OMANI INDIGENOUS CROPS

Bread wheat, Barley, Chickpea, Date palm, Oman lime, Alfalfa

1. BREAD WHEAT (Triticum aestivum L)

Local Name: Qamah, Burr

Omanis have grown wheat for more than 3,000 years. Flour has been used in the preparation of their food while stalks and bran have been employed to feed the livestock.

The total area under wheat crop in the Sultanate has been estimated at 643 hectares, with the annual grain production of 2126 tons. The studies indicated that consumption of wheat per person is about 33.7 kg/year. With the growing population of 3.295 million, the annual requirement of wheat and wheat products is estimated at about 100-120 thousand tons. The Ministry of Agriculture and Fisheries is making efforts to encourage farmers to expand the wheat crop cultivation area by providing improved varieties of high productivity and resistance to diseases along with desirable properties acceptable for both farmers and consumers.

Taking into consideration the importance of indigenous wheat cultivars for the local preparation of high quality bread, the Directorate General of Agriculture and Livestock Research started in 2001 a program aimed at improving the local wheat, through the use of classical breeding methods with indigenous wheat cultivars. The program successfully released new high yielding early maturing varieties with popular names as Nizwa, Jibreen, Nejd and Bahla during 2013.

Indigenous wheat landraces/cultivars

The local cultivars include Sarraya, Missani, Cooley, Hamira, Greda and Walidi. The most popular among them is Cooley. It occupies about 80% of the area under cultivation of local varieties.

- Sarraya: Tall, awnless, matures in about 120 days, yield of about 1,500–1,600 kg/ha, grain of amber color, problem of lodging, susceptible to rust and smuts, usually grown in Nizwa area.
- Missani: Tall, awned early maturing, about 120 days, yield of about 1,500–1,600 kg/ha, grain of red color, medium, problem of lodging, susceptible to rust and smuts, protein 14.8 % and ash 2.17%, test weight 74.85 kg/hl.
- Cooley: Very popular local variety, late in maturity (135 days), yield about 2,000 kg/ha, small yellow grain, problem of lodging, susceptible to rusts and smuts, protein 11.1 % and ash 2.03%, test weight 67.0 kg/hl.
- Hamira: Grown in mountainous area of coastal plains, late in maturity (140 days), yield about 1,200 kg/ha, awned, small red grain, tall and late in maturity and susceptible to rusts and smuts.
- Walidi: Grown mostly in Wadi Ain area, tall, awned, grain of amber color, medium size, medium in maturity (130 days), yield about 1,800 kg/ha, lodging problem and susceptible to rusts and smuts.

2. BARLEY (Hordeum vulgare L.)

Local Name: Shaieer

In the Sultanate barley (six-row type) is sown frequently with alfalfa. Traditionally, along the coast it is not grown for grain but for fodder (90 ha). In the interior, Sharqiya and the Western Hajar (50ha), it is grown for grains utilized mostly as a component of poultry feed. In Musandam, some landraces such as Cv. Duraqi are grown on a limited scale for human consumption. In these years, the countries of Gulf region are laying emphasis on barley cultivation because of huge market demands as animal feed and as green fodder. In Oman, barley comes to heading in January-February in Batinah and mid-March in the interior areas. It is cut green for fodder along with the alfalfa but it is not re-planted into the perennial stands of alfalfa. There is a good scope for extending barley cultivation in salinity affected and water resources limiting areas of coastal region by introducing saline tolerant and water stress tolerant barley varieties.

Also for the barley, the Directorate General of Agriculture and Livestock Research has started a local improvement in 2010, involving indigenous barley cultivars through classical breeding methods.

Indigenous barley landraces/cultivars

The local varieties are Omani (sometimes known by the name of the Governorate where they grown, like Bathini and Duraqi). The characteristics of these varieties are:

- Bathini: Very popular local variety, late in maturity (112 days), yield about 4.12 t/ha, yellow small grain, problem of lodging, susceptible to rusts and smuts.
- Duraqi: Very popular local variety in Musandam area for rain fed, late in maturity (84 days), yield about 2.4 t/ha, small yellow grain, problem of lodging, susceptible to rusts and smuts.

