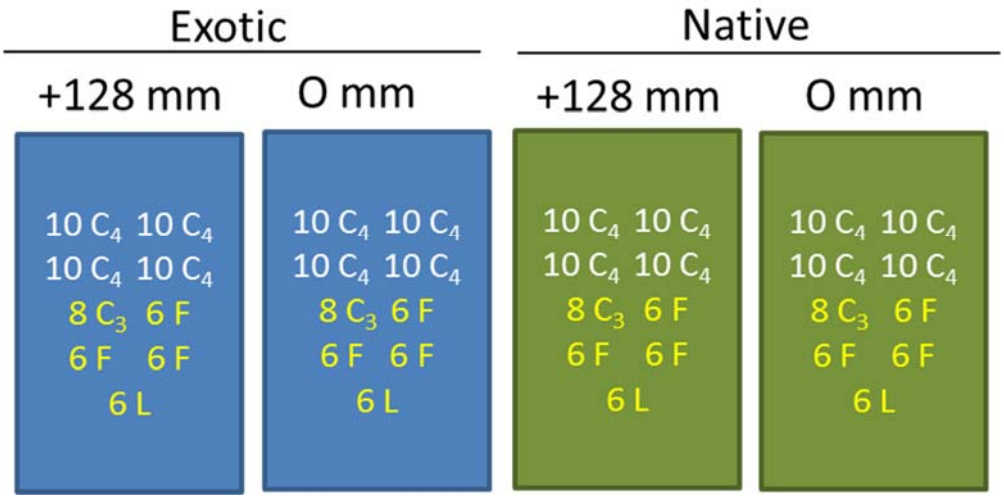
MEND (Maintenance of exotic and native diversity) Irrigation Study (Wilsey et al. 2011, Isbell et al. 2011) utilized 9-species mixtures and monocultures to test hypotheses (Figure 1). Experimental design was four species draws within 2 blocks (Block 1 planted in October 2007 or Block 2 in March 2008) x 2 origins (either all native or all exotic species) x 2 irrigation treatments (summer irrigated with 128 mm from July 15 to August 15 of each year) x 2 replicates = 64 mixture plots. Plots were planted so that species were paired as described below in Table 1.

All 36 species (18 native and 18 exotic) were also planted in monocultures that were either irrigated (summer irrigated with 128 mm from July 15 to August 15 of each year) or not irrigated within each block, for 36 x 2 x 2 = 144 monoculture plots.

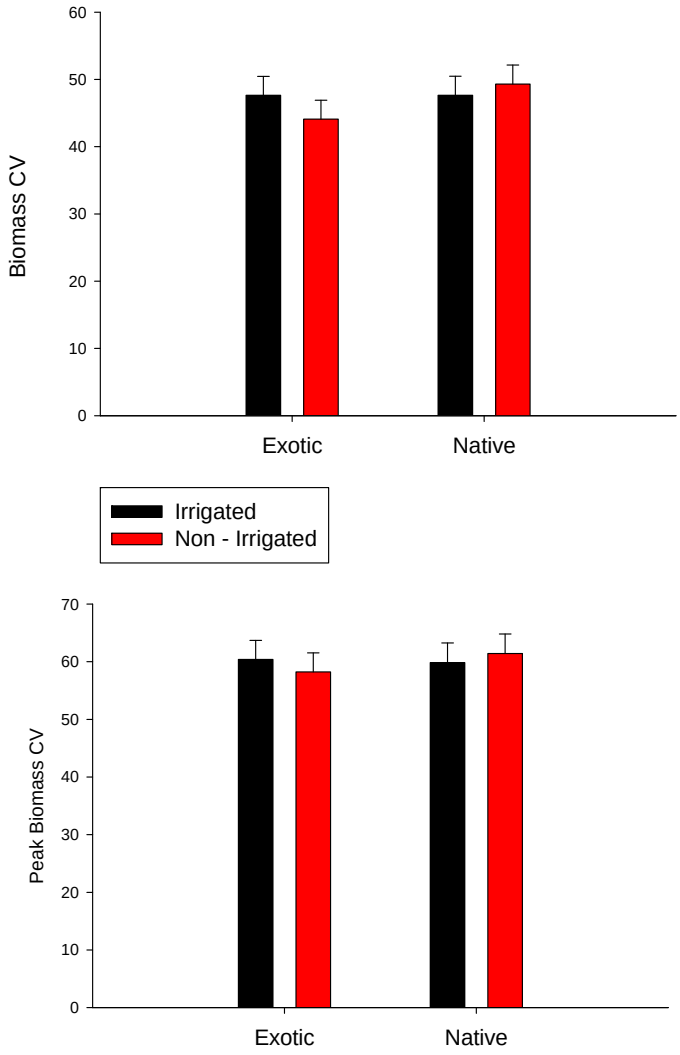


Supplemental Table 1. List of species used in the experiment. All species are already present in the Texas flora (Diggs et al. 1999). Nine-species plots were planted with random draws from the following list of C_4 grasses, C_3 grasses, C_3 forbs, and C_3 leguminous forbs, with all functional groups represented in each plot. Exotic and native species were paired based on phylogeny and growth form. Only four C_3 grass species were used due to their paucity in the system.

