

Sesame for West Texas & Southwest OK

(Also Planting Dates for South TX)



Calvin Trostle, Ph.D.
Extension Agronomy, TAMU Dept. of Soil & Crop Sciences
Texas A&M AgriLife-Lubbock
(806) 746-6101, ctrostle@ag.tamu.edu
Updated January 2018
For additional information in Texas, <http://lubbock.tamu.edu/sesame>

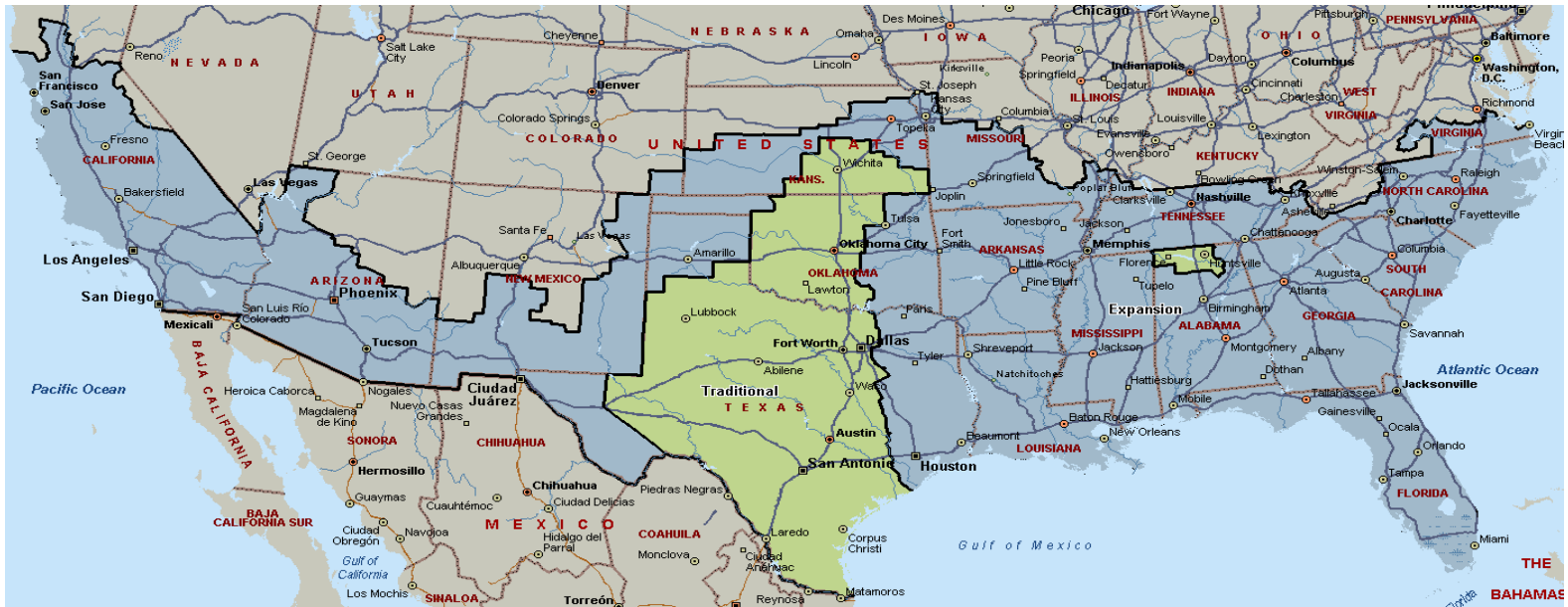
TEXAS A&M
AGRILIFE
EXTENSION

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 Contracts

- ⊙ Sesaco Corporation, www.sesaco.com, (66% owned by Mitsubishi of Japan)
- ⊙ For 2018, Texas High Plains & Rolling Plains sesame terminated by freeze or harvest—
 - ⊙ through 2017 this regional crop was specifically designated for the export market, i.e. Japan, with glyphosate not permitted as a harvest aid; this is no longer the case glyphosate can be used
 - ⊙ **Dryland**, January 2018: \$0.35/lb. (last year \$0.32/lb.)
 - ⊙ **Irrigated**, January 2018: \$0.35/lb (last year \$0.35/lb.)
 - ⊙ Sesame from further south in Texas routinely uses harvest aids
- ⊙ Several premiums available—and achievable—for good quality (\$0.01-0.02/lb. is common)
- ⊙ Discounts occasionally if quality targets not met

