

Product and By-product Improvement

1 Preservation of the Organoleptic Properties of Milled Rice by : Engr. Arlene F. Tanseco, Engr. Danilo G. Natividad and Engr. Ma. Elvira M. Martinez	June 2000 – September 2001
<p><i>The study was conducted to determine the maximum storage period (shelf life) and the appropriate type of packaging material to preserve the organoleptic properties particularly the taste and aroma of rice. The study included physical tests and evaluation of the organoleptic properties of fancy, special and ordinary milled rice varieties, particularly how long these would last, in ambient storage.</i></p> <p><i>Newly milled rice from different palay varieties were packed in 1- and 2-kilogram polyethylene bags and polypropylene sacks. Each treatment consisted of twenty four (24) 1-kg packages and thirteen (13) 2-kg packages or a total of 50 kilograms per lot. There were three replications per type of container and variety. Monitoring of the quality of the experimental stocks was conducted from the start of storage (0 month) and on a monthly basis for a period of fourteen months.</i></p> <p><i>Statistical analysis of the monthly sensory evaluation showed that there were no significant differences between the scores given to rice stored in different types of packaging. The maximum storage period to maintain the organoleptic properties of milled rice at its initial quality was six (6) months. Organoleptic properties of milled rice decreased/regressed with time no matter what type of packaging was used although the least decline in quality was observed with the use of polyethylene bags as supported by the results of the monthly physical analysis of the stored commodity.</i></p>	

2 Enhancing the Aroma of NFA Milled Rice

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The study was conducted to determine the optimum concentration of pandan essence and the maximum storage period (shelf life) of aroma enhanced NFA local and imported milled rice. The study included the evaluation of sensory characteristics and physical properties of NFA local and imported milled rice, particularly how long the aroma would last, in ambient storage.

Newly milled local (RMO) and imported NFA (Vietnam) rice were packed in 2 kilogram polyethylene bags. Each treatment consisted of twenty four (24) 2 kg packages or a total of 50 kilograms per lot. There were 3 replications per type of rice per pandan concentration which were also at 3 different levels, namely, 7%, 10% and 13%. Monitoring of the sensory and quality parameters of the experimental lots was conducted from the start of storage (0 month) and on weekly basis for the first month and monthly basis up to 4 months storage period.

Statistical analyses of the results of sensory evaluation showed that the different concentrations applied did not significantly affect the appearance, aroma and flavor of raw and cooked milled rice for both varieties. However, said sensory characteristics decreased with time but remained fair and acceptable up to the last monitoring period. The maximum storage period to maintain the sensory characteristics of milled rice kept at ambient condition at its initial quality was 60 days. However, milled rice initially kept under hermetic storage was favorably recommended to be treated with pandan essence for prolonged grain quality preservation (120 days).