

## Abstract

Muslihah, Siti. 2012. **The Influence of Addition of Urea And Different Fermentation Periods on Levels of Bioethanol From Organic Waste.** Thesis, Department of Biology, Faculty of Science and Technology of State Islamic University (UIN) Maulana Malik Ibrahim Malang. Advisor 1: DwiSuheriyanto, M.P. Advisor 2: Romaidi, M.Si.

**Keywords:** Bioethanol, Organic Waste, Urea, Fermentation

Bioethanol is one of the biofuels that could potentially be used as an alternative to fossil fuels. The raw material of bioethanol that has grown in Indonesia is generally derived from foodstuffs. This is certainly going to raise new problems related to the fulfillment of food needs. Therefore it is necessary to substitute raw materials aside from foodstuffs. Organic waste consist of carbohydrates (starch, cellulose, hemicellulose and simple sugar) that could potentially be used as raw material for bioethanol. The production of bioethanol is expected to increase the usability of organic waste into something much more useful. This research aims at determining the influence of addition of urea and different fermentation periods on levels of bioethanol from organic waste.

This research was conducted in June to November 2011 in the Laboratory of Biochemistry of Biology Department and Laboratory of Organic Chemistry Department of Chemistry Faculty of Science and Technology of State Islamic University of Maulana Malik Ibrahim Malang. The research design used in this study is a randomized design group (RAK) factorial pattern with 16 treatments and 3 replications in order to obtain 48 units of the experiment. The first factor is the fermentation period that consists of four standard of treatments: 48, 96, 144 and 192 hours. The second factor is the level of urea which consists of four standard of treatment: without urea, urea 2 g / l, urea 4 g / l and urea 6 g / l. The data obtained were analyzed by two-way anava, if there is a difference in the fermentation period and urea levels of variation then it was continued with DMRT test with alpha level of 5%.

The research results showed that the addition of urea and different fermentation period significantly affect toward levels of bioethanol from organic waste. The highest levels of bioethanol is 2,01% it is at 96 hours fermentation period with the addition of urea 4 g/l.