

## **OVERCOMING TROPICAL FORAGE ABIOTIC STRESSES IN BRAZIL**

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Brazil currently develops several tropical forage breeding programs with the objectives of supplying the country with novel cultivars adapted to the various soil and climate conditions. Forage area in Brazil is enormous; around 116 million hectares are planted to cultivated pastures. The main genera are *Brachiaria* and *Panicum*, but breeding involves many genera and species. Pasture diversification is recommended in the country to avoid monocultures and different species and cultivars should be used in a same property and region. Thus, development of forages adapted to the diverse ecosystems with their diverse types of climates and soils is preponderant. The main abiotic stresses included in the breeding programs are selection for aluminum tolerance for use in the acid soils of the Cerrado biome, selection for tolerance to temporarily flooded soils for use mainly in the northern states, selection for drought tolerance, selection for cold tolerance for use in the southern state and selection for shade tolerance for use in crop-livestock-forest integration systems. Traditional methodologies as well as new ones are used, such as the search for genes and markers for drought and aluminum tolerance in expressed sequences through RNA-seq. The ideal situation is that sufficient cultivars are available in the market to guarantee sustainability of livestock production for every particular niche within the country.

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