

**EFEK SINBIOTIK PREBIOTIK ASAL PANGAN LOKAL DENGAN  
*ENTEROCOCCUS FAECIUM* IS 27526 TERHADAP BAL DAN BERAT  
BADAN PADA TIKUS PERCOBAAN**

(Synbiotic Effect of Prebiotic Local Food and *Probiotic Enterococcus faecium*  
IS 27526 to viable fecal lactic acid bacteria and Body Weight of Mice)

**Clara M. Kusharto<sup>1)</sup>, Ingrid S. Surono<sup>2)</sup>, Annis Catur Adi<sup>3)</sup>**

<sup>1)</sup>Dep. Gizi Masyarakat Fakultas Ekologi Manusia IPB, SEAMEO - TROPMED  
RCCN, UI<sup>2)</sup>, Departemen Gizi, FKM - Unair<sup>3)</sup>

**ABSTRAK**

Guna mempercepat penanganan masalah KEP balita, selain diversifikasi pangan perlu dilandasi inovasi pengembangan formulasi makanan tambahan fungsional yang memenuhi standar gizi dan mampu meningkatkan imunitas bagi balita dengan teknologi pengolahan yang mempertimbangkan keunggulan sumberdaya pangan lokal. Efek sinbiotik potensial untuk meningkatkan kesehatan melalui peningkatan survival dan keberadaan mikroorganisme positif didalam usus, namun demikian masih memerlukan penelitian lebih lanjut yaitu sebelum diberikan pada anak balita, perlu diuji terlebih dahulu pada hewan percobaan. Tujuan penelitian mengamati pengaruh (efikasi) sinbiotik pemberian makanan tambahan (PMT) biskuit fungsional berbasis prebiotik pangan lokal (garut dan ubi) dan probiotik *Enterococcus faecium* IS 27526 terhadap pertumbuhan BAL dan pertambahan berat badan tikus. Hasil penelitian menunjukkan selama 21 hari pengamatan, nyata sekali terjadi penambahan berat badan, nilai tertinggi (86,8 g atau 151,48% dari berat awal) pada perlakuan biskuit garut + FOS + krim probiotik (A4) dan biskuit garut + krim probiotik (A2) (80,8 g atau 138,59%) dibandingkan dengan perlakuan lainnya. Peningkatan jumlah BAL fekal tikus yang paling tinggi terdapat pada perlakuan biskuit garut + FOS + krim probiotik (A4), sedangkan garut + krim probiotik saja (A2) juga ada peningkatan yang berbeda nyata pada  $p < 0,05$ . Pengamatan antara 2 jenis bahan yang dipergunakan yaitu garut dan ubi jalar, ternyata garut lebih potensial sebagai prebiotik dibandingkan dengan ubi jalar.

Kata kunci: Prebiotic, probiotic, *enterococcus faecium* IS-27526, garut, ubi jalar.

**ABSTRACT**

Protein Energy Malnutrition problem in children younger than five can be over come by supplementation functional weaning food utilizing local food which can stimulate the immune response. According to *Nutrition Information Centre of the University of Stellenbosch* (NICUS), synbiotic effect of probiotic and prebiotic is potential in improving health through improvement of survival and availability of gut microbiota in the instestine, however further *in vivo* research is needed before supplemented to young children. The aim of this study is to validate the synbiotic effect of functional biscuit of local food based (arrowroot and sweet potato powder) and probiotic *Enterococcus faecium* IS-27526 on viable fecal lactic acid bacteria and bodyweight of mices. The *in vivo* experiment was carried out in Animal Experiment Laboratory, Puslitbang Gizi (PPPG), Bogor. Fecal microbiota of mices were carried out at the laboratory of Microbiology, Fateta IPB. There were 7 groups of mice (5 each): A1 = ransum; A2 = ransum + biscuit with arrowroot powder + probiotic cream; A3 = ransum + biscuit with sweet potato powder + probiotic cream; A4 = ransum + biscuit with arrowroot powder + probiotic cream + FOS; A5 = ransum + biscuit with sweet potato powder + probiotik cream + FOS; A6 = ransum + probiotic cream; A7 = ransum + probiotic cream + FOS, were

randomized and treated for 3 weeks supplementation . The results show that after 3 weeks supplementation, there was a significant different on the body weight of functional biscuit with ararrot plus FOS and *E. faecium* IS-27526 probiotic cream, followed by functional biscuit with ararrot and probiotic cream, 86,8 g (151,48%) from initial body weight, and 80,8 g (138,59%), respectively, as compared to other group of treatments. Viable fecal lactic acid bacteria of mices was increased after supplementation with functional biscuit with ararrot plus FOS and *E. faecium* IS-27526 probiotic cream, significantly ( $p < 0,05$ ), followed by functional biscuit with arawrrot and probiotic cream

Keywords: Prebiotic, probiotic, *enterococcusfaecium* IS-27526, synbiotic, arawroot, sweet potato.