



ELECTRONIC THESIS AND DISSERTATION UNSYIAH

TITLE

PEMANFAATAN LIMBAH BATANG TEMBAKAU DALAM PEMBUATAN BOKASI

ABSTRACT

ABSTRAK

Batang tembakau sejauh ini belum dimanfaatkan dalam pembuatan bokasi. Sebagian besar batang tembakau dibiarkan begitu saja sehingga mencemari lingkungan. Untuk itu perlu adanya pemanfaatan pada batang tembakau seperti pembuatan pupuk organik atau bokasi agar dapat mengurangi penggunaan pupuk kimia. Penelitian ini bertujuan untuk mempelajari pengaruh proporsi batang tembakau serta lama fermentasi pada pembuatan bokasi terhadap mutu bokasi yang dihasilkan.

Rancangan penelitian yang digunakan merupakan Rancangan Petak Terpisah (RPT) atau split plot design terdiri dari Petak Utama dan Anak Petak. Petak utama adalah proporsi limbah batang tembakau (T) yang terdiri dari 4 taraf yaitu T1 = 0%, T2 = 10%, T3 = 20% dan T4 = 30%. Anak petak adalah lama fermentasi (L) yang terdiri dari 3 taraf yaitu L1= 0 minggu, L2= 2 minggu, dan L3 = 4 minggu. Kombinasi dari perlakuan adalah 4 x 3 dengan menggunakan 2 kali ulangan (U) sehingga diperoleh 24 satuan percobaan. Analisis yang dilakukan terhadap bokasi yang dihasilkan meliputi: total mikroorganisme (TCC), pH, unsur C, unsur N, rasio C/N, temperatur, kadar air, organoleptik (tekstur, bau dan warna), dan uji tanaman. Lama fermentasi berpengaruh sangat nyata terhadap (total mikroorganisme), nilai rasio (C/N) dan temperatur. Semakin lama waktu fermentasi maka total mikroorganisme pada bokasi semakin meningkat, temperatur dan rasio C/N bokasi menurun, namun tidak berbeda antara lama fermentasi 2 dan 4 minggu. Proporsi batang tembakau berpengaruh sangat nyata terhadap total mikroorganisme, dan berpengaruh nyata terhadap unsur N dan tinggi tanaman. Proporsi batang tembakau dapat digunakan dalam pembuatan bokasi hingga 30% dengan lama fermentasi cukup 2 minggu. Bokasi yang dihasilkan dari penambahan limbah batang tembakau sudah memenuhi syarat SNI-19-7030-2004.

Kata kunci : Bokasi, Batang Tembakau, Pupuk Organik

ABSTRAK

Nowadays, the use of tobacco plants has been only for the needs of the processing cigarette industry which only utilize the leaves and waste the rod instead. The waste of tobacco stem increases rapidly while the utilization is still quite lacking. Therefore, there should be the utilization of the waste, for instances, by producing organic fertilizer or bokashi in order to reduce the use of chemical fertilizers by tobacco farmers. This research aims to analyze the influence of the tobacco stems proportion and fermentation time on making bokashi towards the quality of bokashi resulted. Because the texture characteristics of the tobacco stem is harder than bokashi raw material used by farmers, the fermentation process needs more time. The main component of sweet potato flour is carbohydrates which mostly formed as starch. However, natural starch has shortcomings which often hamper its application in food processing. Therefore, the starch is often modified to produce the best starch in accordance with the conditions of processing. One of the ways is by involving the lactic acid bacteria, *Lactobacillus casei*, in the fermentation process.

This study used Separated Plot Draft of Split Plot which consists of main plot and subplot. The main plot is tobacco waste (T) that consists of 4 stages, they are T1 = 0%, T2 = 10%, and T3 = 20%, T4 = 30%. The subplot is fermentation time (L) which consists of 3 stages, those are L1= 0 week, L2= 2 weeks, and L3 = 4 weeks. The combination of the treatment is 4 x 3 by using two repetition (U) in order to obtain 24 experimental units. The analysis treated to the resulted bokashi consists of: the total of microorganism (TCC), pH, the C element, the N element, C/N ratio, temperature, water, organoleptic (texture, smell and color), and the test plants. The study result shows that the long fermentation process significantly influences towards total of microorganism, C/N ratio value and temperature. The longer fermentation process gives impacts to the more increasing the microorganism of bokashi, the decreasing of temperature and C/N ratio, however, it is not different between 2 or 4 weeks. The tobacco stems proportion significantly influence towards the total microorganism, and N element as well as plants height. The tobacco stems proportion could be used in making bokashi up to 30% within 2 weeks in fermentation process. The bokashi produced from tobacco waste has already qualified SNI-19-7030-2004.

Key Word :Bokashi,Tobacco Stem, Organic Fertilizer.