Analisa pengaruh penambahan molase pada fermentasi limbah ikan = Analysis of molasses addition effect to the fermentation of fish waste / Riyadi Akbar

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Abstrak

ABSTRAK
Dengan meningkatnya volume timbulan limbah ikan, maka diperlukan suatu teknologi pengolahan limbah yang efektif, mudah diterapkan, dan murah. Salah satu cara pengolahan limbah ikan adalah dengan proses fermentasi. Produk fermentasi limbah ikan disebut silase ikan. Silase pada penelitian ini akan dibuat dengan cara biologi (fermentasi) dan kimiawi. Proses biologi dilakukan dengan penambahan bakteri asam laktat dan molase yang divariasikan komposisinya (10%, 15%, dan 25%). Sedangkan proses kimiawi dilakukan dengan penambahan asam formiat 3%. Tujuan dari penelitian adalah untuk menginvestigasi kualitas silase yang dihasilkan dengan penambahan molase maupun dengan penambahan asam formiat. Penelitian menggunakan wadah anaerobik yang berisi campuran limbah ikan dengan berat 10 kg dan waktu pengamatan selama 40 hari. Hasil penelitian menunjukkan kualitas silase mempunyai nilai pH berkisar antara 3,79-4,42; kadar air berkisar 75,9-81,7%; kadar abu berkisar 7,0-8,5%; kadar lemak berkisar 1,0-1,2%; kadar protein berkisar 9,5-10,7% dan jumlah bakteri berkisar 3,1x106-7,2X106. Kualitas silase yang dihasilkan dari penambahan asam formiat lebih baik dibandingkan dengan penambahan molase (10%, 15%, dan 25%).
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ABSTRACT
With increasing volumes of fish waste generation, we need a waste treatment technology that is effective, easy to implement, and inexpensive. Fish waste fermentation is the answer. Fish waste fermentation product called fish silage. Silage in this study will be made by biologically (fermentation) and chemically. Biological process carried out by the addition of lactic acid bacteria and molasses with varied composition (10%, 15%, and 25%). While the chemical process carried out by the addition of formic acid 3%. The aim of this study was to investigate the quality of silage produced with the addition of molasses or with the addition of formic acid. This research using anaerobic container, which contains a mixture of fish waste with a weight of 10 kg and a 40-day observation period. The results showed, pH values ranging from 3,79 to 4,42; water content ranged from 75,9 to 81,7%; ash content ranged from 7,0 to 8,5%; fat content ranged from 1,0 to 1,2%; protein content ranged from 9,5 to 10,7% and the number of bacteria ranged 3,1x106 to 7,2X106. Silage quality from the addition of formic acid is better than the addition of molasses (10 % , 15 % , and 25 %)