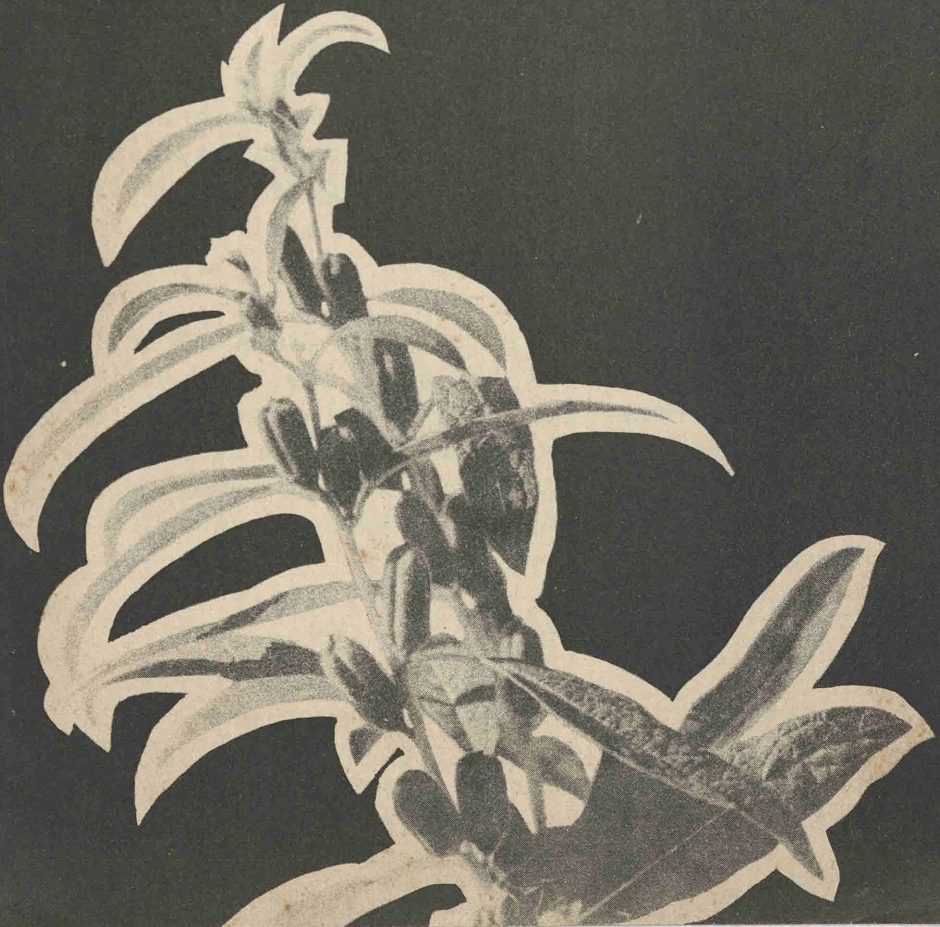


Get
higher
yields
from

SESAMUM



GET HIGHER YIELDS FROM SESAMUM

Sesamum, (til or gingelly) our important oilseed crop, is mostly grown in Uttar Pradesh, Madhya Pradesh, Rajasthan, Maharashtra and Andhra Pradesh. It is also grown in Madras, Orissa, Mysore and the Punjab.

SOIL AND CLIMATE

Sesamum generally comes up best in a light, well-drained soil that can keep moisture. It prefers a light sandy soil when sown as a kharif crop. As a rabi crop, it comes up well on a medium to heavy alluvial or black soil. But, sesamum can be raised on a wide variety of soils ranging from light to heavy, provided there is moderate rainfall and no water-logging.

Sesamum can be grown on the plains and up to an elevation of 4,000 ft. above sea level. It is sensitive to low temperatures and cannot tolerate excessive moisture. Farmers in north India can raise sesamum only as a summer crop, while farmers in south India can raise sesamum both in kharif and rabi seasons.

MIXTURES AND ROTATIONS

Sesamum can be raised alone or mixed with cotton, maize, *bajra*, *jowar*, lesser millets, pulses, *tur*, castor, groundnut, and redgram in kharif.

Farmers follow the following rotations for sesamum.

