

### INTISARI

Pengolahan tanah, pemupukan dan penanaman dengan sistem agroforestry di lokasi transmigrasi lahan kering menarik untuk diteliti, karena keterpaduan pada sistem agroforestry dapat meningkatkan produksi pangan, kayu dan pakan ternak sekaligus menjaga stabilitas lahan. Penelitian ini bertujuan untuk mengetahui pengaruh pengolahan tanah dan pemupukan terhadap pertumbuhan sengon laut (Paraserianthes falcataria) dan lamtoro gung (Leucaena leucocephala) serta produksi jagung dan kacang tanah pada sistem agroforestry.

Penelitian ini menggunakan rancangan petak terbagi-bagi (split-split plot design), yaitu tanah tanpa diolah ( $T_0$ ) dan tanah diolah ( $T_1$ ) merupakan petak utama (main plots). Sedangkan anak petak terdiri dari perlakuan tanpa pupuk kotoran ayam ( $M_0$ ) dan diberi pupuk kotoran ayam 10 ton/ha (sub plots), 4 aras dosis pupuk fosfat yaitu 0 kg TSP/ha ( $P_0$ ), 200 kg TSP/ha ( $P_1$ ), 400 kg TSP/ha ( $P_2$ ) dan 600 kg TSP/ha ( $P_3$ ) merupakan bagian anak petak (sub-sub plot). Setiap perlakuan diulang 3 kali dan data hasil penelitian diolah dengan analisis ragam (analysis of variance).

Hasil penelitian menunjukkan bahwa pengolahan tanah tidak berpengaruh terhadap pertumbuhan tinggi sengon laut, namun sangat berpengaruh terhadap pertumbuhan diameternya dan tinggi serta diameter lamtoro gung. Juga berpengaruh sangat nyata terhadap produksi/ha dan berat pipilan/100 butir jagung dan kacang tanah. Pemberian pupuk kotoran ayam 10 ton/ha sangat berpengaruh terhadap pertumbuhan tinggi dan diameter sengon laut dan lamtoro gung, juga terhadap produksi dan berat pipilan kering jagung dan kacang tanah. Pemberian pupuk fosfat dalam bentuk TSP dengan kadar  $P_2O_5$  46% pada 4 aras ( $P_0$ ,  $P_1$ ,  $P_2$ ,  $P_3$ ), menunjukkan pengaruh yang sangat nyata terhadap pertumbuhan tinggi dan diameter sengon laut dan lamtoro gung serta produksi dan berat pipilan kering jagung dan kacang tanah. Kombinasi perlakuan pengolahan tanah, pemberian pupuk kotoran ayam dan pupuk fosfat, berpengaruh sangat nyata



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terhadap pertumbuhan tinggi dan diameter lamtoro gung. Namun tidak berpengaruh terhadap pertumbuhan tinggi dan diameter sengon laut. Juga berpengaruh sangat nyata terhadap produksi jagung dan kacang tanah serta berat pipilan kering jagung, namun tidak berpengaruh terhadap berat pipilan kering kacang tanah.

THE EFFECT OF CULTIVATION METHOD ON THE SUCCESS  
OF AGROFORESTRY IN TRANSMIGRATION AREA OF  
KERANG TAMPAKAN, EAST KALIMANTAN

by

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ABSTRACT

Land preparation, fertilization and cultivation under upland condition in transmigration area under the context of agroforestry are interesting subject to be studied as the integrated approach under agroforestry may increase the production of food, wood and forage, as well as maintaining soil fertility. This study was aimed to examine the effects of land preparation and fertilization on the growth of Paraserianthes falcataria and Leucaena leucocephala as well as the yield of corn and peanut under agroforestry system.

A split-split-plot design with three replications was adopted. Land preparation, with ( $T_1$ ) and without ( $T_0$ ) was assigned to the main plots. Chicken manure, either applied at 10 ton/ha ( $M_1$ ) or without ( $M_0$ ) was given to the subplots. Four levels ( $P_0, P_1, P_2, P_3$ ) of phosphate fertilizer ranging from 0 to 600 kg TSP/ha at 200 kg TSP/ha interval was applied to the sub-sub-plot. The data collected was subjected to analysis of variance.

The results indicated that land preparation showed significant effect on the growth of L. leucocephala, in terms of plant height and stem diameter, for P. falcataria, in terms of stem diameter only. The yield and 1000 grain weight of both corn and peanut was also affected by land preparation. Chicken manure applied at 10 ton/ha showed significant effect on the growth - plant height and stem diameter - of P. falcataria and L. leucocephala, as well as the yield and 1000 grain weight of both corn and peanut. Application of phosphate fertilizer in the form of triple superphosphate with  $P_2O_5$  concentration of 46 % at four different levels ( $P_0, P_1, P_2, P_3$ ) showed significant effect on the growth of P. falcataria and L. leucocephala, in terms of plant height and stem diameter, as well as the yield and 1000 grain weight of corn and peanut. Land preparation, chicken manure and phosphate fertilizer significantly influenced growth - height and stem diameter - of L. leucocephala, but not of P. falcataria. They also showed significant effect on the field crops but 1000 grain yield of peanut.

