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1. ELMO W. DAVIS
2.
3.

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PROEXAG

NON-TRADITIONAL AGRICULTURAL EXPORT SUPPORT PROJECT

SESAME SEED RESEARCH PROGRAM FOR 1987-88 FOR OLANCHO PROVINCE, HONDURAS

Assignment Number: ST/87-18

Contract Number: 596-0108-C-00-6060-00

SUBMITTED TO:

Regional Office for Central America and Panama (ROCAP)
U.S. Agency for International Development
Guatemala City, Guatemala

Submitted by:

Elmo W. Davis

through:

Chemonics International Consulting Division
2000 M Street, Northwest
Suite 200
Washington, D.C. 20036

April 6, 1987

To: CHEMONICS, International Consulting Division, 2000 M St., NW, Washington, D. C. 20036

Date: April 2, 1987

Subject: TRIP REPORT TO HONDURAS concerning Sesame Seed Production

From: Elmo W. Davis, 1650 Vallejo Drive, Hollister, Calif. 95023 U.S.A.

OBJECTIVE: To observe and study the cultural methods for sesame seed in Olancho province of Honduras, to delve into the research of various agencies in the area and to make recommendations to improve the productivity of sesame seed production.

CURRENT SITUATION: APROAOH, a member co-op of FEPROEXAAH (Federation of Honduran Agricultural Producers and Exporters), has a sesame project in operation. The project is for three years at a cost of L2,750,000. At the end of three years there should be 5,000 ha of sesame seed at a base cost of L590/ha. The projected yield is 14 qq/ha (1400kg/ha)

Development of the Sesame seed project

Year	Cost	ha
1	825	1,500
2	825	1,500
3	1,100	2,000
Total	2,750	5,000

The original master plan "Guayape Valley Integrated Rural Development Master Plan--Inception Report April 1981" Montreal Lavalin-Cripen International was developed by CIDA of the Government of Canada. The individual crop plan for sesame was not included.

EXPRONASA TEG purchases the sesame seed for export. They buy directly from the farmer. AGRONORTE SPS a subsidiary of EXPRONASA decorticates the sesame seed before export. EXPRONASA furnishes the sesame seed, fertilizer, and supposedly technical help to the farmer.

FEPROEXAAH sells fertilizer to EXPRONASA who then furnishes it to the farmer. The grower is free to sell the sesame seed to anyone if he can receive a better price. In turn he would have to pay for the fertilizer.

The Guatemalan sesame seed variety "Cuyumaqui" was planted in rows 65-80 cm apart with 10-20 seeds per row meter. The seed was distributed by hand and plants were thinned. In 1986-87 the plants were thinned ~~were~~ thinned to 10 per meter because the co-op and farmer believed the sesame variety was branching. It was a single stem variety. It was reported to take 90-100 days for maturity but

and was harvested in March and April 1987. This is closer to 120 days than the 90 expected. Though Oct-Nov was the recommended date for planting, the planting was delayed until Nov-Dec because of rain. The variety had not been grown in Olancho before this year. The yield was about 250 kg/ha but they had hoped to get 500 kg/ha. Only one variety was used and the seed was provided by the purchaser.

RAINFALL BY THE MONTH FOR CATACAMAS, OLANCHO, HONDURAS

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
78	47	47	24	16	33	131	226	241	166	186	176

The rainy season is from July through December. However no month is free of rain. May is usually the driest month. By planting in September or October the crop will be growing more during the rainy season.

The growing guide "Cultivo de Anjonjoli Oct 1986" prepared by Ing. Eduwin Sanoval is very good. It may be too detailed for the average farmer of the area. The author was killed in an automobile accident.

The fertilizer recommendation for 1986-87 was 1 quintal 12-24-12 per Manzanta as a preplant and 1 quintal urea (46%) at time of weeding, about 30 days after planting.

In 1986 in Olancho 210 hectares of sesame seed was planted. During the harvest there was 3 days of rain which stained the seed coat. It was not known whether the seed itself was stained.

There was a sesame seed trial in 1986-87 on the coast of Honduras but none in Olancho province.

Problems in growing sesame seed included: late planting, diseases, insects and an unproven variety. The cost of production in the South was L350-450/Monzanta (L572/ha). Preliminary data indicated that the cost of production was about L300/manzanta in Olancho province. Costs may be less but yields are also less.

