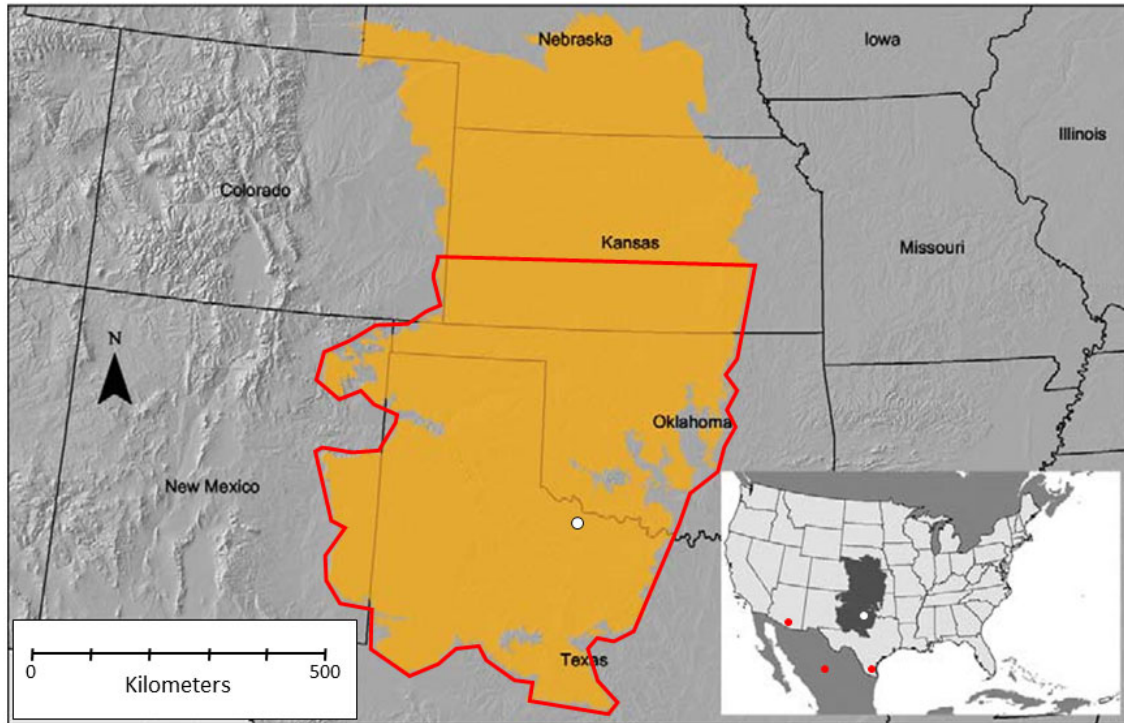


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Supplemental Figures and Tables
for
Ansley et al. 2021. Herbaceous production and soil nitrogen after mesquite mortality in
Southern Great Plains (USA) grassland. *Rangeland Ecology and Management*.



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8 Figure S1. The Southern Great Plains (SGP) is defined in this paper (red outline) as the 368,000
9 km² southern portion (latitude 31-38° N, longitude 96-104° W), or 65 % of the 569,420 km²
10 Central Great Plains Region of the USA (31-41° N latitude; USDA-NRCS, 2006, page 195).
11 Distance scale is redrawn and applies to the larger map. Locations where most *Prosopis* soil
12 nutrient research has been conducted in the USA and northern Mexico are shown as red dots in
13 the inset map [southern Texas, USA (Geesing et al., 2000; McCulley et al., 2004; Boutton and
14 Liao, 2010; Arizona, USA, *Prosopis velutina* (Tiedemann and Klemmedson, 1986; Wheeler et
15 al., 2007); northern Mexico (Herrera-Arreola et al., 2007)]. The research location in the SGP in
16 this paper is shown as a white dot in both maps.

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Table S2. Mesquite herbicide treatment mixtures applied via helicopter on July 10, 2014 in the 4 blocks. Conditions during spraying (6:30-7:30 am): air temperature 26.1 °C; relative humidity 50-56%; wind speed 0.9-1.8 m · s⁻¹; soil temperature 28.9 °C. Total spray volume (chemical + water) in each treatment was 46.76 l · ha⁻¹.

