

Twenty Years After the Dude Fire: Targeted Cattle Grazing of Weeping Lovegrass Through the Use of Protein Supplementation

Author(s): Christopher R. Bernau, Jim Sprinkle, Ray Tanner, John A. Kava, Christine Thiel, Vanessa Prileson, and Doug Tolleson

Source: *Rangelands*, 36(6):15-21.

Published By: Society for Range Management

DOI: <http://dx.doi.org/10.2111/Rangelands-D-14-00013.1>

URL: <http://www.bioone.org/doi/full/10.2111/Rangelands-D-14-00013.1>

BioOne (www.bioone.org) is a nonprofit, online aggregation of core research in the biological, ecological, and environmental sciences. BioOne provides a sustainable online platform for over 170 journals and books published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Web site, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/page/terms_of_use.

Usage of BioOne content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

Twenty Years After the Dude Fire: Targeted Cattle Grazing of Weeping Lovegrass Through the Use of Protein Supplementation

By Christopher R. Bernau, Jim Sprinkle, Ray Tanner, John A. Kava, Christine Thiel, Vanessa Prileson, and Doug Tolleson

On the Ground

- The 1990 Dude Fire on the Mogollon Rim in Arizona and the following restoration resulted in an invasion of weeping lovegrass.
- Ecosystem restoration required successful collaboration between federal, state, and private individuals.
- We used protein supplementation to redistribute grazing pressure on the rangeland and to increase use of nutrient-poor old-growth weeping lovegrass forage.
- We observed that cattle hoof action worked in concert with targeted grazing to achieve the desired effect on weeping lovegrass. After 2 years of targeted grazing, we saw a short-term reduction in weeping lovegrass and increased competitive opportunities for native vegetation.

Keywords: weeping lovegrass, *Eragrostis curvula*, targeted grazing, cattle, protein supplementation, restoration, wildfire, Dude fire.

Rangelands 36(6):15–21

doi: 10.2111/Rangelands-D-14-00013.1

© 2014 The Society for Range Management

Weeping lovegrass (*Eragrostis curvula*; WLГ) is a warm-season bunchgrass that is native to southern Africa. It can grow 2–6-foot tall with long, narrow, drooping leaves; an inflorescence that extends beyond the crown; and a 4–6-inch, open panicle.^{1,2} WLГ was initially introduced into the United States in the 1930s in an effort to mitigate degraded rangelands and to reduce erosion.³ It was chosen because of

its documented rapid growth rate, prolific seed production, high germination rate, and extensive root system. It also germinates and grows earlier than native vegetation, stays greener longer, and was initially reported to be palatable to wildlife and domestic animals,⁴ which is desirable in vegetation recovery. Because of these desirable characteristics, WLГ was used in revegetation efforts in every southern state, on the east and west coasts, and along roads and other easily erodible surfaces. Today, WLГ can be found in 32 states¹ and is readily available in seed and as adult plants in many nurseries.

For the most part, WLГ stayed where it was planted. One Arizona study determined that 30-year-old plantings were merely present in semidesert grasslands and had completely died out in semidesert scrub, chaparral, and pinyon-juniper woodlands.⁵ This passive reputation is illustrated by a Natural Resources Conservation Service fact sheet,¹ which provides seeding instructions and a description of WLГ as a short-duration perennial requiring no maintenance. However, WLГ has also been observed to persist and spread into neighboring landscapes in some locations, often displacing native vegetation.⁶ The US Forest Service (USFS) currently lists WLГ as invasive in eight states, including Arizona, and gives methods on how to eradicate it.⁶ These somewhat contradictory perceptions may be due to the extensive range of WLГ, covering a wide variety of climatic zones and soil types across the United States, and the genetic variety represented in the several WLГ cultivars brought back from Africa. Although there may be some dispute as to the exact invasiveness of WLГ, it became problematic and undesirable in the Tonto National Forest in Arizona.

WLГ dominates the understory vegetation of more than 21,000 acres along the Mogollon Rim in the Tonto National Forest. Its prominence is the result of a vegetation restoration effort in the early 1990s that occurred after the 28,000-acre Dude Fire. As a monoculture, WLГ impeded native vegeta-

Download English Version:

<https://daneshyari.com/en/article/4405318>

Download Persian Version:

<https://daneshyari.com/article/4405318>

[Daneshyari.com](https://daneshyari.com)