There does not appear to be a good extension service. That is, an agency to take research information and growing knowledge to the farmer followed by frequent visits and training programs. Some field were lost to an insect infestation because the farmer was waiting on the technical man to visit his farm.

Some of farmers will not plant next year because of the economics of the present variety and method of growing. Cost of growing sesame seed in Honduras was presented by a farmer in Catacamas, Olancho. There is no charge for rent, for the farmers time or for overhead. The farmer owns the land.

Operation	Limpira
Land preparation	80
Planting	30
Fertilizer	48
Labor to fertilize	10
Weeding	13
Thinning	40
Harvesting	50
Threshing	20
Total	291
Yield 6qq/M @L49	294
gain	3

The usual method of land preparation is to till the land by hand, with oxen or with a tractor. Furrows are made approximately 65 cm apart. Fertilizer is spread in the furrow and mixed with the soil. Seed is planted in the furrow. Both the fertilizer and seed may be somewhat irregular in distribution. The crop is thinned to a stand of 10-20 plant per meter of row, depending upon a number of factors. Weeding is by hand.

At harvest the plants are cut by hand and shocked for curing. The plants are not tied in bundles but stacked upright. The recommendation was to tie 15-20 stalks into a bundle before shocking. There does not seem to be disadvantage to the system used. After about 6-10 days of drying and curing the plants are dry enough to thresh by hand. The shock was dumped on a plastic. The men grabbed a handful of stalks, turn them upside down, tapped them to remove the seed. They threw away that handful to grab another until the shock was threshed. No damage was done to the seed in this method. All of the seed was removed by the system used for threshing. The seed was then poured through a screen of about 1/4 inch opening to remove some of the trash. Finally the seed was bagged and held for sale.

Sr. Manuel Lobo has instituted an educational program to teach farmers how to grow sesame seed. It is an excellent program and must be continued. The program goes into specific details of growing and harvesting. It also discusses the production of sesame seed by various countries and the nutritional value of sesame seed. In this respect it may be more information than the grower wants

Sr. Manuel Lobo appears to be a very sincere capable man with his job in the sesame seed project. He certainly is very willing to listen and discuss the project.

Kimberly Malcom from the peace corp acted as interpreter for the entire time in Honduras. She did an excellent job and should be commended for her ability and dedication to the task.

RECOMMENDATIONS

If the sesame seed project is to be successful the first order of business is to get a variety and farming method to make sesame seed economically feasible. This should be done before there is an increase in the number of growers. The first thing to be done is to conduct variety trials which I outlined to Sr. Lobo and will write out in detail separate from this report. Then perhaps a year later should follow time of planting trials, also fertilizer trials, plant population and distribution trial. Other experiments should be done but only after the project is a success.

1. Obtain higher yields by a more productive variety or better cultural operation. Varieties must be selected for yield, quality, resistance to drought, diseases and insects and other economic characters.

2. Lower the cost of production by eliminating some of the unessential operations such as thinning. Do a better job of land preparation and planting so that weeding costs can be reduced and thinning costs eliminated. Plant in rows 70-80 cm with 5 cm between plants for single stem plants (20 per row meter). Spacing can vary depending on soil conditions, moisture, type of farming, variety, etc.

3. Plant sesame seed in Olancho Province in Sep-Oct to take advantage of the rainy season.

4. Increase the use of fertilizer to that recommended by the Department of Natural Resources. Fertilizer recommendations should be made after soil tests are taken. Without the soil test I would recommend a minimum of 2 quintals of 12-24-12 at time of planting in the furrows and 1 quintal of urea about 30 days after seeding.

5. Obtain the best price for the farmer. The marketing group should advise the co-op of the current world price for sesame seed so that the farmer knows whether he is receiving a fair price.

6. Conduct research to make the crop more productive: variety trials, date of planting trial, fertilizer trial and plant population trial. Trials should be in the growing area. A detailed outline for variety trials will follow.

7. Intercropping with corn to take greater advantage of the rainy season for growing the sesame seed.

8. Select within the best varieties to improve the seed yield of that variety once sesame becomes an economic crop in the area.

