce and manufacture sesame products locally to meet domestic domand. To achieve this, we need greater participation, investment, and transparency within the industry.

WHY IS SOYBEAN THE BENCHMARK ?

While there are confectionery applications for sesame, the dominate use for sesame globally is as an oilseed. While no correlation is perfect, the sesame market is more closely aligned with the movements of oilseeds, specifically soybeans, than any other publicly traded commodity.

2 CAN I HAVE MORE THAN 1 CONTRACT?

Absolutely! You can have multiple contracts and can mix and match contract types. This enables you to manage your market risk by locking in the price in stagod intervals. In the event of multiple contracts for the same delivery period, a weighted average price will be calculated to be applied to all related contracts upon settlement.

HOW OFTEN DOES THE PRICE CHANGE ?

Generally, Sesaco will publish a new price every week using the weekly average settlement price for the relevant soybean futures contract. In the event of extreme volatility, the price may be updated more frequently.

POW IS THE MULTIPLE SET & WILL IT CHANGE ?

The multiple is determined by correlating the current sesame market against the current soybean market. Generally, the multiple should be consistent, built imay change at different points in the season depending on market conditions. The multiple can be locked in with a deferred price acreage contract, while both the multiple and the full price are locked in with a fixed price acreage contract.



No! You are free to market the crop to outside buyers for consumption applications. Seed use restrictions (https://sesaco.com/restrictions) remain in effect.

Information is provided in good faith for information purposes only. Product availability & pricin change at anytime. Consult with your Sesaco representative for the most up to date information of the second se



Sesame for West Texas/SW Oklahoma

⊙ Contractor interest is in the <u>full-season</u> crop

- Seeking full yield potential with longer season crop (in contrast to late-planted crop or planted after cotton failure)
- Rotation benefits, no cotton root rot effects, little to no hog damage; deer pass through?
- Input costs will remain reduced compared to other crops
- Sesame is not for your weedy ground!





Sesame & Crop Insurance

- Program crop insurance under a renewing pilot program is available in many Texas & Oklahoma counties including:
- Texas:
 - High Plains: Gaines, Dawson, Terry, Hockley, Lubbock, Crosby, Lamb, Hale, Floyd, Castro, Swisher
 - Rolling Plains: Hardeman, Haskell, Jones, Wilbarger, Wichita
 - Concho Valley: Tom Green, Runnels
 - South Texas: Uvalde, Medina, Zavala, Colorado, Wharton, Matagorda, Live Oak, Bee, Refugio, Nueces, Jim Wells, Kleberg, San Patricio, Willacy, Cameron, Hidalgo
- Oklahoma: Alfalfa, Blaine, Caddo, Canadian, Custer, Dewey, Ellis, Garfield, Grant, Jackson, Kingfisher, Kiowa, Major, Tillman, Washita



Sesame & Crop Insurance

- Insurance now available in just about any TX & OK county via written agreement (if program status is absent
- ⊙ Must use a non-shattering variety



Sesame in General

- Not for your weedy ground—five labeled herbicide active ingredients (apart from burndown chemicals)
- Shatter-resistant varieties have been developed for combine harvest
 - "Non-dehiscent" (no longer only in the U.S.)
- Very drought tolerant and insect resistant



Sesame, the Plant

- This will depend on variety: Physiological maturity, 95-110 days after planting, dries down in 120-150 days to harvest; increased heat units accelerate maturity
- Drought tolerant, heat tolerant, may respond less to rain & irrigation compared to other crops (but this is a credit to sesame)
 - Itigh Plains tests show that with an extra 6" irrigation or rain, yield response is moderate (increase ~20-33%), but overall water use efficiency (WUE) is good



Sesame, the Plant

- ⊙ Broadleaf summer crop, self-defoliating at maturity
- ⊙ Can reach 6' tall with some irrigation
- Begins flowering in 35 to 45 days—slow growing and not competitive with weeds at this point—after planting
- Major flowering ceases about 75-85 days after planting
 - Some indeterminacy remains in the crop
- Average daily soil <u>planting</u> temperature, 70°
 - Warmer than just about any other crop
 - Sesaco staff recommends that night-time air temperatures not drop below 68° F (This is no an issue in virtually all of Texas & Oklahoma except the most northwest regions.)



