

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## SCREENING FORAGE PEANUT GENOTYPES FOR COMPETITIVE ABILITY AND SPREADING ABILITY DURING ESTABLISHMENT IN MIXED PASTURES

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Forage peanut (*Arachis pintoï*) is a creeping, stoloniferous and perennial tropical legume with good compatibility mainly with short grasses. However, the mechanisms that are responsible for this compatibility are poorly understood. The present study screened 12 forage peanut genotypes for competitive ability and spreading ability during the establishment of a mixed sward with *Brachiaria humidicola* cv. Tully. Stolon pieces were planted into 128-cell trays filled with commercial substrate and kept irrigated twice daily for three weeks. Twenty-five rooted stolons were transplanted to the central area (1 x 1 m) of each plot (5 x 5 m) previously seeded with *B. humidicola* 35 days before. The area was mowed to a 20-cm stubble height at 50 and 130 days after transplanting (DAT) and grazed at 160 DAT. After three weeks, competitive ability with *B. humidicola* was evaluated as the percentage of forage peanut in the central area of each plot where it was planted, visually estimated. Spreading ability, the capacity to colonize the rest of the plot, was evaluated by observing the presence of the legume over the plot and measuring the distance in two directions, then multiplied to estimate the area colonized by the legume. Data were submitted to analysis of variance in a randomized complete block design with five replicates. Means were grouped by the Scott-Knott test. Average percentage of forage peanut six months after transplanting was 15%. The three most competitive genotypes ( $P < 0.05$ ) were cultivar BRS Mandobi and accessions V15069 and V13196 (17.2% to 21.4%). The percentage of the other genotypes varied from 11.6% to 15.7%. Cultivar Belmonte showed the highest ( $P < 0.05$ ) spreading ability in *B. humidicola* swards. In six months its presence was extended from 1 m<sup>2</sup> to 10.4 m<sup>2</sup>. Cultivar BRS Mandobi, hybrid V1(59) and accessions V14951, V14950 and V15069 comprised a group with intermediate spreading ability (6.8 to 7.6 m<sup>2</sup>). Cultivar Amarillo and accessions V13196, Vi301, V6740, V13211 and BRA-042242 had the lowest spreading ability (2.9 to 5.8 m<sup>2</sup>). Forage peanut genotypes differ in their ability to compete and to spread in *B. humidicola* swards. These aspects will be further evaluated over three years under grazing to confirm these findings and to create a compatibility index combining both variables.

**Keywords:** *Arachis pintoï*, *Brachiaria humidicola*, compatibility, pasture legumes

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