

# Wheat

**CC-7  
UNIT-2**

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# CEREALS



**Oats**



**Rice**



**Wheat**



**Corn**



**Barley**



**Rye**



**Millet**

# WHAT IS CEREAL

- It is a grain, such as rye, wheat, or maize, that is used for food.
- Any grass that is grown and farmed for its edible grain components is considered a cereal.
- Grain is made up of the endosperm, germ, and bran and is a type of fruit known as a caryopsis.

# ORIGIN OF WHEAT

**Location and timing:** SW Asia (Vavilov); Remains of emmer (*Triticum dicoccum*) and eikorn (*T. monococcum*) wheat discovered 7000 BC; archaeologists discovered emmer wheat approximately 19,000 years ago. In predynastic Egypt and prehistoric Europe, emmer wheat was cultivated. Knossos in Crete is where hexaploid (*T. aestivum*) wheat was initially discovered.

Spaniards brought the cultivation to America through Mexico, while the English brought it to New England and Virginia.

# INDIA-GROWN VARIETIES OF WHEAT

Scientific name	Common name	Chromosome number	Sets of chromosomes
<i>T. aestivum</i>	Common bread wheat	6x=42 2n=42	AABBDD
<i>T.durum</i>	Macaroni wheat	4x=28 2n=28	
<i>T.dicoccum</i>	Emmer wheat	4x=28 2n=28	AABB
<i>T. turgidum</i>	Rivet wheat/ poulard wheat	4x=28 2n=28	AABB
<i>T. sphaerococcum</i>	Dwarf wheat	6x=42 2n=42	AABBDD