Sesame









Different sesame plant types, some with branching.



Multiple capsules per node at harvest (Equi-nom line). Future variety testing will inform how the yield potential compares with singlecapsule/node varieties.

High/Rolling Plains

- Planted mostly in mid-May to July 1, including after failed cotton (check your herbicide rotations from cotton)
 - SW Oklahoma/TX Rolling Plains, end of planting July 1 vs. mid-July (latter is less optimal)
 - Itigh Plains, recommend planting by ~June 20 north of Lubbock to June 25 south of Lubbock (maturation slows considerably in cool weather)
 - North Texas, High Plains, Oklahoma experience suggests earlier May planting does better vs. June
- Minimal input crop (but don't neglect N fertility needs)
- All kinds of planting conditions for stubble, seeding equipment
- "The hardest thing about growing sesame is getting it planted right."

SW Okla & Texas RP Production Tips

- Plowing too deep dries out the field and can result in mediocre stands
- Need firm seed bed for this small seed
- Slow growth in first 6 weeks or so, grass problems treated with clethodim (Select products) or especially sethoxydim (Poast products)
- ⊙ Thin fields often look like candidates for terminating, but stands when left in place especially if uniform, often surprise
- Sesame at any time is susceptible to glyphosate drift, also Ignite, etc.
- Any combine works well—pickup reels often used, but batt reels might be better; all-crop headers can work, too



Planting I

- ⊙ Early planted sesame normally gives the best yields
- <u>Early planting</u>: Late May in the South Plains, mid-May in the Rolling Plains & SW Oklahoma
- Terminates on its own (however, there is now increased use of glyphosate)
- Must make physiological maturity prior to frost for optimum yield
 - Trostle observations in the Lubbock region affirm this observation. Some sesame is planted into early July, but should have been in the ground 10-14 days sooner to minimize risk of incomplete maturity.



Planting II

- Slow down!!! to achieve better stands, more uniform seed depth.
- Seed is very small, has less push than cotton, hence problems with crust
 - That is why seeding rates are higher than may be actually needed to grow the crop
- Onsult your contractor for variety recommendations



Seeding









Seedlings

Above: sesame seedling appears to be trying to emerge from about 1" depth, which is about the limit of ready sesame emergence,

Seeding Rates

- ⊙ Generally 2.5 to 4.5 lbs./A, target 3 lbs./A. This may vary by contractor preference.
 - Lower rates for multi-capsule Equi-nom lines
 - Over 30 seeds per foot
- Seeding rates can reduce by 1/4 to 1/3 when drilling or planting into good soil conditions
- Sesame adjusts to the population if initially too thin or too thick
- Or Little difference in yield across 3 to 8 plants per foot (Sesaco experience).



Planting in Southerly Texas Locations

- Sesame principles for planting in the Lower Rio Grande Valley, Wintergarden area (e.g., Uvalde), and Coastal Bend like other areas of Texas
- In general sesame would like to be planted at soil temperatures about 5° F warmer than cotton:
 - IRGV, beginning mid-March
 - Coastal Bend, beginning around April 1
 - Wintergarden, beginning around mid-April
- Planting too early and risking a poor stand is not worth it. Regular early plantings are generally better than later plantings, which if late enough may then encounter tropical storm conditions on maturing crops or sesame ready for harvest.



The Vulnerable Stage

Young sesame does not compete well with weeds. Here farmer has cultivated and moved soil to the base of the plant to possibly cover small in-row seeds.



