

## Pengaruh Penerimaan Cahaya Pola Trees Along Border Sistem Agroforestri Terhadap Produktivitas Kacang Tanah Di Desa Banaran, Playen, Gunungkidul

### INTISARI

*Trees along border* adalah pola pertanaman sistem agroforestri dengan pohon ditanam tersebar mengelilingi lahan. Kehadiran pohon pada *trees along border* memberi pengaruh pada produktivitas tanaman pertanian yang berada di sekitar pohon. Berkenaan dengan hal tersebut, penelitian mengenai pengaruh penerimaan cahaya pada pola *trees along border* terhadap produktivitas kacang tanah (*Arachis hypogea*) perlu dilakukan. Penelitian dilakukan di Desa Banaran, Playen, Gunungkidul, Yogyakarta pada bulan Januari – Maret 2020.

Pengambilan data menggunakan purposive sampling dengan plot berukuran 2 m x 1,6 m pada dua luasan, yaitu kurang dari 500 m<sup>2</sup> dan lebih dari 500 m<sup>2</sup>. Tiga kategori tutupan, ternaung, setengah terbuka dan terbuka (tidak tertutup tajuk) dengan tiga ulangan untuk setiap kategori. Variabel yang diamati dalam penelitian ini adalah produktivitas dan biomassa kacang tanah, intensitas cahaya pada ketiga tutupan, tinggi dan diameter pohon, serta lbsd pohon. Hasil perhitungan pada variabel produktivitas dan biomassa dengan ANOVA dan variabel lainnya menggunakan analisis statistik deskriptif dan SexI-FS.

Hasil penelitian menunjukkan bahwa persentase intensitas cahaya pada luasan kurang dari 500 m<sup>2</sup> dan lebih dari 500 m<sup>2</sup> yang berada di bawah tutupan ternaung adalah 4%, setengah terbuka adalah 34% dan 29% dan terbuka adalah 100%. Produktivitas kacang tanah pada luasan kurang dari 500 m<sup>2</sup> pada tutupan ternaung adalah (0,28 ton/ha), tutupan setengah terbuka (0,41 ton/ha) dan tutupan terbuka (0,74 ton/ha). Sedangkan, luasan lebih dari 500 m<sup>2</sup> tutupan ternaung adalah (0,51 ton/ha), tutupan setengah terbuka (0,75 ton/ha) dan tutupan terbuka (1,03 ton/ha). Hal ini disebabkan karena bentuk TAB, jumlah dan strata pohon pada kedua luasan, intensitas cahaya yang diterima ketiga tutupan, dan perbedaan motivasi pemilik saat menggarap lahan.

**Kata kunci : agroforestri, *trees along border*, kacang tanah, produktivitas, intensitas cahaya**



*Effects Of Light Reception On Tree Along Border Agroforestry System Towards Ground Nut Productivity In Banaran Village, Playen, Gunung Kidul*

**ABSTRACT**

*Trees along the border (TAB) is one of the widely known planting patterns in agroforestry systems where the trees are planted surrounding the land, act as the borders. The presence of trees in this pattern has a variety of effects on the productivity of crops in the agroforestry system. In this regard, research on the effect of light reception on TAB patterns on the productivity of peanut (*Arachis hypogea*) needs to be done. The study was conducted in the Village of Banaran, Playen, Gunungkidul District, Yogyakarta from January - March 2020.*

*The data were taken using purposive sampling with a sampling plot measured 2m x 1.6m in two different land sizes, which were <500 m<sup>2</sup> and >500 m<sup>2</sup>. Three categories of shaded areas were observed, namely full shade, partial shade, and an open shade (not covered under tree canopy) with three repetitions were done for each category. The variables observed in this study were the productivity and biomass of peanuts, light intensity in all categories of the shaded area, height and diameter, as well as the basal area of trees. The result on productivity and biomass were analyzed using ANOVA, while the rest of the variables were analyzed with descriptive statistical analysis and SexI-FS software.*

*The results showed that the percentage of light intensity at the areas of less than 500 m<sup>2</sup> and more than 500 m<sup>2</sup> under the fully shaded area is 4%; partial shade is 34% and 29%; open shade is 100%. Peanut productivity at the areas of <500 m<sup>2</sup> in full shade (0.28 tons/ha); half-open shade (0.41 tons/ha); and open shade (0.74 tons/ha). Meanwhile the area of >500 m<sup>2</sup> of shade is (0.51 tons/ha); half-open shade (0.75 tons/ha); and an open shade (1.03 ton/ha). This result was due to several factors such as shape of trees along border, the number and level of trees in the two areas, the intensity of light received by the three covers, and the difference in owner's motivation when working on the land.*

**Keyword : agroforestry, trees along border, peanut, productivity, the intensity of light**