9. Develop and institute a safety program for handling and using pesticides. The program must include the destruction of the pesticide container, the changing of clothing and washing the clothes after spraying, washing thoroughly, use of goggles, gloves and other saftety procedures for the farmer as well as for his family.

10. Establish a contact man and ofice in the area of growing. Instruct farmers to call if he perceives a problem in his sesame seed growing.

11. Continue the educational programs on the correct method of growing. Do not give the farmer more information than what he should know, such as production by country throughout the world and the chemical composition of sesame seed. Describe to the farmer the losses he may incur if he does not do a proper job of growing.

12. Use smaller sized opening in the screen, large enough to let the seed through but small enough to remove most of the trash. Two screens should be used, the first to allow the sesame seed to pass through and remove the trash, the second to keep the sesame seed and allow the fine trash to pass through.

13. Develop a short simplified growing guide to be given to each farmer.

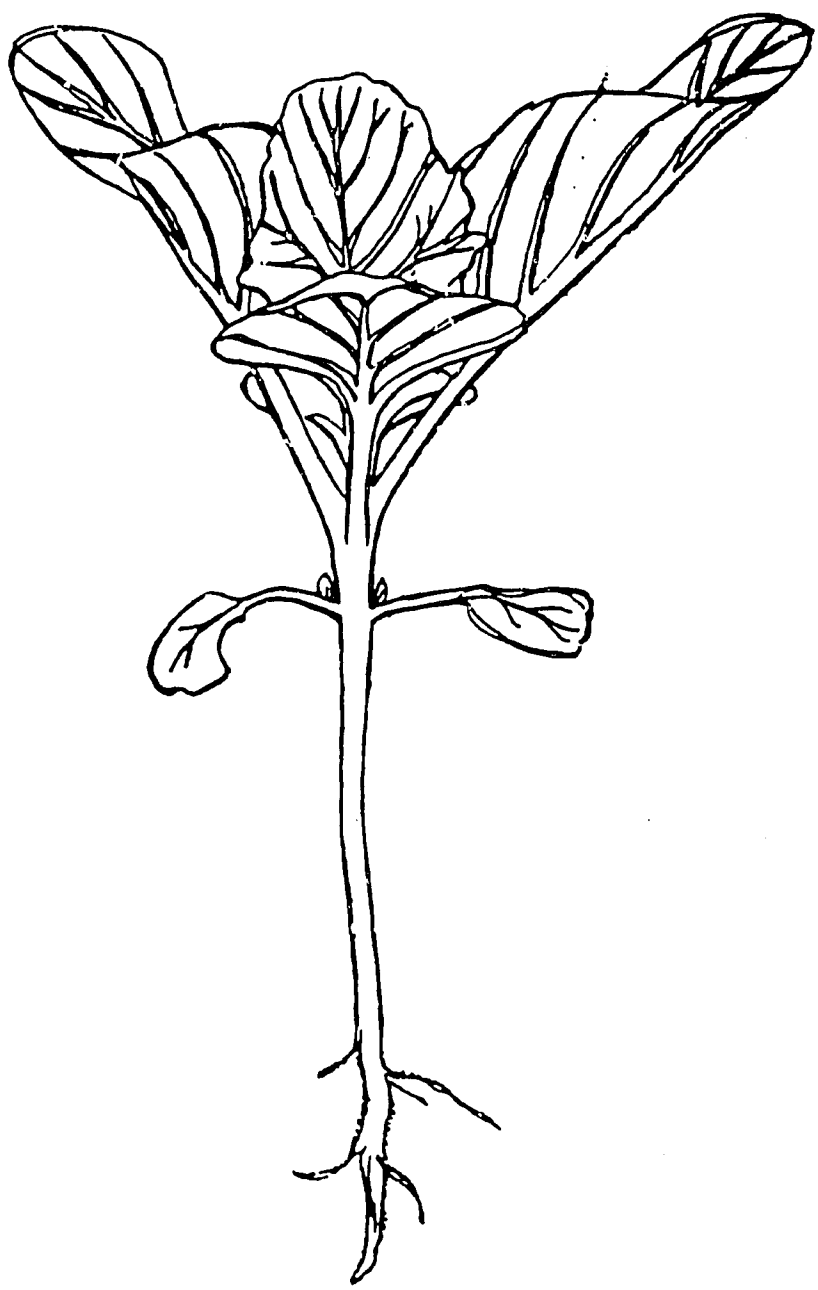
End

GROWING SHATTER-RESISTANT SESAME IN THE DESERT SOUTHWEST

March 1986

PACIFIC SOUTHWEST SEED AND GRAIN

SESACO CORPORATION



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WHAT IS SESAME?