What Sesame Must Do Nearing and at Maturity

- ⊙ The plant stops flowering
- Mature without capsule opening
- Shed leaves
- ⊙ Dry down as quickly as possible
- ⊙ Hold seed even in adverse weather
- Release seed in combine easily



Sesame Crop Description Similar growth habit to cotton & soybean

- ⊙ 3-5 feet tall
- ⊙ Varieties can be single stemmed or branched
- ⊙ Flowering starts about day 35 to 45
- ⊙ The fruiting form is called a capsule
- ⊙ Physiological maturity (PM) normally occurs at day 95-110
- ⊙ Dries down at 120-150 days
- A killing freeze will terminate the crop and typically dry down the plants in 7 to 10 days.





Consult Contractor for N Recommendations

- Dryland growers may forego N
 - Be careful about this: if you have residual N, good; if not, ensure you are not taking an overall "cheap" management approach
- Typical fertility program would target 30-60 lbs. of N per acre for typical yields ~1,000 lbs./A yield (adjusted for soil moisture and related yield potential)
- I do not know of a soil test lab, including Texas A&M, that has a research-based nutrient response curve for N/P/K for sesame.
 - Texas A&M suggests a general amount of 50 lbs. N (actual) minus soil test N = fertilizer N to apply.
 ATEXAS A



Irrigation

- ⊙ Very drought tolerant
 - Among most drought tolerant crops in West Texas & Southwest OK (others would be hybrid pearl millet, guar, safflower)
 - Rule of thumb: uses half the water of cotton, perhaps 2twothirds of the water of grain sorghum
- Limited irrigation is good; 4-6 inches offers good return on water use efficiency (WUE)



Economics I

- Because input costs can be minimal, net return is often favorable compared to other crops
- Dryland, budget for ~500 lbs./A (an appropriately conservative yield goal). This is most likely appropriate for the Texas High Plains and Rolling Plains. As one moves to more moist regions, then the 'dryland' number increases to as much as 1,000 lbs./A
- Irrigated, ~3" then ~100 lbs. per inch of irrigation, or typically ~1,000 lbs./A for most limited irrigators
 - Not a crop to irrigate heavily



Economics II

- \odot AgriLife Crop Budgets for Sesame, 2025
- Sesame budgets are posted at https://agecoext.tamu.edu/resources/crop-livestock-budgets/budgets-by-extension-district/ for the following regions (update the price):
 - Lubbock South Plains/District 2 (You can also download an Excel spread sheet at <u>http://southplainsprofit.tamu.edu</u> Read along the bottom for 'Tabs' for irrigated and dryland sesame. This is a file you can plug in your own numbers.
 - San Angelo/District 7
 - Uvalde/District 10
 - Coastal Bend/District 11



Sesame & Weed Control I

Pre-plant/Pre-emerge—"Yellow" Herbicides

- Sonalan HFP (Gowan; a.i. ethalfluralin, 35.4%): Sesame is listed in the Oilseeds section of the label which provides a soil texture-based rate (1.5 pints/A, coarse, to 2.5 pints/A, fine), timing not mentioned (Sesaco recommends at least 45 days before planting).
- Treflan/Trifluralin (43% a.i.) 1.0-2.0 pints per acre depending on soil type. Previously trifluralin labels were 1.0 pint per acres regardless of soil type. (Sesaco notes that it would need application at least 45 days before planting.)



Sesame & Weed Control II

Pre-plant/Pre-emerge

- Several pre-plant contact/burndown options like Roundup, even ET (pyraflufen-ethyl)
- Dual Magnum (s-metolachlor), 83.7% a.i.—changes weed control perspective for sesame (Texas, but not currently Oklahoma; others?)
 - Sesaco's weed research observations that suggest generic metolachlors (not the 's' version) might have more injury potential.
 - 0.67 to 1.33 pints/A based on soil type—Sesaco staff have addressed this issue for years. They caution about possible Dual injury at higher rates; perhaps limit Dual to 1 pint per acre at most.
 - 1) Broadcast pre-emerge after planting but before emergence, 2) Irrigate lightly (0.5") if needed to activate (7-10 days if no rain), but preferably not before sesame emergence, 3) No incorporation
 - Access this 24(c), or indemnified, label through via <u>http://www.Syngenta-us.com</u>, then type 'indemnified label' in the search box. Register if needed. You must agree to a statement saying Syngenta does not recommend this practice, and that you bear the risk in order to access the label. Once on the page, enter 'Texas' and 'Dual Magnum,' enter, then scroll down to **TEXASE** sesame label for Texas.
Sesame & Weed Control III

