

# Selected Terms Used in the Rice Industry

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**Aging** – Physiological changes that rice undergoes predominantly during the initial three postharvest months.

**Anthesis** – The series of events between the opening and closing of the rice flower (spikelet). Referred to as flowering.

**Aromatic (scented) Rice** – Rice that contains volatile constituents yielding an aroma similar to roasted popcorn or nuts.

**Booting** – The stage prior to heading characterized by the swelling of the leaf sheath as the panicle grows in size and the internodes elongate pushing it up through the leaf sheath. During this stage, meiosis occurs and the pollen is formed. It is one of the stages most vulnerable to environmental stresses.

**Bran** – The outer layers or coverings of brown rice, composed of the pericarp, seed coat and aleurone layer. (**Note:** Industrial bran normally is a mixture of bran and embryo).

**Brewers Rice** – Small pieces of broken rice kernels.

**Brown (cargo) Rice** – The rice kernel with the protective hull removed.

**Coleoptile** – The topmost part of the embryo axis that serves as a protective sheath for young leaves and the growing point during seedling emergence.

**Converted Rice** – *See parboiled rice.* The term converted rice is a trademark.

**Embryo (germ)** – The reproductive portion of the rice grain located on the ventral side.

**Endosperm** – The white central portion of the rice grain, composed primarily of starch.

**Enrichment** – The addition of specific nutrients to partially compensate for those lost during the milling process. Regulations in the U.S. specifically stipulate that enrichment for rice must contain thiamine, niacin and iron and may contain riboflavin.

**Heading** – The panicle exserts from the boot, often synonymous with anthesis or flowering of the spikelets. Heading date is defined as the time when 50 percent of the panicles have at least partially exserted from the boot. It takes about 10 to 14 days for a field to complete heading.

**Head Rice** – Unbroken kernels of rice and broken kernels which are at least three-fourths the length of an unbroken kernel.

**Heat Damaged Grains** – Kernels of rice which have a reddish-brown to orange color and are substantially darker than the majority of the grains. This defect may occur in either white or parboiled rice.

**Hull** – The outer covering structures (palea and lemma) that enclose the rice kernel.

**Instant Rice** – A type of precooked rice that is easily rehydrated at temperatures below boiling. Typically it is fully hydrated in less than 5 minutes when added to boiling water.

**Internode Elongation** – The period when the internodes elongate and the plant grows in height. It begins about the time of panicle initiation and continues until the plant reaches its full height. Internode elongation is often called “jointing.”

**Lemma** – The part of the rice hull which covers two-thirds of the surface area of brown rice.

**Length, Kernel** – The distance between the most distant tips of the kernel.

**Maximum Tillering** – The point at which the maximum tiller number is reached and the main culm is difficult to distinguish from the tillers.

**Meiosis** – Process of cell reproduction which reduces the chromosome number in the new cells by one-half the number in the parent cells (reduction division). Sex cells are formed by meiosis.

**Mesocotyl** – The internode between the scutellar node and the coleoptile.

**Mill, Rice** – A machine for removing the bran from the endosperm. Mills are of two general types: polishers that rub the bran off (friction type mill or pearlier) and whiteners that grind or strip the bran away.

**Milled Rice** – Whole or broken kernels of raw or parboiled rice from which the hulls, bran and germ have been removed.

**Milling, Degree of** – The extent to which the bran layers and germ are removed from the rice endosperm.

**Milling Yield** – The quantity of total milled rice produced in the milling of rough rice to a well milled degree, usually expressed as a percent of rough rice, but when specified may be expressed as a percent of brown rice.

**Palea** – The part of the rice hull which covers approximately one-third of the surface area of brown rice. Its edges fit inside those of the lemma forming a tight closure.

**Panicle Differentiation** – When the young panicle has grown about 1-2 mm long and can be seen by the naked eye. Generally occurs about 5 to 7 days after panicle initiation when the internode is 1/2 to 3/4 inch in length.

**Panicle Initiation (PI) or Panicle Primordia Initiation** – It corresponds to the time when the fourth leaf from the top begins to elongate, approximately 30 days before heading. The panicle is not visible to the naked eye. Often called green ring.

**Parboiled Rice** – Rice that has undergone a parboiling process.

**Parboiling (converting)** – A hydrothermal process in which the crystalline form of starch is changed into an amorphous one, typically accomplished by soaking, steaming and drying rough rice.

**Quick Cooking Rice** – Rice that has been pretreated so as to substantially reduce the cook time, especially rice that has been cooked in water, steam or both, then dried in such a manner as to retain an open porous structure without clumping.

**Rough (paddy) Rice** – Whole or broken unhulled kernels of rice.

**Stabilized Rice Bran** – Rice bran that has been treated to essentially inactivate or inhibit enzymes that hydrolyze lipids to release free fatty acids.

**Tillering** – Production of tillers which are shoots that develop from the leaf axils at each unelongated node of the main shoot and from other tillers. Tillers are produced in a synchronous manner, the  $n$ th leaf on the main culm (or tiller which is producing tillers) and the first leaf of the tiller on the  $(n-3)$ th leaf emerge simultaneously.

**Vegetative Lag Phase** – The period from the end of active tillering (maximum tiller number) to the beginning of the reproductive stage which occurs upon initiation of the panicle primordia.

**Waxy Rice** – Rice whose starch contains less than 2 percent amylose.

**Width, Kernel** – The distance across the kernel at the widest point.