

## Going native with legumes in rangeland restoration, cultivated pasture and prairies

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**Introduction** Commercially available ecotypic (defined as locally or at least regionally native) herbaceous and semi-woody legumes are few in sub-humid and semi-arid regions of North America. There is a growing demand for native germplasm in the region as a new generation of landowner attempts to return grasslands to a semblance of their original native species composition and diversity. Stable grasslands that incorporate at least a portion of the originally ubiquitous legumes constitute more sustainable rangeland, pasture, biofuel, right-of-way, and wildlife habitat than the currently predominant monocultures based on introduced (exotic) germplasm. The objective of this paper is to enumerate the herbaceous and semi-woody legume germplasm being developed for possible commercial use in drier climates of south-central USA.

**Materials and methods** Initial efforts focused on native legume germplasm collections in relic prairies, understocked grasslands, and protected woodlands. Subsequent selection screened for hardiness, herbage yields, seed production (ease of harvest), and survival under grazing, mowing or haying.

**Results** The list of species being developed is growing. Few are yet commercially available, but seed companies are interested in a nascent and potentially lucrative market. Table 1 contains a partial list of species currently being developed in the south-central United States.

Table 1. Native herbaceous legumes being developed as ecotypic seed in south-central USA.

| Latin binomial                               | Availability <sup>1</sup> | Environment | Use        | Habit <sup>2</sup> |
|--|---------------------------|-------------|------------|--------------------|
| <i>Acacia angustissima</i> var. <i>hirta</i> | D                         | Grassland   | Grazing    | P, U               |
| <i>Amorpha canescens</i>                     | D                         | Grassland   | Wildlife   | P, U               |
| <i>Amorpha fruticosa</i>                     | D                         | Grassland   | Wildlife   | P, U               |
| <i>Cassia fasciculata</i>                    | C                         | Grassland   | Wildlife   | A, U               |
| <i>Dalea aurea</i>                           | D                         | Grassland   | Wildlife   | P, U               |
| <i>Dalea multiflora</i>                      | D                         | Mixed       | Wildlife   | P, U               |
| <i>Dalea obovata</i>                         | D                         | Grassland   | Wildlife   | P, U               |
| <i>Dalea purpurea</i> v. <i>purpurea</i>     | R                         | Grassland   | Grazing    | P, U               |
| <i>Dalea scandens</i>                        | D                         | Savannah    | Wildlife   | P, U               |
| <i>Desmanthus bicornutus</i>                 | C                         | Savannah    | Wildlife   | P, U               |
| <i>Desmanthus illinoensis</i>                | C                         | Savannah    | Grazing    | P, U               |
| <i>Desmanthus leptolobus</i>                 | D                         | Mixed       | Wildlife   | P, U               |
| <i>Desmanthus velutinus</i>                  | D                         | Grassland   | Wildlife   | P, U               |
| <i>Desmanthus virgatus</i>                   | D                         | Disturbed   | Wildlife   | P, L               |
| <i>Indigofera miniata</i>                    | D                         | Disturbed   | Soil Stab. | P, L               |
| <i>Leucaena retusa</i>                       | R                         | Mixed       | Browse     | P, U               |
| <i>Lepedeza stuevei</i>                      | D                         | Mixed       | Wildlife   | P, U               |
| <i>Mimosa strigillosa</i>                    | R                         | Disturbed   | Wildlife   | P, L               |
| <i>Rhynchosia latifolia</i>                  | D                         | Disturbed   | Wildlife   | P, U               |
| <i>Strophostyles helvula</i>                 | D                         | Disturbed   | Wildlife   | A, V               |
| <i>Strophostyles leiosperma</i>              | D                         | Disturbed   | Wildlife   | A, V               |

<sup>1</sup>D=developing, R=released, C=commercialized

<sup>2</sup>P=perennial, A=annual, U=upright, V=viney, L=low growing