STATE	ROTATION
Andhra Pradesh	1. Rice-tobacco-sesamum or vegetables-especially in irrigated areas
	2. Bajra or ragi or sesamum or maize or onions in the early season - rice in the main season - ragi or sesamum or onion in the late season of the same year
	3. Sesamum in hot weather followed by rice in the rainy season
Madras	1. Ragi - greengram - sesamum all in one year (garden land)
	2. Sesamum after the harvest of paddy in February-March (wet land)
	3. Sesamum - <i>cumbu</i> - horsegram or sesamum - <i>cholam</i> or sesamum - groundnut in successive years (dry land)
Mysore	1. Sesamum sown early in the season followed by coriander
	2. Tobacco - sesamum in the same year

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3. Paddy - sesamum in the same year
- Maharashtra and Gujarat
1. Cotton and sesamum followed by *jowar*, or *jowar* and sesamum followed by cotton (two-year rotation)
 2. Cotton and sesamum in kharif and gram in rabi in the same year
- Uttar Pradesh
1. Sesamum - fallow (south U. P. in reddish gravelly soils)
 2. Sesamum mixed with kharif pulses or *jowar* or *bajra* or *arhar* or cotton followed by fallow (one-year rotation)
 3. Sesamum mixed with millets - fallow - millets and pulses - fallow (two-year rotation)
- Madhya Pradesh
1. Cotton and sesamum - *jowar* - groundnut (three-year rotation)
 2. Cotton and sesamum - wheat (two-year rotation)
 3. *Jowar* and sesamum - wheat (two-year rotation)
- Punjab
1. Wheat - greengram and sesamum - fallow (two-year rotation)
 2. Wheat - cotton and sesamum (two-year rotation)

SOIL PREPARATION

Prepare the land well by giving four to five ploughings followed by one or two harrowings and bring the soil to a good tilth. See that there is enough moisture in the soil to ensure good germination of the seed.

TIME OF SOWING

In Andhra Pradesh, Madras, Orissa and Madhya Pradesh, sesamum is sown in May-June (kharif) or November-December (rabi) under rainfed conditions. The crop is also sown in March-April if irrigation facilities are available.

In Maharashtra and Uttar Pradesh, sesamum is sown during May-July after monsoon rains are received.

In West Bengal, sesamum is best sown during August-October or in February-March for a summer crop.

METHODS OF SOWING

Sesamum may be sown broadcast or drilled in rows. If you want to grow sesamum mixed with maize, *bajra* or *jowar*, better mix the seeds of the two crops before broadcasting. Give a shallow ploughing to cover the seed.

If you want to sow in lines, drill sesamum seeds in rows with a seed-drill suited for small grains. For a mixed crop, better drill sesamum seeds after every alternate, or every fourth, fifth or sixth row of the other crop.

Since sesamum seeds are small, it is very difficult to sow them uniformly. Hence, the seeds are mixed with sand before sowing.

SEED RATE AND SPACING

When the seed is broadcast, seedlings will not be uniformly spaced. So, better sow thick, and thin out seedlings later. Farmers in Madras give a spacing of one foot between rows and between plants for the irrigated crop. For a rainfed crop, the spacing is nine inches between rows and nine inches between plants, and for an irrigated summer crop, 12 inches between rows and 12 inches between plants. In Uttar Pradesh, one foot between rows and six to nine inches between plants are left.

You require about four to five kilograms of seed per acre if you broadcast. About 2-1/2 kilograms of seed are recommended in Madras under rainfed conditions. If sown in lines, you would need less seed.

VARIETIES

Improved varieties give higher yields. There are a number of such varieties of sesamum recommended by State Agricultural Departments. Your local Agricultural Officer will advise you on the variety best suited for your land. A few improved varieties of sesamum are mentioned below.

STATE	VARIETY	CHARACTERS
Bihar	M 3-2) M 3-3)	Seed black; oil-content 46 to 47 per cent
Mahara- shtra	No. 85	Seed bold and white; oil- content 59 per cent;

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	No. 8	Suitable for Nasik, Ahmednagar, east Khandesh Seed dull-white to yellowish; oil-content 53 to 54 per cent; suitable for Nagpur area
	No. 128	Seed white with brown tinge; oil-content 50 to 51 per cent; suitable for rabi
Madhya Pradesh	No. 128	Seed light brownish; oil-content 53 to 54 per cent
Madras	T.M.V. 1	Seed reddish brown to black; oil-content 50 per cent; suitable for sowing as rainfed crop in Nov. — Dec. and as irrigated crop in February-March
	T.M.V. 2	Seed dirty white; oil-content 32 per cent; suitable for winter crop
	T.M.V. 3	Seed dark brown; oil-content 52 per cent; suitable for summer under irrigated conditions
Uttar Pradesh	No. 10	Seed white; early-maturing; oil-content 51 per cent
Delhi (IARI)	N.P. 3	Very early, three capsules in one axil

	N. P. 7	Very early
	N. P. 29	Late-maturing
Punjab	T. 5	
West Bengal	Improved Berhampore No. 9	Early-maturing
	Improved Berhampore No. 4	Early-maturing

INTERCULTURE AND THINNING

Sesamum, sown as a pure crop, needs at least two weedings. Thin the crop to the required distance after 15 to 20 days of sowing, when the plants are about three to four inches high. If grown as a mixed crop, intercultural operations done for the other crop will also benefit sesamum.

MANURING

Sesamum is generally not manured as it gets the benefit of the manure applied to the field for the crops with which it is sown mixed or the crops grown previous to sesamum.

