



## Effects of Biosolids Application on Establishment of Native, Warm-Season Grasses in Abandoned Fields of Chihuahua, Mexico

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The objective was to evaluate biosolids application on establishment of native, warm-season grasses in a semiarid abandoned field. The study was conducted in the ejido “Nuevo Delicias” in Chihuahua, Mexico. Thirty two experimental field plots were used, and seedbed included disking. Anaerobic biosolids were applied at 0, 10, 20, or 30 dry Mg/ha either on the surface or soil-incorporated in early august 2005. A grass mixture of 50% blue grama (*Bouteloua gracilis* “Hachita”), 25% green sprangletop (*Leptochloa dubia*), and 25% sideoats grama (*B. curtipendula*) was used in all plots. A randomized block design, with four replications and a split plot arrangement was used for the experiment. Total grass emergency was similar ( $p>0.5243$ ) among treatments with 45 plants/m<sup>2</sup> in 2005. In 2006, green sprangletop density increased from 7 to 15 plants/m<sup>2</sup> at control treatment and 10 Mg/ha, while blue grama density was similar ( $p>0.1473$ ) among treatments. Forage production of green sprangletop increased from 328 kg/ha at control to 4,400 kg/ha at 10 Mg/ha surface-applied biosolids in 2006. Similarly, blue grama production increased from 132 kg/ha at control to 505 kg/ha at 10 Mg/ha, regardless of biosolids rate. In 2007, green sprangletop density increased, while blue grama density decreased with biosolids rate. Green sprangletop forage production increased from 0 at control to 1,706 kg/ha at 10 Mg/ha, in both methods. Also, blue grama production increased from 61 to 429 kg/ha at control and 10 Mg/ha, regardless of method. All biosolids rates at both methods, improved establishment of native grasses in semiarid fields.

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