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A Cereals — origine, morphology & use.
Wheat, Rice & Maize

(1)

Introod —
origine
morphology —
Systematic position.
uses —

Vernacular name: —

Sanskrit — Godhuma
Hindi — Gehun, gandum
Beng — gon, gam
Eng — wheat —

Introduction
origine ~~origine~~ — wheat is the principal cereal
of temperate region. Half of the population
of the world feed. It is very old crop
the exact native place is doubtful.

Recent investigation suggest
that the highlands of Palestine & Syria
as the centre of origin. Vavilov considers
wheat had a multiple centre of origine. the
soft wheat, which might have come from
mountains of Afghanistan & South-western Hima-
layas. the durum wheat from Abyssinia,
Algeria & Greece & Bink Einkorn from
Asia. Numerous varieties of wheat have been
mentioned in the writings of Aristotle
Theophrastus, Pliny & other Greek & Roman
writers. It was cultivated in China as
early as 2700 BC. Introduced into New world
in 1529 by Spaniards in Mexico

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(2) Croston (England) introduced wheat in New England in (1602). It reached Virginia in (1611), California in (1769) & Minnesota in (1845).

Now wheat has become most important food crop of the world & is cultivated in Russia, USA, China, India, France, Canada, Australia, Turkey, Italy, Argentina etc. India constitutes 4th largest wheat producer of the world. India produces 72 million tonnes of wheat in 26 million hectares per annum. Many states of India cultivate wheat crop. Such as U.P., M.P., Punjab, Bihar, Rajasthan, Haryana, Maharashtra, Gujarat, W.B., Karnataka...

Classification of wheat

Morphology
nutritional value

diploid → T. aegilopoides - Einkorn (wild) ($n=7$) Hulled

" → T. monococcum - Einkorn ($n=7$) Hulled

Tetraploid → T. dicoccoides

~~T. dicoccum~~ T. dicoccum - Emmer (wild)

T. durum - Emmer

T. turgidum (Macaroni wheat)

Varieties for irrigated conditions

Sonalika, Kalyansona, Arjun, Jandak (HD19)
Shailaja, WG-357, WG-377 etc.

Varieties for Rainfed conditions

Pratap (HD-1981), Harbada-4,
Meghdoot (HI-7483), Mukta (HI-38)
Deccan Queen etc.

Principles & Nutritional Value of wheat

(Per 100gm of edible portion)

	grain	flour
Protein	11.8 gm	11.0 gm
Fat	1.5 gm	0.9 gm
Minerals	1.5 gm	0.6 gm
Carbohydrates	71.2 gm	73.9 gm
Energy	346 Kcal	348 Kcal
Calcium	41 mg	23 mg
Phosphorus	306 mg	121 gm
Iron	5.3 mg	2.7 gm
Riboflavin	0.17 mg	0.07 gm
Mg, Na, K, Cu, Mn, Mo etc		

Cultivation

Wheat is a well adapted crop of variety of Agroclimatic. The wheat crop requires a well pulverized but compact seed bed for good & uniform germination. 3-4 ploughing in the summer, repeated harrowing in the rainy season followed by three to 4 - Cultivations & Planking immediately before sowing produce good firm seed bed for the dry crop & allows alluvial soils. Tim Conservation of moisture are essential.

- 1) Sowing time — Kargan sona is cultivated in forth night of November. Sonelike is cultivated 2nd fortnight of November is the optimum time.

Uses (See notes)

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- 1/ sown by drilling.
- 2/ 100-125 kg seeds are required per hectare.
- 3/ the seeds are sown in row at a distance of 20-25 cm.
- 4/ Weeds are removed for better yield from time to time.
- 5/ Weeds can be controlled by spraying of 2,4-D. (2,4 deoxy phenyl acetic acid)
- c) Irrigation —

1/ 3-4 irrigations are important at the intervals of 6-7 weeks.

ii/ Three irrigation are required
1st at the time of root initiation
2nd at the time of flowering.
3rd at the time of milk stage.

iii/ 120 kg Nitrogen
40-60 kg Phosphorus
260-65 kg K^+ per hectare. recommended for higher yield.

(d) Harvesting —

i/ crop is harvested when the grains are harden & straw become dry & brittle.

ii/ time of Harvesting varies from last week of January to mid way depending upon the time of sowing.

iii/ Harvesting is done with sickle & dhoria.

iv/ After Harvesting, threshing is done with cattle on a threshing floor.

v/ Now a days, mechanical threshers are required can do.

(e) Storage

1/ grains should be dried thoroughly before storage.

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Grains with less than 10% moisture can well be stored for longer time. The godowns should be moisture proof & fumigated to keep ~~the~~ stored grain pests.

Uses

- i/ Best human diet all over the world
- ii/ Due to gluten in the grains, the wheat becomes a super breed stuff.
- iii/ ~~It~~ used for making chapatis
- iv/ Variety of other preparations like —
Loaf bread, biscuits, & bread fast food etc.
- v/ used in many preparations of juice, yaide, etc.
- vi/ Straw is used as bedding for cattle, used as packing material etc.
- vii/ Straw pulp is utilized for manufacture of paper
- viii/ Manufacture of starch, industrial alcohol, melted wheat & coarse bran flour.
- ix/ Low grade flours are used in the preparation of pastes for wall paper & plywood adhesive.