

JOWAR (*Sorghum bicolor*):

Cereal Fodder Crop

Jowar is the most important forage crop of Northern India. It is grown during Rabi season also. To overcome the possible danger of HCN poisoning, the crop should be properly irrigated during summer and harvested only after 40-45 days of growth. On average it contains 9-10% CP, 65-65%, NDF 37-42% ADF, 32% Cellulose and 21-23% Hemicellulose on dry matter basis when harvested at 50% flowering stage since it is largely grown for grain & stover is used for feeding the animals. Its stover contains 6-6.4% CP and 32-36% crude fibre.

Soil and its preparation: Well-drained sandy loam to loam soils with a pH range of 6.5 to 7.5 are ideally suited for its growth. One ploughing followed by two (crosswise) harrowing are sufficient to get a good seed bed. The good drainage facility is important.

Time of sowing: For summer sowing of multicut types mid March to mid April is the best period, while for monsoon season crop sowing should be done preferably between 25th June and 10th July. In southern India it is grown during Rabi season also for which sowing is done in October-November.

Seed rate & method of sowing: Sowing should be done by drill at distance of 25 cm row to row using a seed rate of 30-40 kg/ha. For small seeded sudan types, a seed rate of 30 kg/ha is sufficient. Broadcasting of seeds should be avoided. The seed should not be put more than 2-2.5 cm depth during sowing.

Fertilization: The field should be manured with 10 t FYM to meet requirement of secondary and micro nutrients. Basal application of 60:40:40 kg N: P₂O₅:K₂O should be given at sowing time followed by top dressing with 30 kg N/ha one month after sowing. In low rainfall and rainfed areas 60 kg N/ha is applied at sowing time.

Weed control: One hoeing through weeder cum mulcher at 3-4 weeks' crop stage is very effective to control the weeds. Pre-emergence application of atrazine @ 0.50 kg a.i. ha in 600 litres of water is also very effective. This should be applied only in pure crop of sorghum. For sorghum sown inter cropped with legumes, pre emergence spraying of alcohol @ 1.0 mg a.i. should be done.

Varieties: **Single cut** PC-6,9,23 HC- 171, 260 (Early to medium duration) U.P. Chari- 1 & 2, HC-136, Raj. Chari- 1&2 **Double cut** CO-27 AS-16 **Multicut Types** SSG-998, 855 (Hara Sona), SSG-59-3, DCH-106, Pantchari-5 & COFS-29, CFSH-1.

Irrigations: July sown rainy season crop may also need 1-2 irrigations depending upon distribution of rains. For summer sown crop 5-6 irrigations are required due to high evaporative demand of atmosphere. In Southern region Rabi season crops need about 4 irrigations.

Insect-pests: The shoot fly & stem borer can be controlled with spray of carbofuran/Malathion @ 125 ml/ha, whereas sorghum midge can be controlled with spray of endosulphan @ 0.075. To control the diseases seed treatment with Thiram @ 3g/kg seed takes care of almost all diseases. Spray of carbendazim @ 5g/l water control Anthracnose diseases in early stages. Summer sown crop is very susceptible to shoot fly. For this carbofuran 3G @ 3-4 kg/ha may be applied in trench at sowing time. Phosphamidon @ 0.02% after one week of crop emergence is very effective. To avoid attack of stem borers, crop should be sown during July as it is not attacked by the borers during rainy season. Spraying the crop 2-3 times with endosulfan @ 0.05% at 10-15 days interval is also effective.

Harvesting and Yield: The crop should be harvested at 60-75 days of sowing (50%, flowering stage) in case of single cut varieties and first cut at 40-45 days and subsequent cut at 30 days of intervals in case of multicut varieties. Green fodder yield is found of single cut variety-350-500q, double cut variety-450-650 q and multicut variety-750-1700q/ha

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