Testing Sesame Production in 2018

- ⦿ Red River Commodities, Lubbock
- ⦿ Working for now only with their existing customers (sunflower growers)
- ⦿ Will use non-dehiscent (non-shattering) varieties developed in Israel

- ⦿ Historically, Red River is the primary confectionary sunflower contractor in Texas for 25+ years.
- ⦿ Also birdfood packaging plant in Lubbock (oilseed sunflower, some grain sorghum & millet, a few other minor crops)

Sesame for West Texas/SW Oklahoma

- ⦿ Sesaco interest is in the full-season 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 minimal compared to other crops
- ⦿ **Sesame is not for your weedy ground!**

Sesame & Wild Hogs

- ⦿ Based on several observations across Texas:
- ⦿ Charles Stichler, former Extension agronomist, now Sesaco consultant, 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 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, 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.”
- ⦿ Dr. David Drake, 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.”

Sesame & Crop Insurance

- ⦿ Program crop insurance is available for counties below, but you may need to apply before the cropping season.
- ⦿ **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 Contacts

- ⦿ Area Sesaco representatives
 - ⦿ Texas Northern Rolling Plains, Oklahoma, Texas High Plains: Joe Guzman, jguzman@sesaco.com, 806.781.5908
 - ⦿ South Texas, Larry Wilde, lwilde@Sesaco.com, 210.872.8822
 - ⦿ Sesaco weed control assistance: Jack Rose, jrose@sesaco.com, 512.568.4265
 - ⦿ 2018 Delivery in Frederick & Hobart, OK; Stamford, TX

Sesame in General

- ⦿ **Not for your weedy ground**—four labeled herbicide active ingredients (apart from burndown chemicals)
- ⦿ Shatter-resistant varieties developed by Sesaco for combine harvest
 - ⦿ “Non-dehiscent” (no longer only in the U.S.)
- ⦿ Very drought tolerant and insect resistant

Sesame, the Plant

- ⦿ 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)
- ⦿ High 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
- ⊙ Flowering ceases about 75-85 days after planting
 - ⊙ Some indeterminacy remains in the crop
- ⊙ Average daily soil planting temperature, **70°**
 - ⊙ Warmer than just about any other crop
 - ⊙ Sesaco staff recommends that night time soil temperatures not drop below 68° F



Sesame





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)
 - ⦿ High Plains, recommend planting by ~June 20 north of Lubbock to June 25 south of Lubbock (maturation slows considerably in cool weather)
 - ⦿ Experience suggests earlier does better (May 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 bat reels might be better; all-crop headers can work, too

Planting I

- ⦿ Early planted sesame normally gives the best yields
- ⦿ Early planting: 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

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 is actually needed to grow the crop
- ⦿ Consult Sesaco for variety recommendations

Seeding



Seedlings



Seeding Rates

- ⦿ 2.5 to 4.5 lbs./A, target 3 lbs./A
 - ⦿ Over 30 seeds per foot
- ⦿ Seeding rates will drop 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
- ⦿ Little difference in yield across 3 to 8 plants per foot

Planting in Southerly Texas Locations

- ⦿ Sesame principles for planting in the Lower Rio Grande Valley, Wintergarden area (e.g., Uvalde), and Coastal Bend follow other areas of Texas
- ⦿ In general sesame would like be planted at soil temperatures that are about 5° F warmer than cotton:
 - ⦿ LRGV, beginning mid-March
 - ⦿ Coastal Bend, beginning around April 1
 - ⦿ Wintergarden, beginning around mid-April
- ⦿ Too early planting 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



