



By Jeff Mosley

Browsing the Literature

This section reviews new publications available about the art and science of rangeland management. Personal copies of these publications can be obtained by contacting the respective publishers or senior authors (addresses shown in parentheses). Suggestions are welcomed and encouraged for items to include in future issues of *Browsing the Literature*. Contact Jeff Mosley, jmosley@montana.edu.

Animal Ecology

A comparison of the metabolism of the abortifacient compounds from ponderosa pine needles in conditioned versus naïve cattle. K. D. Welch, D. R. Gardner, J. A. Pfister, K. E. Panter, J. Ziegler, and J. O. Hall. 2012. *Journal of Animal Science* 90:4611–4617. (USDA-ARS Poisonous Plant Research Laboratory, 1150 East 1400 North, Logan, UT 84341, USA). In cattle conditioned to ponderosa pine, rumen microflora metabolize the abortion-causing compounds faster than in unconditioned cattle.

Effects of temperament and acclimation to handling on reproductive performance of *Bos taurus* beef females. R. F. Cooke, D. W. Bohnert, B. I. Cappelozza, C. J. Mueller, and T. DelCurto. 2012. *Journal of Animal Science* 90:3547–3555. (Eastern Oregon Agricultural Research Center, 67826-A Hwy 205, Burns, OR 97720, USA). Cows with aggressive temperament had lower pregnancy rates, lower calving rates, and lower weaning rates than more docile cows.

Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires in an extensive rangeland production system: I. Ewe productivity and crossbred lamb survival and preweaning growth. T. D. Leeds, D. R. Notter, K. A. Leymaster, M. R. Mousel, and G. S. Lewis. 2012. *Journal of Animal Science* 90:2931–2940. (G. Lewis, USDA-ARS US Sheep Experiment Station, Dubois, ID 83423, USA). Suffolk rams were better terminal sires than the other sire breeds tested (Columbia, USMARC-Composite, or Texel). Breeding adult Rambouillet ewes to Suffolk rams improved weaning weights without any negative effects to the ewes or lambs.

Grazing Management

Effects of a long-term disturbance on arthropods and vegetation in subalpine wetlands: manifestations of pack stock grazing in early versus mid-season. J. G. Holmquist, J. Schmidt-Gengenbach, and S. A. Haultain. 2013. *Plos One* 8(1):e54109. doi:10.1371/journal.pone.0054109. 10 p. (White Mountain Research Center, 3000 East Line St, Bishop, CA 93514, USA). Long-term pack stock grazing did not appreciably affect arthropods in montane meadows of Sequoia National Park.

Hydrology/Riparian

Bird community response to vegetation cover and composition in riparian habitats dominated by Russian olive (*Elaeagnus angustifolia*). R. A. Fischer, J. J. Valente, M. P. Guilfoyle, M. D. Kaller, and S. S. Jackson. 2012. *Northwest Science* 86:39–52. (J. Valente, US Army Corps of Engineers, Engineer Research and Development Center, Environmental Lab, Waterways Experiment Station, Vicksburg, MS 39180, USA). In southeastern Washington, riparian habitats dominated by Russian olive trees supported diverse and abundant bird communities, with the exception of cavity nesting species.

Elevated CO₂ does not offset greater water stress predicted under climate change for native and exotic riparian plants. L. G. Perry, P. B. Shafroth, D. M. Blumenthal, J. A. Morgan, and D. R. LeCain. 2013. *New Phytologist* 197:532–543. (Dept of Biology, Colorado State Univ, Fort Collins, CO 80523, USA). Increased drought and lower stream flows under climate change will reduce riparian plant seedling growth despite elevated atmospheric carbon dioxide, and will reduce growth more for native willows and cottonwoods than for Russian olive and saltcedar.

Modeling climate change effects on runoff and soil erosion in southeastern Arizona rangelands and implications for mitigation with conservation practices. Y. Zhang, M. Hernandez, E. Anson, M. A. Nearing, H. Wei, J. J. Stone, and R. Heilman. 2012. *Journal of Soil and Water Conservation* 67:390–405. (USDA-ARS Southwest Watershed Research Center, 2000 East Allen Rd, Tucson, AZ 85719, USA). Climate change will increase the frequency and intensity of extreme storms in southeastern Arizona and dramatically increase runoff and soil erosion.

