

A monarch butterfly is perched on a red flower in a field of similar flowers. The background is a soft-focus field of green foliage and red flowers. The text is overlaid on the image in a white, serif font.

Native Milkweed and Pollinator Plant Seed Source Development in South Texas

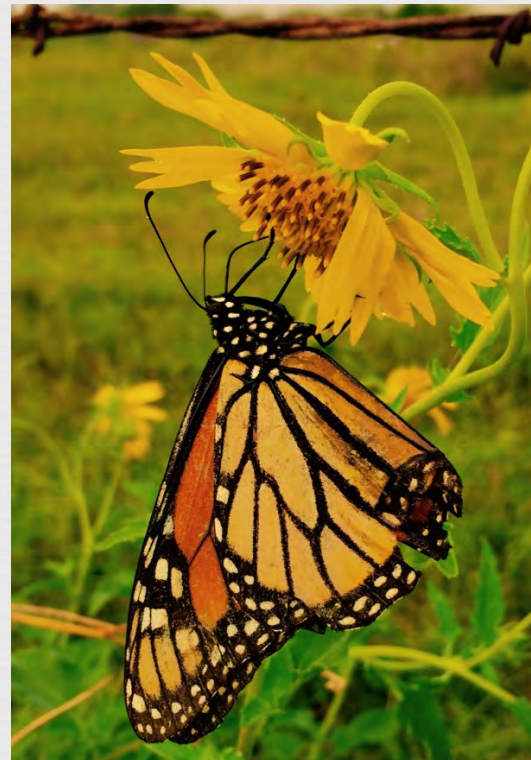


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Critical Supporters



- ❧ Texas Department of Transportation
- ❧ U.S. Fish and Wildlife Services
- ❧ National Fish and Wildlife Foundation/Texas Parks and Wildlife Department
- ❧ USDA NRCS
- ❧ NGOs, Seed industry, landowners



Milkweed issues



- ❧ Scant supply of ecotypic seeds: origin of supply unknown or distant
- ❧ High price: \$0.60 per seed=\$260-\$1,300 per acre
- ❧ Large scale markets possible, IF seed is available at reasonable cost (e.g. native seed mixes around \$80/acre) (road, pipeline, and energy ROWs, agency and private land projects)
- ❧ Many species very difficult to produce
 - ❧ Pests
 - ❧ 2 years to maturity
 - ❧ Harvest and processing challenges

Milkweeds in Texas



Issues



- ❧ Some species are terminal in seed production
 - ❧ One seed crop per year AND 2 years to maturity
- ❧ Seed germination is poor or requires stratification in some species
- ❧ Use of some species by monarchs is unknown
- ❧ Distribution is sparse or restricted to certain soils
- ❧ Where is restoration NEEDED to have migratory population benefit?
 - ❧ Ex: antelopehorn and green antelopehorn milkweeds are exceptionally common throughout their range

