INTISARI

Modified Cassava Flour (*MOCAF*) adalah produk tepung dari singkong yang diproses secara fermentatif. Media MRS merupakan media pertumbuhan selektif dan masih impor. Penelitian ini bertujuan untuk mengkaji perbanyakan *L. plantarum* pada media perbanyakan alternatif MRS *Broth* untuk pembuatan Tepung *MOCAF* yang sesuai dengan standar SNI.

Penelitian menggunakan metode eksperimen dengan Rancangan Acak Lengkap (RAL) 3 perlakuan dan 3 kali ulangan, yaitu A = Media MRS *Broth* 100 %, B = Media MRS *Broth* 50 % + Air kelapa 25 % + Limbah cair tempe 25 %, C = Sukrosa 20 g + Air kelapa 50 % + limbah cair tempe 50 %. Parameter yang diamati yaitu jumlah bakteri, pH, uji proksimat (kadar air, kadar abu, kadar protein, kadar serat, kadar karbohidrat, kadar HCN) dan uji kualitatif warna, tekstur dan aroma. Data berupa hasil uji proksimat dianalisis menggunakan *Analisis of Variance* (ANOVA) pada taraf uji 5 %, dan dilanjutkan dengan *Duncan Multiple Range Test* (DMRT) pada taraf uji 5 %.

Hasil penelitian menunjukkan bahwa media perbanyakan MRS *Broth* modifikasi efektif digunakan sebagai media perbanyakan alternatif *L. plantarum* menggantikan media standar MRS *Broth.* Perlakuan terbaik dihasilkan oleh perlakuan MRS *Broth* 50 % + air kelapa 25 % + limbah cair tempe 25 % untuk fermentasi tepung *MOCAF* dengan kandungan nutrisi dan fisik terbaik yang dihasilkan pada waktu fermentasi 6 hari dan perlakuan Sukrosa 20g + air kelapa 50 % + limbah cair tempe 50 % untuk perbanyakan *L. plantarum* dengan waktu inkubasi terbaik 24 jam ($1{,}95 \times 10^9$ CFU/ml). Tepung *MOCAF* yang dihasilkan sudah memenuhi syarat mutu tepung *MOCAF* menurut SNI 7622-2011.

Kata kunci : singkong, media modifikasi, *L. plantarum*, fermentasi, *MOCAF*, uji organoleptik, uji proksimat, SNI.

ABSTRACT

Modified Cassava Flour (MOCAF) is fermented flour from cassava. And to produce MOCAF, bacteria needs to be cultivated in a media. MRS (de Man Regosa Sharpe) is a selective growth media but unfurnotely is not available in Indonesia. This study aimed to examine propagation of L. plantarum with modified MRS Broth alternative as a media.

Research used CRD (completely randomized design) experimental methods with 3 treatments and 3 repetitions. Treatments A were MRS Broth 100 %, treatments B were MRS Broth 50 % + coconut water 25 % + tempe liquid waste 25 %, treatments C were Sucrose 20 g + Coconut water 50 % + 50 % tempe liquid waste. Parameters observed were the amount of bacteria, pH, proximate analysis including moisture, ash, protein, fiber, carbohydrat content, and levels of HCN. A qualitative test of colour, texture and aroma were also perfomed. Data obtained were analyzed using Analysis of Variance (ANOVA) with α = 5 %, and the test continued with Duncan Multiple Range Test (DMRT) with α = 5 %.

The results showed that modified MRS Broth was effective as a medium multiplication of L. plantarum. The best treatments were MRS Broth 50 % + coconut water 25 % + tempe liquid waste 25 % for fermented MOCAF giving the finest physical properties and nutrition. Meanwhile sucrose 20g + coconut water 50 % + tempe liquid waste 50 % was the best media for propagation of L. plantarum. MOCAF flour meets the quality requirements MOCAF flour according to ISO 7622-2011

Keywords: cassava, media modification, L. plantarum, fermentation, MOCAF, organoleptic test, test proximate, SNI.