

# Glossary

- Active ingredient (ai)** — Component of a pesticide that has toxic activity against the pest in contrast to the inert or inactive ingredients.
- Abiotic** — Literally “without life,” refers to problems not caused by pathogens.
- Adventitious** — Refers to a structure arising from an unusual part, such as roots growing from stems or leaves.
- Amylographic** — Spectrographic analysis of starch.
- Amylose** — Type of starch in rice grain; higher content makes rice cook drier.
- Amylopectin** — A polymer of glucose associated with the outer layers of starch grains; higher content makes rice cook stickier.
- Anaerobic** — Literally “without air,” refers to an organism able to live and grow without air or oxygen.
- Antagonistic** — Decreased activity of an organism or chemical from the effect of another organism or chemical.
- Apical meristem** — Rapidly dividing cells at the tip of plant organs such as roots and stems; the growing point.
- Ascospores** — The sexual spores of one group of fungi.
- Auricle** — An ear-shaped structure at the junction of the leaf blade and leaf sheath of grasses such as rice.
- Axillary bud** — A bud located between the leaf sheath and stem where the leaf sheath attaches to the stem.
- Bacterium (pl. bacteria)** — A one-celled microscopic organism that lacks chlorophyll and multiplies by fission (splitting apart).
- Biological control** — Disease control by means of predators, parasites, competitive microorganisms and decomposing plant material that restrict or reduce the population of the pathogen.
- Biotype** — Genetic variant of a species.
- Boot** — Growth stage of rice when the panicle is more than 1 inch long but before emergence (heading).
- Brewers** — Smallest size kernels of broken milled rice that is less than one-quarter of the whole kernel.
- Broken yield** — Pounds of broken grain milled from 100 pounds of rough rice (total milling yield — head milling yield).
- Brokens** — Milled rice kernels that are smaller than three-fourths of the whole kernel. This includes second heads, screening and brewers.
- Brown rice** — Rice kernels with only the hulls removed.
- Carbohydrate** — A class of organic chemicals composed of carbon, hydrogen and oxygen; in plants, photosynthesis-produced sugars and starch are examples.
- Chevrons** — Stripe-like pattern consisting of several curved or V-shaped bands.
- Chlorophyll** — Green pigment associated with photosynthesis.
- Chlorosis** — Yellowing of normally green tissue caused by the destruction of chlorophyll or the partial failure of chlorophyll to form.
- Coalesce** — The coming together of two or more lesions to form a large spot or blotch.
- Coleoptile** — The protective covering of an emerging shoot; it is not the true leaf.
- Commingled rice** — Rice that has been blended with other rice of similar grain type, quality and grade.
- Conidiophore** — Specialized hypha-bearing asexual spores called conidia.

