



Centro Internacional de Agricultura Tropical

SEMINARIOS
INTERNOSSerie SE-3-81
27 February 1981Legume Collecting in Mexico
Robert Reid

99730

Resume

A total of 18 months was spent in Mexico with the prime objective to collect potential pasture legumes in all major ecological zones. Special emphasis was placed on the general *Centrosema*, *Desmanthus*, *Desmodium*, *Leucaena*, *Macroptilium* and *Stylosanthes*; with the aim of finding types that are more drought tolerant and/or more cold tolerant.

Centrosema - collections were made of seven species and from an Australian point of view the most promising appear to be *C. schiedeanum* and *C. schottii*. The former was collected in the mountains of Oaxaca (16°N) at an altitude of 2000 m. The latter was common on the alkaline clay plains of Central Veracruz growing in the 800 mm rainfall zone.

Desmanthus - a total of eight species is represented in the collection, of which seven are new to agriculture. Types of *D. colvillei* and *D. subulatus* are particularly interesting as they occur on cracking clay soils under a rainfall regime of 150-250 mm.

Desmodium - a number of new species were collected. From Chihuahua perennial species which have the ability to survive very cold frosty winters including annual snow, and from the mountains of Central Mexico perennial creeping types growing at 2700 m.

Leucaena - depending upon which system of classification is used, some 10 to 15 species of this genus occur in Mexico. The collection

includes representatives of all; plus one newly discovered species. All accessions are currently being screened in Australia for mimosine content and while some are very low in mimosine, it is unfortunate that all the *L. leucocephala* accessions so far examined fall within the range of 3-5% mimosine. Nevertheless some species such as *L. retusa* and *L. cuspidata* (both low mimosine types) may well have a place in the high altitude tropics or the cold winter dry subtropics in other parts of the world.

Macroptilium - owing to the outstanding success of *M. atropurpureum* cv. Siratro in both Australia and other countries, and attempt was made to widen the genetic diversity currently available in this species. Accessions were collected in Chihuahua from low rainfall areas (400 mm), characterized by very cold winters, and the hot desert of Sonora with annual rainfall of 200-250 mm.

Another species *M. heterophyllum* was also widely collected at high altitude under rainfall regimes of between 400-1000 mm. This vigorous stoloniferous, mat forming species could be of direct use in the subtropics under systems of heavy grazing.

Stylosanthes - this genus had previously been very poorly represented in herbarium collections, and the distribution in Mexico virtually unknown. While uncommon except in S. Oaxaca (*S. viscosa*) and Tabasco (*S. guianensis*), collections were obtained from known species.

Approximately 1500 legume accessions were obtained and they offer a great deal of new material to investigators not only in Australia but throughout the tropical world.



SE-3-81

Routes of collection in Mexico. September 1979 - December 1980.