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[Utilisation of tuna condensate waste from the canning industry as a novel substrate for polyhydroxyalkanoate production](#)

ผลงานวิจัยของกนกพร

จำนวน 1 เรื่อง

Cited by:

Mezenova, O. Ya. et al.:

[Enzymatic isolation and investigation of oil from secondary fish raw materials for the use in biotechnology](#)

เรื่องที่น่าผลงานไปอ้างอิง

Web of Science แจ้งว่ามีผลงานวิจัยเรื่อง “Enzymatic isolation and investigation of oil from secondary fish raw materials for the use in biotechnology” ได้ citation งานของกนกพร สังกษกรักษ์ จำนวน 1 บทความ ได้แก่

1. ชื่องานวิจัย “Utilisation of tuna condensate waste from the canning industry as a novel substrate for polyhydroxyalkanoate production”



ANNOTATION

Introduction : Fish waste oil is a promising carbon substrate in microbial biotechnology. **The aim** of the work was to study enzymatically isolated fat from fish heads for use in microbial synthesis as a carbon source in the production of biotechnology products. **Objects and methods of the study.** The lipid fraction was extracted from fish canning waste using the microbial protease Alcalase. Extraction efficiency, the presence of impurities, and hydrolytic and oxidative deterioration indicators were determined in the resulting fat masses. The biological efficacy of the fats was assessed based on the composition of alkylglyceride fatty acids. **Results and discussion.** Fats from smoked sprat heads had a small spread of quality indicator values: acid number 1.7-2.4 mg KOH/g fat; peroxide number 17.3-25.3 mmol active oxygen/kg; thiobarbituric number 1.36-1.38 optical density units; anisidine number 21.2-24.1 c.u. Fats from mackerel heads were characterized by wider indicator values: acid number 22.7-32.8 mg KOH/g fat; peroxide number 66.3-81.43 mmol active oxygen/kg; thiobarbituric number 2.62-3.16 optical density units; anisidine number 85.2-71.4 c.u. All batches of fat contained a high content of polyunsaturated fatty acids (25.5-31.9%), omega 3 acids (24.7-25.8%), and long-chain fatty acids (28.6-51.4%). **Conclusion.** The quality indicators of fat enzymatically isolated from fish heads allowed its use in microbial biotechnology. At the Institute of Biophysics of the Siberian Branch of the Russian Academy of Sciences, biodegradable polyhydroxyalkanates with high technological properties were obtained using these fat substrates.



ฐานข้อมูล

งานวิจัยเรื่อง “Enzymatic isolation and investigation of oil from secondary fish raw materials for the use in biotechnology”

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