

Effect of Storage Time on the Physical Changes and Proximate Composition of Feed Ingredients Stored Under Room Temperature

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Quality of the feed ingredient is one of the most important factor considered by feed processing industries. Feed ingredients are comprised with many nutrients and the nutrient availability varies due to different reasons. This study was conducted to evaluate the effect of storage time on the physical changes and proximate composition of feed ingredients stored under room temperature. Newly arrived maize, rice polish and coconut poonac samples were collected, packed using woven polypropylene bags and stored for two months under room temperature. Physical changes and proximate composition of samples were checked at 15-day time intervals and data were analyzed by Kruskal–Wallis test and one-way analysis variance using Minitab 17 software respectively. There were physical changes in rice polish and coconut poonac ($p < 0.05$) while there were no physical changes observed in maize during storage period ($p > 0.05$) and rice polish was infestation by insects after 45 days of storage. During storage period crude fat, crude protein, ash and fiber contents of rice polish were decreased by 65.25%, 20.89%, 4.69% and 7.35% respectively ($p < 0.05$). Crude fat, crude protein, ash and fiber content of coconut poonac were decreased by 19.71%, 23.05%, 7.62% and 8.46% respectively ($p < 0.05$). Except moisture, other macro nutrients of maize did not change with the storage time ($p > 0.05$). Therefore, it can be concluded; that proximate composition of coconut poonac and rice polish were decreased considerably during the storage under room temperature. Further, changes of physical characteristics of feed ingredients are not sufficient to determine the quality of stored feed ingredients.

Keywords: Feed ingredients, Physical changes, Proximate composition, Room temperature, Storage time