

Effect Duck Eggshell Nanocalcium Fortification and Different Packaging on the Microbiological Quality of Chicken Sausage

Suparmi

*Study Program of Poultry Agribusiness
Department of Animal Science*

ABSTRACT

This study aims to determine the effect of nanocalcium fortification of duck egg shells on the microbiological quality of chicken sausages with different packaging stored at -18oC. The research material consisted of chicken fillet, pepper, sugar, coriander, onion, garlic, onion, nutmeg, palm oil, tapioca, frankfurter, monosodium glutamate, soy protein isolate, salt, nanocalcium duck egg shell, and ice. The treatments for fortification of nanocalcium duck eggshell were P0 (0%) and P1 (0.3%) of the total dough. The treatments for different types of vacuum packaging are polyethylene, nylon, and retort pouches. The parameters tested consisted of total plate count (TPC), total coliform, water content, and peroxide number. Chicken sausage samples were observed at 0 and 4 weeks of shelf life. Each treatment consisted of 3 replications. The data from the microbiological test of the TPC variable, water content and peroxide number were analyzed by unidirectional pattern variance analysis and if there was a significant difference ($P < 0.05$) then continued with Duncan's New Multiple Range Test, for the total coliform variable was analyzed descriptively. The results showed that nanocalcium fortification and different types of packaging affected TPC, total coliform, and peroxide number, but did not affect sausage moisture content. Different shelf life can affect TPC, total coliform, and peroxide value, but does not affect sausage moisture content. The conclusion of this research is that sausage fortified with nanocalcium duck egg shell with vacuum retort pouch packaging is the best treatment with the lowest peroxide value.

Key words : *fortification, packaging, microbiology, nanocalcium, sausage*