Grass breeding meets genomics

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Forage and turf grasses are of major importance for agricultural production and provides valuable ecosystem services and its impact is likely to rise in changing climatic and socio-economic environments. Despite their economic and ecological importance, genomic resources available for these species are lagging far behind those of model and major crops species. Understanding the genome structure and function of grassland species, however, provides opportunities to accelerate crop improvement and thus to mitigate the future challenges of increased feed and food demand, scarcity of natural resources such as water and nutrients, and high product qualities.

In this presentation, a selection of technological developments providing new insights into the structure, evolution and function of plant genomes will be discussed. Many of these technologies were originally developed in human or animal science and are now increasingly applied in plant genomics. Main goal is to highlight the benefits of using these technologies for forage and turf grass genome research and breeding and to discuss their potentials and limitations.

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