# MORPHOLOGY

**Habit:** Annual; height range: 60–150 cm.

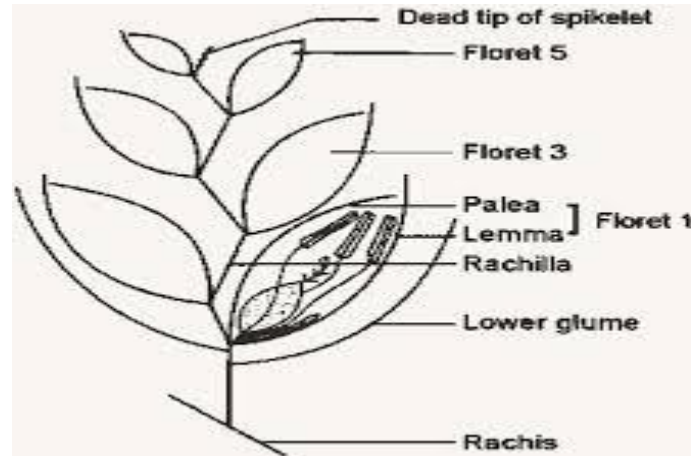
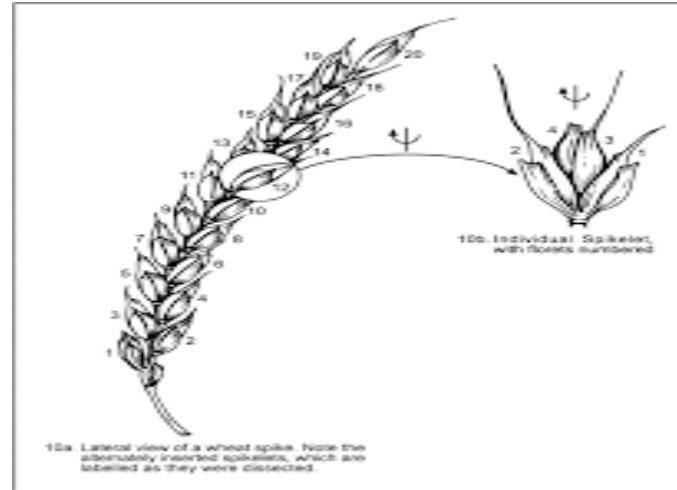
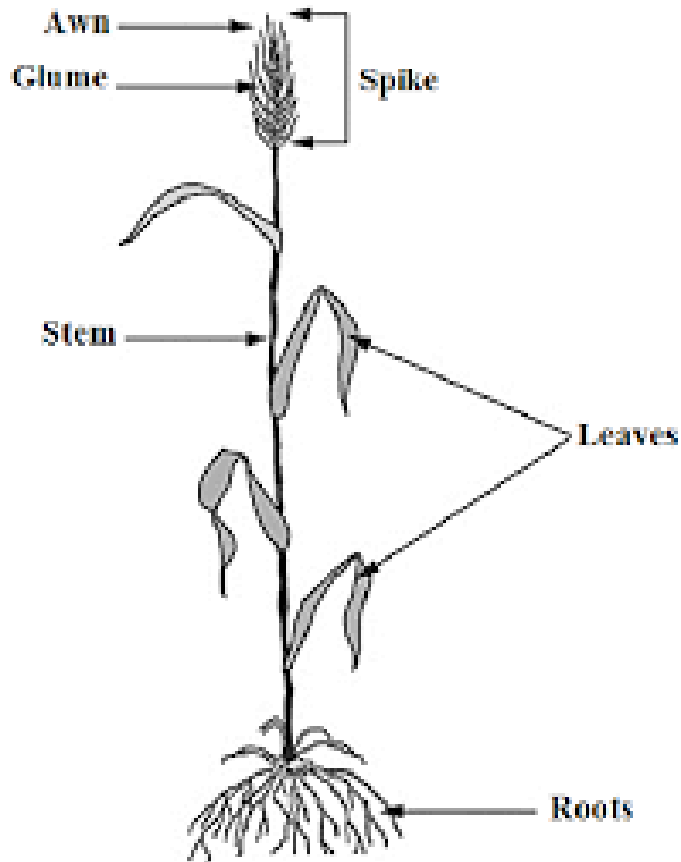
Sheathing the base of the leaf, ligulate, tufted, jointed stems with hollow internodes and leaves with linear and parallel venation. Inflorescence: upright terminal spike of spikelets known as the "ear" or "head" of grains; flowers burst into 15-20 spikelets alternately arrayed on rachis; only 2-3 of the spikelets are viable and yield grains. Flowers: 2 loose, broad, awned sterile glumes (lodicules); 2 thin, pale, rounded paleas and lemmas; 3 stamens; flexible anthers; 2 hairy carpels; superior ovary

**Fruit:** oblong, plumb, swelling, caryopsis. With a shallow ventral groove, it is 5–10 mm long.

# GRAIN MORPHOLOGY..

1. Fruit coat (tegmen) united with seed coat (testa/spermoderm)
  2. Embryo
  3. Nucellus
  4. Endosperm: thin walled parenchymatous tissue filled with carbohydrates and gluten
- \* The seed coat and embryo contain some vitamin A, thiamin, riboflavin, and niacil.

# WHEAT MORPHOLOGY





# PROCESSING

1. When the straw dries out and the grains harden, harvesting is complete. In India, a sickle is used for harvesting. Combine machines are also utilised in NW parts.
2. Threshing is carried out by bullocks stomping the plants on a threshing floor; Punjab uses basic mechanical threshers.
3. Grain winnowing is accomplished with the use of a winnowing-basket.
4. **Storage:** Grain should be completely dried if it contains less than 10% moisture, as this will allow for good storage.
5. **Milling:** Typically, two stones are used in motor-driven flour mills.

# USES

- Production of flour for pastries and bread (soft and hard wheat kinds) entire meal Flour and atta are used to make baked goods like chappatis and bread.
- Pastries and biscuits made from bakery items contain maida, or more refined flour.
- Cereal foods like wheat flakes are prevalent.
- When making alcoholic drinks Suji is used in a variety of dishes.
- Whole wheat or rye are supplemented with gluten, a protein derived from wheat that has no specific nutritional benefit, to increase flexibility.
- Wheat of lower quality is used as feed
- Using wheat straw as feed
- Straw made of wheat works well for packaging.

**Thank  
You**