



**Tucson Plant Materials Center and Saguaro National Park:
Growing Native Plants
2006**

The Tucson Plant Materials Center (PMC) agreed to assist the Saguaro National Park (SNP), in revegetating the newly installed Cactus Loop Drive by growing and maintaining a variety of native species for the growing season of 2006.

In early April the first 914 plants – 16 species of trees, shrubs and forbs—were planted at the PMC (Table 1). Pots for these plants primarily consisted of the “small” and “large” pots (previously made by SNP of inverted black plastic tree pots with mesh bottoms), as well as “paper” pots (Zip sets held together in crates of 16) provided by the PMC. The PMC staff assisted a volunteer crew and 1-2 SNP employees in the soil mixing and preparation of pots and seeds for planting. SNP used a soil mixture of sand, peat and perlite, and all seed came from collections made in the East Region of the Park. Seed preparation instruction included scarification for some species, such as jojoba and acacia species. Approximately 37 crates of paper pots were also filled with soil for planting at a later date. This crew spent about 3 days at the Center in this activity, with only occasional assistance by the PMC staff.

In May an additional 617 plants—mostly grasses and some Forbs and trees—were planted by a SNP employee in the paper pots previously prepared by the volunteer crew. The total 1,531 plants required between 1½ and 2½ of the 6 shaded irrigable tables at the PMC during their 6 month stay. SNP reimbursed the PMC for the cost of water and other inputs and labor. The PMC was in charge of maintenance and reseeding of empty pots. Maintenance consisted primarily of the weekly clipping and fertilizing of plants throughout the growing season. Two PMC employees each spent 4-5 hours a week in this activity. Reseeding empty pots was required periodically. Some seed species were of better quality than others- and germinated easily. Others, such as the Palo verde seed, usually an easy species to propagate, required multiple reseedings.

Once summer rains increased and the plants grew, additional space and different requirements were needed for the various species, and plants were moved to accommodate them. The plants were overall robust and healthy. A few species suffered from aphids or other pests, and required additional attention. Most of these plants improved after treatment with a micro-encapsulated pyrethroid, however the mesquite trees suffered noticeably despite several treatments. Heavy summer rain may have caused over- watering of the mesquites and their increased vulnerability to infection, so these trees were removed to the greenhouse. The majority of plants survived, and in the end, the total number of mesquite trees exceeded the number requested, due to the fact that many pots harbored 2 plants per pot.

Because the building of the Cactus Loop drive was not finished by the anticipated date in October, the plants stayed at the PMC an extra month. This was not an issue as the growing season was coming to an end. The plants were put on a lower concentration of fertilizer in October and November. In November the plants were picked up by Recon, who was contracted for the planting. We hear the plants survived the cold period this winter and are doing well at the Park.

Table 1. Containerized Plants for Saguaro National Park Cactus Loop

| Common Name | Scientific Name | Plant number | Container type* |
|-------------------------------|--------------------------------|--------------|-----------------|
| Twinberry | <i>Menodora scabra</i> | 44 | 12 S + 23 P |
| Desert tobacco | <i>Nicotiana trigonophylla</i> | 4 | S |
| Ocotillo | <i>Fouquieria splendens</i> | 58 | 42 S + 16 P |
| Paper flower | <i>Psilostrophe cooperi</i> | 40 | S |
| Trixis | <i>Trixis californica</i> | 51 | S |
| Creosote bush | <i>Larrea tridentata</i> | 36 | S |
| Fairy duster | <i>Calliandra eriophylla</i> | 25 | S |
| Burroweed | <i>Isocoma tenuisecta</i> | 100 | 84 S + 16 P |
| Desert senna | <i>Senna covesii</i> | 29 | 13 S + 16 P |
| Desert cotton | <i>Gossypium thurberi</i> | 16 | 16 S + 16 P |
| Brittlebush | <i>Encelia farinosa</i> | 85 | 69 S + 16 P |
| Jojoba | <i>Simmondsia chinensis</i> | 50 | S |
| Desert zinnia | <i>Zinnia acerosa</i> | 193 | S |
| Foothills palo verde | <i>Cercidium microphyllum</i> | 136 | 104 L + 32 P |
| Velvet mesquite | <i>Prosopis velutina</i> | 177 | 145 L+ 32 P |
| White thorn acacia | <i>Acacia constricta</i> | 55 | 30 L + 25 P |
| Catclaw acacia | <i>Acacia greggii</i> | 32 | P |
| Purple threeawn | <i>Aristida purpurea</i> | 32 | P |
| Bush muhly | <i>Muhlenbergia porteri</i> | 32 | P |
| Cane beardgrass | <i>Bothriochloa barbinodis</i> | 48 | P |
| Tanglehead | <i>Heteropogon contortus</i> | 48 | P |
| Arizona cottontop | <i>Digitaria californica</i> | 32 | P |
| Plains bristlegrass | <i>Setaria leucopila</i> | 32 | P |
| Slender grama | <i>Bouteloua repens</i> | 32 | P |
| Sideoats grama | <i>Bouteloua curtipendula</i> | 48 | P |
| Mormon tea | <i>Ephedra trifurca</i> | 14 | P |
| Globemallow | <i>Sphaeralea ambigua</i> | 11 | P |
| Desert hackberry | <i>Celtis pallida</i> | 32 | P |
| Turpentine bush | <i>Ericameria laricifolia</i> | 8 | P |
| Santa Catalina Prairie Clover | <i>Dalea pulchra</i> | 16 | P |
| Pringle's Prairie Clover | <i>Dalea pringlei</i> | 16 | P |

*Container type:

S= small container (9" tall x 4"x 4" bottom and 3"x 3" top) ~0.4gallon

L= large container (13" tall x 4"x 4" bottom and 3"x 3" top) ~0.65 gallon

P= Paper container (9" tall x 3"x 3") ~0.33 gallon