

## PRELIMINARY REPORT

### POTENTIAL "SAND STABILISING" GRASSES IN THE UNITED ARAB EMIRATES

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At the request of Mike Burns (EMATEK), on a recent research trip to south-eastern Arabia we kept records of potentially suitable grasses for i) coastal dune stabilisation and ii) landscaping along roads and other sites.

We travelled extensively through the United Arab Emirates (UAE), with more limited excursions into Oman and Qatar, recording all grass species observed. Localities were recorded on a GPS system, giving a ground fix accuracy of about 100m.

#### RESULTS

Several annual grass species were identified but these have no significance in connection with sand stabilisation, or landscaping. Of the perennial grasses identified, most are unsuitable for the above purposes, and only one, *Pennisetum divisum*, holds any purpose for sand stabilisation programmes. A member of the CYPERACEAE - *Cyperus conglomeratus* - holds some potential but not to the same extent as *Pennisetum divisum*.

*Pennisetum divisum* is a coarse, rank grass with an extensive, binding, root network and in some areas occurs at high densities. It grows from sea-level to more than 300m above sea level and occurs extensively on sand-dominated soils throughout the UAE. Although it is eaten by camels and goats, this does not appear to have any major detrimental effects on survival. However, should this species be used for sand-stabilisation it may be necessary to exclude domestic stock in the initial growth and establishment stages.

*Cyperus conglomeratus* also has a fairly extensive root system that should be useful in sand-stabilisation projects. As with *Pennisetum divisum* it is sought after by camels and goats and if used, establishment plots would have to be fenced.

Suitable indigenous grasses for landscaping were not located but extensive use of exotics is well established. Likewise, we found no indigenous ground-cover plant species which we would consider to be suitable for landscaping in south-eastern Arabia.

#### SUITABLE SITES FOR SEED COLLECTION:

1. Both *Pennisetum divisum* and *Cyperus conglomeratus* are abundant on the "power line" track through a sand dune area, between Al Awir and Muhaila (centring on 25°08'08"N; 55°46'18"E).
2. *Cyperus conglomeratus* - approximately 10km north of the freeway junction, to the south of Al Ain, west of Dubai and north of Madam (centring on 24°41'31"N; 55°44'06"E; 310m above sea level).

May and June are the best months for collecting seed of the two above-

mentioned species.

#### CONCLUDING PARAGRAPH

Although the two species mentioned, particularly *Pennisetum divisum*, appeared to be the most suitable species encountered for sand-stabilisation, exotic grasses may have to be used under certain circumstances.

The drawbacks of *Pennisetum divisum* are that it is not particularly "tidy" or "attractive" and young plants, as well as growth points on mature plants, are favoured by camels (abundant in most areas) as grazing. *Cyperus conglomeratus* is less favoured by camels as grazing but is a somewhat straggly plant.

We will be returning to south-eastern Arabia in February 1996 for 3 months and would be willing to do follow-up work should you be interested. As we are there during the period of maximum seed production would it be of any help to collect seed, and if so in what quantity. In addition to the UAE, we will be working in Yemen and Oman and could look for other plant species that are suitable for your purposes.

Extensive use is made of exotic (alien) shrubs, bushes and trees as there are very few indigenous species that are suited to stabilisation, landscaping and "beautification"! Many of these exotic species are reliant on irrigation for establishment and survival.