Sesame is one of the oldest cultivated crops in the world. Indian literature dates the crop growing between 2500 and 1400 B.C. Assyrian tablets, collected in the British Museum, describe Assyrian Gods drinking sesame wine before going into battle, and, in fact, loans in ancient Assyria were negotiated in either silver or sesame seed. Ancient customs using sesame as a good luck charm still persist in some countries.

But sesame is much more than an ancient good luck charm and a modern-day baker's garnish. Today over two million metric tons of sesame are grown in China, India, Sudan, Mexico, Burma, Nigeria and Venezuela, and a host of other Asian, African, and South American countries. Only 11% of the world-wide production of sesame is exported to countries not producing sesame; the remaining 89% is consumed where it is produced.

What are the qualities of sesame which account for its popularity? Primarily, sesame is grown as an oilseed, containing at least 50% edible oil of the finest quality. In its oil form, sesame is also used to some extent in cosmetics and as a pharmaceutical carrier/base. Its basic use, however, is as a cooking oil and in derived products such as margarine. The second desirable characteristic of sesame is its high protein content. Sesame seed is 16-32% protein. Once the oil has been removed, the remainder (now 50% protein) can be of great value as a meal, a flour or a protein isolate. A third use of sesame, and the one most familiar to the U.S. consumer, is that of a confectionary nature. Sesame is used in sticks, rounds, bread, rolls, buns, cookies, crackers, breadsticks, health foods, Halvah, etc. In other countries it is added to a variety of foods and sweetmeats, drinks and milkshakes. The crop also has byproduct utility as an animal food, etc.

Sesame seed is a prized commodity. As U.S. food processors are provided with a dependable domestic supply, the use of sesame as seed, oil, and meal is increasing dramatically. It is this demand for sesame and the improved higher yielding varieties that are assuring sesame a position as a domestic crop. With increasing yields sesame has become an attractive commodity for export from the U.S.

BACKGROUND AND PURPOSE

Although sesame is the oldest cultivated oilseed crop in the world, it is just now beginning to attain commercial significance in this country because SESACO's research has reversed its inherent shattering nature. When the traditional varieties dry, the pods open and the seed is lost. SESACO began a research program in Yuma, Arizona, in 1978 with the purpose of developing sesame varieties that minimize seed loss and thus could be fully mechanized.

SESACO has made breakthroughs in plant breeding and cultural practices that enable it, in conjunction with Pacific Southwest Seed and Grain (PSW) to release these newly developed shatter-resistant varieties.

Because sesame varieties and farming techniques are improving, this pamphlet should only be taken as a general guide for farming sesame. SESACO and PSW representatives will be available to consider individual applications and share any relevant experience as questions occur. Since many farmers in this area have planted sesame, your neighbor is probably a good source of information as well. The cultural practices described below are for producing sesame as a summer double crop in the Desert Southwest irrigated (and similar) regions.

SOIL CONDITIONS

Sesame grows best on medium, fertile, well-drained soils. Soils with neutral pH are preferred, but good results have been obtained on slightly alkaline soils. Where soil is of a lower fertility, heavier applications of commercial fertilizers are required for satisfactory production.

TIME OF PLANTING

Optimum planting dates are between May 15 and July 15. Sesame can be planted earlier if there is warm weather, and sesame planted after 15 July can be affected by unseasonably cool weather at flowering or harvest. Soil temperatures above 75 degrees and night temperatures above 65 degrees favor quick germination and fast growth.

ROW SPACING

Sesame has grown successfully on single row 20", single row 30", double and triple row 40"/42", and drill. There may be a yield reduction on single row greater than 30" with the present varieties. Drill populations have provided good yields, but mulching operations, precision planting and weed control require additional attention. Sesame can be planted flat or raised on beds. A primary consideration on bedding is the effect on harvesting. The beds must be low enough so there is no appreciable difficulty and loss in the furrows when the plants are swathed and then picked up. The major advantages of bedding are the ability to follow moisture down when mulching and the control of sensitive irrigation on heavy soils. If in doubt, bed up.

