

畜牧业生产与草地保护之间的协同作用：以中国青海省为例

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摘要： Balancing grassland conservation efforts with livestock production often implies tradeoffs, yet the synergy of both can be fostered through strategic adjustments in herder behaviors. Currently, there is limited scholarly investigation into the impact of livestock off-take and supplementary feeding practices on grassland production and ecological efficiency, with a notable scarcity in studies focusing on scenario simulation and predictive analysis. Using Qinghai Province, a major pastoral region but facing ecological degradation and grassland-livestock conflict, as our case study, this paper investigated the implications of optimizing off-take schedules and supplementary feeding on the production and ecological efficiency of livestock husbandry at the county-level. Through the establishment of two counterfactual scenarios juxtaposed with the empirical status, comprehensive insights are garnered regarding these impacts. Our findings demonstrated that Qinghai Province exhibited a grassland overloading rate of 51.80%, characterized by pronounced forage deficits in the eastern areas, primarily driven by cattle's substantial grass dry matter intake. Comparative analysis indicates that early off-take practices and supplementary feeding interventions lead to substantial enhancements in production efficiency, meat yield, and economic profitability, especially showcasing greater potential in elevated altitudinal zones. Our study explored the viability of optimizing pastoralist operational behaviors, considering the economic, ecological, and social costs, and underscored the necessity for a synchronized array of policy incentives, technological advancements, infrastructure enhancements, and market facilitation.

关键词： Grass-based livestock husbandry; Ecological efficiency; Livestock production; Early off-take; Supplementary feeding; Scenario simulations; Qinghai Province