EVALUATION AND SELECTION OF *Brachiaria* HYBRIDS FOR SEED PRODUCTION TRAITS

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In order to release a new *Brachiaria* cultivar it is crucial a high viable seed production to guarantee the commercialization of this cultivar in the market. The objective of this work was to evaluate and select 45 sexual hybrids of *Brachiaria decumbens* and 67 sexual interspecific hybrids of *Brachiaria spp*. for seed production traits. The selected sexual hybrids will be used as female genitor, in a future step, in order to obtain new apomictic cultivars. The experimental design was a randomized block design with six replications and plots of individual plants, spaced 1.5 m between plants. The *B. decumbens* cv. Basilisk and *B. brizantha* cv. BRS Piatã were used as checks. The seeds were harvested manually in the inflorescence. The traits evaluated were number of days until the harvest (TFL), total seed weight (TSW), weight of full seeds (WFS) and percentage of full seeds (%FS). The data were submitted to Selegen REML/BLUP *software* for statistical analysis using mixed models. For the *B. decumbens* hybrids, the accuracy estimates ranged from 64% (TFL) to 88% (TSW), which indicated moderate to high experimental precision. There was genetic variability for all traits analyzed ($p<0.01$). Considering a selection intensity of 10% related to the population mean, the selection response estimates were 115% and 72% for WFS and %FS, respectively. The TFL overall mean of the hybrids (123 days) was closed to the cv. Basilisk (120 days). In relation to *Brachiaria spp*. hybrids high experimental precision was detected (accuracy estimates above 75%), as well genetic variability ($p<0.01$) for all traits. Considering a selection intensity of 10% related to the population mean, the selection response estimates were 116% and 77% for WFS and %FS, respectively. For TFL the overall mean of the hybrids (142 days) and the seven latest hybrids (159 days) were higher than cv. Piatã (132 days). In conclusion, there is genetic variability between *B. decumbens* and *Brachiaria spp*. hybrids, which makes possible the selection of superior sexual hybrids for seed production related traits.

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