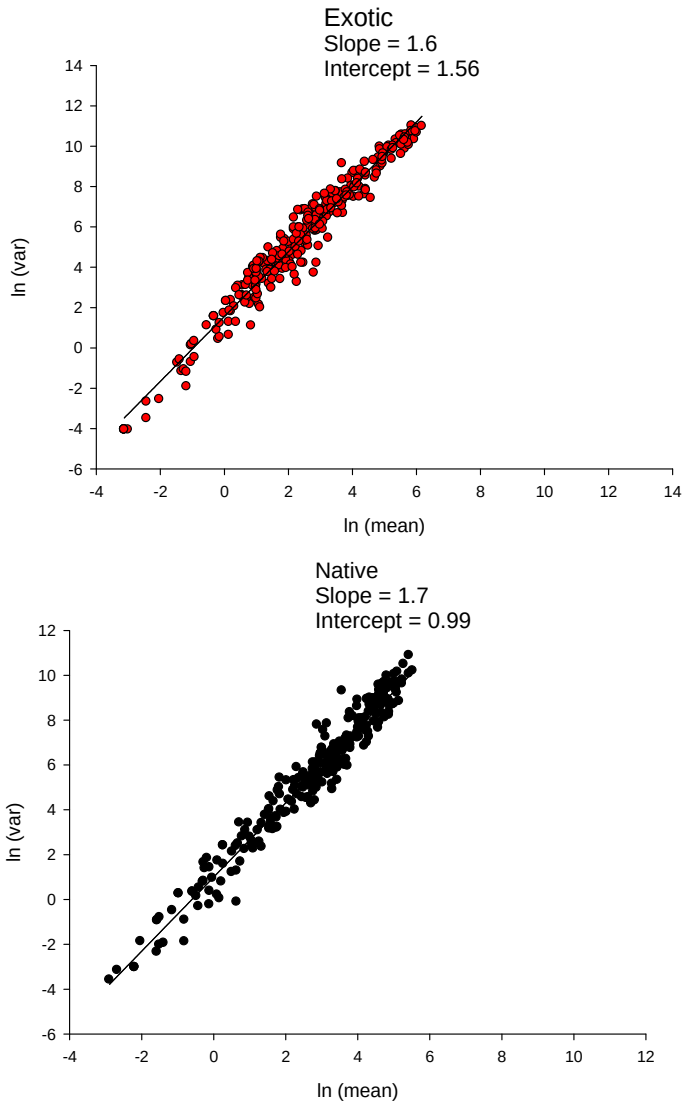
Exotic species	*Family*	*Origin*	*Native species pair*
C_4 grasses:			
Bothriochloa ischaemum[1,2,6]	*Poacae*	*Asia*	*Schizachyrium scoparium*[2,4,5]
Cynodon dactylon[1]	*Poacae*	*Africa*	*Buchloe dactyloides*[1]
Eragrostis curvula[6]	*Poacae*	*Africa*	*Sporobolus asper*[1,2]
Panicum coloratum[6]	*Poacae*	*Africa*	*Panicum virgatum (short ecotype)* [4]
Paspalum dilatatum[1]	*Poacae*	*South America*	*Eriochloa sericea*[4]
Sorghum halapense[1,2]	*Poacae*	*Mediterranean*	*Sorghastrum nutans*[1,2,4]
C_3 grasses:			
Dactylus glomerata[6]	*Poacae*	*Europe*	*Nasella luecotricha*[1]
Festuca arundinacea[6]	*Poacae*	*Europe*	*Elymus canadensis*[4,5]
C_3 Forbs:			
Leucanthemum vulgare[6]	*Asteraceae*	*Eurasia*	*Ratibida columnifera*[4,5]
Taraxacum officinale[1]	*Asteraceae*	*Europe*	*Marshallia caespitosa*[7]
Cichorium intybus[6]	*Asteraceae*	*Eurasia*	*Vernonia baldwinii*[4,7]
Nepata cataria[6]	*Lamiaceae*	*Eurasia*	*Salvia azurea*[2,4]
Ruellia brittoniana[7]	*Acanthaceae*	*Mexico*	*Ruellia humilis*[6]
Marrubium vulgare[6,7]	*Lamiaceae*	*Eurasia*	*Monarda fistulosa*[4,7]
C_3 Leguminous forbs:			
Lotus corniculatus[6]	*Fabaceae*	*Eurasia*	*Dalea purpurea*[3,4]
Trifolium repens[6]	*Fabaceae*	*Europe*	*Dalea candidum*[4]
Medicago sativa[6]	*Fabaceae*	*Asia*	*Desmanthus illinoensis*[4]
Coronilla varia[6]	*Fabaceae*	*Mediterranean*	*Astragalus canadensis*[6]

Propagule sources:

[1] Field collected vegetative
[2] Field collected seed
[3] 'Wildseed Farms' seed
[4] 'Native American Seed Co.' seed
[5] Field collected seed from 'Sweet Briar Nursery'
[6] Other company seed
[7] Other company, vegetative



SFigure 2. Coefficient of variation across all 9 dates between 2008 and 2012 (top), and across all October dates from 2008 to 2012 (bottom).



