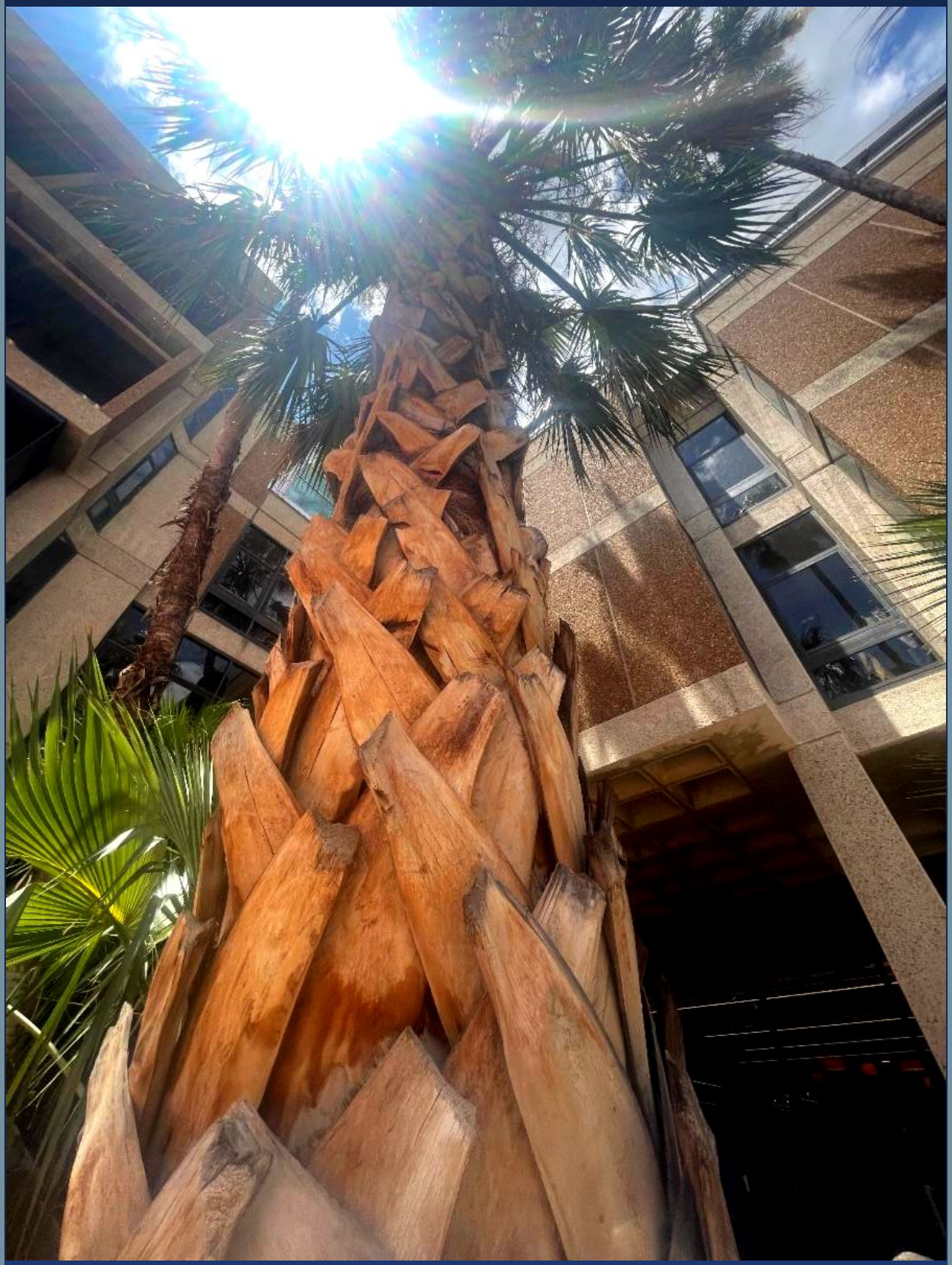
COLLEGE OF AGRICULTURE & LIFE SCIENCES

CAMPUS ARBORETUM



Looking Up and Moving Forward

We live in a world experiencing unprecedented change. This change disrupts the balance in natural ecosystems and threatens individuals who may not be well suited to the change, and consequently threatens biodiversity. With that diversity, lie genetic resources we may not yet even know about. If we conserve the germplasm of as many species as possible, the genetic resource will be available to us in the future should we learn of its value! ***Ex situ conservation*** of germplasm is the term used to describe strategies for saving genetic resources in an area away from the species natural habitat. In this way, changes in a species home don't also threaten the species continued existence in a second location. Living collections, like the Campus Arboretum, **preserve germplasm** in our living specimens, seed banks preserve germplasm of orthodox seed and ***in vitro*** methods may preserve recalcitrant seed, pollen or DNA through cryopreservation. In all cases, **plant propagation** methods are or will be important to the conservation effort.