Block	Herbicide Mix	Commercial Name ¹
1 and 2	clopyralid (0.32 l · ha ⁻¹) triclopyr (0.35 l · ha ⁻¹)	Reclaim + Remedy
3	clopyralid (0.63 l · ha ⁻¹) triclopyr (0.35 l · ha ⁻¹) aminopyralid (0.12 l · ha ⁻¹)	Sendero + Remedy
4	clopyralid (0.63 l · ha ⁻¹) aminopyralid (0.12 l · ha ⁻¹)	Sendero

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^{1/} Commercial names of products from Corteva (formerly Dow AgroSciences).

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Table S3. Species in each functional group frequency of occurrence in 192 clip quadrats (CS = cool season, WS = warm season; SU = season unknown. Forb seasonality determined from Hatch and Pluhar, 1993; Linex, 2014; Stubbendieck et al., 2019; and USDA-NRCS, 2020.

Functional Group (FG)	Species Name	Common Name	Freq. Occur. Species	% Occur. Species	Species per FG	Freq. Occur. FG	% Occur. FG
C3 Mid-grass	<i>Nassella leucotricha</i>	Texas wintergrass	142	74.0	1	142	74.0
C3 Annual Grass	<i>Hordeum pusillum</i>	Little barley	23	12.0	4	36	18.8
	<i>Bromus japonicus</i>	Japanese brome	7	3.6			
	<i>Bromus unioloides</i>	Rescuegrass	4	2.1			
	<i>Vulpia octoflora</i>	Six-weeks fescue	2	1.0			
C4 Short-grass	<i>Buchloe dactyloides</i>	Buffalograss	32	16.7	5	63	32.8
	<i>Hilaria belangeri</i>	Curly mesquite	21	10.9			
	<i>Bouteloua hirsuta</i>	Hairy grama	6	3.1			
	<i>Bouteloua gracilis</i>	Blue grama	3	1.6			
	<i>Chloris verticulata</i>	Tumble windmill grass	1	0.5			
C4 Mid-grass	<i>Hopia obtusa</i>	Vine mesquite	12	6.3	6	32	16.7
	<i>Sporobolus cryptandrus</i>	Sand dropseed	11	5.7			
	<i>Bouteloua curtipendula</i>	Sideoats grama	6	3.1			
	<i>Bothriochloa laguroides</i>	Silver bluestem	1	0.5			
	<i>Sporobolus compositus</i>	Meadow dropseed	1	0.5			
	<i>Digitaria californica</i>	Arizona cottontop	1	0.5			
Perennial Forb	<i>Oxalis stricta</i>	Yellow wood sorrell	38	19.8	7	71	37.0
	<i>Ambrosia psilostachya</i>	Western ragweed	16	8.3			
	<i>Solanum elaeagnifolium</i>	Silverleaf nightshade	11	5.7			
	<i>Chamaesaracha sordida</i>	Hairy five eyes	2	1.0			
	<i>Physalis longifolia</i>	Groundcherry	2	1.0			
	<i>Argythamnia humilis</i>	Wild mercury	1	0.5			
	<i>Krameria lanceolata</i>	Trailing ratany	1	0.5			
Annual Forb CS	<i>Plantago patagonica</i>	Woolly plantain	20	10.4	7	45	23.4
	<i>Lepidium densiflorum</i>	Pepperweed	16	8.3			
	<i>Plantago patagonica</i>	Redseed plantain	2	1.0			
	<i>Lesquerella gordonii</i>	Bladderpod	2	1.0			
	<i>Verbena bracteata</i>	Prostrate vervain	2	1.0			
	<i>Erodium texanum</i>	Texas filaree	2	1.0			
	<i>Stellaria media</i>	Common chickweed	1	0.5			
Annual Forb WS	<i>Amphiachyris dracunculoides</i>	Annual broomweed	44	22.9	6	78	40.6
	<i>Conyza canadensis</i>	Marestail	28	14.6			
	<i>Croton texensis</i>	Texas croton	2	1.0			
	<i>Parthenium hysterophorus</i>	Ragweed parthenium	2	1.0			
	<i>Chenopodium album</i>	Lambsquarters	1	0.5			
	<i>Euphorbia dentata</i>	Toothed spurge	1	0.5			
Annual Forb SU	<i>Chaerophyllum tainturieri</i>	Hairyfruit chervil	1	0.5	1	1	0.5
Totals			468		37	468	
Total Quadrats			192				
Average Species/Quadrat			2.4				

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