

**CONTRASTING GRAZING IMPACT ON SEASONAL PASTURES
REFLECTED BY PLANT FUNCTIONAL TRAITS: SEARCH FOR PATTERNS
IN KYRGYZ RANGELANDS**

**AUSWIRKUNGEN UNTERSCHIEDLICHER BEWEIDUNGSINTENSITÄT AUF
FUNKTIONALE PFLANZENMERKMALE VON SOMMER- UND
WINTERWEIDEN IM KIRGISISCHEN HOCHLAND**

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SUMMARY

At least 30 % of Kyrgyz grazing lands are considered to be subject to vegetation and soil degradation. Since animal husbandry is the economic basis to sustain people's livelihoods, rangeland degradation presents a threat for the majority of the population. Recently, the usage of plant functional traits as a powerful tool for the characterization of vegetation dynamics in response to anthropogenic and natural disturbances has been put forward. Grazing, one of the most severe disturbances to vegetation is both depending on and affecting plant functional traits.

We hypothesized that the contrasting grazing intensity of summer and winter pastures in the Naryn region (central Kyrgyz highlands) is reflected by selected plant functional traits. We used traits such as plant height, flowering start, plant growth form as well as SLA (Specific Leaf Area) and LMA (Leaf Mass per Area). Additionally, we analyzed the amount of biomass as indicator for grazing intensity. Based on a phytosociological classification of the main pasture types (summer and winter pastures), community structure and the traits of dominant plant species have been analyzed.

Our results show that high grazing pressure has resulted in decreased plant height and SLA and favored plants with an earlier flowering start as well as rosette and prostrate plants (hemicryptophytes). Respective changes are representative for winter pastures, whereas sets of plant attributes on summer pastures are consistently associated with lower grazing pressure. Our results support the growing recognition that plant functional trait analysis is a promising way to generate insights into the mechanisms of plant response to grazing in high-altitude rangelands.