

Root/shoot ratio *Paspalum* accessions submitted to water deficit

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Brazil has the richest biodiversity on the planet. Among tropical grasses stands out the genus *Paspalum*, the most important of the family Poaceae in the Americas, but the lack of knowledge of the forage potential of these native species hinders their indication for pastures formation. In general, tropical pastures have use limitations under conditions of water deficit. One of the survival strategies of plants to drought stress is directing assimilates to the roots and the knowledge of this feature can help the selection of genotypes better adapted to drought in breeding programs. Thus, the aim of this study was to measure the effect of water deficit in five accessions of *Paspalum* (*Paspalum regnellii*, BRA 23469, BRA 23540, BRA 21377 and BRA 23671), and *B. brizantha* cv. Marandu on root/shoot ratio (RRPA) of the plants at the end of the stress and after the recovery period. The experiment was conducted in a greenhouse at Embrapa Southeast Livestock, São Carlos-SP. The experimental design was randomized complete block with a factorial arrangement 6x2x2 (six genotypes, two water conditions and two collection dates) with three replications. The water conditions were: control (under ideal conditions for the culture) and water deficit. The collection dates were 28 days after the application of stress and 10 days of recovery after the deficit. The plants were collected, separated into roots and shoots, oven dried and dry biomass and RRPA was measured. The genotypes shoots submitted to water stress were composed primarily of dead material. After the recovery period, regrowth signs were observed only in some plants. There was a significant interaction between genotype and water condition. When comparing the water conditions within genotypes, it was observed that the water deficit led to the reduction of RRPA in *P. regnellii*, BRA 23671 and BRA 21377 ($P < 0.05$), and for *B. brizantha* cv. Marandu, BRA 23469 and BRA 23540 the restriction did not alter the RRPA ($P > 0.05$). The lower RRPA in accessions *P. regnellii*, BRA 23671 and BRA 21377 under stress conditions was mainly due to the smaller mass of plant roots. Within each water condition there was no difference among genotypes. Based on these, it was concluded that there is variability in the effect of stress by water deficit on dry matter partitioning between root and shoot of accessions of *Paspalum* and *B. brizantha* cv. Marandu. Therefore, this feature can be exploited in breeding programs aimed the obtainment forage cultivars better adapted to drought.

Keywords: abiotic stress, biomass allocation, drought stress, *Paspalum*

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