LAND PREPARATION AND FERTILIZATION

Wheat straw can be either disked well under or burned off. For areas with heavy soils, the land may have to be ripped to alleviate compaction problems. Fertilizer may be

applied dry or with the preplant irrigation. The total amount of fertilizer for sesame is still under study, but initial indications are that 40-80 units of nitrogen provide good yields; use less fertilizer if following produce or alfalfa and more fertilizer if on sandy soils or if there is straw from the previous crop. Subsequent fertilizer can be water-run or injected. Too much fertilizer on early plantings will promote vegetation. Under some later planting conditions beneficial results from a preplant application of nitrogen phosphate or ammonium polysulfide have been observed.

The preirrigation for mulch planting should be the heaviest of all irrigations; if possible, 6 to 8 inches of water per acre should be applied. This irrigation must be heavy enough to provide moisture for the young sesame plants for 2 to 4 weeks, depending on soil conditions. On lighter soils two preirrigations have been used to maximize weed control. In some cases, farmers mulch between preirrigations; in other cases, farmers apply the second preirrigation to provide a 10-12 day period between the first preirrigation and the mulching for maximum weed germination.

Sesame will germinate quickly if it is seeded into warm moist soil. To assure proper moisture it is necessary to mulch just as soon as it is possible to get on the ground. At this hot time of year, it is better to be mulching the ground a little on the wet side rather than on the dry side. The finished mulch of dry soil should be anywhere from 1/2" to 1 1/2" deep. Anything that will prepare a smooth mellow seed bed with finely broken soil is acceptable. The best mulcher to date has been a rod weeder without cultipacker. Other mulchers in order of preference are a crawler pulling a hay renovator with duck feet set at 1" depth with a log and cultipacker behind, mechanical (i.e., rotomulcher), bed shapers, LIGHT mulching disk (well-controlled) with cultipacker, Lillistons, and harrows. Schmneissers are being tested this year.

PLANTING

It is important to stay close behind the mulching with the planting operation because in the summer the moisture can get away within 6 to 12 hours after mulching. Seed depth will vary depending upon soil type and soil condition. As a guideline, the seed should be placed in the moist soil with 3/4" to 2" of soil above it (this includes moist soil and dry mulch). In heavy soils the depth should be closer to 1" with a thin mulch. On sandy soils the depth should be closer to 2" with 1" mulch. The planting should be done in such a way as to not form a cap or crust of hard soil above the seed line. If the days are hot and the nights warm, sesame will begin to emerge in 3-7 days. The sesame will continue germinating and a full stand appears 7-10 days for row crops and 10-15 days for drill.

Sesame has been planted as deep as 3-3 1/2" in loose and crumbly soil and has partially germinated. However, the seedlings are smaller, fewer and weaker when they break through the surface. As a result, they take longer to start another spurt of growth, giving the weeds a chance to catch up. Sesame has been planted under ideal conditions as shallow as 1/4 - 1/2" on very hot days (105-115 degrees) with seedlings appearing within 24 hours. However, this depth requires perfect moisture and depth control on both the mulching and planting. If the seed does not have enough moisture to germinate, it will wait and germinate at the first irrigation. The result is a stand with plants of two different maturity cycles, with resulting problems all season and loss at harvest. This problem also prevents successful spot replants.

Seeding rates for mulch planting depend in part on row spacing as follows:

Row Spacing	Pounds per Acre
single row 20"	2.5 to 3
single row 30"	2 to 4
double row 40"	2.5 to 5
drill	6 to 10

The low rate should be used in May and high rate in July. High populations in May and early June will lead to tall, thin plants that are susceptible to lodging. Low populations in late June and July can lead to low production.

The major advantages of drill are higher populations, quicker cover, and lower operational costs. The major advantage of bedding is reduction of scalding. The major advantage of flat planting is minimal loss of plants in furrows at harvest. This year several farmers are trying new variations that take advantage of the different cropping systems. They are planting in miminal beds that will reduce scalding while minimizing the depth of the furrows at harvest. Farmers are also compromising the distance between drill and rows in order to increase population while still providing the capability to cultivate.

