

RICE SEED ENERGY STORAGE



What regulates rice seed storability? This article reviews the main regulatory mechanisms of rice seed storability, including the accumulation of seed storage proteins, late embryogenesis abundant (LEA) proteins, heat shock proteins, sugar signaling, hormonal regulation by gibberellins and abscisic acid, and the role of the ubiquitination pathway.



Are rice seeds a storage protein? The vast majority of proteins in rice seeds are storage proteins, and the content and composition of rice storage proteins (RSPs) have important impacts on the cooking and eating quality, nutritional value, and processing and appearance quality (Lang et al, 2013).



What factors affect rice seed storability? Rice seed storability is influenced by both genetic and environmental factors. Key proteins like LEA, heat shock, and storage proteins regulate storability. Sugar signaling and hormone regulation are vital for seed storability. Advances include using wild rice genes, marker-assisted selection, and CRISPR/Cas9.



What are rice seed storage proteins (SSPs)? Rice (*Oryza sativa*) seed storage proteins (SSPs) are synthesized and deposited in storage organelles in the endosperm during seed maturation as a nitrogen source for germinating seedlings. We have generated glutelin, globulin, and prolamin knockdown lines and have examined their effects on seed quality.



Why is rice seed storability important? Sugar signaling and hormone regulation are vital for seed storability. Advances include using wild rice genes, marker-assisted selection, and CRISPR/Cas9. The storability of rice seeds is crucial for ensuring flexible planting options, agricultural seed security, and global food safety.

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What is the storage strategy for rice seeds? Currently, the storage strategy for rice seeds primarily relies on controlling temperature, humidity, and ventilation conditions in warehouses to delay seed aging and prevent deterioration of grain quality.



Agriculture depends on the ability of seeds to survive until the next planting season under ambient conditions that may be adverse to seed quality even when the seed is in a quiescent state. Seed priming invigorates seeds, ???



Seed storability has a significant impact on seed vitality and is a crucial genetic factor in maintaining seed value during storage. In this study, RNA sequencing was used to analyze the seed transcriptomes of two rice thermo ???



Seed storage is often accompanied with a progressive seed aging and loss of germination vigor even under the "best" storage conditions. Rice seed longevity has been proved to be controlled by several genetic factors (Miura et ???



Rice seeds with different moisture contents were stored in simulated storage facilities at different temperatures for 300 days. Measurement of biochemical properties and the observation of ???



Significant ($P < 0.05$) variations of storage condition and storage duration on germination attributes of primed rice seeds were recorded (Table 2). When averaged across three priming treatments, the germination ???

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114KWh ESS



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We established a series of experiments on rice to test: (1) whether prolonged storage of primed and non-primed rice seeds for 210 days at 25°C or 4°C would alter their viability, (2) how



Among the storage products in the rice endosperm, starch and seed storage proteins (SSPs) are the major nutritional components, both of which are important for nourishing the embryo during embryogenesis and seed germination . SSPs ???



On-Farm Rice Drying and Storage. The goal of rice drying is to reduce its moisture content to meet the recommended levels for safe, long-term storage. When placed in bins, rice should be ???



Seed germination is a critical and irreversible process that depends on the vigor of seeds. Adverse germination temperature as abiotic stress can cause serious disruptions in ???



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Rice storage proteins (RSPs) are plant proteins with high nutritional quality. As the second largest type of storage substance in rice, it is the main source of protein intake for ???

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3.4 Effects of NAC on the germination ability and ROS accumulation of primed rice seeds after accelerated aging. The use of NAC during priming greatly affected the germination performance of primed rice seeds after ???



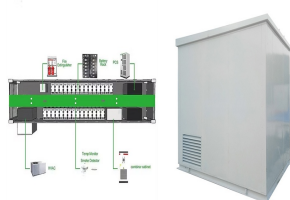
Both enzymatic and nonenzymatic scavenging systems were studied to confirm the hypothesis for oxidative stress in rice seeds. Electronic microscope was employed to detect the physical changes of embryo and ???



Rice (*Oryza sativa* L.) is one of the most important staple cereal foods consumed by about half of the world's population, supplies adequate energy in the form of calories and is a good source of thiamine, riboflavin and niacin 1. During ???



Soluble sugar in rice seed is an important energy storage substance and the main source of sweet taste, and its content is closely related to the nutrition and quality of rice (Zhu, ???



Seed germination is crucial for plant survival, crop stand establishment, and achieving optimal grain yield. The main objective of this review is to explore the physiological and molecular mechanisms governing ???