



Agronomic evaluation of maize crop in crop-forest system in the Roraima savannah

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Introduction

Mixed farming systems are more sustainable than specialized systems for grain and fiber. Interest in these models comes from the benefits of synergy between annual and tree crops (Balbino et al., 2011). This paper presents the results of maize crop for 2 years in single and double alleys of *Eucalyptus urograndis*.

Material and Methods

The experiment was conducted on native savannah area in the Campo Experimental Água Boa, from Embrapa Roraima (02°15'00' N and 60°39'38' W, 90 masl). Treatments included the cultivation of corn in single alley (3 meters between plants) and doubles alleys (3 meters between plants and rows) of eucalyptus. The alleys were spaced 12 m where corn in rotation with soybean were grown. Corn was planted for two years, with density of 40,000 plants ha⁻¹, used Bandeirante variety. Samples were collected at 2.5; 5.0; 7.5 and 10m from eucalyptus. The design was a randomized complete block with split plot and four repetitions.

Results and Conclusions

There was no effect on the sample distance and the lines eucalyptus number on the height, productivity and residual straw in the year 2013. In 2014 observed better productivity in single lines and high plants between the alley (Tab. 1). Similar results are observed by Macedo et al. (2006). In the first year, there is no influence of intercropping eucalyptus (little plants). In the second year, the eucalyptus plants presented five meters and begins the interference, affecting the maize growth.

Tab. 1. Plant height, grain yield and residual straw coming from corn cropped between single and double alleys of eucalyptus, sampled at different distances. Boa Vista / RR / BR (2013-2014).

Distance (m)	Plant height (cm)		Grain yield (Mg ha ⁻¹)		Residual straw (Mg ha ⁻¹)	
	2013	2014	2013	2014	2013	2014
2.5	194.25a ^{1,2}	197.18 b	2.82 a	4.14 a	8.05 a	5.43 a
5.0	204.75a	209.37 a	3.30 a	3.48 a	8.26 a	5.23 a
7.5	199.88 a	218.06 a	3.25 a	3.92 a	9.54 a	5.43 a
10.0	194.13 a	176.12 b	3.27 a	3.92 a	9.41 a	5.38 a
Eucalyptus alleys						
1	196.38 a	195.41 a	2.96 a	4.26 a	8.41 a	5.36 a
2	200.13 a	204.97 a	3.36 a	3.48 b	9.22 a	5.38 a
CV1	6.15	7.54	12.60	10.88	38.88	7.08
CV2	5.35	6.91	23.73	14.66	38.39	8.49

¹Means followed by the same letters in the column, for each factor under study, are not significantly different in the level of 5% by Scott-Knot test. ²Data represent mean of 4 replicates.

References cited

Balbino et al. (2011) Pesq. Agropec. Bras. v. 46, n. 10, p.i-xii.

Macedo et al. (2006) Rev. Árvore. v. 30, n. 5, p.701-709.

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