

Kind of Tree-planting Activities in United Arab Emirates

Part 5: Various Trials by the Forestry Department, Abu Dhabi Municipality

As we introduced in the last issue, afforestation in the eastern part of UAE is conducted by the Forestry Department, Al Ain. On the other hand, the Forestry Department of Abu Dhabi Municipality takes charge of afforestation in both the western part and urban areas of Abu Dhabi Emirate, and has been carried out various kinds of afforestation tests. There are three distinguished geographical features in the western area. The first one is Sabkha zone, the biggest salt accumulated area along the coast. The second is inland desert. The third is oasis which is scattered in the desert area.

1) Afforestation in Sabkha zone

Sabkha zone is lying along the coast in the west of Abu Dhabi, known as "Sabkha Mutti". The ground water level of the area is very shallow (several tens of cm), which is largely affected by the sea water and the salinity is quite high. Afforestation by using this abundant ground water is being tried. At first, holes are dugged, where sand covers the surface of Sabkha, followed by planting tree seedlings of *Prosopis juliflora* on a layer of Sabkha soil. Although many trees survive, they do not grow well. The test area is gradually expanding. However, the tree growth has not been measured yet.

2) Afforestation without irrigation

The area around Madina Zayed in south east of Abu Dhabi has been developing as a new agricultural land. Afforestation projects have been carried out simultaneously along main roads so as to protect the cultivated area from wind and sand. A test of afforestation without irrigation has been carried out in the area where old open wells were covered up. The tested species are *Salvadora persica*, *Prosopis cineraria*, *Acacia ehrenbergiana*, *Acacia jacquemontii* and *Acacia raddiana*. Among them, *Prosopis cineraria*, *Acacia ehrenbergiana* and *Acacia jacquemontii* grow well because their roots go into the ground deeply. But *Salvadora persica* and *Acacia raddiana*, which roots spread widely and shallowly, do not grow well and even die in some cases. Routine growth measurement has not been conducted yet.

3) Test for fixing dunes

Liwa, the biggest oasis in the eastern part of UAE, is surrounded by dunes, which means that the farmland in the oasis is under the danger of being buried by shifting dunes. The residents in the area have been trying to fix the dunes by covering the sand with plants. Species adopted are *Prosopis juliflora* on the top of dunes, and *Leptadenia pyrotechnica* on the slope of dunes. The area is irrigated by drip irrigation system which is set on the slope of dunes.



Afforestation without Irrigation in Madina Zayed
(Young seedlings are growing without irrigation water.)



Afforestation Trial on Dune Slope in Liwa
Oasis (*Leptadenia pyrotechnica*)