Emory's milkweed-rare and poorly distributed



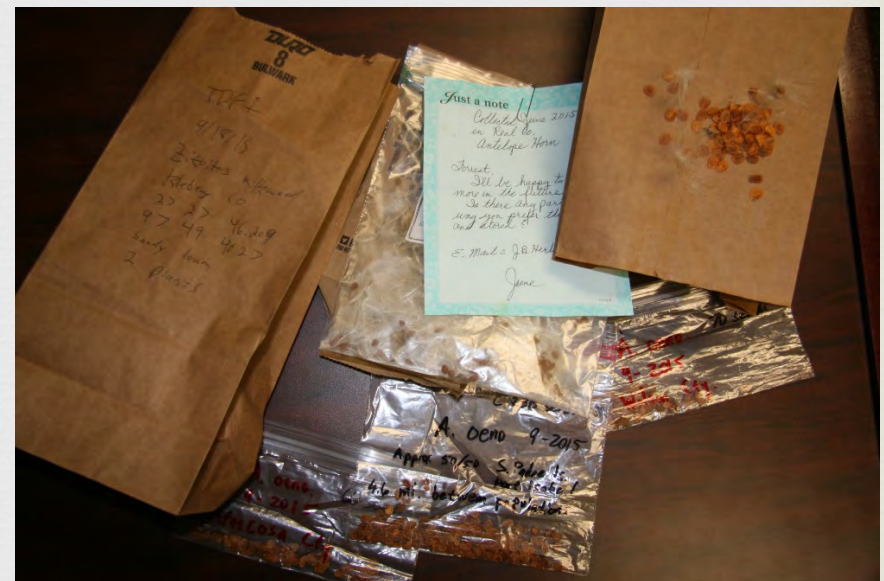
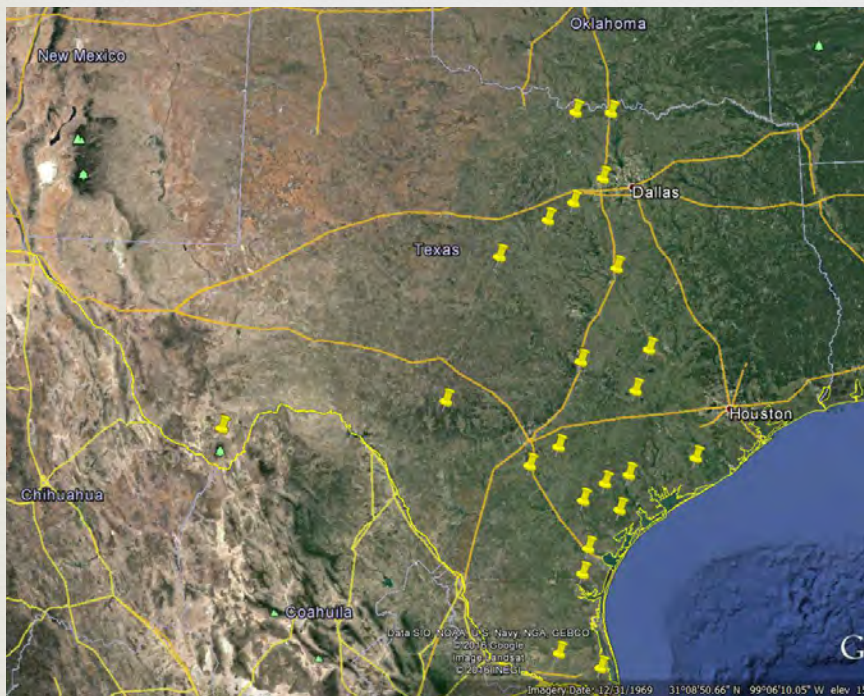
Slim milkweed-high potential for development: but, use by monarchs is unclear...

