

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

BIOLOGICAL AND CHEMICAL INOCULANTS IN FISH SILAGE PRODUCTION

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Fish silage is defined as a liquid product, obtained through fish waste with the addition of acidic, biological or enzymatic inoculants, and may be an alternative in animal nutrition as a protein and mineral food. The objective of this work was to evaluate different inoculants in silage production and to point out among them, which results in a silage with better nutritional value for use in fish feed for fish. The tilapia filleting residue and as inoculants acetic and sulfuric acids for chemical silage, and the bacterium *Lactobacillus plantarum* for biological silage were used as raw material. The experiment was divided in two treatments (biological silage and chemical silage), with six replicates each treatment, where the bromatological components (moisture, dry matter, raw protein, ethereal extract, mineral residue, calcium and phosphorus) in dry matter. Statistical analysis was performed by comparison of means by the Test T. For the original matter, there was a significant statistical difference ($P < 0.05$) only for the phosphorus content, whereas raw protein, calcium and phosphorus showed a difference. The biological and chemical silages presented respectively 55.48% and 54.35% of total moisture, 13.03% and 12.55% in raw protein, 23.91% and 24.39% in ethereal extract, 5.82% and 5.69% mineral residue, 2.25% and 2.06% calcium, and 1.01% and 0.87% phosphorus in the original material. For good results and quality product, the preparation of the silage must be careful, the inoculants should be placed in the exact proportions to avoid losses of the product. In the experimental conditions evaluated, we concluded that the two types of inoculants tested produce silages of good nutritional quality for use in feeding of fish. The use of chemical silage is recommended for ease of manufacture and product stability.

Keywords: acid, chemical composition, *Lactobacillus plantarum*, filleting residues

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