

INVESTIGATION OF CONDITIONS FOR FERMENTATION TO CREATE BIO-PRODUCTS, EVALUATION OF EFFICIENCY OF H₂S AND NH₃ REDUCTION OF BIO-PRODUCTS ON THE MODEL OF BIOLOGICAL PADDING IN PIG RAISING

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Summary

With the purpose of creating a probiotics using for using biological padding in pig raising. This paper presents the results of research on the fermentation conditions of three strains of microorganisms of *Bacillus subtilis*, *Sacharomyces cerevisiae*, *Streptomyces albidoflavus*. The results about medium, temperature, fermentation time conditions, determine the submerged fermentation conditions for *B. subtilis*, which is B2 medium, 37°C, 48h, for *S. albidoflavus* is Gause II medium, 28°C, 72h, for *S. cerevisiae* is Y2 medium, 28°C 48h. Survey on selection of porous fermentants to create a powder form product, which zeolite, corn starch, rice bran with a ratio of 2: 3: 5 is the optimal formula of bacteria-carrier to create biomass better ($>10^7$ CFU/g). Using bio-product on swine farm using biological padding system at Cu Chi disctrict, Ho Chi Minh city shows that the concentration of NH₃, H₂S in the experiment system with using bio-product is lower than 2 -3 times higher than the control system (without using bio-product). In biological padding system, no *Salmonella* was detected and the coliform and *E. coli* density remained at <500 MPN/100 ml reaching the permitted level according to QCVN 01-14: 2010/BNNPTNT.

Keywords: *Bacillus subtilis*, bio-product, biological padding, *Saccharomyces cerevisiae*, *Streptomyces albidoflavus*.