



Glossary for “Growth of a Wheat Plant”*

Production Technology - Crops



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ANTHER - the male portion of the flower. The anther contains the pollen.

BOOT STAGE - the growth stage when the head is enclosed by the sheath of the uppermost leaf or flag leaf.

COLEOPTILE - The protective sheath enclosing the growing point and leaves of a wheat plant or embryo. The coleoptile protects the leaves as the seedling penetrates to the soil surface.

COLEOPTILLAR NODE - node where the coleoptile originated. Also the node where the coleoptillar tiller originates.

COLEOPTILLAR TILLER - the tiller arising from the node where the coleoptile originated.

CORONAL ROOTS - roots which originate at the crown. These may develop from the main stem or from tillers. Also called adventitious roots.

CROWN - part of the wheat plant located about 0.5 inches below the soil surface. The crown is where the nodes are tightly packed together, tiller buds develop, and coronal root buds develop.

EMBRYO - an immature plant that is arrested in a dormant state in the seed. In wheat it contains the coleoptile which encloses three immature leaves, the shoot apex and an axillary bud and the coleorhiza which encloses the primary root and seminal root primordia.

ENDOSPERM - starchy tissue of the seed which surrounds the embryo and stores reserve food.

FIRST HOLLOW STEM - the growth period when hollow stem can first be seen above the crown as internode elongation begins, before the growing point moves above the soil surface. This is the earliest part of the jointing growth stage.

FLAG LEAF - the upper most leaf on a mature stem, located below the seed head

* "Growth of a Wheat Plant" is a video tape VT 534 available from Ag. Communications, OSU.

FLORAL INITIATION - the growth stage when the growing point is differentiating floral structures. This occurs in winter wheat between the time regrowth begins after dormancy and the time the first node can be felt above the soil surface.

FLORET - the individual flower of a plant. In wheat a floret contains a lemma, palea, three anthers, a pistil containing two styles with stigmas, and the ovary.

GLUME - modified leaves found in pairs at the base of a spikelet.

GROWING POINT - the dome-like structure where leaves or flowers are initiated.

HARD DOUGH - the stage of development of the grain when the contents of the kernel become firm enough it cannot be squeezed out of the kernel. In wheat, there is no green color left in the kernel when it reaches hard dough.

INTERNODE - the hollow stem zone between nodes.

JOINTING - the growth stage during which stem elongation is occurring.

LEAF AXIL - the angle formed where the leaf blade meets the stem or pseudostem.

LEAF BLADE - the flattened, usually green, expanded portion of the leaf.

LEAF SHEATH - the basal portion of the grass leaf that surrounds the stem. The leaf sheath connects the leaf blade to the stem.

LEMMA - the outer bract formed at the base of a grass floret. Contains the awn in awned wheat varieties.

MESOCOTYL - internode that develops between the seed and the crown. If seed are planted shallow, this internode does not elongate. Sometimes also referred to as subcrown internode.

MILK STAGE - stage of development of the grain when the contents of the kernel are primarily liquid.

NODE - the often enlarged portion of the stem from which buds and leaves arise. The node of wheat stems is solid in contrast to the hollow internodes.

OVARY - base of the pistil or female portion of the flower which develops into the seed.

PALEA - the inner bract formed at the base of a grass floret.

PHYSIOLOGICAL MATURITY - growth stage of grain where maximum dry weight has been obtained. This is signified by disappearance of all green color from the seed.

POLLEN - yellow, powderlike male sex cells formed in the anther of the flower.

PRIMARY ROOT - the initial root to emerge from the wheat seed and branches. The initial root to emerge is frequently referred to as the radicle.

PROPHYLL - modified leaf, similar to the coleoptile, which protects tillers as they penetrate up through the leaf sheath to the leaf axil.

PSEUDOSTEM - stemlike structure of grass plants prior to stem elongation. The pseudostem is composed of leaf sheathes and leaf blades rolled around each other. Pseudostem is also used to refer to the growth stage in winter wheat after vernalization when the plant begins to grow more erect but prior to stem elongation.

RACHILLA - the axis of a spikelet bearing florets separated by short internodes.

RACHIS - main axis of the head or spike bearing spikelets separated by short internodes.

SEEDLING - a plant from the time the first leaf emerges from the coleoptile until the first tiller becomes visible.

SEMINAL ROOTS - roots which originate from primordia found in the seed. They emerge at the point the seed was attached to the stem.

SOFT DOUGH - stage of development of the grain when the contents of the kernel are no longer liquid but have a bread dough consistency.

SPIKELET - a portion of the head which includes the glumes and all parts between. A wheat spikelet usually contains two glumes, several florets and the rachilla.

TILLER - a branch which arises at or below the soil surface. This is typical of wheat and many other grasses.

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