

INTRODUCTION

In Senegal, the agricultural production system is dominated by rainfed crops, and tree-crop association is an alternative for sustainable production. The introduction of high value-added species into agrarian land would be one of the solutions to ensure diversified and sustainable agricultural production. In fact, cashew tree which occupies an important place in the Senegalese agricultural sector (Samb et al., 2018), could be part of the species with great agroforestry potential that has been barely evaluated.

OBJECTIVES

The main objective of this study is to contribute to the assessment of the agroforestry potential of emerging woody species in Senegal ; specifically, to study the influence of *Anacardium occidentale* L. crown length on *Arachis hypogaea* L. yields.

MATERIAL AND METHODS

The study was conducted on a 1.5 ha cashew plantation in Keur Alioune Gueye in Toubacouta. It was divided into 03 blocks of 0.5 ha. In each block, 03 trees spaced 10 m apart with 6, 9 and 12 m of crown length and 03 off-cover control plots were selected, for a total of 12 experimental units. Peanut variety 73-33 was sown under and off cover according to agronomic research recommendations

Parameters

- **Soil** : water pH, CE, MO, CEC, T°, Granulometry...
- **Yields** : height of the hay (H), fresh biomass (FB), total number of pods (TNP), number of full pods (NFP), weight of a full pod (WFP)

✓ **Yield** = number peanut plant ha⁻¹ x average weight of a pod x number of full pods

Data analysis

Data were subjected to an analysis of variance then to a test of significance using Statistix 8.0

ACKNOWLEDGEMENTS

Cashew planters from study areas

RESULTS

Analysis of variance showed a highly significant effect of crown length on yield parameters (Table 1).

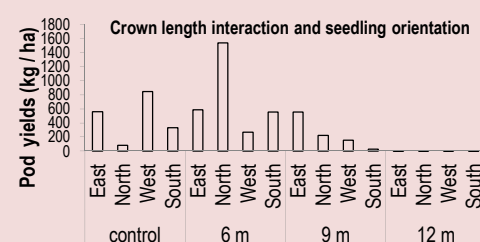
Table 1: Synthesis of analysis of variance results

Source of variation	Crown length		Seedling orientation		crown length* seedling orientation	
	F Value	P	F Value	P	F Value	P
H	52.2	0.0001	1.61	0.1871	1.77	0.0751
FB	4.21	0.0064	0.57	0.6343	1.89	0.0541
TNP	6.42	0.0003	0.47	0.7059	1.63	0.1078
NFP	8.79	0.0001	0.5	0.683	1.73	0.0838
WFP	10.19	0.0001	0.94	0.4234	1.29	0.2428

The 6 m widths showed the best pod yield (676.51 kg ha⁻¹) compared to controls (399.58 kg ha⁻¹) (Table 2).

Table 2: Peanut biomass and pod yields parameters under and off cover of cashew tree

Crown length	Control	6 m	9 m	12 m	F	P
Height of hay (cm)	15.11 ^c	28.33 ^b	41.96 ^a	43 ^a	52.2	0.0001
FB (g/plant)	18.95 ^a	14.93 ^{ab}	13.56 ^{ab}	11.75 ^b	4.21	0.0064
FB (kg ha ⁻¹)	284.25 ^a	223.95 ^{ab}	203.40 ^{ab}	176.25 ^b	4.21	0.0064
TNP	27.16 ^a	26.83 ^a	15.5 ^{ab}	7.66 ^b	6.42	0.0003
NFP	11.66 ^a	13.66 ^a	7.33 ^{ab}	1 ^b	8.79	0.0001
WFP (g)	2.28 ^{ab}	3.3 ^a	1.78 ^b	0.2 ^c	10.19	0.0001
Yield (kg ha ⁻¹)	399,58 ^b	676.51 ^a	196.15 ^c	3 ^d	10.19	0.0001



DISCUSSION AND CONCLUSION

Beyond 6 m crown length, peanut was more sensitive to the depressive effect of cashew tree shading than to its beneficial effect on soil fertility. At 6 m, the crown is not very developed and consequently, the cover is not dense enough to limit light access to peanut. Our results corroborate those of Samb (1999), Balogoun (2009) and ICA (2010).

REFERENCES

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