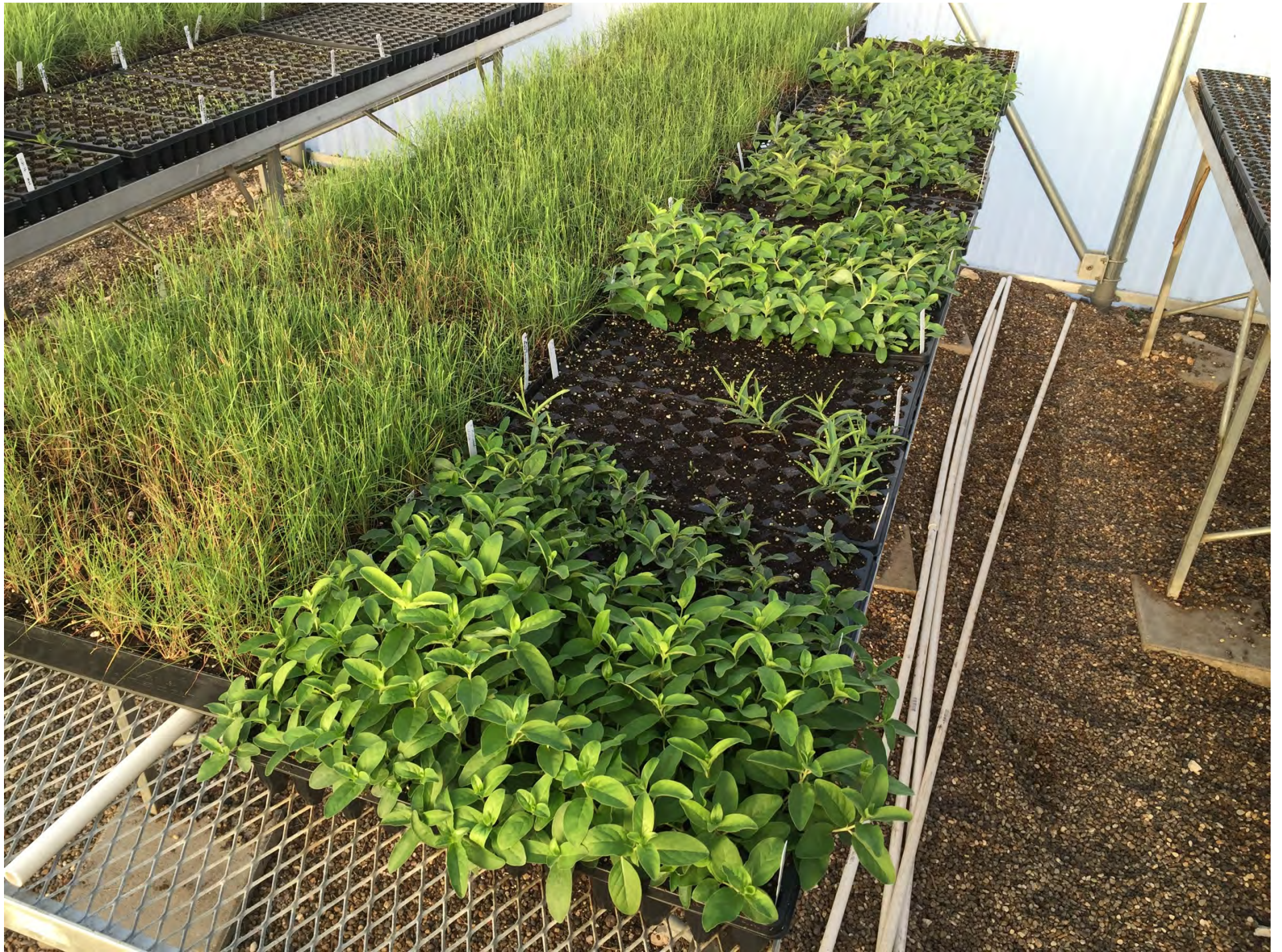


Zizotes Milkweed



Zizotes milkweed

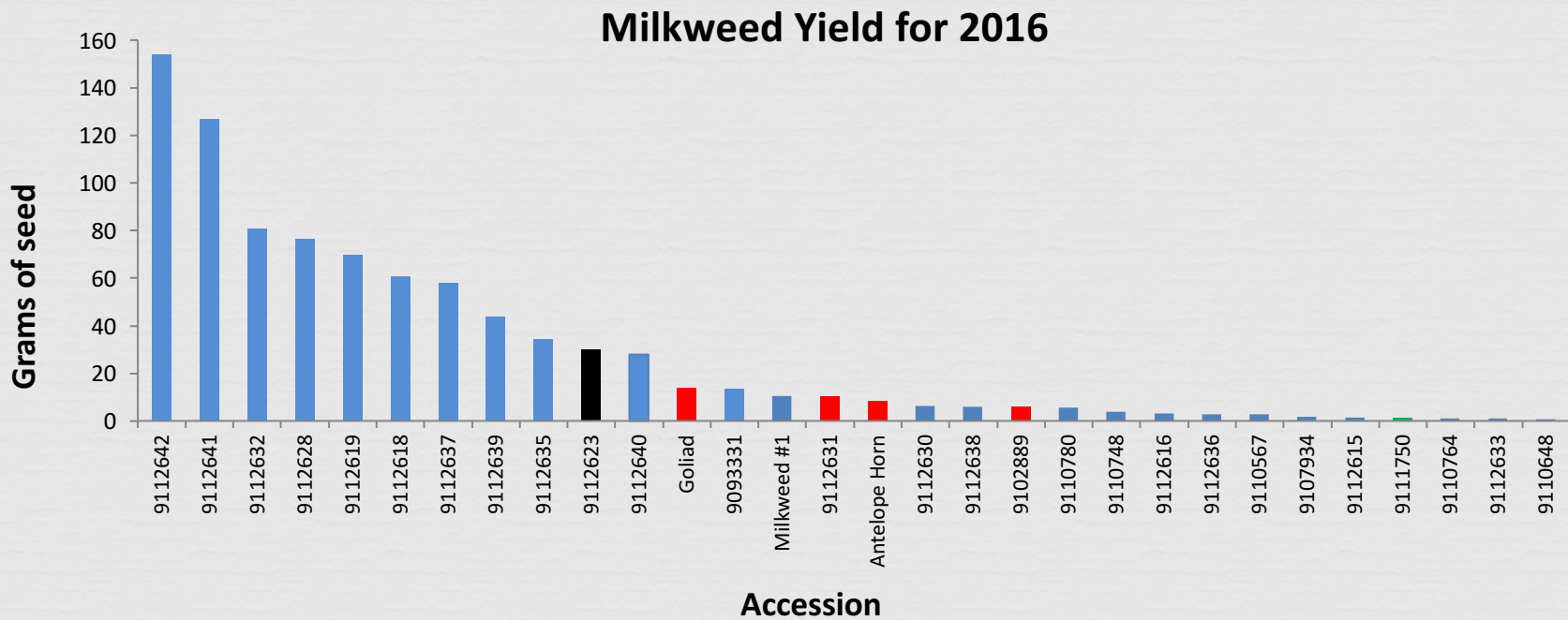
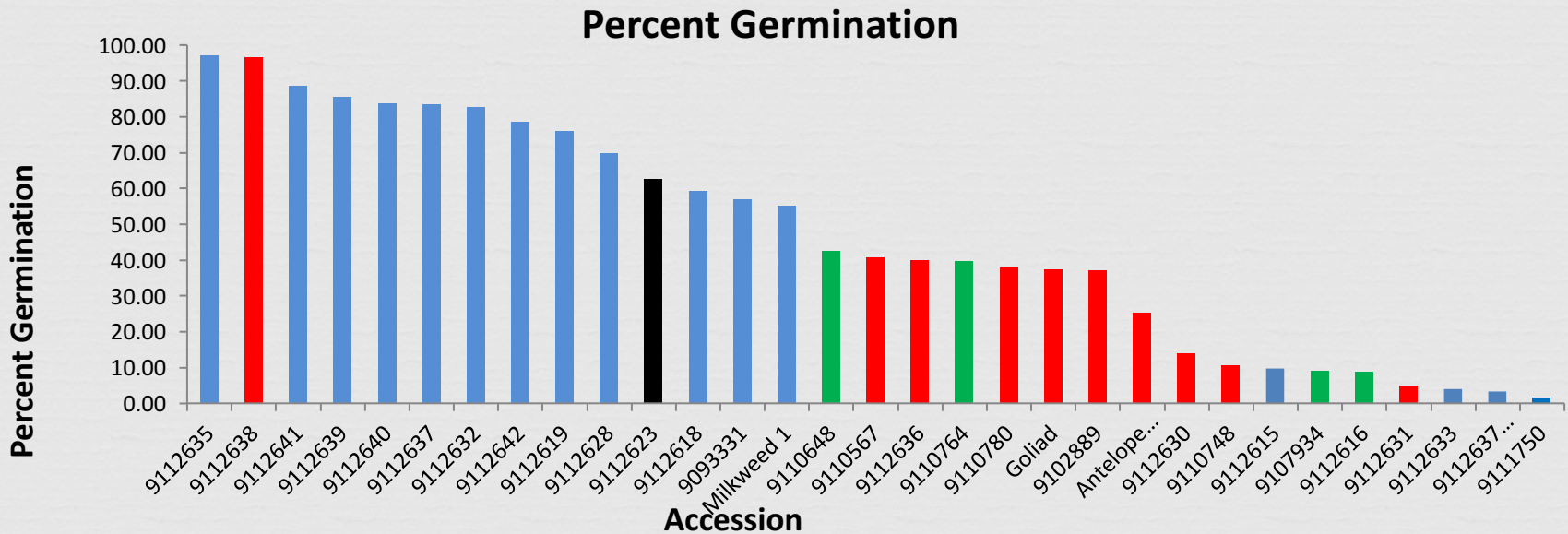












