



Climate Requirements:-

- Type: Rabi Crop; Cool Season Required
- Optimum Temperature: Tillering:- 16-20⁰ C, Grain Filling: 23-25⁰ C
- Critical Sensitivity: High Temperature (>30⁰ C) during grain filling reduces yield.
Solution:- Light But Frequent Irrigation is recommended to minimize the effect of sudden rise of temperature.
- Rainfall: 500-1000mm/Year (Preferably Pre- sowing)
- Requires a cool, dry climate with bright sunshine during crop Growth.

Soil Requirements:-

- Grows best in well-drained loamy to clay loam soils
- Ideal Soil pH: 6.0-7.5 (slightly acidic to neutral)
- Avoid heavy, Waterlogged, or every sandy soils.

Field Preparation & Sowing:-

- Field preparation: 2 harrowing's followed by planking to create a fine tilth
- Sowing time:- Timely: First to Third Week of November and Late upto Mid- December

- Seed rate: Timely sowing: 100-110kg/Ha And Late Sowing: 125-150 kg/Ha
- Sowing Methods: Line Sowing(recommended) and Broadcasting (less Preferred)
- Spacing: Row to row:- 22.5cms, Plant to plant: As per seed rate and tillering Habit.
- Seed Treatment:- Helps protect against seed-borne diseases (bunts, smuts, rots)
- Fungicide: Carboxin or Carbendazim @2g/kgs seed, Biocontrol: Trichoderma viride @4kg/seed

NUTRIENT MANAGEMENT:-

- ORGANIC MANURE: FYM/ COMPOST@ 5-10T/ha BEFORE SOWING
- FERTILIZER RECOMMENDATION (irrigated)
 1. NITROGEN:- 120KG/HA

<p>2. PHOSPHORUS(P₂O₅): 60 KG/HA</p> <p>3. POTASSIUM (K₂O):- 40KG/HA</p> <ul style="list-style-type: none"> APPLICATION:- FULL DOSE OF P & k AND 50% N at Sowing, Remaining N in 1-2 splits at CRI and booting stages. <p>IRRIGATION MANAGEMENT:-</p> <ol style="list-style-type: none"> TOTAL IRRIGATIONS: 4-6, Depending on water availability and soil Critical Stages: 1. Crown Root Initiation(CRI) – 20-25 DAS, Tillering, Jointing, Flowering, Dough Stage. <p>WEED MANAGEMENT:-</p> <ul style="list-style-type: none"> Pre- emergence Herbicide: Pendimethalin@3.3 L/ha Post-emergence Herbicide: Metsulfuron-methyl @ 4g/Ha (30-35 DAS) Hand Weeding if chemical control is not possible 	<p>Pest & Disease Management:-</p> <ul style="list-style-type: none"> Rusts (Yellow, Brown, Black): Use resistant Varieties, Spray Propiconazole 25 EC@0.1% at First appearance. Smut, Bunt, Ear Cockle: Use Disease-free seed, Saltwater Flotation Method for seed Selection, Seed Treatment essential. <p>Harvesting & Threshing</p> <ul style="list-style-type: none"> Harvest when grain moisture is ~ 20% (hard Dough Stage) Use combination harvester or mechanical thresher for efficiency.
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Recommended Varieties (Agro-climatic Zones)

Zone	Key States	Major Varieties	Amrit Seed's Varieties
NWPZ	RAJASTHAN, HARYANA, PUNJAB	HD 2967, HD 3086, And DBW 296(karan Aishwarya), alongside others like HD 3226 and DBW 71	Maharaja (AW-711), Gaurav (AW-721), Pradhan (AWD-1457), Nagina (AW-712)
CZ	RAJASTHAN, MADHYA PRADESH	HI 1531, GW 322, HI 8759(Pusa Tejas), GW 513, and HI 1650 (Pusa Ojaswi)	Maharaja (AW-711), Gaurav (AW-721), Pradhan (AWD-1457), Nagina (AW-712)