



Hordeum vulgare L.

FAMILY: POACEAE

URDU: JOW



- ANNUAL
- MONOCOT
- RABI CROP
- DETERMINATE

95% MORE ENERGY AS COMPARED TO

MAIZE FODDER



- LESS IMPORTANT THAN WHEAT
- FOOD, SATU, ALCOHOL, BREAD
- RICH IN ENZYMEZ
- BALLANCED IN FAT & ENERGY
- HIGH IN FIBER & PROTIEN
- LOW ACID CONTENT

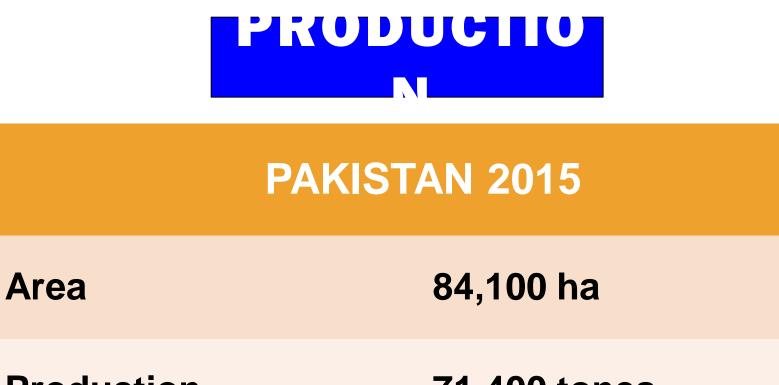


DEFINITE ORIGIN NOT KNOWN

- WESTERN PART OF IRAN (ZAGROS MOUNTAINS)
- WESTERN PARTS OF PAKISTAN



- WIDE RANGE OF ADAPTABILITY
- DROUGHT RESISTANT
- DISEASE RESISTANT
- RAINFED AREAS
- SUSCPTEIBLE TO WATER LOGGING



Production

71,400 tones

yield

0.85 t ha⁻¹

Pakistan not in top 20 barley producers



HYPOGEAL MODE OF GERMINATION

ADVENTITIOUS ROOT SYSTEM

100 CM NORMAL (UP TO 400 CM) ROOT

DEPTH

INFLOKESCENC

- SPIKE
- AWNED
- SPIKELETS ALWAYS ARRANGED
- TWO PARTS (LEMMA & PALEA)
- LEMMA (Hull) :outer covering containing awn
- PALEA (Husk) :beneath lemma and covers grain





ALMOST ALL SOIL TYPES

HEAVY TO LOAM TO SANDY

CAN NOT BE GROWN IN WATERLOGGED

SOILS

SALT TOLERANT

RAINFED

***EARLY SOWING 15 OCT. 31 OCT.**

MID SOWING NOV. – DEC.

ALATE SOWING TILL 15 JAN.

IRRIGATED

NOVEMBER (OPTIMUM)

DECEMBER

BREEDING METHODS

- **Bulk Method**
- **w Pedigree method**
- Mass Selection
- **^{oo}** Pure line selection
- **Back cross method**
- **w** Single seed descent method



- ♣ 70-80 Kg Ha⁻¹
- METHOD
- PURITY
- GERMINATION PERCENTAGE
- VAREITY



RATNA (rainfed)

- Azad (K.125) (yellow rust)
- * Karan-201, 231 and 264 (Huskless)
- ✤ C- I64 (long awns)



Because it is highly self pollinated crop.

[®] Only 03% chances of crossing.

In the selffing Simply cover the spike of desired plant with Butter paper bag.

CROSSING EIVIESCULATION:

- Plant selection
- Spike selection (stage) Cut spike 1/3rd from top
- [®] Cut 1/3rd of floret Remove anthers Cover the
- [®] spike
- Tagging for female plant
- R
- R

 (\mathbf{R})

POLLINATION

R Selection of Male plant

- Cut 1/3rd of each floret
- Place spike in sunlight for almost 5min
- Shred pollens on emasculated spike
- R Tagging