

**PENGARUH STARTER *Lactobacillus plantarum* HL-15 PADA
FERMENTASI SERTA METODE PENGEMASAN VAKUM DAN NON-
VAKUM TERHADAP KUALITAS BIJI KAKAO KERING SELAMA
PENYIMPANAN**

INTISARI

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Biji kakao merupakan salah satu komoditas perkebunan utama di Indonesia. Namun sayangnya sebagian besar biji kakao kering di Indonesia kualitasnya masih rendah. Oleh karenanya harga jual biji kakao pun belum optimal. Untuk itu perlu dilakukan upaya guna meningkatkan kualitas produk biji kakao lokal. Beberapa faktor yang mempengaruhi kualitas biji kakao adalah tahapan fermentasi dan pengemasan.

Pada penelitian ini dilakukan penambahan starter *Lactobacillus plantarum* HL 15 yang mempunyai kemampuan antijamur. Diharapkan dengan penambahan starter tersebut jumlah cemaran jamur selama proses penyimpanan dapat ditekan. Selain itu dilakukan berbagai metode pengemasan guna diteliti metode mana yang paling baik untuk mempertahankan kualitas biji kakao selama penyimpanan. Sampel yang digunakan dalam penelitian ini merupakan biji kakao berjenis Lindak. Penelitian ini dilaksanakan berdasarkan Rancangan Acak Lengkap (RAL) Faktorial. Terdapat 3 faktor yang digunakan, pertama faktor penambahan starter dengan 2 level yakni B1 (dengan penambahan starter) dan B2 (tanpa penambahan starter). Kemudian ada faktor kemasan yang meliputi K1 (plastik PP 0,8mm divakumkan), K2 (plastik PP 0,8mm tidak divakumkan), K3 (kontainer plastik), K4 (plastik PP 0,8mm divakumkan dan dimasukkan kontainer), serta K5 (karung nilon). Faktor terakhir yaitu durasi penyimpanan dengan 3 level yaitu penyimpanan bulan ke-0, bulan pertama, dan bulan kedua. Parameter yang dianalisa meliputi (1) Uji Mutu SNI 2003:2828; (2) Uji Aw; (3) Uji Total Cemaran Jamur, dan (4) Uji Bilangan Peroksida. Untuk masing – masing sampel dilakukan ulangan analisa sebanyak 2 kali.

Dari penelitian ini didapatkan hasil bahwa sampel dengan penambahan starter jumlah cemaran jamurnya lebih rendah dibandingkan sampel tanpa penambahan starter. Namun begitu hasilnya tidak berbeda secara signifikan. Dari segi pengemasan, metode K4 memberikan hasil paling baik dalam menekan jumlah cemaran jamur dan bilangan peroksida dibandingkan metode lain yang digunakan dalam penelitian ini.

Kata kunci : biji kakao kering, *Lactobacillus plantarum* HL 15, pengemasan vakum, jumlah cemaran jamur, bilangan peroksida

THE EFFECT OF *Lactobacillus plantarum* HL-15 STARTER ADDED ON FERMENTATION AND VACUUM AND NON-VACUUM PACKAGING METHOD ON THE QUALITY OF STORED DRIED COCOA BEANS

ABSTRACT

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Cocoa beans is one of the major plantation commodity in Indonesia. Unfortunately the quality of most dried cocoa beans are still low so that the beans' market price has not been optimum. In order to deal with the problem, it is necessary to increase the quality of local cocoa beans. Several factors affecting cocoa beans' quality are the fermentation process and packaging method.

Starter *Lactobacillus plantarum* HL-15 is added in the beginning of fermentation process in order to minimize the total fungal growth during the cocoa beans' storage. Beside that, several packaging methods are done to be selected which one has the best effect on maintaining the cocoa beans's quality. The sample used in this research was the bulk or 'Lindak' cocoa beans. This research was carried out using the Factorial Completely Randomized Design. There are 3 independent variables applied. First is the addition of the starter with 2 levels of variable, which are B1 (with starter addition) and B2 (without starter addition). Second variable is the variation of packaging methods with 5 variable's levels, including K1 (vacuumed PP plastic 0.8mm in thickness), K2 (non vacuumed PP plastic 0.8mm in thickness), K3 (plastic container), K4 (vacuumed PP plastic 0.8mm in thickness stored within plastic container), and K5 (nylon sack). The last independent variable is the storage duration. This variable has 3 levels, which are 0 month, 1 month, and 2 months of storage. The quality parameter analyzed in this research are (1) SNI quality test 2003:2828; (2) Aw testing; (3) Total fungal growth contamination; (4) Peroxide value measurement. Each sample was analyzed for two repetition.

The result shows that samples with starter addition has lower number of fungal colonies compared to those without starter addition. However the result is not significantly different. In term of packaging, K4 gives the best result on minimizing the total fungal growth contamination and peroxide value among other packaging variation analyzed.

Key words : dried cocoa beans, *Lactobacillus plantarum* HL-15, vacuum packaging, fungal growth contamination, peroxide value