

Stipagrostis ciliata (Desf.) De Winter: A Promising Pastoral Species for Ecological Restoration in North African Arid Bioclimate

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Abstract : Most ecological studies in North Africa reveal a process of continuous degradation of pastoral ecosystems as a result of overgrazing. This degradation appears across the depletion of perennial grass species. Indeed, the majority of steppic ecosystems are characterized by a low density of perennial grasses. This phenomenon reveals a drop in food value of rangelands, which is now estimated at less than 100 UF.ha⁻¹. -1 Year in all North African steppes. However, for ecological restoration initiatives, some species such the genus of *Stipagrostis* and *Stipa* can be considered a good candidates species for effective pastoral improvement under arid bioclimate. The present work concerns *Stipagrostis ciliata* (Desf.) De Winter, perennial grasses, abundant in ecosystems characterized by the high content of gypsum (CaSO₄)2H₂O in the southern Tunisia. This tufted species with C₄ biochemical photosynthesis type is able to grow and develop under high temperature and low annual rainfall, where the minimum water potential (ψ_{md}), can reach -4 MPa during the summer season with a phenological growth maintained throughout the season unfavorable. At this point in the early autumn rains, *S. ciliata* begins its growth, especially with a heading which occurs 2-3 weeks after the first autumn rains. From the foregoing, it can be concluded that *Stipagrostis ciliata* is an excellent promising pastoral species for the ecological restoration, and enhancement of ecosystems biological productivity in arid bioclimate of North Africa.

Keywords : *Stipagrostis ciliata*, pastoral species, ecological restoration, arid bioclimate

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