Selections



- ❧ 9112618/9112619-Kleberg County, TX
- ❧ 9093331-Cameron County, TX
- ❧ Southern range of plant-from soils generally targeted for restoration
 - ❧ Areas of particularly important breeding effort
- ❧ Chosen based on growth form & performance
- ❧ Pollination and self-sterility concerns
 - ❧ Self sterility suggested by life cycle and literature
 - ❧ Yields and viability are good on each
 - ❧ Grow selections together in increase





Zizotes Milkweed-Next steps



- ❧ Production information
 - ❧ Seed quality (>90%) and yields (100 lbs/acre) are good
 - ❧ Pest control for seed production is necessary
 - ❧ 5,000 plants to Douglass King Seed Company-spring 2017
- ❧ Test in actual field plantings
 - ❧ Two-5 acre trials planted
 - ❧ 60 acre planting in LRGV
 - ❧ Questions: Planting rates? Cost? Effectiveness? Area of adaptation?
- ❧ **SEED DEMAND: Will it develop?**
 - ❧ **NGO's and supportive landowners will be critical**
 - ❧ **NRCS, DOT, and other large consumers can create demand**

Observations



- ❧ Need more investment in seed source development
 - ❧ Facilitates on-the-ground projects; many funded efforts have no seed
 - ❧ Not just milkweeds-grasses, forbs, legumes, other plants
- ❧ Difficult to buy good seed mixes for pollinator habitat restoration
 - ❧ Desired vs. available: 300 species vs. <10 species
 - ❧ Large acre projects not possible (not enough seed)
- ❧ Many projects are not limited by cost; most all are limited by seed source availability in our region
 - ❧ Seed quality
 - ❧ Seed cleanliness

Rio Grande clammyweed-800 lbs per yr production



Awnless bushsunflower: 200 lbs annual production



Orange zexmenia: 550 lbs annual production



New species: Scarlet sage



New species: Frostweed







The preceding presentation was delivered at the

2017 National Native Seed Conference

Washington, D.C. February 13-16, 2017

This and additional presentations available at <http://nativeseed.info>