SFigure 3. Relationship between mean and variance in exotic (top) and native (bottom) mixtures.

Species included in Draws:

Draw 1 (Block 1)

Exotic Mixtures	Native Mixtures
Cynodon dactylon	*Buchloe dactyloides*
Eragrostis curvula	*Sporobolus asper*
Sorghum halapense	*Sorghastrum nutans*
Bothriochloa ischaemum	*Schizachyrium scoparium*

Festuca arundinacea	*Elymus canadensis*
Marrubium vulgare	*Monarda fistulosa*
Taraxacum officinale	*Marshallia caespitosa*
Cichorium intybus	*Vernonia baldwinii*
Lotus corniculatus	*Dalea purpurea*

Draw 2 (Block 1)

Cynodon dactylon	*Buchloe dactyloides*
Eragrostis curvula	*Sporobolus asper*
Paspalum dilatatum	*Eriochloa sericea*
Panicum coloratum	*Panicum virgatum*
Dactylus glomerata	*Nasella luecotricha*
Leucanthemum vulgare	*Ratibida columnifera*
Ruellia brittoniana	*Ruellia humilis*
Nepata cataria	*Salvia azurea*
Medicago sativa	*Desmanthus illinoensis*

Draw 3 (Block 1)

Sorghum halapense	*Sorghastrum nutans*
Bothriochloa ischaemum	*Schizachyrium scoparium*
Paspalum dilatatum	*Eriochloa sericea*
Panicum coloratum	*Panicum virgatum*
Festuca arundinacea	*Elymus canadensis*
Marrubium vulgare	*Monarda fistulosa*
Cichorium intybus	*Vernonia baldwinii*
Leucanthemum vulgare	*Ratibida columnifera*
Coronilla varia	*Astragalus canadensis*

Draw 4 (Block 1)

Cynodon dactylon	*Buchloe dactyloides*
Bothriochloa ischaemum	*Schizachyrium scoparium*
Paspalum dilatatum	*Eriochloa sericea*
Eragrostis curvula	*Sporobolus asper*
Dactylus glomerata	*Nasella luecotricha*
Taraxacum officinale	*Marshallia caespitosa*
Ruellia brittoniana	*Ruellia humilis*
Nepata cataria	*Salvia azurea*
Trifolium repens	*Dalea candidum*

Draw 5 (Block 2)

Sorghum halapense	*Sorghastrum nutans*
Bothriochloa ischaemum	*Schizachyrium scoparium*
Paspalum dilatatum	*Eriochloa sericea*
Panicum coloratum	*Panicum virgatum*
Dactylus glomerata	*Nasella luecotricha*

Taraxacum officinale	*Marshallia caespitosa*
Cichorium intybus	*Vernonia baldwinii*
Nepata cataria	*Salvia azurea*
Medicago sativa	*Desmanthus illinoensis*

Draw 6 (Block 2)

Cynodon dactylon	*Buchloe dactyloides*
Bothriochloa ischaemum	*Schizachyrium scoparium*
Panicum coloratum	*Panicum virgatum*
Eragrostis curvula	*Sporobolus asper*
Festuca arundinacea	*Elymus canadensis*
Marrubium vulgare	*Monarda fistulosa*
Leucanthemum vulgare	*Ratibida columnifera*
Ruellia brittoniana	*Ruellia humilis*
Trifolium repens	*Dalea candidum*

Draw 7 (Block 2)

Sorghum halapense	*Sorghastrum nutans*
Bothriochloa ischaemum	*Schizachyrium scoparium*
Panicum coloratum	*Panicum virgatum*
Eragrostis curvula	*Sporobolus asper*
Festuca arundinacea	*Elymus Canadensis*
Taraxacum officinale	*Marshallia caespitosa*
Leucanthemum vulgare	*Ratibida columnifera*
Ruellia brittoniana	*Ruellia humilis*
Coronilla varia	*Astragalus canadensis*

Draw 8 (Block 2)

Cynodon dactylon	*Buchloe dactyloides*
Sorghum halapense	*Sorghastrum nutans*
Paspalum dilatatum	*Eriochloa sericea*
Eragrostis curvula	*Sporobolus asper*
Dactylus glomerata	*Nasella luecotricha*
Marrubium vulgare	*Monarda fistulosa*
Cichorium intybus	*Vernonia baldwinii*
Nepata cataria	*Salvia azurea*
Lotus corniculatus	*Dalea purpurea*

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