



Response of Six Tropical Grasses to Prescribed Burning in the West Coast of Mexico

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A three year study was conducted in Nayarit, Mexico with the objective of evaluating the effect of fire on yield, forage quality, and height of six tropical grasses. *Panicum maximum* and *Hyparrhenia rufa* were studied at El Verdine Experimental Station. *Cenchrus ciliaris*, *P. maximum* var. *Trichoglume*, *Cynodon plectostachyus*, and *C. dactylon* were studied at El Macho Experimental Station. Treatments applied were prescribed burn and an unburned control. Two, 150-m² field plots were used per treatment during three consecutive years. Each year in late May and early June, experimental areas were burned and environmental conditions recorded including temperature, relative humidity, wind speed, and soil moisture. When regrowth initiated, grasses were sampled at 15-day intervals until maturation. Analysis of variance and mean separation (LSD) tests were conducted. The response of grasses to fire varied with species. Yield of *P. maximum*, *H. rufa*, *C. plectostachyus*, and *C. dactylon* were not improved ($P < 0.05$) by fire. In contrast, *C. ciliaris* and *P. maximum* var. *Trichoglume* showed a positive response ($P < 0.05$) to prescribed burning. Forage quality was improved by fire in all forage species. Height of *C. ciliaris* was positively ($P < 0.05$) influenced by fire. Prescribed burning only increased yield in two grasses, but forage quality was improved for all species. Fire is ordinarily used in tropical areas to eliminate old growth, to maintain pastures free of weeds, and to reduce certain insect pests. In this case results obtained are of great value for pasture management and animal production implications.

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