Jurnal Teknologi Pangan dan Ilmu Pertanian
Vol.2, No.1 Maret 2024
e-ISSN: 2986-934X; p-ISSN: 2987-8519, Hal 36-42
DOI: https://doi.org/10.59581/jtpip-widyakarya.v2i1.2860

The Effect Of Media Composition On The Growth Of Angsana *(Pterocarpus Indicus)*

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Abstract.*The purpose of this research was to find out the Influence of the Composite of the Planting Media on the Growth of Angsana Plant and the composition of a good plant media for Angsana plantation. This research uses a single Design (DK) factor, with a medium dose treatment of M0 = Topsoil Each Polybag, M1 = Media 100 Gram Each Polybag, M2 = Media 200 Gram Each Polybag, M3 = Media 300 Gram Each Polybag. As a result, it will continue to be analyzed using the DMRT (Duncan Multiply Class Test) tasks 95% with the application of Statistics tools for Agriculture Research. The length of plant observation, for treatment with less control in each unit with a value of (A0) of 19.33cm, has no significant influence on the treatment of each unit. In addition to treatment (A1) 10 Treatment by (A3) 100.33cm and (A3) 40.33cm had a significant influence on treatment (A0) 19.33cm. of treatment A1, A3 and A2 showed that the influence of organic breastfeeding or animal waste on the supply of Angsana plants increased in length or height in each unit.*

Keywords: *Angsana trees, Media.*

INTRODUCTION

The angsana plant (peterocarpus indikus) is a species that we always use to do business, usually this type of species is also considered very common in everyday life.

According to (Dwiyani, 2013) the most common tree planting as a shadera tree is the Pterocarpus indikus, based on data from the Padang City Land Sanitation and Capacity Building Service, one of the most planted trees in the city of Padang is the According to (Taskwati, 2011 and Yudha et al. 2013) in Angsana, there are often other plants that live on them such as Angrek plants that live on other plants and do not take nutrients or water from the plants they live on.

Pterocarpus indicus, known as good light, produces high-quality flowers, which are used in structural work as well as for good furniture, Angsana tree can be planted as a species of agroforestry, reforestation, as a budget tree.

METHODOLOGY

This research was conducted at East Timor Coffee Institute-ETCI, from September 2023 to Fevruary 2024. The materials used were Sedling of angsana, top soil, Polibag, Book, Bulpen, Camera, Laptop, Sheet for writer, Sand, water and bucket.

This study employed a Completely Randomized Design (CRD) consisting of 1 factor with 4 treatment levels and 3 replications as follows: Factor I is the concentration of Media Composition with 4 concentration levels, namely:

Received Februari 29, 2024; Accepted Maret 04, 2024; Published Maret 31, 2024
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- M0:Control (no media composition)
- M1:media composition 100 grams/polybag
- M2:media composition 200 grams/polybag
- M3:media composition 300 grams/polybag

The concentration of media composition applied only once for a polibag. The treatment is repeated three times, resulting in 36 experimental units.

Linear model: Yijk = u + ri + εij + δijk (Gaspers, 1995). Where:

- Yijk = Observation value k in experimental unit j receiving treatment i μ = Overall mean value (population mean)
- ri = Effect of treatment i
- εij = Error effect on observation k in experimental unit j receiving treatment i
- δijk = Error effect on observation k in experimental unit j receiving treatment i.

RESEARCH RESULT

The average results of angsana (*Pterocarpus indicus*) Growth and Production with increasing media composition and their variances. Meanwhile, the summary of variances is presented in table 1 and figure 1

Table 1. Summary of variances for Angsana (*Pterocarpus indicus*) with media composition.

Nu	Observation Variable	Treatment
1	Angsana wood length	**
2	Angsana wood diameter	**
3	Number of angsana trees	**

*Note: *= significant effect and, ** = highly significant effect*

The results of the analysis of variance for the effect of media composition on the growth of angsana *(Pterocarpus Indicus)* with the addition of media composition on several observation variables (angsana wood length, angsana wood diameter, and number of angsana trees) had a highly significant effect.

1. Angsana wood length

The observed data for the average of angsana wood length weight while its variance. The analysis of variance results indicates that media composition has a highly significant effect on angsana wood length. Further Bonferroni test results and the average angsana wood length graph.