- Conidium (pl. conidia)** — A spore formed asexually, usually at the top or side of a specialized hypha (conidiophores).
- Crown** — Junction between stem and root.
- Culm** — The jointed stem of grass.
- Damage** — Economic loss to a crop caused by an insect, disease or injury.
- Dead heart** — Condition where the growing point (apical meristem) of the stem dies.
- Debris** — The crop residues left from the previous crop.
- Denitrification** — Conversion of nitrate nitrogen to gaseous nitrogen.
- Dough** — The stage when the endosperm of the grain has begun to solidify.
- Drift** — The spread of airborne spray droplets to nontarget areas.
- Drying** — Removal of kernel moisture to obtain a safe storage condition (12.5 percent moisture).
- Eclosing** — Emergence of an insect from its egg or a pupal case; hatching.
- Economic injury level** — The lowest pest density that will cause damage equal to the cost of control.
- Economic threshold** — The density of a pest at which control action must be taken to prevent a pest from reaching the economic injury level.
- Embryo** — The microscopically small plant at the base of a rice kernel. The germ.
- Endemic** — The normal presence of a pest in a crop year after year in less than epidemic amounts.
- Endosperm** — The stored food of a seed outside of the embryo composed mostly of starch in rice.
- Enzyme** — Protein specialized to catalyze chemical reactions related to metabolic activity necessary for growth.
- EPA** — Environmental Protection Agency, an agency of the U.S. government.
- Epidermis** — The outer layer of cells on all plant parts.
- Epiphytotic or epidemic** — The extensive development of a disease in a geographical area.
- Etiology** — The study of the causes of disease.
- Fissuring** — The cracking or breaking of grains prior to harvest caused by alternating periods of wetting and drying.
- Flag leaf** — The uppermost leaf of the rice plant, immediately below the panicle.
- Floret** — The rice flower including lemma, palea and reproductive floral parts.
- Flush** — Flooding of the field with drainage soon after for the purpose of keeping the seedbed moist.
- Foliar** — Of or referring to the leaves of a plant.
- Fungus (pl. fungi)** — An undifferentiated plant lacking chlorophyll and conductive tissues.
- Gelatinization temperature** — Index to classify the cooking types of long, medium and short grains.
- Gibberellic acid (GA)** — Plant growth hormone that stimulates elongation.
- Glume** — A tiny modified leaf at the base of the rice kernel.
- GMO** — Genetically modified organism; usually refers to an organism into which a gene or genes not naturally found in that organism has been inserted.
- Green rice** — Rough rice from which the excess moisture has not been removed (usually 18.5 to 22.5 percent moisture).

**Green ring** — Rice plant growth stage during which the tissue of the first internode appears green because of the accumulation of chlorophyll, indicates a change from vegetative to reproductive growth and the beginning of internode elongation.

**GPA** — Gallons per acre.

**Heading** — The period during which panicles exert from the flag leaf sheath.

**Head rice** — Milled rice kernels that are more than three-fourths of the whole kernel.

**Head row** — A short row of plants grown from the seed of a single panicle or head of rice.

**Head milling yield** — Pounds of head rice milled from 100 pounds of rough rice.

**Horizontal resistance** — A uniform resistance against all races of a pathogen. The level of resistance is usually only moderate and often influenced by the environment.

**Hulling** — A process of removing husks from rough rice.

**Hulls** — Outer husk of the rice grain, usually a waste product but can be used in rice mill feed and as a filler for feed products. Actually the lemma and palea of the floret.

**Hybrid rice** — Rice produced from a single cross between two different lines. An F1 hybrid.

**Hydrophobic** — Resistant to wetting.

**Hypha (pl. hyphae)** — A single thread or filament of a fungus.

**Imbibe** — Absorption of water.

**Infestation level** — Percent of the population affected by a pathogen, or density of pest in a unit area.

**Inflorescence** — A flower cluster. In rice, it is a panicle.

**Injury** — Feeding by an insect on a crop but not necessarily causing economic loss.

**Instant rice** — Milled rice that is cooked, cooled and dried under controlled conditions and packaged in a dehydrated form. Before packaging, it is enriched with thiamine, riboflavin, niacin and iron.

**Instar** — The stage of an insect between molts.

**Internode** — The tissue of a rice stem between two nodes (joints).

**Internode elongation** — Jointing, the rapid lengthening of the tissue between nodes of a rice stem. Begins with accumulation of chlorophyll in the stage called green ring.

**IPM** — Integrated pest management; the reduction of plant pests through the combined use of various control practices.

**Joint** — The section of a stem defined by two nodes and the internode.

**Key pest** — A pest that causes economic loss in most years.

**Label** — Document accompanying a pesticide container giving specific information about a pesticide, also a legal document specifying how and when a product can be used.

**Larva** — The second developmental stage of insects with complete metamorphosis (egg, larva, pupa, adult). Larvae look different from adults, live in different places and feed on different food.

**Lemma** — The larger of two enclosing structures that form the hard outer covering (hull or husk) of a rice seed.

**Lesion** — A localized area of diseased tissue of a host plant.

**Ligule** — Structure found at the junction of the leaf blade and leaf sheath of a grass plant where the blade contacts the stem.

