Economic Evaluation of Redberry Juniper Control in the Texas Rolling Plains

Alfonso Gerbolini
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Phillip Johnson and Don Ethridge, Advisors
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Infestations of redberry juniper are a major problem on rangelands in the Rolling Plains and Edwards Plateau of Texas. The occurrence of redberry juniper reduces the capacity of these lands to support livestock and wildlife, as well as reduce the amount of water that may be recharged into underground aquifers. This study estimated the relationship between redberry juniper canopy cover and forage production. A brush treatment regime of initial control by chaining (mechanical brush removal), followed by prescribed burning two years later, and a sequential re-introduction of fire to maintain control levels was evaluated. Results indicated that the return of the treatment regime was $36.62/acre over a 30-year planning horizon. Following the initial chaining and burning treatment, a 7-year burning cycle was optimal for maintenance of the control level. This result indicates that control of redberry juniper is economically feasible on Texas economy through increased livestock production and increased recharge of underground aquifers.