Table 2. Bonferroni Post Hoc Test Results at a 95% Confidence Level for Average angsana wood length (cm)

Treatment	Mean angsana wood length
A2	40.33 b
A1	103.00 a
A3	100.33 a
A0	19.33 c
LSD 0.05%	(7.3527)

Note: Different letters in the same column indicate a significant difference at a 95% confidence level

The Bonferroni post hoc test results in Table 2 show that treatment (A1) with 100grams/polybag media composition significantly differs from treatments (A0 and A2) with 0 and 200grams of media composition but has no significant difference from treatment (A3) with 300grams of media composition.

The graph of the average angsana wood length is presented in Figure 1

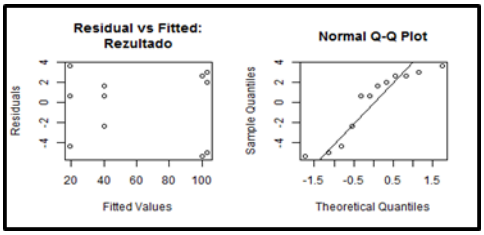

Figure 1. Graph of the average angsana wood length (cm)

The graph shows the average angsana wood length with media composition of A0 = untreated (control), A1 = 100 grams/polybag, A2 = 200grams/polybag, and A3 = 300 grams/polybag.

The average angsana wood length presented in Figure 2. It is evident that treatment (A1) with 100 grams/polybag resulted in the highest average angsana wood length, with a value of 103.00 cm, followed by treatment (A3) with 300 grams/polybag, which had a value of 100.33 cm. The lowest value was observed in treatment (A0) or the control treatment without media composition, with a value of 19.33 cm, followed by treatment (A2) with 200grams/polibag of media composition, which had a value of 40.33 cm.

2. Angsana wood diameter

The observed data for the average of angsana wood length weight while its variance. The analysis of variance results indicates that media composition has a highly significant effect on angsana wood length. Further Bonferroni test results and the average angsana wood length graph.

Table 3. Bonferroni Post Hoc Test Results at a 95% Confidence Level for Average Angsana wood diameter (cm)

Treatment	Mean Angsana wood diameter
A2	2.07 a
A1	2.27 ab
A3	2.12 a
A0	1.73 c
LSD 0.05%	**(0.3325)**

Note: Different letters in the same column indicate a significant difference at a 95% confidence level

The Bonferroni post hoc test results in Table 3 show that treatment (A1) with 100grams/polibag, (A2) with 200grams/polybag, (A3) with a 300grams/polybag media composition significantly differs from treatments (A0) with 0 grams of media composition but has no significant difference from all treatment of media composition.

The graph of the average Angsana wood diameter is presented in Figure 2

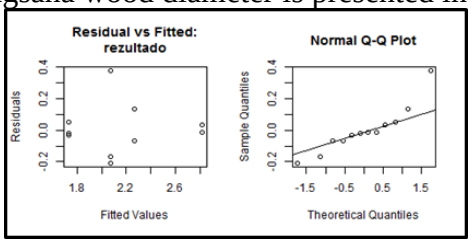

Figure 2. Graph of the average Angsana wood diameter (cm)

The graph shows the average Angsana wood diameter with media composition of A0 = untreated (control), A1 = 100 grams/polybag, A2 = 200grams/polybag, and A3 = 300 grams/polybag.

The average Angsana wood diameter presented in Figure 2. It is evident that treatment (A1) with 100 grams/polibag resulted in the highest average angsana wood length, with a value of 2.27 cm, followed by treatment (A3) with 300 grams/polybag, which had a value of 2.12 cm. (A2) with 200grams/polybag of media composition, which had a value of 2.07 cm. The lowest value was observed in treatment (A0) or the control treatment without media composition, with a value of 1.73cm.

3. Number of angsana trees

The observed data for the average of Number of angsana trees weight while its variance. The analysis of variance results indicates that media composition has a highly significant effect on Number of angsana trees. Further Bonferroni test results and the average angsana wood length graph.

