

Effect of Fertilizer Application of Chicken Poop Some of the Varietykenaf (*Hibiscus cannabinus*L.) on Soil Podsollic

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Abstract:- This study aims to find the way to determine the proper dose of chicken manure for the growth of the diversity and quality in the production of kenaf plant several varieties in red-yellow podzolic soil as well as fix red-yellow podzolic soil is poor kenafhara. Tanaman elements in society generally rely more on chemical fertilizers berbaya for environmental ecosystem, while fatherly chicken manure organic fertilizer that does not contain chemicals and can repair damaged soil and nutrient poor.

The study was conducted for one year, starting from the preparation of ingredients and making sempelshinna ground can know how the nutrient content in the soil podzolic. Hearted in East Kalimantan is nutrient poor soils and soil nutrient content yanag hard because less than the area of nutrient-rich Java. Chicken manure fertilizer is a good one to improve nutrient-poor soils that have a complete nutrient content to meet the needs of plants growing on podzolic soil. To prove that the poor podzolic soil nutrient fertilizer is carried out with different doses on some of the kenaf varieties.

Discussion study in a randomized block design (RBD) with 2x4 factorial experiment, which consists of 3 ulangan. V (Kenaf Variety) and K(chicken manure) variables were observed in this study are soil chemical properties before and after fertilization, high gain plants, increased stem diameter, stemwetweight, dryweight ofstems, data obtainedwillbe analyzed using analysis of variance(ansira) followed by least significant differencetest(LSD) at5% level test.

Results of analysis of variance Added two varieties of kenaf plant height (KR-11, KR-14) and chicken manure were not significantly different in fluence on the age of 15and75dap. while thetwovarietieswere not significantly differentat 30, 45, 60and90dap. However, chicken manuregave significantly different effect on kenaf plant height in crease at the age of30, 45, 60, and 90dap.

While the two varieties of chicken manure and fertilizers increase crop kenaf stem diameter was not significantly different effect on all observations at 30, 60 and 90 dap. As well as a wet bar of weights and dry

weight of kenaf stems not significantly different effect on all observations.

Keywords: *Varieties of Kenaf KR-11 and KR-14, Chicken Manure Fertilizer.*

I. INTRODUCTION

Kenaf (*Hibiscus cannabinus* L.) is a fiber-producing plant, apart from raw materials for packaging agricultural / plantation products, kenaf fiber can produce various diversified products, such as: paper, wallcoverings, car interiors, geotextiles, soil safer, fiber drain. , particle board, and reinforcement plastic. To meet year-round demand, kenaf must be planted and harvested year-round. Thus, the planted area must be suitable for planting kenaf throughout the year. Areas that have prospects for the development of kenaf in East Kalimantan Samarinda, West Kutai, KutaiKertanegara, East Kutai One of the investors who are ready to accommodate kenaf production is PT Global Agrotek Nusantara. Currently, several areas that have developed kenaf are in Bengalon, MuaraBengkai and other districts. Whatever the production results from the community, the company is ready to accommodate them.

Dry land in East Kalimantan occupies an area of ± 2.92 million ha or $\pm 48\%$ of the 3.7 million ha area of East Kalimantan Province. Dry land is dominated by PMK (PodsolikMerahKuning) soil type. Dry soil is a type of PMK (PodsolikMerahKuning) soil which has low fertility and is acidic in nature.

Given the low productivity characteristics of podsollic soils, several actions are required prior to planting for the agriculture to be successful. One of the actions that need to be done is by way of fertilization. Fertilization can increase yields but is often less efficient. For this reason, it is necessary to pay attention to the time of fertilization, placement of fertilizers, the type and dose of fertilizer given, so that the nutrient needs of plants can be met.

The challenge faced in developing kenaf is the availability of land for PMK (PodsolikMerahKuning) which is classified as marginal land, poor in nutrients, sensitive to erosion, low pH, and quite high Al. For this reason, in order to increase land potential, efficient nutrient management is

needed, among others, by providing amelioration such as organic matter.

One of the organic fertilizers is chicken manure. Chicken manure is manure that contains the highest nutrients compared to other manure, because the liquid part (urine) is mixed with the solid part (feces) (Hardjowigeno, 2003).

II. RESEARCH METHODS

➤ *Research Place*

The research site was conducted in the area of SLB UntungTuahSamarindaSeberangJl.SamratulangiKel. GunungPangaj, East Kalimantan Province, Indonesia in 2013

➤ *Research Materials*

- Soil. The type of soil used in this research is Podsolc soil (PMK).
- Seed. The seeds used were kenaf seeds KR - 11 and varieties KR-14 which is not affected by photoperiodicity and drought resistance. Obtained from BALITAS Bogor.
- Fertilizer. Fertilizer used chicken manure as fertilizer treatment
- Water. Used to water plants when there is no rain
- Dolomite. Used to reduce soil acidity
- Pesticides. The pesticides used for pest and disease control are Regent and Dithane M-45.

