SOYBEAN AFTER THE CONSORTIUM CORN WITH TROPICAL FORAGES IN THE SAVANNAH

SOJA APÓS CONSÓRCIO DE MILHO COM FORRAGEIRAS TROPICAIS NO CERRADO

CÁSSIA MARIA DE PAULA GARCIA1, MARCELO ANDREOTT1, MARCELO CARVALHO MINHOTO TEIXEIRA FILHO2, KENY SAMEJIMA MASCARENHA LOPES3, CINIRO COSTA1, ERIKELLY ALINE RIBEIRO DE SANTANA1

1Faculdade de Medicina Veterinária e Zootecnia – UNESP, Botucatu, SP, Brazil.
*E-mail: cassiampg@yahoo.com.br.
2Faculdade de Engenharia – UNESP, Ilha Solteira, SP, Brazil.
3Curso de Engenharia Agronômica e Zootecnia – UNESP, Dracena, SP, Brazil

The biggest limitation to sustainable tillage in the Savannah region is the low biomass accumulation during autumn up to spring, due to low water availability and high temperatures characterizing these regions as having a warm and dry winter. The consortium of grains crops with tropical forages mainly of the genus Panicum and Urochloa is an alternative, to this situation. This study aimed to evaluate the effect of the straw production of Panicum and Urochloa after consortium with corn in the crop-livestock integration system on the soybean crop irrigated in succession. The experiment was conducted at the Farm for Teaching, Research and Extension, Faculty of Engineering - UNESP, Ilha Solteira in an Oxisol in Savannah conditions, being in no-tillage for 8 years (previous corn crop). The experimental design was a randomized block with four replications and four treatments: Panicum maximum cv. Tanzania sown during the nitrogen fertilization (CTD) of the corn; Panicum maximum cv. Mombasa sown during the nitrogen fertilization (CMD) of the corn; Urochloa brizantha cv. Xaraes sown during the occasion of nitrogen fertilization (CBD) of the corn; Urochloa ruzizensis cv. Comum sown during the nitrogen fertilization (CRD) of the corn. After harvesting the corn and forages cuts, soybean was planted with seeds inoculated with Bradyrhizobium japonicum (Turfy with 600,000 viable cells/seed), at distances of 0.45 m with 24 seeds m⁻¹ in the no-tillage system (NTS). The height of the first pod, plant population and yield components of soybean (number of pods per plant, number of seeds per pod and mass of 100 grains) and grain yield of soybean were not significantly influenced by the straws of forages (Table 1). These results were found, probably because the area already has a history of tillage for 8 years since this system was stabilized in the area. Therefore, in this soil that was managed correctly, the straw production of the forage of genus Panicum and Urochloa does not influence the growth and yield of soybean in the NTS.

Table 1. Height of the first pod, plant population, yield components and yield of soybean grown under straw and fodder of the genus Panicum and Urochloa. Selvíria - MS, 2010/2011

<table>
<thead>
<tr>
<th>Consortia</th>
<th>Height of the first pod (cm)</th>
<th>Population (plants ha⁻¹)</th>
<th>Number of pods per plant</th>
<th>Number of grains per pod</th>
<th>Mass of 100 grains (g)</th>
<th>Grain yield (kg ha⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTD</td>
<td>13.70</td>
<td>251736</td>
<td>52.92</td>
<td>1.81</td>
<td>13.04</td>
<td>3126</td>
</tr>
<tr>
<td>CMD</td>
<td>12.57</td>
<td>230902</td>
<td>50.30</td>
<td>1.81</td>
<td>12.92</td>
<td>2748</td>
</tr>
<tr>
<td>CBD</td>
<td>13.65</td>
<td>205902</td>
<td>48.97</td>
<td>1.80</td>
<td>12.99</td>
<td>2328</td>
</tr>
<tr>
<td>CRD</td>
<td>14.78</td>
<td>229968</td>
<td>54.34</td>
<td>1.84</td>
<td>13.02</td>
<td>2917</td>
</tr>
</tbody>
</table>

L.S.D. 5.80 55150 33.29 0.41 0.38 1288
C.V. (%) 36.69 20.15 21.28 6.63 2.50 36.69

P>F >.0005 >.0005 >.0005 >.0005 >.0005 >.0005

Keywords: forage, Glycine max, straw.

Acknowledgments: Fundacao de Amparo a Pesquisa do Estado de Sao Paulo (FAPESP).