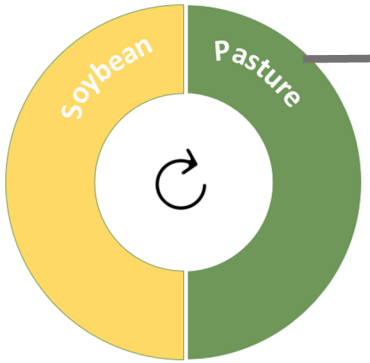
Integrated crop and livestock systems increase both climate change adaptation and mitigation capacities

Methodology

We investigated the impacts of grazing intensity (defined by sward heights of 10, 20, 30 and 40 cm, plus an ungrazed treatment) in an 18-year soybean-pasture system in Southern Brazil.

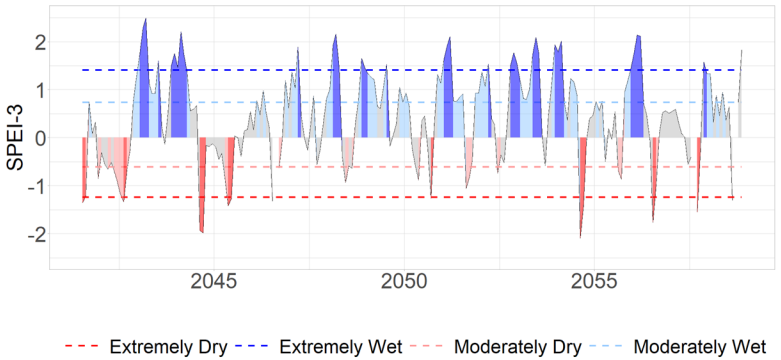


Simulations with the process-based model STICS allowed to study climate change impacts during the period 2040-2070 (RCP8.5).

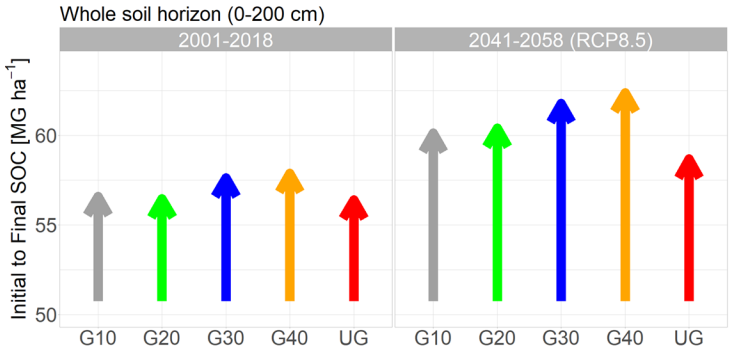
Results

Moderate grazing is best for climate change adaptation (productivity evolution and resistance) and mitigation (carbon sequestration).

Grazing had no impact on soybean grain yields.



Total system productivity increased with grazing intensity. But overgrazing was detrimental to herbage production.



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