Soybean seed energy storage material

Soybean seeds show great potential as a safe and cost-effective host for the large-scale production of biopharmaceuticals and industrially important macromolecules. However, the yields of desired recombinant proteins in soybean seeds are usually lower than the economic threshold for their potential commercialization. Our previous study demonstrated that ...

Storage of soybean seeds in raffia packaging coated with polyethylene in a natural-temperature environment resulted in seeds retaining similar physical and physiological qualities to those stored under refrigeration. Raffia packaging coated with laminated material maintained the best physical and physiological quality of soybean seeds stored ...

This review examines the potential of biomass-derived electrode materials for energy storage devices (ESDs). ... can be prepared from wood chips or fibers, corn straw, wheat straw, soybean residue from tofu ... In addition to agricultural waste, fruit waste (e.g., fruit peel, seed, and coir)-derived anode materials have been extensively studied

performance of ML algorithms from soybean seed conditioning variables (temperature, packaging) and storage time to predict physical and physiological quality of stored soybean seeds.

soybeans. Measured seed moisture content Minimum airflow rate % cfm/bu 18-20 3.0 15-18 2.0 13-15 1.0 11-13 0.5 Click here for reference source (Sadaka, Univ. of Ark.). The equilibrium moisture content (EMC) of soybean seed in a storage bin is the moisture content that seed in the bin will maintain at a given air temperature (AT) and relative ...

The recent surge in the plant-based protein market has resulted in high demands for soybean genotypes with improved grain yield, seed protein and oil content, and essential amino acids (EAAs).

In post-harvest, the storage stage is intended to preserve the quality of the seeds 1,2.However, variations in seed moisture content, shape, environment, and storage time can influence the ...

The 2 most significant coexpression networks were visualized, and 7 hub genes were identified that were involved in soybean oil and seed storage protein accumulation processes. Our results provided a transcriptome dataset for soybean seed development, and the candidate hub genes represent a foundation for further research.

Quality of seeds in storage is a factor of seed production environment, pests, seed oil content, seed moisture content, mechanical damage, storage period, packaging material, pesticides, air temperature and relative air humidity in storage and biochemical injury of seed tissue (Tekrony et al., 1987; Reuzeau and Cavalie, 1995; Anfinrud, 1997; Al ...

Dryers of soybean seeds: 1 -Sensor maximum level, 2 -Sensor minimum level, 3 -Hot air inlet sensor, 4 -Stop sensor, 5 -Mass sensor, 6 -Mass sensor, 7 -Mass sensor, 8 -Input product, 9 -Loading box ...

Soybean meal is one of the most important and preferred protein feed sources for poultry due to the capability of providing up to 40% protein and 20% oil, as well as its high nutritional value for ...

In this study, a transcriptome sequencing analysis of soybean seed development stages were carried out and we focused on microRNAs and their target genes related to seed ...

Seed Coat: Pericarp: Corn - monocot: Energy absorption: Energy storage: Remnants (these tissues are absent or only fragments of tissue in the mature seed) Protection (outermost layer of the corn kernel) Bean - dicot: Energy storage: Remnants (these tissues are absent or only fragments of tissue in the mature seed) Protection (outermost ...

soybeans is difficult unless: 1) you provide high airflow to speed drying by installing larger than normal fans or only filling bins part way; 2) you can wait several weeks between bean and corn harvest; and 3) you sell or move soybeans to other storage immediately after drying. Soybean storage Aerate stored soybeans to maintain grain ...

Soybean seed procurement was challenging due to the quality degradation during the seed storage period. Seed coating is necessary in order to overcome the leakage of seed metabolites. Seed coating has to be supported by a storage package that can protect the seed from temperature and humidity fluctuations in storage. This study aimed to determine the ...

content in the seeds over the storage time. Our ndings reveal that the application from 3.2 to 4.0 kg ha-1 of B using boric acid maintains high seed germination after 180 days of storage. Keywords Boric acid · Plant nutrition · Ulexite · Seed physiology · Seed stored Introduction Soybean (Glycine max L. Merril) has an essential role in

Soybean is an important oilseed crop that is used as a feed for livestock and has several industrial uses. Lipid biosynthesis and accumulation primarily occur during seed development in plants. This process is regulated by several transcription factors and interconnected biochemical pathways. This study investigated the role of glycine max LEAFY ...

storage time to predict the physical and physiological quality of stored soybean seeds. Data analysis was performed using the Articial Neural Networks, decision tree algorithms REPTree and M5P,

Soybean seed lipids function as energy storage for the plant, constituents of membranes, signaling molecules, defense against pathogens, etc. Storage lipids are deposited mainly in the form of triacylglycerols in oil bodies. ... suggest that starch serves as a transient reserve material in soybeans that is rapidly hydrolyzed to

glucose in later ...

Grain drying control strategies aim for a rational energy use and a final product with low breakage levels. ... Soybean seeds (Glycine max) were dried under real scale conditions to different ...

Abstract. Aims: This investigation aimed to study response of some soybean CVS, i.e. Giza 21, Giza 22, Giza 35, Giza 111 and Crawford to storage periods, i.e. 3, 6, 9 and 12 months, storage conditions, i.e. ambient conditions and refrigerator conditions at 10 ± 1ºC as well as storage materials, on germination characters. Study Design: Treatments were arranged in ...

dysfunction and less adenylate energy charge ... 20 cm x 30 cm were used for the storage of soybean seed of four different varieties JS-335 (V1), AMS-99-33 (V2), TAMS-38 (V3) and TAMS-98-21 (V4 ...

The molecular, biochemical, and genetic mechanisms that regulate the complex metabolic network of soybean seed development determine the ultimate balance of protein, lipid, and carbohydrate stored in the mature seed. Many of the genes and metabolites that participate in seed metabolism are unknown or poorly defined; even more remains to be understood about ...

In this study, we performed transcriptomic and TMT-based proteomic analysis of dry soybean seeds from a CSSL and its recurrent parent that differed in their seed storage ...

The post-harvest process at the storage stage is one of the most critical processes for maintaining soybean seed quality. The type of packaging and the type of material stored will affect its ...

This can be ascribed to the delayed seed deterioration caused by storage under cooling conditions as found for soybean as well [26]. Seed aging and deterioration which are caused by various ...

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