Pre-emerge

- Clomazone (active ingredient). This chemical is available commercially as 'Caravel' (Sipcam Agro) and 'Vopak' (ADAMA).
- Application after planting but before emergence.
- Other clomazone products are not labeled, and the % of a.i. is not exactly the same so there might be a difference in formulation that has not been researched.
- Dr. Peter Dotray, Texas A&M AgriLife Lubbock, <u>pete.dotray@tamu.edu</u>, notes that clomazone is very weak on the dominant problem weed Palmer ameranth/carelessweed/pigweed in much of the Texas production region for sesame. Hence clomazone could have a better fit if paired with another herbicide.



Sesame & Weed Control IV

Over-the-top Grass Control

- Select Max (a.i. clethodim, 12.6%) and other clethodim products which may have different concentrations (Arrow, Intensity One, Cleanse, etc.) First 30 days or after flowering. Sesaco notes that some injury with clethodim may occur. In 2009-2011 timing studies, Select Max® prevented capsule formation when sprayed during flowering. Some varieties are more susceptible than others. Clethodim has shown to be effective against Texas Panicum. See more at:
 - Annual grasses, 9-16 oz./A; perennial grasses, 12-16 oz./A; use 0.25% NIS
- Poast (a.i. sethoxydim, 18.0%): up to 2.5 pints/A (max 5.0 pints/year), 60 day PHI; UAN or AMS for certain grasses; no statement on timing of application relative to bloom (e.g., do not apply during bloom?). Sethoxydim does not appear to injure sesame (safer than clethodim). Sesame is listed under "Rapeseed subgroup" on the label.
- Assure II (a.i. quizalofop-*P*-ethyl, 10.3%): up to 4-12 oz./A (max 18 oz./A per year) and not within 14 days of bloom.

XTENSION

Sesame & Weed Control V

In-season protected options (directed sprays)

- Caparol (a.i. prometryn, 44.4%). Single post banded application (2 pints/A) directed to the soil and lower 3" of sesame plants when plants are a minimum of 12" tall. Single ground application with 20 gal/A water. See label for further information including NIS or COC.
- Aim (a.i. carfentrazone, 22.3%; some generics at slightly different concentrations). Sesame is listed under the section for Hooded Sprayers as an oilseed crop (groups 20A & 20B). But no rate information is provided.



Sesame & Herbicide Rotation

- If planting after wheat, watch out for wheat herbicide residual (Amber, Glean, Ally, Finesse, Assert)
- For rotation, if cotton is not on the label for rotation within 9 to 12 months, then don't try sesame



Texas A&M AgriLife & OkSU Extension Weed Scientists for Assistance with Sesame

- Texas High & Rolling Plains—Dr. Pete Dotray, Lubbock, (806) 746-6101, <u>pdotray@ag.tamu.edu</u>
- Central Texas—Dr. Scott Nolte, College Station, (979) 845-4880, <u>scott.nolte@ag.tamu.edu</u>
- South Texas—Dr. Josh McGinty, Corpus Christi, (361) 265-9203, joshua.mcginty@ag.tamu.edu
- For sesame weed control in Oklahoma—Dr. Liberty Galvin, Oklahoma State Univ. extension, Stillwater, (405) 744-2679, <u>lbgalvin@okstate.edu</u>



Sources of Label Information

- Labels for herbicides, insecticides, fungicides, seed treatments, growth regulators, desiccants, etc.—access through <u>http://www.cdms.net</u>,
 - A) Click 'Product Databases +' enter your known product name
 - B) Under the Product Databases + menu, select "CDMS Advanced Search" Here you can either search for multiple labels containing the same ingredient, OR you can search for category labels (herbicide, insecticides, etc.) for a specific crop. This will provide you with other products that have the same ingredient OR a list of products labeled for that crop (you have to click each one to find what active ingredient it might be). You can get labels, supplemental labels, and supplemental labels.
 - C) Under Product Databases + menu choose "Label Search Premier" which functions similar to (B) above though have to register (it is free). When the list of all chemicals appear it also lists at the same time the active ingredient.

