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ESTIMATION OF THE SUSTAINABLE POTENTIAL OF FOURFINGER THREADFIN (*Eleutheronema tetradactylum*) IN THE WATERS OF WEST TANJUNG JABUNG, JAMBI PROVINCE

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ABSTRACT

Pro coffee is a fermented beverage using *Bacillus cereus* bacterial consortium with single-cell protein. This study aims to determine the best composition of the *B. cereus* consortium bacteria mixture in organoleptic aspects that panelists most prefer and the effect of adding B. cereus consortium bacteria on proximate analysis and pro coffee flavor. Organoleptic testing of probiotic coffee was conducted on 20 panelists, then continued with proximate analysis of pro coffee. The composition with the best organoleptic flavor is obtained in code D, with the treatment of adding 5% bacterial consortium *B. cereus* for 15 days. The analysis of taste obtained has a value of 0.000 <0.05, and the study results show that the significance value is smaller than the significance level. Hence, the treatment results give the effect of adding bacterial consortium to pro-coffee. The addition of bacterial consortium B. cereus to probiotic coffee, in the form of moisture, ash, protein, fat, and carbohydrate content, is 0.000 <0.05. The analysis results show that the significance value is greater than the significance level, so the treatment results do not give the effect of adding bacterial consortium to pro coffee.

Keywords: Coffee, Probiotics, *Bacillus cereus*, Protein

1. INTRODUCTION

Food technology has changed the function of food as a functional product, which can maintain the human body and even treat various diseases. One of the functional food products that can be developed is probiotic drinks. Probiotic bacteria have been shown in multiple studies to help the process of food digestion in animals and humans. Probiotic bacteria are growing significantly, as seen in various studies that prove that probiotic bacteria have benefits for human health[1].

This study aimed to determine the best composition of the mixture of *B. cereus* consortium bacteria in the organoleptic aspect that panelists and the effect of the addition of *B. cereus* consortium bacteria on proximate analysis and pro coffee flavor most prefer.

2. RESEARCH METHOD

Time and Place

This research was conducted from October to December 2023. Bacterial inoculation for making pro-coffee was performed at the Marine Microbiology Laboratory, Department of Marine Science, Faculty of Fisheries and Marine Sciences, Universitas Riau. The proximate test was conducted at the Nutrition and Chemistry Laboratory, Faculty of Agriculture and Forestry, Universitas Riau.

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Method

The method used in this research is an experimental method using a completely randomized design (CRD), which uses four levels of treatment with three repetitions. The bacterial isolates used were the addition of *B. cereus* consortium bacteria from (*B. cereus* SN7, *B. cereus* SP4, *B. cereus* S5, *B. cereus* Xmb051, and *B. cereus* BF2) in the Marine Microbiology Laboratory. Then, organoleptic tests and proximate analyses were conducted.

Procedures

Proximate Analysis Observations

Determination of the content of each sample was carried out through proximate tests at the Nutrition and Chemistry Laboratory, Faculty of Agriculture, Universitas Riau.

3. RESULT AND DISCUSSION

Organoleptic Test

Organoleptic testing of innovative products in the form of robusta coffee with a bacterial suspension of *B.cereus* consortium, which has a different composition, has been done on 20 panelists, assessing two types of aspects in the form of taste and aroma. Robusta coffee with a bacterial suspension of *B.cereus* consortium presented is a representative sample of drinks that are suitable for consumption, namely innovation products with codes A (Control), B (1%), C (3%), and D (5%) having a 15-day treatment. Based on the study's results, the highest value that many panelists liked was the innovation with code D (5%).

4. CONCLUSION

The composition with the best organoleptic flavour is obtained in code D, with the treatment of adding 5% *B. cereus* consortium bacteria for 15 days, with a total score of 10% aroma and 15% flavour. The addition of bacterial consortium *B. cereus* to probiotic coffee, in the form of moisture, ash, protein, fat, and carbohydrate content, is 0.000 <0.05. The analysis results show that the significance value is greater than the significance level, so the treatment results do not give the effect of adding bacterial consortium to pro coffee. While the analysis of taste obtained has a value of 0.000 <0.05, the results show that the significance value is smaller than the significance level. Hence, the treatment results give the effect of adding consortium bacteria to pro coffee.

Further research needs to be done on variations in storage temperature and extended storage time of probiotic coffee drinks in order to obtain probiotic coffee drinks that are safe for consumption.

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