Plant Ecology

Constancy of local spread rates for buffelgrass (*Pennisetum ciliare* L.) in the Arizona upland of the Sonoran Desert. A. D. Olsson, J. L. Betancourt, M. A. Crimmins, and S. E. Marsh. 2012. *Journal of Arid Environments* 87:136–143. (Lab of Landscape Ecology and Conservation Biology, College of Engineering, Forestry and Natural Sciences, Northern Arizona Univ, Flagstaff, AZ 86011, USA). In southern Arizona, minimum requirements are met almost every year for reproduction of buffelgrass, resulting in a constant rate of spread for the past 30 years. Buffelgrass infestations have doubled in size every 2 to 7 years.

Ecological characteristics of sites invaded by buffelgrass (*Pennisetum ciliare*). S. R. Abella, L. P. Chiquoine, and D. M. Backer. 2012. *Invasive Plant Science and Management* 5:443–453. (Dept of Environmental and Occupational Health, Univ of Nevada, Las Vegas, Las Vegas, NV 89154, USA). Soil nutrients, native plant species presence, and native plant species

in soil seed banks were unaltered in 10-year-old buffelgrass infestations in southern Arizona. Native plants should recover if buffelgrass can be suppressed.

Identifying native vegetation for reducing exotic species during the restoration of desert ecosystems. S. R. Abella, D. J. Craig, S. D. Smith, and A. C. Newton. 2012. *Restoration Ecology* 20:781–787. (Dept of Environmental and Occupational Health, Univ of Nevada, Las Vegas, Las Vegas, NV 89154, USA). Monotypic stands of desert globemallow, a native, early successional forb, were the most resistant to invasion by the annual grasses red brome and Mediterranean grass.

Postfire downy brome (*Bromus tectorum*) invasion at high elevations in Wyoming. B. A. Meador, S. Cox, and D. T. Booth. 2012. *Invasive Plant Science and Management* 5:427–435. (Dept of Plant Sciences, Univ of Wyoming, Laramie, WY 82071, USA). Cheatgrass is expanding into higher elevations in the Rocky Mountains (5,600–6,200 feet) and should be addressed in postfire management plans.

Rehabilitation/Restoration

Alfalfa and forage kochia improve nutritive value of semiarid rangelands. M. D. Peel, B. L. Waldron, K. B. Jensen, and J. G. Robins. 2013. *Forage and Grazinglands* doi:10.1094/FG-2013-121-01-RS. 10 p. (USDA-ARS Forage and Range Research Laboratory, 695 North 1100 East, Logan, UT 84322, USA). Crude protein content of forage kochia was higher when planted at 39-inch or 29-inch row spacings than when planted at 10-inch or 19-inch spacings. Forage kochia neutral detergent fiber (NDF) content was unaffected by row spacing.

Effect of safener, activated-charcoal coated seed, and charcoal banding on establishment of switchgrass receiving pre-emergent herbicides. T. J. Butler, M. K. Kering, C. Huo, and J. A. Guretzky. 2012. *Forage and Grazinglands* doi:10.1094/FG-2012-1214-01-RS. 9 p. (The Samuel Roberts Noble Foundation, 2510 Sam Noble Parkway, Ardmore, OK 73401, USA). Charcoal treatments to protect seed from preemergent herbicides were too ineffective and too expensive to use when seeding switchgrass.

Landscape-scale rehabilitation of medusahead (*Taeniatherum caput-medusae*)-dominated sagebrush steppe. R. L. Sheley, E. A. Vasquez, A. M. Chamberlain, and B. S. Smith. 2012. *Invasive Plant Science and Management* 5:436–442. (USDA-ARS, 67826-A Hwy 205, Burns, OR 97720, USA). Simultaneous application of imazapic and grass seed (crested wheatgrass and Sandberg bluegrass) reduced medusahead and increased crested wheatgrass in southeastern Oregon.

