



Package of Practice for Cultivation of Cumin

(* Anisha Mathur)

SRF, Agricultural Research Station, Mandor (Jodhpur)

*Corresponding Author's email: mathuranisha84@gmail.com

Botanical name: - *Cuminum cyminum*.L

Family : - Apiaceae

Cumin commonly known as “Jeera” belongs to Apiaceae family, widely cultivated in Gujrat, Rajasthan and in some parts of Madhya Pradesh and Uttar Pradesh as arabi crop. Cumin mainly used for flavoring food. It is also used in ayurvedic medicines.

CLIMATE & SOIL: Cumin is a tropical plant. It is grown well in sub tropical regions too. High humidity during flowering and fruit setting cause fungal diseases. Cumin can be grown in all soil types but well drained sandy loam and average soils are suitable for cultivation.

MAJOR VARIETIES: Cumin is having a number of good varieties suitable for different agro-climate regains. Varieties selection depends primarily on its adaptation to the soil and climatic conditions and preferably should have tolerance to pests and diseases prevailing in that region. There are many varieties released for cultivation to different areas specially Rajasthan and Gujarat. The descriptions of some of the important cultivated varieties are given below:

RZ-19- It was developed at, SKN College of Agriculture (RAU), Jobner through selection from a local collection. The plants are erect in growth behaviour bear pink coloured flowers and bold pubescent grains. It takes 120 □ 140 days to mature and gives an average yield of 5-6q/ha.

RZ-209- It was developed at SKN College of Agriculture (RAU), Jobner through selection. The variety has shown tolerance to wilt. It takes 140-150 days to reach maturity and gives seed yield of 6.5q/ha.

RZ-223- This variety was developed at SKN College of Agriculture (RAU), Jobner through selection. The variety possesses resistant to wilt. The seeds yield an oil content of 3.23 per cent and gives seed yield of 6.0q/ha.

Gujarat Cumin-1- It was developed by Spice Research Centre (S.D.A.U), Jagudan from local germplasm. The plants are erect with pink flowers and bold, linear, oblong ash brown colour grains. The variety is tolerant to wilt disease. It matures in 105-110 days and gives an average yield of 7.0q/ha.

Gujarat Cumin -2- It was developed by Spice Research Centre (S.D.A.U), Jagudan through pure line selection. The plants are bushy with good branching habit attractive grains. It matures in 100 days and gives an average yield of 7.0q/ha.

Gujarat Cumin -3- This variety also developed by Spice Research Centre (S.D.A.U), Jagudan through selection from exotic line. The variety is resistant to wilt. It matures in 100 days and gives an average yield of 7.0q/ha with essential oil content of 3.5%.

Gujarat Cumin -4- This variety was developed by Spice Research Centre (S.D.A.U), Jagudan through selection from GC-3. It gives an average yield of 8.75 q/ha and is resistant to Fusarium wilt.

SOWING & SEED RATE: Sowing is done from the 1st week of November to the 1st week of December by spreading or in rows drilled at 30 cm. The seed rate varies from 12-15 kg/ha, depending on the method of sowing and soil type. Seed sowing should be carried out to a depth of 1-2 cm after treatment with Ceresan or Thiram or Difoltan at 3.0 g per kg. Soaking the seeds for 8 hours before sowing is useful for obtaining good germination. Sowing at greater depth negatively affects seed germination. Crop rotation should be followed to avoid the incidence of pests and diseases.

LAND PREPARATION: The soil is loosened finely by 2-3 ploughings with a harrow or desi plough. Stubbles of previous crop must be removed from the field. Clods should be broken up and land must be leveled with a plank. 4m × 3m beds with possibility of irrigation canals should be prepared before sowing seeds to facilitate good irrigation and intercultural operations.

MANURES & FERTILIZERS: 15-20 MT FYM, 30 kg nitrogen and 15 kg phosphorous per ha are recommended for cumin crop. The full amount of FYM should be mixed into the soil at the time of soil preparation and 15 kg nitrogen and the total amount of phosphorous must be applied in the base rate. Another, 15 kg nitrogen should be applied as a top dressing one month after seed germination.

WEEDING: Weeds are the major problem in cumin farming. It requires weeding at 1 month and 2 month after sowing cumin seed. Thinning activity should be carried during initial hoeing and weeding to destroy the excess plants. Weeds also can be controlled by chemical application of herbicides. Applying pre-emergence terbutryn or oxadiazon at 0.5 to 1.0 kg/ha or pre-plant fluchloralin or pre-emergence pendimethalin at 1.0 kg/ha is very effective.

IRRIGATION: Depending on the type of soil, the crop requires 4 to 6 irrigations. 1st irrigation should be given immediately after sowing, and the second irrigation should be given after 6 to 10 days from the 1st irrigation. Subsequent irrigation should be administered after 30, 45, 65 and 80 days from the 1st irrigation. Irrigation at the time of flowering and fruit setting is essential. Better to avoid irrigation at the time of seed filling because it increases the incidence of blight, powdery mildew and aphid infestation.

MAJOR INSECTS: Aphid- Aphid is major pest of cumin crop, it sucks sap of tender parts and reduces the yield. Spraying of 0.03% solution of dimethoate or 0.025% solution of methyl demeton or 0.04% solution of monocrotophos is recommended to control the aphid. Leaf eating caterpillar- This pest cause damage to the foliage of plants reducing yield of the crop. It can be controlled by spraying of 0.02% solution of phosphomidon in the early stage of crop.

MAJOR DISEASES: Wilt- Attack of wilt is severe in young plants. Crop rotation and use of neem cake are helpful in checking spread of the fungus disease. Seed treatment and oil drenching with Bavistin DF (0.25%) or provax 200 WP (0.25%) at an interval of 10 days from seedling to flower stage decreases wilt incidence and increase seed yield of cumin.

Blight- Blight affected plants show very minute brownish necrotic spots, which later turn to blackish. Mostly diseased plants fail to produce seeds. For control of this disease seed treatment and spraying of 0.2% solution of dithane M-45 four times at 10 days interval commencing from 40 days after sowing is recommended. The crop should be kept free from weeds.

HARVESTING: Generally cumin crop takes about 110-115 days to reach maturity. Crop become ready to harvest when plant turn yellowish brown. Harvesting should be done early in the morning by cutting/uprooting the whole plant. Harvested crop should be dried in the threshing yard thrashed to separate the seeds. Seeds should be cleaned by winnowing.

YIELD: Cumin crop with proper management and application of water yield 600-700 kg/ha