**Lodging** — The leaning or falling over of rice plants before harvest.

- Long-grain rice** — Rice that is long and slender, measuring 1/4 inch or more in length. Kernel size is 6.5 mm or more long, and the length-width ratio is from 3.27 to 3.41:1.
- Main shoot** — The first noticeable aboveground portion of a rice plant originating directly from the seed.
- Medium-grain rice** — Rice that is plump, measuring less than 1/4 inch long. Kernel size is from 5.37 to 6.06 mm or has a length-width ratio of from 2.09 to 2.49:1.
- Meristem** — Region of rapidly dividing cells.
- Mesocotyl** — Portion of the shoot between the seed and the cotyledon.
- Metamorphosis** — A change in form during development.
- Milk** — The stage when the endosperm of the grain is the consistency of milk.
- Milled rice** — Rice grain from which husks, bran and germ have been removed.
- Milling** — Processing the rough rice into milled or brown rice.
- Mycelium (pl. mycelia)** — A mass of fungus hyphae; the vegetative body of a fungus.
- Neck** — Region of the head consisting of the joint below the panicle.
- Necrotic** — Dead.
- Nematode** — Generally microscopic, unsegmented roundworm, usually threadlike, free-living or a parasite of plants or animals.
- Node** — The pronounced area of rice stem from which a leaf originates.
- Nymph** — The immature stage of insect with incomplete metamorphosis (egg, nymph, adult). Nymphs look similar to adults, live in the same place as adults and feed on the same food.
- Occasional pest** — A pest that sometimes causes economic loss.
- Overwinter** — A term used to describe a pest's ability to survive the winter. The overwintering stage and site are important.
- Oviposition** — The act of an insect laying an egg or eggs.
- Palea** — The smaller of two enclosing structures that form the hard outer covering of a rice seed.
- Panicle** — A type of inflorescence consisting of a main axis with branches arranged on it.
- Panicle 2mm** — Same as panicle differentiation.
- Panicle differentiation (PD)** — Rice plant growth stage during which the panicle is recognizable as a small tuft of fuzz about 2 mm (1/8 inch) long.
- Panicle initiation (PI)** — Rice plant growth stage during which a specialized group of cells in the growing point begin to actively divide. It often corresponds to or closely follows green ring and can be positively identified only with magnification.
- Parboiled rice** — Rough rice soaked in warm water under pressure, steamed and dried before milling.
- Parboiling** — A process by which rough rice is steeped in water, steamed or heated to gelatinize starch, then subsequently dried.
- Pathogen** — A specific agent that causes infectious disease.
- Pathogenic** — Capable of causing disease.
- Pedicel** — The stem or stalk supporting the individual florets (grains) in the inflorescence.
- Penultimate** — The next to last syllable in a word.
- Perithecium (Pl. perithecia.)** — A flask or globe shaped sexual spore bearing structure with an opening at one end characteristic of certain fungi.