Ideal population per acre has still not been determined. There are approximately 180,000 seeds per pound of sesame. The number of seeds to be planted per foot is highly dependent on planting conditions. Germination is higher at higher temperatures (particularly night temperatures), at shallow depths (but with sufficient moisture), and in loose soil. Many farmers strive for an emergence of 1 seedling per inch with a final mature stand of 5-8 plants per foot. Each farmer must experiment with

the effects of his soil type, mulcher, and planter to determine how many seeds per foot are required to provide the proper stand. Under good planting conditions, 15 -22 seeds per foot is recommended. Sesame will do some self-thinning, but when planted too thick within a row, the plants can become leggy and susceptible to lodging and inhibit branching-on-branching varieties. There are indications that increasing populations by planting at closer row spacings is better than increasing the population by planting more plants within a row.

The most critical aspects of planting are timing, depth, cover and proper mulching. Any planter that can operate accurately in a shallow mulch is acceptable. JD 71, JD 7100, and IH 800 series planters have been used successfully. The planter should be set to distribute the seed evenly and at a consistent depth. The following planter boxes and settings have been used:
JD 33 box with B28036 plate (tomato seed plate) and Planet Junior with #6 or #7 hole on single row 30". Temik boxes and IH 185 planters have also been used, although these are not recommended. On a drill, small seed boxes are highly recommended to keep down the seeding rate to 6-10 lbs. per acre. Getting a good stand of sesame is the key to high yields. If there is a poor stand, there is nothing that can be done to get a high yield. The main causes of a poor stand are: mulching too deep, irregular mulching depths, mulching too dry, not putting the seed in the moisture, and planting too deep.

HERBICIDES

There are no herbicides registered for sesame. There are efforts in progress to approve Caparol and Treflan. Presently, weeds are being controlled through proper mulching and cultivation. Sesame cannot compete with bermuda grass, careless weed, ground cherry, morning glory or most aggressive weeds. Established bermuda grass must be controlled prior to planting or the stand of sesame will be non-existent in the grass patches, which will later complicate the drying down process at harvest. Careless weeds, ground cherry, and morning glory must be controlled by cultivation/hoe crews. A good stand of sesame after a good mulching job has competed against water grass, nut grass, jimson weed, and purslane. However, these weeds can become a major problem with a poor mulching job or a rain right after planting.

PESTICIDES

There are no pesticides registered for sesame. Sesame comes out of the ground with very small cotyledons. Some leaf eating insects (e.g., army worms) will attack the sesame seedlings, but sesame can sustain considerable damage and recover completely. We have found the best resistance

to pests to be a full, strong sesame stand. The sesame will thin itself somewhat as it gets older and in its early development the multitude of plants will give the best insect protection.

CULTIVATION

Generally, sesame grown in rows is ready for cultivation at three weeks. Aside from killing weeds, this cultivation stimulates growth by stirring the soil and giving the roots oxygen. On long flat runs, it may be beneficial to attach a small furrow opener to every other row of the cultivator. This makes a shallow groove in one row while leaving a flat area in the other row. These furrows help the irrigation water to move across the ground more quickly and also keeps the water from standing at the base of the plant. The flat surface allows a drier area similar to a raised bed, and provides a smooth surface for windrowing. On the second cultivation, generally a week after the first irrigation, some soil has been thrown against the plant without apparent distress, although there is some question on the advisability of this practice on heavy soils.

IRRIGATION PRACTICES

A sesame stand 'scalds' something like alfalfa and can be killed by a heavy application of water which results in water standing at the base of the plant, particularly on a hot still day (similar to safflower or alfalfa). Depending on soil types and weather, the first irrigation to the plants should be from 2 1/2 weeks to 4 weeks from the date of planting. This watering will promote the development of the feeder root system. Extreme caution should be used if temperature is above 110 degrees Fahrenheit. A good indicator for the first irrigation is when the plant turns a darker shade of green.

