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INSTANT GERMINATED VD20 RICE CULTIVATED IN VIETNAM: EFFECT OF COOKING CONDITIONS

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ABSTRACT

Instant rice is ideal for convenient use as a low-moisture, lightweight ration and emergency food in our fast-paced lifestyle. It has a longer shelf life and can be quickly rehydrated. This study examined the impact of various cooking circumstances, such as the ratio of rice to water and the kind and concentration of food additives, on the physical and sensory characteristics of quick germinated VD20 rice. Using the correct ratio of rice to water could decrease the percentage of broken cooked grains, increase porosity and volume expansion, and improve customer satisfaction. The study revealed that germinated VD20 rice cooked with a water-to-rice ratio of 1:2 had superior sensory qualities, as well as an appealing appearance when compared to both cooked and quick rice. Furthermore, the notable impact of food additives, specifically sodium bicarbonate and sodium chloride, on the characteristics of instant rice was noticed. Sodium bicarbonate adversely affects the organoleptic characteristics and causes structural damage and dark yellowing in instant rice. In a theoretical sense, the addition of 0.5% NaCl as a supplement can improve the physical characteristics of rice, resulting in instant rice with a well-formed structure and a higher rate of acceptance compared to the control sample which does not contain any food additives. This study is the first to explore the manufacturing of instant rice from germinated products. It aims to provide fundamental knowledge for future research on utilizing the high nutritional value of these sources and optimizing the production process.