## SESAME MANAGEMENT FOR PRODUCTIVITY ENHANCEMENT AND SUSTAINABLE EXPORTS

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### **SESAME: A GAME CHANGER**

- Oil seed crop, 19-25% protein, seed cake contains 42% protein, maximum antioxidants, Rich in Fe, Cu, Mg, Ca and Vitamin B1 and E, Used in Bakery products.
- 100-gram serving, dried whole sesame seeds are rich in Calories (573 Kcal), Water 5%, Carbohydrates 23%, Dietary fibers 12% and Fat 50%
- Used in medicine, preparation of high quality soaps, excellent feed for milch cattle and laying hens.
- Seed oils have high oil content around 55%, Sesame oil is used in cooking and in preparation of salads, reduces signs of aging, Strengthens muscle tissue, skin, and hair.
- Facilities digestion and prevents constipation, helps to prevent diabetes, cancer and heart disease.
- Boosts oral health, cellular function, and metabolic function.

### **SESAME STATISTICS**

	Area	Production	Per acre
	000 Acres	000 MT	Md/acre
2028-19	175	29.09	4.11
2019-20	301	55.45	4.61
2020-21	367	90.66	6.16
2022-22	437	115.80	6.62
2022-23	607	148.22	6.10
2023-24	929	287.37	7.73

### SESAME STATISTICS DIVISION WISE

2023-24	Area	Prod. (MT)	Per acre
	(Acres)	MT	Mds/Acre
PUNJAB	929,940	287,374	6.10
Sargodha	41,300	9,906	6.00
Faisalabad	115,175	36,303	7.08
Gujranwala/ Gujrat	3,229	5,888	4.71
Lahore	24,628	7,848	7.93
Sahiwal	180,890	64,579	8.93
Multan	204,834	67,058	8.18
DG Khan	299,153	82,250	6.87
Bahawalpur	57,756	181,05	7.84
Rawalpindi	2,975	719	6.05

4

### **SESAME EXPORT**

YEAR	Export value (MIn \$)	Quality (MT)
2020/21	89.32	67,096
2021/22	186.96	125,833
2022/23	148.33	92,009
2023/24*	374.13	251,048

#### **\*JULY TO JAN**

### SEED TAGS ISSUED FOR SESAME

VARIETIES	CERTIFIED	APPROVED	TOTAL
TH-6	553,245	211,434	<u>764,679</u>
TIL-18	0	7,500	7,500
TS-3	41,395	294,180	335,575
TS-5	141,550	776,915	<u>918,465</u>
NIAB MILLENIUM	15,550	0	15,550
NIAB PEARL	127,784	38,498	166,282
NIAB SESAME 2016	13,625	7570	21,195
ANMOL TIL	120	190	310
TOTAL	893,269	1,336,287	2,229,556

### **MAJOR REASONS OF LOW PRODUCTIVITY**

- 1. Slow pace of adoption of high yielding varieties
- 2. Sowing through broadcast method (80%)
- 3. Heavy weeds infestation
- 4. Low adoption of modern packages and practices
- 5. Plant Mortality due to heavy rainfall
- 6. Low fruit setting due to thick plant population
- 7. Lack of mechanization in sesame

8. Poor supply chain management from farm to the export

#### SOIL TYPE:

- Light to heavy silt loam having water holding and moisture retention capacity. Too much sandy, saline and waterlogged not fit for cultivation.
  LAND PREPARATION:
- Sesame requires warm, moist and weed free seedbed.
- Two to three of the ploughing & planking. Laser levelling for uniform field capacity and germination. Rainfed areas: 2-3 ploughing & planking after rain SESAME SEEDS & VARIETIES:
- 50-100 cm tall., Sesame leaves are entire lanceolate, and sometimes slightly serrated Varies from 3-17.5 cm in length and 1-5cm petiole length.
- Sesame fruit is a capsule, normally pubescent, rectangular in section
- The length of the fruit capsule varies from 2 to 8 cm. Width varies 0.5 to 2 cm
- Anmol Til, TH-6, TS-5, TS-3, Black King, NIAB Mill, Pearl & Til 2016.

- Seed Treatment: Thiophanate methyl 2.5 gm/ kg amidacloprid @ 2gm/kg TIME OF SOWING:
- April 15 May 15. May is fine for Layyah, Bhakkar, MWLI and Khanewal.
- NIAB Faisalabad can be planted in June and July. Sowing date can be refined according to weather varieties clean and vigorous
  PLANTING METHODS:
- Manually or mech. by hand operated seeder. Broadcasting or drilling.
- Row to row distance **45cm**, Plant to plant **distance 10 cm**
- Seed depth 2 to 2.5 cm, Planting depth depends upon soil type and variety (3-5cm)

SEED RATE: 1.0 to 1.5 Kg/acre for Row and 1.5 to 2.0 for broadcast.

Population greater than 100,000/acre

#### FERTILIZERS:

- 34 kg N: 23 kg p: 12 kg Potash, One bag DAP, One bag area + one dtaff bag SOP/MOP. Less fertilizers in ramified areas. Nitrogen use in these splits. One at sowing and two at rains.
  WATER REQUIREMENT
- Sesame is drought resistant crop. After it is well established, it tolerates high water stress. **300-800 mm/ annum** is necessary for reasonable yield.
- 2-3 irrigation recommended. First : 15-20 days after compensation of germination, 2<sup>nd</sup> at Flowering, 3<sup>rd</sup> at pod formation
- No inundation: remove standing water in case of rains, Irrigate if too hot 2 day at pod formation.

#### • THINNING AND HOEING:

- At 4 leave stage. Thinning to keep recommended plant population. Hoeing before first irrigation. Hoeing after rains, at field capacity.
  WEED MANAGEMENT:
- Pre-emergence: Just after sowing Pendi-methylene 33% 400-500ml/120 lit. (weather forecast): if rains, refine the dose: special treatment of more weeds.
  HARVESTING:
- Crop period = **100-120 days**. 75% Pods color when turn pale
- Keep small heaps. Place in upright position: threshing Floor, clean and disinfectant. Thresh when complete dry, repeat twice or thrice. Dry seed is open store when moisture ranges 8-10%

#### SESAME PEST MANAGEMENT

- **Diseases**: Stem/root rot, Wilt, Coller Rot, Phyllody, Stem blight.
- Insects: Sesame capsule borer, White fly, Jassid, Mirad Bug, Cotton Mealy Bug, Thrips & Termite

# THANKS