

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## AGRONOMICAL CHARACTERISTICS OF CORN INTERCROPPED WITH DIFFERENT CROTALARIA SPECIES AND TWO SPATIAL ARRANGEMENTS

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Successful intercropping of corn and leguminous plants depends on the choice of species and spacing adopted between the rows, always aiming at minimum competition between the species and maximum dry matter production per area. In face of that, the current study aimed to assess the productive potential of intercropping corn with three *Crotalaria* species grown in two distinct spatial arrangements. A completely randomized 4x3 factorial design was employed with four intercropping options (corn + *Crotalaria juncea*; corn + *Crotalaria spectabilis*, corn + *Crotalaria ochroleuca*, and corn alone) grown in two spatial arrangements (corn and *Crotalaria* planted on the same row with 45 cm between rows and corn and *Crotalaria* grown in alternate rows with 90 cm between corn rows) and four replicates per treatment. The agronomical characteristics assessed were: total dry matter production (DMP), corn DMP, *Crotalaria* DMP, stem DMP, leaf DMP, and cob DMP. The highest DMP (13.29 t ha<sup>-1</sup>), corn DMP (13.09 t ha<sup>-1</sup>), and leguminous plant DMP (0.22 t ha<sup>-1</sup>) were obtained when 90 cm spacing between corn rows was adopted. Corn + *Crotalaria juncea* intercropping had lower DMP (8.78 t ha<sup>-1</sup>) compared with corn alone (13.37 t ha<sup>-1</sup>), corn + *Crotalaria spectabilis* (12.00 t ha<sup>-1</sup>), and corn + *Crotalaria ochroleuca* (13.18 t ha<sup>-1</sup>). *Crotalaria* DMP values (90 cm spacing) were similar in corn + *Crotalaria juncea* (0.36 t ha<sup>-1</sup>) and corn + *Crotalaria spectabilis* (0.32 t ha<sup>-1</sup>) intercropping. The lowest DMP of *Crotalaria* was observed in corn + *Crotalaria spectabilis* intercropping (0.09 t ha<sup>-1</sup>) with 45 cm spacing. The proportions of leaf, stem, and corn cob did not significantly differ among the treatments. *Crotalaria juncea* had the highest stem DMP (0.08 t ha<sup>-1</sup>) while *Crotalaria spectabilis* had the highest leaf DMP (0.03 t ha<sup>-1</sup>) compared to the other *Crotalaria* species. It can be concluded that the best spacing for corn + *Crotalaria* intercropping is 90 cm between the corn rows with the leguminous plant in the rows between them. Corn + *Crotalaria spectabilis* intercropping had the highest productivity compared to the other intercropping options.

**Keywords:** Corn production, *Crotalaria juncea*, *Crotalaria ochroleuca*, *Crotalaria spectabilis*

Promoção e Realização:



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