

## RINGKASAN

**MITA FEBRIYANI.** Penelitian bertujuan mengkaji pengaruh *Trichoderma viridae* dan *Saccharomyces cerevisiae* dalam fermentasi kulit kacang tanah secara bertingkat terhadap kadar NDF dan ADF. Materi yang digunakan adalah kulit kacang tanah, isolat bakteri *Trichoderma viridae* dan *Saccharomyces cerevisiae*. Penelitian dilakukan dengan metode eksperimen menggunakan Rancangan Acak Lengkap (RAL) dengan 4 perlakuan dan 5 kali ulangan. Perlakuan yang dilakukan adalah R<sub>1</sub> : kulit kacang tanah difermentasi dengan inokulum *Trichoderma viridae* 4% (tahap I) dan *Saccharomyces cerevisiae* 4% (tahap II), R<sub>2</sub> : kulit kacang tanah difermentasi dengan inokulum *Trichoderma viridae* 8% (tahap I) dan *Saccharomyces cerevisiae* 8% (tahap II), R<sub>3</sub> : kulit kacang tanah difermentasi dengan inokulum *Trichoderma viridae* 12% (tahap I) dan *Saccharomyces cerevisiae* 12% (tahap II). Peubah yang diukur yaitu kadar NDF (*Neutral Detergent Fiber*) dan kadar ADF (*Acid Detergent Fiber*). Data dianalisis menggunakan analisis variansi (ANAVA) dan dilanjutkan dengan uji orthogonal polynomial. Hasil penelitian menunjukkan bahwa perlakuan fermentasi bertingkat menggunakan *Trichoderma viridae* dan *Saccharomyces cerevisiae* berpengaruh sangat nyata ( $P < 0,01$ ) terhadap penurunan kadar NDF dan ADF kulit kacang tanah. Penambahan 9,04% inokulum *Trichoderma viridae* dan *Saccharomyces cerevisiae* optimal untuk penurunan kadar NDF, dan Penambahan 8,96% inokulum *Trichoderma viridae* dan *Saccharomyces cerevisiae* optimal untuk penurunan kadar ADF. Dapat disimpulkan bahwa inokulum *Trichoderma viridae* dan *Saccharomyces cerevisiae* dapat digunakan untuk fermentasi kulit kacang tanah.

Kata kunci : Kulit Kacang Tanah, *Trichoderma viridae*, *Saccharomyces cerevisiae*, kadar NDF, kadar ADF

## SUMMARY

**MITA FEBRIYANI.** The aim of this research was to assess the effect of *Trichoderma viridae* and *Saccharomyces cerevisiae* peanut shell fermentation process on NDF and ADF concentrations. The materials used were peanuts shell, inoculum of *Trichoderma viridae* and *Saccharomyces cerevisiae*. The research was conducted by using experimental method based on Completely Randomized Design (CRD) with 4 treatments and 5 repetitions. The treatments given were R<sub>0</sub> : peanuts shell without fermentation, R<sub>1</sub> : peanuts shell fermented with inoculum of *Trichoderma viridae* 4% (stages I) and *Saccharomyces cerevisiae* 4% (stages II), R<sub>2</sub> : peanuts shell fermented with inoculum of *Trichoderma viridae* 8% (stages I) and *Saccharomyces cerevisiae* 8% (stages II), R<sub>3</sub> : peanuts shell fermented with inoculum of *Trichoderma viridae* 12% (stages I) and *Saccharomyces cerevisiae* 12% (stages II). The parameters measured were the concentrations of NDF (*Neutral Detergent Fiber*) and ADF (*Acid Detergent Fiber*). Data were analyzed using Analysis of Variance (ANAVA) and advanced by using orthogonal polynomial test. The results of this study showed that the process of fermentation using *Trichoderma viridae* and *Saccharomyces cerevisiae* highly significantly affected ( $P < 0.01$ ) the decrease of NDF and ADF concentrations of peanuts shell. The addition by 9.04% of *Trichoderma viridae* and *Saccharomyces cerevisiae* inoculum was the optimum level to decrease NDF concentrations, and the addition by 8.96% of *Trichoderma viridae* and *Saccharomyces cerevisiae* inoculum was the optimum level to decrease ADF concentrations. The conclusion of this study is, inoculum of *Trichoderma viridae* and *Saccharomyces cerevisiae* can be used for fermentation of peanuts shell.

Key word : Peanut shell, *Trichoderma viridae*, *Saccharomyces cerevisiae*, NDF concentrations, ADF concentrations