

EFFECTOS DEL ANEGAMIENTO EN INVIERNO Y VERANO SOBRE EL CRECIMIENTO Y LA SUPERVIVENCIA DE *Lotus tenuis* y *Lotus corniculatus*.

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ABSTRACT

Effects of waterlogging in winter and summer on the growth and survival of *Lotus tenuis* and *Lotus corniculatus*. Tolerance to winter and summer waterlogging was experimentally studied in *Lotus tenuis* and *Lotus corniculatus*. Both legumes constitute an important forage resource in the Flooding Pampa (Buenos Aires, Argentina), where *L. tenuis* occupies environments more exposed to flooding than *L. corniculatus*. Plants were cultivated individually in pots, which were kept outdoors. Flooded plants were kept with a constant 3 cm water level above the soil surface, while controls were periodically watered. Plants were kept flooded until 75% of chlorosis appeared on either species (42 days in the winter treatment and 17 days in the summer treatment). The winter treatment caused a decrease in the aerial growth, leaf senescence, partial root decomposition and the formation of shoot hypertrophies, but no mortality. *L. corniculatus* was the most negatively affected species. Shoot hypertrophies were more abundant in *L. tenuis*. Weight recuperation after the winter waterlogging period was more rapid in *L. tenuis* than in *L. corniculatus*. The summer treatment caused high shoot senescence in both species and no hypertrophy formation. After the waterlogging period, 50% of *L. tenuis* and 100% of *L. corniculatus* plants died. Regrowth of surviving *L. tenuis* plants was slow. The higher tolerance of *L. tenuis* to waterlogging agrees with the habitat segregation of both species, which has been in field studies.