

Course: B.Sc Botany  
SEMESTER IV  
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PAPER: Plant Systematics  
TOPIC: *Poaceae*  
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### Distribution pattern

This family is distributed throughout the world. It has **600** genera and **10,000** species. There are **158** genera and **492** species of this family in Pakistan.

### Diagnostic characters

**Habit:** Annual or perennial herbs; rarely tree (bamboos).

**Roots:** Fibrous adventitious.

**Stem:** Herbaceous; cylindrical; jointed, hollow at internodes. Sometimes, forms rhizome or runner.

**Leaves:** Sessile with long sheathing base; alternate; simple; ligulate; parallel venation.

**Inflorescence:** Spike of spikelets or panicles of spikelets. Each spikelet is composed of 2-5 flowers, panicles of spikelets. The spikelets are arranged on a branched axis-panicle as in oat.

**Flower:** Pedicellate; bracteate, two bracts palea and lemma enclose flower or floret; lemma contain bristle like awns, zygomorphic; incomplete; unisexual or hermaphrodite; hypogynous.

**Perianth:** Represented by two or three scale like lodicules.

**Androecium:** 3 stamens, sometimes 1, 2 or 6; polyandrous; anther versatile.

**Gynoecium:** Monocarpellary; unilocular; ovary superior; stigma usually 2; feathery; basal placentation.

**Fruits:** Caryopsis

### Economic Importance:

**Food:** All the cereals and millets belong to this family. These form the basic food of mankind. These plants are: *Triticum sp* (Wheat). *Zea mays* (corn). *Oryza sativa* (rice). *Hordeum vulgare* (barley 2), *Secale cereale* (rye).

**Fodders:** Most of the fodders of the animals also belong to this family. The dried stems and leaves of the cereal crops are used as fodder for the cattle.

**Sugar:** Sugar is obtained from the juice of *Saccharum officinarum* (sugar cane).

**Aromatic oils:** Certain grasses give aromatic oil, e.g. *Cymbopogon citratus* (lemon grass). It gives lemon grass oil. This oil is used in perfumes and soap industry for making infusions.

**Paper industry:** Some species of grasses are used for making papers.

**Alcohol and beverages:** Ethyl alcohol and many other beverages are prepared from cereals. For example, wine is prepared from rye, corn and rum molasses from sugar cane.

**Floral formula** –  $o | o \ \overline{\sigma} \ P_{0 \text{ or } 2} \ (Lodicules) \ A_{3 \text{ or } 6} \ G_{\underline{1}}$ .

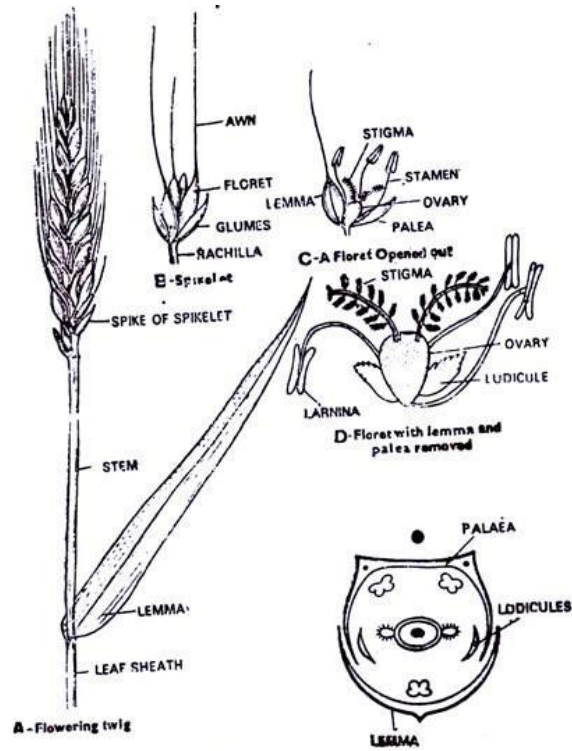


Fig: *Triticum aestivum*