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

Consult Sesaco 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)

Irrigation

- ⦿ Very drought tolerant
 - ⦿ Among most drought tolerant crops in West Texas (others would be hybrid pearl millet, guar, safflower)
 - ⦿ Rule of thumb: uses 1/2 the water of cotton, 1/3 of 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)
- ⦿ **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

- ⦿ AgriLife Crop Budgets for Sesame, 2018 (*plug in current prices, your projected yield, field operations, etc.*)
 - ⦿ High Plains (District 2), download the Excel spread sheet at <http://southplainsprofit.tamu.edu> (read along the bottom for 'Tabs' for irrigated and dryland; contact Jackie Smith, jackie.smith@agnet.tamu.edu, 806.746.6101)
 - ⦿ Lower Rolling Plains (District 7)
<http://agecoext.tamu.edu/resources/crop-livestock-budgets/budgets-by-extension-district>
Contact Extension ag. econ's Bill Thompson, San Angelo, wjthompson@ag.tamu.edu, 325.653.4576)
 - ⦿ Northern Rolling Plains (Extension District 3/Vernon), no current budgets available at above URL; contact???

Sesame & Weed Control I

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 (TX, OK, KS, AL; others?)
 - ⊙ 0.67 to 1.33 pints/A based on soil type—Sesaco staff 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 Syngenta’s ‘Farm Assist’ website, www.farmassist.com by registering. 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.

Sesame & Weed Control II

Pre-plant/Pre-emerge

- ⊙ A “Yellow” herbicide: **Sonalan HFP** (a.i. ethalfluralin, 35.4%): Sesame is listed in the Oilseeds section (not by name) 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).
- ⊙ Likewise Treflan (a.i. trifluralin) is listed in a footnote on the **Treflan HFP** label, but no details are given. We need to contact DowAgro for clarification (Sesaco also notes that it would need application at least 45 days before planting.)
- ⊙ Forthcoming potential label: several chemicals are being examined for possible labeling, and registration information for at least one was submitted to EPA in 2016

Sesame & Weed Control III

Over-the-top Grass Control

- ⊙ **Select Max** (a.i. clethodim, 12.6%). 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:
 - ⊙ <http://sesaco.publishpath.com/sesame-production-and-weed-control>
 - ⊙ 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.

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 Extension

Weed Scientists for Assistance with Sesame

- ⊙ **Texas High & Rolling Plains**—Dr. Pete Dotray, Lubbock, (806) 746-6101, pdotray@ag.tamu.edu
- ⊙ **Central Texas**—Dr. Scott Nolte, College Station, (979) 845-4880, scott.nolte@ag.tamu.edu
- ⊙ **South Texas**—Dr. Josh McGinty, Corpus Christi, (361) 265-9203, joshua.mcginty@ag.tamu.edu

- ⊙ Also, for sesame in **Oklahoma**—Dr. Todd Baughman, Oklahoma State Univ. extension, Ardmore, (580) 224-0623, todd.baughman@okstate.edu

Direct Cut



Sesame Production Summary

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



Other Information

- ⊙ USDA-NRCS sesame plant guide (2014)
 - ⊙ https://plants.usda.gov/plantguide/pdf/pg_seor4.pdf
- ⊙ Texas A&M AgriLife soil test info. for sesame is only a fixed amount of (soil test N + fertilizer N), not tied to yield goal:
 - ⊙ <http://soiltesting.tamu.edu/webpages/recommendations.html>
 - ⊙ Select “Oil Crops” then search page; nitrogen rates are relatively low, but significant emphasis is placed on P (most soil samples tested at Texas A&M would recommend significant P fertilizer)
- ⊙ “Sesame Research in Oklahoma 2010”(no soil test info. for fertilizer recommendations) <http://weedscience.okstate.edu/4-h/sesame/CR-2155%20Sesame%20reaserach%20at%20OSU%20in%202010.pdf/>