➤ *Research Tools*

- Balance. Used to weigh the dose of fertilizer, weight of kenaf stems.
- Meter. Used to measure plant height and spacing.
- Microcaliferous Used to measure the diameter of the stem.
- Tugal. It is used to grow kenaf seeds
- Machete. Used to cut kenaf stalks at harvest time.
- Hoe. Used to cultivate the land on the land that will be used as a planting medium.
- Loose. Used for watering plants.
- Stationary. Used to record all observations

➤ *Experimental design*

The design used in this study was a simple split plot design in the basic design of a randomized block design (RBD) with two factorials. The first factor was Kenaf Variety (V). The second factor was organic fertilizer Chicken manure (K). Each treatment was repeated 3 times.

Kenaf variety (V) which consists of 2 levels:

v₁ : KR-11

v₂ : KR-14

Chicken manure (K) organic fertilizer, which consists of 4 levels:

k₁: 750 grams / plot

k₂: 1500 grams / plot

k₃: 2250 grams / plot

k₄: 3000 grams / plot

Observations of all parameters were carried out in all experimental units. One experiment consisted of 1 plot of land measuring 1 m x 1 m, with a kenaf plant spacing of 20 cm x 20 cm, meaning that in one experimental unit there were 16 plants so that a total of 384 plants and a sample of 96 plants were observed. The drawing of the sampling plan and research layout can be seen in appendices 1 and 2.

III. RESULTS AND DISCUSSION

1. Increase in Plant Height (cm)

Based on the results of the research, the treatment of two varieties KR-11 and KR-14 (V) had no significant effect on all observation variables. The height increase of plants at the age of 15, 30, 45, 60.75 and 90 days after planting (dd), while the treatment of manure fertilizers. chicken (N) had no significant effect on the observation of plant height increase at the age of 15 and 75 days after planting (dd) and had a significant effect on the increase in plant height at the age of 30, 45, 60 and 90 days after planting (dd).

2. Increase in Diameter (mm)

Based on the results of the research the treatment of two varieties of KR-11 and KR-14 (V) and chicken manure (K) gave no significant effect on the observation of stem diameter at the age of 30, 60 and 90 dd.

3. Kenaf Rod Weight (grams)

Based on the results of the research the treatment of two varieties of KR-11 and KR-14 (V) and chicken manure (K) gave no significant effect on the observation of wet stem weight and dry bag weight at 95 and oven for 48 hours.

This insignificant effect is presumably because these two factors were unable to stimulate plant growth properly. in accordance with the opinion of Stell and Torrie (1993), that if the interactions are not significantly different, it can be concluded that the factors act independently of each other. The treatment of chicken manure had a significant effect on variables aged 30, 45, 60 and 90 days after planting. The mean of treatment K₄ (dose 3000 grams) was significantly different in treatment K₁, K₂ and K₃.

The provision of chicken manure has a significantly different effect on all the observed variables, this is thought to be because the fertilizer contained in the chicken manure has met the needs of the kenaf plant because this fertilizer contains complete nutrients and the P fertilizer needed by the plant is also in small amounts compared to two other main elements, according to the opinion of Rosmarkam and Yuwono, (2010).

According to Harjowigeno (1993) giving organic fertilizers functions to increase nutrient content in the soil, improve soil structure, increase cation exchange capacity, increase the ability of soil to hold water and increase soil biological activities.

Chicken manure also contains various micro elements. Fertilization with organic fertilizers is an effort to make soil conditions more suitable for plant growth. (Musnamar, 2005).

The application of chicken kotoyan fertilizer and two varieties did not have a significant effect on all the observed variables. This is presumably because the fertilizers given were also caused by the process of washing nutrients. If the process of washing nutrients is very large, the nutrient loss is greater than the nutrient extraction by plants (Rosmarkam and Yowono, 2002).

According to Dwijoseputro (1981), the dry weight of plant stems is strongly influenced by the optimal process of photosynthesis. The dry weight formed reflects the amount of photosynthate as a result of photosynthesis. Larger assimilates allow the formation of greater plant biomass

IV. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSION

Based on the results of experiments that have been carried out from the data that has been analyzed, it can be concluded:

1. The increase in height of kenaf plants had no significant effect on two varieties (KR-11, KR-14) and chicken manure at 15 and 75 days after planting. While the two varieties were not significantly different at the age of 30, 45, 60 and 90 DAP. However, chicken manure had a significantly different effect on the height increase of kenaf plants aged 30, 45, 60 and 90 DAP. on kenaf growth in each test
2. The increase in stem diameter was not significantly different in the two varieties and chicken manure on all variables of kenaf stem growth, namely age 30, 60 and 90 dd.
3. The wet and dry stem weights of kenaf plants were not significantly different from all kenaf plant variables.

B. Suggestions

Still need further research to determine the time and water soaking the fiber, fiber color and fiber strength so that the quality and quality of fibers in East Kalimantan can achieve the SNI QUALITY STANDARD target.

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