Habit

It is an erect, single stem, ranging from 0.5 to 2.5 m in height, depending on the variety (in the tropics, up to 6 m).

Stem

The stem is solid at the nodes, with a spongy core between internodes. In moister climates, some varieties develop adventitious support roots at the nodes.

Leaves

The leaves are alternate, undulating, with broad blades and short ligules, lightly hairy on the upper side, singly emerging from the nodes.

Flowers

The plant is monoecious and wind-pollinated (anemogamy). The inflorescences of male flowers in the form of a compound spike, ranging from 10 to 40 cm in length, are borne on the tips of the stems. The spike consists of numerous, paired, two-flowered spikelets arranged spirally on the inflorescence axis. Each flower has three stamens with anthers containing up to 2500 pollen grains. Female inflorescences are borne on shortened lateral branches, transformed into ears standing singly in the leaf axils, covered by leaf sheaths. The spikelets of the ear are two-flowered, with one having a normally developed pistil with a very long stigma (up to 70 cm), while the other is rudimentary, incapable of fertilization and seed formation. The weight of a flowering ear ranges from 40 to 500 g.

Fruit

The grain has a highly variable shape and color, depending on the variety (see picture). When ripe, it ranges in color from white to yellow, orange, brown, to dark purple.

Root system

Fibrous, reaching from 100 to 200 cm deep into the soil. Some varieties secrete aromatic substances into the soil to attract tiny nematodes, which in turn kill pest larvae.

