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POTENTIAL OF FRUIT PRODUCTION TEMBESU (*Fagraea fragrans* Roxb.) OF OGAN ILIR (OI) AND OGAN KOMERING ILIR (OKI) THE SOUTH OF SUMATERA

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ABSTRACT

Tembesu (*Fagraea fragrans* Roxb.) Is one tree that is very popular in Southern Sumatra region as raw material for carving and furniture industry. The need for wood reaches 3 120 m³ per year and has been supplied from plants that grow naturally or from community forest. The purpose of this study was to determine the production potential of fruit each branch so that it can predict preparations to facilitate the expansion of planting seedlings. Tembesu trees including types with wide adaptability to a place to grow as on dry land, waterlogged soil or land tides. This type includes the category of intermediate cycle (10-30) years. The average production of fruit each branch of Ogan Ilir 38 094.53 fruits, 1000 grain weight of 0.3066 gr and initial KA 7.2% textured clay dusty land. Production of Ogan Komering Ilir with sandy soil texture reach 88 862.27 fruits, 1000 grain weight of 0.2548 gr and initial seed KA 7.7%. The average production of fruit each branch is influenced by soil texture is sandy land (OKI, swamp / stagnant) production higher than that of land dusty clay (OI, dry / stagnant).

Key words : tembesu, fruit production, wide adaptability

INTRODUCTION

Tembesu (*Fagraea fragrans* Roxb.) belong to the family Gentianaceae / Loganiaceae is quite popular in Sumatra, especially Southern Sumatra. The wood of tembesu including grade durable wood I and strength class I - II, naturally that wood is easy to handle and has a smooth texture (Martawijaya *et al.* 2005; Lemmens *et al.* 1995). Tembesu is able to grow on a variety of soil conditions, location of poor drainage conditions such as the soil is dry, waterlogged or submerged. As in locations Ogan Ilir and Ogan Komering Ilir South Sumatra. Tembesu demand in the city of Palembang in recent years reached 3 120 m3 per year (Martin *et al.* 2011). However cultivate it is do not encourage people to reluctance to plant due to long the rotations that are about 25 years, not been known about how to cultivation. Seed technology need information including information about the potential for fruit production per tree. The research objective is to know of potential fruit production per panicle in Ogan Ilir (OI) and Ogan Komering Ilir (OKI).

METODOLOGY

The location and time of the study

The research was conducted in the village of Desa Gasing Kecamatan Kayu Agung Kabupaten Ogan Komering Ilir dan Desa Pelabuhan Dalam Kecamatan Pamulutan Kabupaten Ogan Ilir where growing conditions stands presented in Table 1. The research was conducted in September - November 2014.

Table 1. Climate Condition of Location of Seeds Source of Tembesu.

Location	*Altitude* (m dpl)	*annual rainfall* (*mm/year*)	*Temperature* (0^0 C)	*Relativ humidity (%)*
OI (dry/stagnant)	0-15	2600-3500	23-33	69-98
OKI (swamp/stagnant)	10-40	> 2500	21-36	60-90

Materials and Equipment

Materials used are tembesu tree with a trunk diameter ranging from 24-56 cm for OI and 30-53 cm for the OKI. The equipment used among other steps, scissors cuttings, camera, label paper, plastic, ruler and other stationery.

Method

Observation activities tembesu fruit production potential in both locations performed on five selected trees. Furthermore, from each randomly selected tree branch 3, the fruits is separate each. Fruit collected is then calculated to obtain the number of fruit per panicle and number of seeds per fruits. It also measured the water content of the seed and 1 000 grain weight.

Table 3. Results of Soil Analysis Ogan Komering Ilir and Ogan Ilir

Location	pH	N Total	P available	K	Mg	CEC	Soil Texture	Land Condition
OI	3.8	0.15	1.8	0.88	1.06	23.84	Dry dusty	Dry / stagnant
OKI	5.1	0.24	3.7	0.12	0.50	12.80	Sandy	swamp / stagnant

Data Analysis

Studies that tested this tembesu fruit production using experimental design completely randomized design (CRD) with two treatment locations that stands tembesu OI and the OKI. Production of fruit each treatment was repeated 5 times and each replicate consisted of three trees.

Fruit production parameters were observed include the number of fruit per panicle and number of seeds per fruit. It also conducted an analysis of the nutrient content of the soil is carried out in the laboratory SEAMEAO BIOTROP.

The data were analyzed using analysis of variance (ANOVA) and if there is a real difference between pelakukan is given, then the analysis followed by Duncan's Multiple range test (DMRT). Statistical model used is as follows (Steel and Torrie 1993):

$Y_{ij} = \mu + \alpha_i + \varepsilon_{ij}$

Note:

Y_{ij} = pengamatan pada perlakuan ke-i dan ulangan ke-j

μ = rataan umum

α_i = pengaruh perlakuan lokasi tegakan pada taraf ke i

ε_{ij} = kesalahan percobaan

RESULTS AND DISCUSSION

Results

Table 2. The test results within the influence of the location grew to the number of fruit per panicle and number of seeds per fruit tembesu.

Location	Fruits of malai	Seeds of fruit
OI	62.93 ± 13.52 a	38.60 ± 1.04 b
OKI	47.07 ± 19.72 a	55.47 ± 0.65 a

Description: Figures followed by the same letters in the same column are not significantly different at the test level of 5% (DMRT).

Further test results indicate that the effect of the location of the location of the OKI to produce the number of seeds per fruit relatively more 55.47 ± 0.65 seeds

Discussion

Production of fruit per panicle show no different from the OKI and OI district as seen from the results of further analysis of the test range (Table 2).

The number of seeds from OKI higher than that derived from OI. This is related to the process of pollination. When viewed from the environment where they grow more groomed and planted together 16 other types such as mahogany, mango, acacia etc. so it is likely many pollinators that help pollination. As in the case of palm oil, the amount of fruit and seeds are subject to availability number of beetle pollinators (Utomo 2006). In addition to climate elements such as drought and low temperatures may cause a decline in the number of seeds that are formed (Owens 1991).

CONCLUSION

Tembesu fruit production per panicle is not affected by climatic conditions or type of the land on which to grow. Assume that the seeds production is higher because of the cropping system. Tembesu plants can be classified to a high enough power plant adaptation to the environment.

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