

## ICARDA PASTORETUM

The Pastoretum, a living herbarium and seed bank of important fodder shrubs and medicinal plants for the CWANA region was established at ICARDA in 1998. The purpose of the Pastoretum is to serve as a demonstration and training site and to maintain a supply of seed for use by cooperating regional NARS. It also serves as a testing ground for the adaptability of perennial fodder or medicinal plants to environments similar to that at Tel Hadya where the mean annual precipitation is 338mm. Seeds or plants have been provided the NARS to test adaptability in their countries for fodder or medicine in order to boost farmer income and conserve soil. This enables preliminary evaluation, seed multiplication, and capacity building of national partners.

Most rangelands in Central and West Asia and North Africa (CWANA) are progressively degrading and producing less forage than potential due to overgrazing by an increasing livestock population. Adapted native and introduced fodder shrubs and trees could be integrated into the smallholder crop-range-livestock production systems to improve available feed and could reduce pressure on the rangeland if properly managed. There is limited data on environmental adaptation, biomass production and fodder quality of most of the fodder shrubs in the region and the Pastoretum is providing some of these data. Sheep have been allowed to browse the Pastoretum to determine preference and suitability as livestock feed.

ICARDA and national, regional and international partners are collecting, conserving and exploiting native and introduced fodder shrubs to develop appropriate technologies to increase outputs of crop and livestock products and improve ecosystems health in the smallholder crop-range-livestock production systems in the dry areas of CWANA.

Integration of the promising fodder shrubs into smallholder crop-range-livestock production systems with similar environmental conditions as northern Syria includes living fences and hedges, wind-breaks, shade, fodder banks and improved fallows. They provide fodder, fuel-wood, shade, medicine; improve soil fertility and reduce erosion. Some fodder shrubs have been established as living fodder reserves for use during drought especially in North Africa.

### List of species in Pastoretum

#### Non-legume Fodder Shrubs

*Aellenia subaphylla*  
*Artemisia herba-alba*  
*Atriplex canescens*  
*Atriplex Cordobensis*  
*Atriplex glauca*  
*Atriplex halimus*  
*Atriplex lentiformis*  
*Atriplex leucoclada*  
*Atriplex nummularia*  
*Atriplex polycarpa*  
*Atriplex torreyi*  
*Atriplex undulata*  
*Ceratoides ewersmanniana*

#### Grasses

*Agropyron cristatum*  
*Agropyron desertorum*  
*Agropyron elongatum*  
*Agropyron fragile*  
*Dactylis glomerata*  
*Eragrostis sp.*  
*Festuca elatior*  
*Lolium sp.*  
*Oryzopsis miliacea*  
*Panicum turgidum*  
*Phalaris tuberosa*

*Halothamnus subaphyllus*  
*Haloxylon aphyllum*  
*Kochia prostrata*  
*Salsola orientalis*  
*Salsola richtei*  
*Salsola rigida*  
*Salsola vermiculata*  
*Zygophyllum atriplicoides*

#### **Fodder Legume Shrubs**

*Astragalus aleppicus*  
*Astragalus eximius*  
*Bituminaria bituminosa*  
*Chamaecytisus mollis*  
*Colutea istria*  
*Coronilla glauca*  
*Medicago arborea*  
*Onobrychis aurantiaca*

#### **Non-legume Herb**

*Paronychia argentea*  
*Plantago lanceolata*  
*Sanguisorba minor*

#### **Medicinal Plants**

*Achillea aleppica*  
*Achillea filipendulina*  
*Achillea santolina*  
*Achillea sp.*  
*Agava americana*  
*Artemisia herb-alba(spain)*  
*Artemisia herb-alba(syria)*  
*Capparis spinosa*  
*Cerantonia siliqua*  
*Fibigia clypeata*  
*Glycyrrhiza glabra*  
*Hysopous Officinalis*  
*Laurus nobilis*  
*Lavandula lanata*  
*Mentha longifolia*  
*Panicum turgidum*  
*Paronchiya argentea*  
*Peganum harmala*  
*Pistacia athantica*  
*Quercus calbiprinos*  
*Rhus coriaria*  
*Rosmarinus officinalis*  
*Salvia officinalis*  
*Sanguisorba minor*  
*Santolina lanata*  
*Spartium Gunceum*  
*Thymus vulgaris*