The best time to plant a tree was 20 years ago.
The second best time is now.

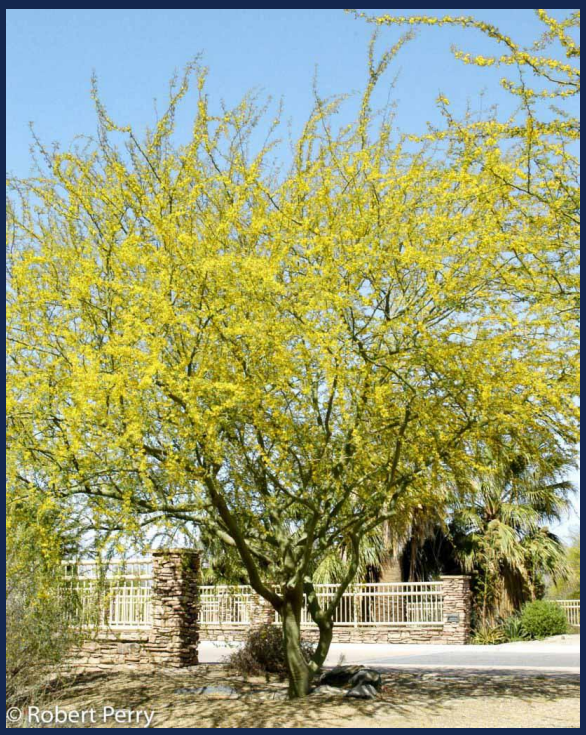
Our **recent climate risk assessment featured in last months newsletter** prompted a project to obtain germplasm of species with promise for adaptation to future climate and to begin propagating these species. While we refine the potential of these species, we will get a jump start on propagating and planting these trees on campus.

Mighty oaks from little acorns grow...



(Above) A sampling of seedlings and clonal ramets being propagated

in our greenhouse. (Below) Highlights of some of the promising features of the tree species we are growing.



palo brea

Parkinsonia praecox

This species has a very large native range tolerating conditions from the Sonoran desert and south into Argentina! It is suited for Sunset heat zones 10-14 and 18-20. This includes Arizona heat zones 12 and 13 (Low subtropical and desert areas) It is recommended as well for USDA cold hardiness zones 9-11 (20-25F)but field trials in Tucson suggest potential for mature trees to be hardy to less than 20F. **Others** confirm this potential citing that Sonoran populations tolerate as low as 15F and Argentine populations tolerate temperatures as low as 10F. The Argentine ecotype is also more drought tolerant surviving in places with as little as 4 inches of annual precipitation.

Sonoran palmetto

Sabal uresana

This species is endemic to Northeast, Mexico. The species name "uresana" refers to Ures, Mexico, where the plant is quite common. It is recommended for USDA hardiness 9a-10b (20-25F),but It is even reported to tolerate severe frost being potentially suited to USDA Zone 8a (10-15F) They are rated for Sunset climate zones H1, H2, H13-17 and 19-24, which includes Tucson (zone 12 and 13). The plant can tolerate both hot coastal and inland areas, as well as full sun and drying winds in open and exposed sites.

giraffe thorn

Vachellia erioloba

This African species grows where annual rainfall is less than 2 inches as well as in areas that get as much as 35 inches. It is also known to tolerate hot summer temperatures and severe frosts. As a member of

the bean family, it can supply its own nitrogen and grow on nutritionally poor soils. Resistance to extreme environmental conditions may hint at invasive potential here. When grown in the Tucson and Yuma, AZ DELEP field plots however, it was not noted as having spread from seed or to produce root suckers. Further observation is needed before recommending commercial production of this species.

Campus Arboretum Tours

For more than a century the campus landscape has served as a living laboratory to test what plants do well in the Arizona desert. As

a result of this work, the Campus Arboretum has a wonderful collection of unusual and delightful specimens.

Join the Pima Co. Master Gardeners on campus for a guided tour of the campus arboretum trees. These tours are free, scheduled throughout the year from August to April, and require advance registration. To view the schedule or for information on tours and registration click here.

CLICK HERE TO DONATE

Promote stewardship and conservation of urban trees in Arizona.

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