The next irrigations should be applied as needed. No benefit has been demonstrated by stressing sesame after the first irrigation. Plant stress can be anticipated by watching changes in the status of the flowering head and wilting of the leaves. The flowering head that lacks visible growth of at least two inches is heading for stress. This sign is good until the plant nears maturity when the flowering head is normally smaller. The leaves will often wilt on hot afternoons as the plants near the next irrigation. If the leaves start wilting before noon, there is stress that can reduce yields. Sesame can recover from severe stress and look as healthy, but close examination of the pods that were formed in that stress period shows poor pod and seed set.

A regular irrigation schedule of 7-12 days can be used once the response to particular soils is established. Irrigations should be continued until the plant begins

dropping its leaves. If the weather is unseasonably hot in late August/early September more irrigation is necessary so that the field matures evenly. Once the plants lose their leaves, the plant cannot transpire as effectively; thus, any subsequent irrigations mean that it will take longer to dry out the soil for swathing.

SWATHING

Sesame is ready for harvest 95-130 days after planting, depending on the varieties, the time of planting and temperatures. Early plantings will take longer to mature. Hot temperatures and other stresses will accelerate maturity and cold temperatures will delay maturity. Frosts will kill the plants. If there is a killing frost, the crop should be swathed immediately. When the plant begins dropping its leaves, the seed is approaching physiological maturity. The plants can be swathed when the seed in pods 2/3 of the way up the plant have seed color and the seam on the back of the seed can be seen. Immature seeds are milky white. Previously it was believed that the farmer could either swath the crop when the bottom pods began to open, or wait until the upper seed reached maturity. However, recent research shows that only 57% of the flowers on the upper third of the plant will set pods and none of the last 3-5 flowers will set even under optimum conditions. Therefore, the plants should swathed before the lower pods begin to open.

Off-the-shelf draper swathers and modified augers have given the best results. A cam action or down grain reel should be used. It should be noted that some of the larger JD units may not have this type of reel as standard equipment. An IH suspended auger (twin auger) has been used and the under the auger header may work if set properly. Rotary swathers and mowers may work, but have not been tried.

COMBINING

Generally, the plants are ready for combining 5 to 12 days after they have been swathed, depending on the temperature, humidity, etc. The seed must have less than 6% moisture or it will spoil. The threshing of the pod must not damage the seed. Since sesame is high in oil content, ov ly aggressive threshing will bruise the seed. Bruised seed causes rancidity, lower germination, and higher losses from breakage.

Any combine that will seal well enough not to lose seeds and can be set for delicate crops can be used. The swathed plants have generally been picked up with a belt pickup header; but down-grain reels and specially built spiked cylinders have been successful. Air headers appear to have increased yields 15%-20% with current varieties. The air headers are particularly effective after rain on

stopped. During cooler weather there is a 5 to 8 day leeway in leaving the plant standing without considerable shatter loss.

OTHER CONSIDERATIONS

Many rotations have been used successfully with sesame. Sesame can follow wheat, barley, produce and alfalfa. The following crops have followed sesame: wheat, barley, late produce, alfalfa, and cotton.

Sesame requires less fertilizer if it follows late produce, alfalfa, or if the wheat straw has been burned off. There will be sesame volunteers in late produce and October alfalfa, but the plants will rarely get above 3 inches and will die when the temperatures begin getting lower. Volunteers can be found in cotton if there is a warm spell at cotton planting time, but most of the time the sesame volunteers will germinate later and can be cultivated easily. Alfalfa needs a bit more fertilizer after sesame to overcome the effects of the sesame straw. The large sesame varieties with extra plant material (SESACO 4 and SESACO 8) need extra fertilizer to break down the straw. Following sesame, farmers have generally reported excellent tilth and drainage, with no troubles handling the rapidly decomposing crop residue.

SUMMARY

Sesame is a good double crop in the desert Southwest. Yields have been increasing every year. Improved varieties have been released and many promising varieties are in the final testing and purification stages. Significant advances in equipment and agronomic practices have been made by farmers and custom operators. Experience has given farmers a better working knowledge of the sesame plant and how it responds to different conditions, so that these conditions can be manipulated to the best advantage. Because of all of these improvements, yield, quality and dependability are improving each year. With improved yield, quality and dependability comes better marketing capabilities. Sesame buyers from the major sesame importing countries in the Far East, Middle East, Europe and the U.S. have been monitoring the progress made and are now looking to this area to become a major source of sesame in the world.