Mid-contract management of Conservation Reserve Program grasslands provides benefits for ring-necked pheasant nest and brood survival. T. W. Matthews, S. J. Taylor, and L. A. Powell. 2012. *Journal of Wildlife Management* 76:1643–1652. (L. Powell, School of Natural Resources, Univ of Nebraska, Lincoln, NE 68503, USA). Nest survival and brood survival of ring-necked pheasants were improved by disking and interseeding legumes into established CRP fields in northeastern Nebraska.

Predicting Douglas-fir sapling mortality following prescribed fire in an encroached grassland. E. A. Engber and J. M. Varner. 2012. *Restoration Ecology* 20:665–668. (Dept of Forestry, Mississippi State Univ, Mississippi State, MS 39762, USA). Crown scorch must reach 20% for prescribed fire to kill Douglas-fir saplings in encroached grasslands.

Ring-necked pheasant hens select managed Conservation Reserve Program grasslands for nesting and brood-rearing. T. W. Matthews, S. J. Taylor, and L. A. Powell. 2012. *Journal of Wildlife Management* 76:1653–1660. (US Fish and Wildlife Service, 4425 Burley Dr, Suite A, Chubbock, ID 83202, USA). Pheasant hens preferred to nest and raise their broods where disking and interseeding had increased forb cover in established CRP fields in northeastern Nebraska.

Roller chopping effectively reduces shrub cover and density in pine flatwoods. E. V. Willcox and W. M. Giuliano. 2012. *Restoration Ecology* 20:721–729. (Institute of Food and Agricultural Sciences, Univ of Florida, P.O. Box 219, Bronson, FL 32621, USA). “If reductions in shrub density are required, growing season roller chopping in combination with grazing may be the only effective treatment.”

‘Stabilizer’, a new low-growing Siberian wheatgrass cultivar for use on semiarid lands. K. B. Jensen, B. S. Bushman, B. L. Waldron, J. G. Robins, D. A. Johnson, and J. E. Staub. 2013. *Journal of Plant Registrations* 7:89–94. (USDA-ARS Forage and Range Research Laboratory, 695 North 1100 East, Logan, UT 84322, USA). A new Siberian wheatgrass cultivar, ‘Stabilizer’, is available for roadsides and fire-

strip plantings where low-growing, low-yielding vegetation is desired.

Targeting vulnerable life-stages of sericea lespedeza (*Lespedeza cuneata*) with prescribed burns. B. W. Wong, G. R. Houseman, S. E. Hinman, and B. L. Foster. 2012. *Invasive Plant Science and Management* 5:487–493. (Dept of Biological Sciences, Wichita State Univ, Wichita, KS 67260, USA). “... controlled burns are likely to encourage spread of sericea lespedeza and are unlikely to effectively control this invasive species.”

The impact of antecedent fire area on burned area in southern California coastal ecosystems. O. E. Price, R. A. Bradstock, J. E. Keeley, and A. D. Syphard. 2012. *Journal of Environmental Management* 113:301–307. (Centre for Environmental Risk Management of Bushfires, Univ of Wollongong, Wollongong, NSW 2522, Australia). Prescribed burning at the urban interface may create defensible space for protecting structures, but prescribed burning is unlikely to reduce wildfire frequency in southern California chaparral because these shrublands can carry a fire within one or 2 years after a previous fire.

Socioeconomics

The elephant in the room: absentee landowner issues in conservation and land management. P. Petrzalka, Z. Mao, and S. Malin. 2013. *Land Use Policy* 30:157–166. (Dept of Sociology, Social Work, and Anthropology, Utah State Univ, Logan, UT 84322, USA). Authors synthesize the peer-reviewed literature and state and federal policies that focus on absentee landowners of forests, rangeland, and farm land in the United States.

Jeff Mosley is Professor of Range Science and Extension Range Management Specialist, Department of Animal and Range Sciences, Montana State University, Bozeman, MT 59717, USA.

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