

CARBOHYDRATE RECOVERY IN GRASS SPECIES UNDER TWO DEFOLIATION FREQUENCIES DETERMINED BY THERMAL TIME

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Plant recovery is a dynamic process that varies throughout the year and is affected by pasture defoliation frequency. In grass species, plant water soluble carbohydrates (WSC) reserves recovery after defoliation and plant ability to mobilize WSC have been little studied. The objective was to evaluate the fluctuation of the WSC concentration in *Lolium perenne* L. (Lp) and *Bromus valdivianus* Phil. (Bv) subjected to two defoliation frequencies determined by accumulated growing degree-days (AGDD). The study was conducted at the Universidad Austral de Chile's Austral Research Station in autumn 2017, on Lp and Bv pastures. Accumulated herbage mass (kg DM/ha), WSC concentration in stubble and leaves (g/1000g) were measured every 3 days. The high defoliation frequency (135 AGDD) treatment initially replenished CHOS concentration levels faster than the low defoliation frequency (270 AGDD) treatment. Lp leaves had a higher concentration of WSC than Bv leaves when defoliated at 135 AGDD. Accumulated herbage mass was lower for both species when defoliated at 135 AGDD compared to 270 AGDD. Plant recovery and persistence of Lp and Bv had a strong positive relationship with defoliation at 270 AGDD. This study validated AGDD as tool to determine defoliation frequency considering the WSC utilization and recovery and plant growth post-defoliation.

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