Sesame and Pests

- Historically in Texas most sesame has had few issues with insects or plant diseases. Rotation with sesame has helped suppress nematode (southern? root knot?) issues in cotton.
- AgriLife Extension faculty for sesame plant diseases:
 - Extension plant pathologist Dr. Kim Cochran, Uvalde Research & Extension Center, researches plant diseases in sesame. (830) 988-6151, <u>Kimberly.Cochran@ag.tamu.edu</u>
- AgriLife Extension faculty for sesame insects:
 - Danielle Sekula, Integrated Pest Management Extension agent, Lower Rio Grande Valley, M (956) 369-9779, <u>Danielle.Sekula@ag.tamu.edu</u>
 - In Noel Troxclair, Uvalde Ag. Extension agent & former regional Extension entomologist, (830) 591-9046, <u>noel.troxclair@ag.tamu.edu</u>
 - Dr. Pat Porter, Extension entomologist, Lubbock Research & Extension Center, (806) 746-6101, <u>pporter@ag.tamu.edu</u>



Sesame—Leafroller/Sesame Webworm

- Leafroller/sesame webworm/sesame capsule borer
- This pest was a major issue seriously damaging much Texas sesame in 2020. Due to lack of prior experience with the pest, much damage occurred before the problem was recognized.
- There are no established treatment thresholds, but low levels are probably economic.
- Suggested control measure are available
 - See the Texas A&M AgriLife video & reports at:
 - https://www.youtube.com/watch?v=9nitvE7nIYk
 - https://agrilifelearn.tamu.edu/s/product/sesame-leafroller-insesame/01t4x000004OUcW
 - https://southtexas.tamu.edu/files/2020/07/2020-Sesame-Leafroller-Report_-Efficacy-report.pdf

Sesame Leafroller/ Webworm/ Capsule Borer



Direct Cut/Harvest of Shatter-Resistant Sesame

- Sesame seed is small. You probably have not machine harvested such a small-seeded crop.
- Allow extra time to ensure you are doing the best job possible.
- Your contractor may have staff to help you in the field with your settings, especially if you are a first-time grower.
- ⊙ Some seed loss—but at acceptable levels—will still occur.
- Set your header reel speed slightly faster than ground speed so stalks lean into the header before the jarring action of the cutter bar shakes the plant.









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Ask Sesaco No longer available online



SESAME PRODUCER GUIDE

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Direct Cut







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Request from Sesaco



SESAME HARVEST GUIDE

D. Ray Langham, Jerry Riney, Glenn Smith, and Terry Wiemers

September 2008

Sesame Production Summary

- No new equipment
- Low input
- Low risk
- ⊙ Low management required
- Or A creating agreement price protection
- A hedge against the weather



Other Information

- ⊙ USDA-NRCS sesame plant guide (2014)
- <u>https://plants.usda.gov/DocumentLibrary/plantguide/pdf/pg_seor4.pdf</u>
- Texas A&M AgriLife soil test info. for sesame is only a fixed amount of (soil test N/P/K + fertilizer N/P/K), not tied to yield goal:
 - https://soiltesting.tamu.edu/laboratory-nutrient-recommendations/
 - Select "Oil Crops" for Sesame information
- "Sesame Research in Oklahoma" (no soil test info. for fertilizer recommendations) <u>http://weedscience.okstate.edu/4-h/sesame/CR-2155%20Sesame%20reserach%20at%20OSU%20in%202010.pdf/</u> (Dr. Baughman is now at Texas A&M AgriLife Research.)

