

CORN IN CONSORTIUM WITH FORAGES

MILHO EM CONSÓRCIO COM FORRAGEIRAS

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The basic premises for sustainable agricultural development with focus on rural producers are reducing the costs of production and aggregation of values through the use crop-livestock system (CLS) throughout the year. The CLS is based on the consortium of grain crops, especially corn with tropical forages, mainly of the genus *Panicum* and *Urochloa*. The study aimed to evaluate the grain yield of irrigated corn crop intercropped with forage of the genus *Panicum* and *Urochloa*. The experiment was conducted at the Fazenda de Ensino, Pesquisa e Extensão – FEPE of the Faculdade de Engenharia - UNESP, Ilha Solteira in an Oxisol in savannah conditions and in the autumn winter of 2009. The experimental area was irrigated by a center pivot and had a history of no-tillage system for 8 years. The corn hybrid used was simple DKB 390 YG at distances of 0.90 m. The seeds of grasses were sown in 0.34 m spacing in the amount of 5 kg ha⁻¹, they were mixed with fertilizer minutes before sowing and placed in a compartment fertilizer seeder and fertilizers were mechanically deposited in the soil at a depth of 0.03 m. The experimental design used was a randomized block with four replications and five treatments: *Panicum maximum* cv. Tanzania sown during the nitrogen fertilization (CTD) of the corn; *Panicum maximum* cv. Mombaça sown during the nitrogen fertilization (CMD) of the corn; *Urochloa brizantha* cv. Xaraés sown during the occasion of nitrogen fertilization (CBD) of the corn; *Urochloa ruziziensis* cv. Comum sown during the nitrogen fertilization (CRD) of the corn and single corn (control). The production components of corn: plant population per hectare (PIPo), number of ears per hectare (NE ha⁻¹), number of rows per ear (NRE), number of kernels per row on the cob (NKR), number of grain in the ear (NGE) and mass of 100 grains (M100G) were not influenced by consortium with forage. Comparing grain yield (GY) single corn and maize intercropped with forage of the genus *Panicum* and *Urochloa*, there were no differences between treatments, even with higher averages in the consortium when compared with single corn (Table 1). Regarding the dry mass production (DMP) of forages, the consortium CMD had the highest average yield; however, it did not differ significantly of consortiums CBD and CRD. Already the consortium CTD submitted the lowest DMP, but also did not differ significantly from consortia CBD and CRD. The corn intercropped with forages of the genus *Panicum* and *Urochloa* did not influence growth and grain yield of irrigated corn no-tillage system in the savannah.

Table 1. Production of corn intercropped with forages in the genus *Panicum* and *Urochloa* and dry mass production of forages after consortium with corn in Selvíria-MS, 2009/2010

Treatments	PIPo	NE ha ⁻¹	NRE	NKR	NGE	M100G (g)	GY (kg ha ⁻¹)	DMP (kg ha ⁻¹)
CTD	46111	50000	16.15	35.10	567.14	32.79	6945	987b
CMD	45000	48333	16.13	35.57	595.61	31.35	6318	1087a
CBD	52222	54444	15.55	35.50	552.26	33.08	7593	1000ab
CRD	47778	50000	14.65	34.75	510.87	34.41	7136	1012ab
Control	53889	47222	16.00	34.75	595.61	33.69	6750	-----
C.V. (%)	11.04	10.15	6.27	5.07	7.90	8.20	13.05	6.17
P>F	>.0005	>.0005	>.0005	>.0005	>.0005	>.0005	>.0005	<.0005

Means followed by different letters in the column differ statistically by Tukey test at 5%.

Keywords: *Panicum* spp., *Urochloa* spp., *Zea mays*.

Acknowledgments: Fundação de Amparo a Pesquisa do Estado de São Paulo (FAPESP)