Table 3. Bonferroni Post Hoc Test Results at a 95% Confidence Level for Average Number of angsana trees (cm)

Treatment	Mean Number of angsana trees
A2	10.00 a
A1	14.33 a
A3	10.33 b
A0	6.00 c
LSD 0.05%	**(2.2410)**

Note: Different letters in the same column indicate a significant difference at a 95% confidence level

The Bonferroni post hoc test results in Table 3 show that treatment (A1) with 100grams/polybag, (A2) with 200grams/polybag, (A3) with a 300grams/polybag media composition significantly differs from treatments (A0) with 0 grams of media composition but has no significant difference from all treatment of media composition.

The graph of the average Number of angsana trees is presented in Figure 3

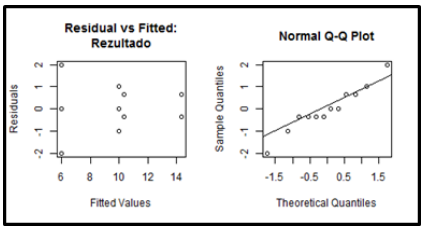

Figure 3. Graph of the average number of angsana trees (cm)

The graph shows the average Number of angsana trees with media composition of A0 = untreated (control), A1 = 100 grams/polybag, A2 = 200grams/polybag, and A3 = 300 grams/polybag.

The average number of angsana trees presented in Figure 3. It is evident that treatment (A1) with 100 grams/polybag resulted in the highest average number of angsana trees, with a value of 14.33 cm, followed by treatment (A3) with 300 grams/polybag, which had a value of 10.33 cm. (A2) with 200grams/polybag of media composition, which had a value of 10.00 cm. The lowest value was observed in treatment (A0) or the control treatment without media composition, with a value of 6.00cm.

DISCUSSION

Observation of the length of the plant, for treatment with less control in each unit with a value of (A0) of 19.33cm which has no significant influence on the treatment of each unit. In addition to treatment (A1) 10 Treatment by (A3) 100.33cm and (A3) 40.33cm significantly influenced treatment (A0) 19.33cm. of treatment A1, A3 and A2 showed that the influence of organic or animal waste intake on the supply of organic or animal waste has a significant impact on the plants of Angsana (Pterocarpus indicus) increased in length or height in each unit as

stated by the researcher, Nasahi, 2010. That the method that absorbs soil quality is the use of local organic adubu resources or animal waste through the supply of organic adubu contributes to the growth of an angsana plant (Pterocarpus indicus) water quality in its large amount, increasing the height of the plant and also increasing the amount, green and growing through the process of photosynthesis.

The result is shown by the diameter of the Angsana tree (Pterocarpus indicus) per unit with treatment, the volume of the different crops. But there is the same relative majority diameter. Treatment (A0) 1.73cm is controlled by unit I until 3 units are less visible in each unit. For treatment (A2) 2.07cm and (A3) 2.82cm influence the treatment of A0, the relative diameter of the plant is stable, re-ligated to the treatment (A1) 2.27cm influence all treatment in each unit which is why one of the experts named, Lingga, 2006 It is highlighted that organic adubu or animal waste is a cold adubu that makes changes to soil mineralogy by offering directly to plants. Organic adubu plays a very important role in improving soil nutrition through soil bacteria. The researcher further reinforced that organic breastfeeding has a good influence on the development of Angsana plants (Pterocarpus indicus) for the allocation of each unit.

In the results of the Angsana (Pterocarpus indicus) plant observation, the control part (A0. Among both (A1) 14.33th and (A2) 1xth have a more significant influence on the treatment of A0 and A3. Organic Adubu has a more significant influence on the growth of Angsana (Pterocarpus indicus) in each unit increased to a greater extent and organic adubu or animal waste increases or increases soil density and reduces soil volume to provide mineralogy for plant growth.

CONCLUSSION AND RECOMENDATION

Based on the findings above, the influence of organic breastfeeding supply on the development of Angsana plants (Pterocarpus indicus) and irritability in A3 treatment has a significant and significant effect such as plant length, diameter and quantity of life.

Recommendations:

From the conclusion above to be recommended to the following researchers that;

1. Effective observation is needed to ensure that the results are effective and efficient.
2. For communities the use of A1 treatment is a foundation for developing angsana (Pterocarpus indicus) plant in family life
3. For students as a reference in the writing of scientific articles.

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