HARVESTING

Harvest the crop before the plants are completely dry as otherwise the pods burst and the seeds shatter. Harvest when the flowering is over and when the leaves turn yellow and begin to drop, and the capsules are slightly greenish. Cut the plants, tie them into

bundles, and dry them on the threshing floor keeping the bundles upright. Thresh by shaking the plants or by beating them with sticks on the floor or on a piece of cloth. Separate out the seeds by winnowing.

YIELD

You will get a yield of 100 to 250 kilograms per acre from a pure crop of sesamum. A rainfed crop gives 50 to 150 kilograms, whereas an irrigated summer crop gives 150 to 300 kilograms.

PESTS AND DISEASES

Take timely steps to control pests and diseases that attack the sesamum crop. The important insects and diseases that cause much damage to the crop and their control measures are given below.

Leaf roller: Pale green coloured larvae feed on the tender leaves, and weave webs in which they hide themselves. They may also bore into the stem and the pod.

To control,

*Pick out the caterpillars from the rolled leaves and destroy them.

*Spray the crop when you see the pest with 0.2 per cent DDT (wettable powder), or

Dust the crop with five per cent BHC.

Sesamum sphinx: Pale coloured larvae feed on the leaves. The attack is severe in April and May.

To control,

*Hand-pick and destroy the full grown greenish caterpillars.

*Plough the soil so as to expose the underground pupae to the insect-eating birds.

The important diseases that attack and damage sesamum are phyllody, leaf curl, leaf spot, and stem rot.

Phyllody : Affected plants bear small-sized leaves showing marked vein-clearing, shortened internodes, abnormal branches and capsules containing shrivelled seeds.

To control,

*Sow the crop late to avoid the disease.

Leaf curl : Leaves curl downwards and thick veins are seen on their underside. Plants get stunted, and later bear shrivelled capsules. Generally, this disease is spread through a white fly.

To control,

*Spray the crop with 'Folidol E. 605' or 'Ekatox 20. W. P.' to check the white fly that spreads the disease.

Leaf spot: Small brown spots are seen on both the surfaces of the leaves. These spots are roundish in the beginning but later join to form patches. Pods

are also attacked.

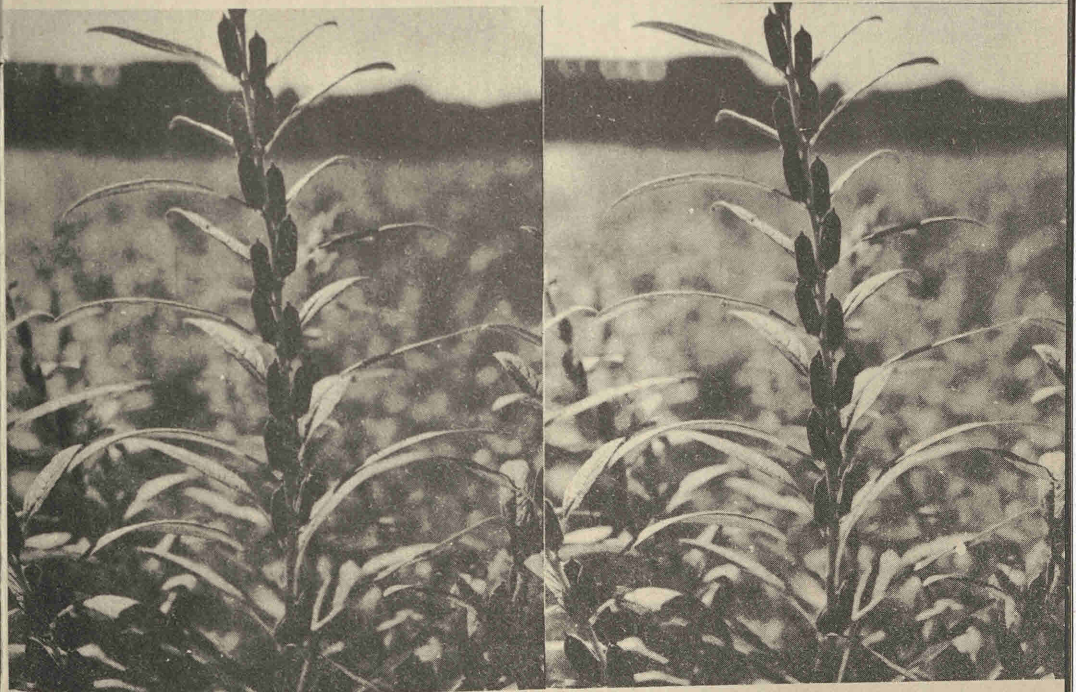
To control,

*Immerse seeds in hot water at 128° F for an hour before sowing.

Stem rot : Damp blackish spots are seen on the stem at ground level. These spots spread upwards. In badly affected plants, the disease spreads all over the stem and kills the plant.

To control,

*Provide proper irrigation and drainage for the fields to avoid water-logging.



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