- Pest** — Any destructive organism that competes with humans.
- pH** — A measure of the acidity or alkalinity of soil, water or solutions. Values range from 0 to 14 with 7 being neutral, less than 7 acidic and above 7 alkaline.
- Photosynthesis** — The process by which plants absorb light and in the presence of chlorophyll convert carbon dioxide and water to glucose and oxygen.
- Physiological** — Of or relating to processes in cells, tissues and organs associated with growth and development of an organism.
- Phytotoxic** — Having the ability to cause injury to a plant.
- Pollination** — Transfer of pollen from the male to female flower structures.
- Precooked rice** — Milled rice that has been processed by various methods to make it cook quickly.
- Processed rice** — Rice used in breakfast cereals, soups, baby foods and packaged mixes.
- Pupa** — The third stage of insects with complete metamorphosis (egg, larva, pupa, adult). A pupa does not feed, but is in a resting stage.
- Pycnidium (Pl. pycnidia)** — A spherical or flask shaped asexual spore-producing structure characteristic of some fungi.
- Radicle** — First root of a germinating seed.
- Ratoon crop (second crop)** — Production of harvestable rice from regrowth of rice from the stalks harvested earlier.
- Resistance** — The inherent ability of a host plant to suppress, retard or prevent entry or subsequent activity of a pathogen or other injurious factor.
- Rice bran** — Tissue directly beneath the hull containing the outer layers of the seed coat and parts of the germ. Bran is rich in protein and vitamin B. It is used as livestock feed and vitamin concentrates. It is part of the fiber of whole grains.
- Rice polish** — A layer removed in the final stages of milling that is composed of the inner layers of the seed coat. It is rich in protein and has high fat content; used in livestock feed and baby food.
- Rough rice (paddy)** — Rice grains with the hulls, but without any part of stalk; consists of 50 percent or more of paddy kernels (whole or broken unhulled kernels of rice).
- Saprophytic** — Referring to an organism that derives its nutrition from dead or decaying organic matter.
- Saturated soil** — Condition when all soil pore spaces are full of water.
- Sclerotium (pl. sclerotia)** — Dense, compacted mass of hyphae, resistant to unfavorable conditions and can remain dormant for long periods; able to germinate when favorable conditions return.
- Screenings** — Broken milled rice that is more than one-half of the whole kernel size.
- Second heads** — Largest size of broken milled rice that is more than one-half of the whole kernel size.
- Semidwarfs** — Plants changed genetically to a reduced plant height.
- Senescence** — The process of aging leading to death after the completion of growth in plants and individual plant parts.
- Shoot** — New growth originating from a crown in rice.
- Short-grain rice** — Rice that is almost round. Kernel size ranges from 4.56 to 5.01 mm in length, and the length-width ratio varies from 1.66 to 1.77:1.
- Skipper** — A group of insects closely related to moths and butterflies. Adult skippers have knobs on the end of antennae (similar to butterflies), and the antennae are widely spaced on the head (similar to moths).
- Sorus (Pl. sori)** — A compact group of spores or spore-bearing structures associated with certain fungi.

- Spikelet** — In rice, a single floret, below which are two reduced bracts. Each bears a single grain.
- Spore** — A minute propagative unit that functions as a seed but differs from it in that a spore does not contain a preformed embryo. The fruit of certain fungi.
- Spreader variety** — A variety very susceptible to a given disease that is planted among test varieties or lines to serve as a source of disease inoculum.
- Stale seedbed** — Seedbed prepared several weeks or months prior to planting. A component of reduced tillage management.
- Stooling** — Tillering.
- Stubble** — Rice stalks and their associated crowns remaining after harvesting.
- Straighthead** — Physiological disorder characterized by sterile, deformed seeds and upright panicles.
- Sun checking** — Fissuring.
- Susceptibility** — The inability of a plant to resist the effect of a pathogen or other damaging factor.
- Suppression** — The act of reducing or holding back rather than eliminating.
- Tiger moth** — A group of moths with hairy caterpillars (the woolly bear).
- Tiller** — A young vegetative shoot arising from nodes at the base of the plant; most can produce a panicle.
- Tillering** — The period during which tillers are formed, usually beginning at the 4- to 5-leaf stage and continuing until early reproductive growth. Also the process of forming tillers.
- Tolerance** — Amount of pesticide that can safely remain in or on raw farm products at time of sale, or the ability of a plant to yield equally under diseased condition as healthy.
- Total milling yield** — Pounds of head, brewers, second heads and screenings milled from 100 pounds of rough rice.
- White rice** — Total milled rice after the hulls, bran layer and germ are removed. This includes head rice and broken rice.
- Y-leaf** — The most recently expanded leaf, at least three-fourths unfurled. The leaf is usually selected for tissue analysis.