## Seasonal Effects of Prescribed Burning and Roller Chopping on Saw Palmetto in Florida Flatwoods

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Abstract: Saw palmetto (Serenoa repens) can be abundant in many habitats of the southeastern Coastal Plain, including Florida. When fires are suppressed, this species can proliferate, leading to significant changes in the ecosystem, particularly the herbaceous vegetation. Prescribed burning and roller chopping during dormant (mid-November to mid-March) and growing (mid-March to September) seasons are management activities often used to control saw palmetto. However, little is known about the effects these management practices have on this shrub. We assessed the seasonal effects of prescribed burning, roller chopping, and a combination of the two on saw palmetto using a paired-sample approach, where saw palmetto density, height, and cover were compared between sampling locations randomly located within treated (e.g., burned) and untreated areas. Dormant season burning had little, if any, effect on saw palmetto density, height, and cover, with rapid regrowth of this species occurring the first-year post-treatment. Growing season burning had no effect on saw palmetto density, but was more effective than dormant season burning at controlling saw palmetto cover and height. These saw palmetto attributes were lower on growing season compared to control sites the first year post-burn. However, re-growth to pre-treatment levels occurred the second year post-burn. The single application of a dormant or growing season burn is not recommended for control of high-density saw palmetto; however, it may be suitable to maintain areas where saw palmetto levels are low and proliferation of the species is not a threat. The combination of burning and roller chopping, despite having no effect on saw palmetto density did result in lower saw palmetto height and cover than on control sites throughout the two years of the study. Dormant and growing season roller chopping had the greatest potential for saw palmetto control. Saw palmetto cover and height was lower on roller chopped than control sites during the two-year study period. Growing season roller chopping also caused reductions in saw palmetto density. Generally, the effects of growing season roller chopping on saw palmetto density, cover, and height were greater than for dormant season roller chopping. This may be because the wetter soils present during the growing season allowed for deeper roller chopper blade penetration, and stem and root severing. Growing season roller chopping is recommended if significant reductions in saw palmetto are desired.

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