3. CHICKPEA (Cicer arietinum L)

Local Name: Dengoo, Hummus

Chickpea seeds are the components of many local preparations in Oman. Chickpea is an important winter grain legume. Because of the high protein percentage in its seeds, it is also important for human nutrition.

The salient features of the chickpea old cultivar popular with farmers are:

- short in height (47 cm), medium early in flowering (69 days) and maturity (95 days), yielding ability of 1.80 t/ha.
4. DATE PALM (Phoenix dactylifera L.)
Local Name: Nakheel Al-Tamar

Date palm is one of the most important fruit crops in the Sultanate since time immemorial, as every farmer desires to possess as many date palms as possible, irrespective of the farm size. Date palm cultivation has been widespread with balanced integration between environment and agriculture.

Date palm has 31 361 ha contributing 42% and 81% of annual total cultivated and fruits area, respectively, with date production of 26 811 tons annually. It is grown in all the governorates of Oman except Dhofar governorate. It contributes 7% of non-oil export.

At present, Oman has 8 700 000 million date palm trees of more than 250 indigenous cultivars distinguished as early, medium and late maturity types.

Dates are consumed in the form of pre-matured (Rutab) and matured (Tamar).

5. OMANI LIME (Citrus aurantifolia L.)
Local Name: Lemon Omani/Lomi

Omani lime (C. aurantifolia) is one of the main citrus crops that are grown in the Sultanate of Oman. It is highly poly-embryonic type. It occupies 90% of the cultivated area among citrus crops. Al-Batinah Governorate ranks first among the other governorates growing Omani lime. The total cultivated area under Omani lime is 1 236.13 ha with total annual production of 6 503 tons.

The main challenge of Omani lime is its susceptibility to witches broom disease (WBDL), which has been still causing an economical damage to the acid lime growers. According to 2004-05 Census, the percent of dead trees reached the 38% because of WBDL. Till now, there is no successful solution to this disease, although many attempts are being done to overcome it.

Omani lime is usually preferred in whole of the Arabian Peninsula in general, and Middle East in particular, because of its high acid content with peculiar flavor.

6. ALFALFA (Medicago sativa L.)
Local Name: Qat

Alfalfa (Medicago sativa), the Queen of forage crops, forms an integral part of farm life in the Sultanate. Every farmer desires to grow it at least in small pieces of land depending on his holding to feed his goats, cattle or camels.

Alfalfa contributes about 11 344 ha, i.e. 15.40% of cultivated area (according to a MAF Report published in 2011). It is grown widely in Batinah, Salalah plains, interior and desert plains of Nejd in Oman. The major alfalfa growing regions are North Batinah (3 190 ha), South Batinah (2 411 ha), Dhahirah (1 662 ha) and interior (1 009 ha), which together share 84.70% of total alfalfa area. Interestingly, of these major growing regions, South Batinah (20.65%) has highest percentage of its area in alfalfa cultivation followed by Dhahirah (17.64%), North Batinah (15.45%) and interior (14.63%).

Alfalfa plays a vital role in the agricultural economy of the country. It accounts for almost half of the agricultural output (by value). It is the best quality feed for livestock as well as for horses, contributing significantly to the quality of animal products.

Nationally, it ranks top amongst the agricultural crops and has annual production of an estimated 456 006 tons of fresh matter (about 91 600 tons of dry matter) which is worth about 72.8 Million US dollars per year. Alfalfa forage is produced (harvested) throughout the year but it is higher during winter and low in summer.

A number of landraces that have been differentiated over centuries have been recognized mainly on the basis of longevity. The variants of “Bathini” type have an expected life span of 8-10 years in the Batinah, but they perform poorly when grown in southern Oman, as they suffer from complex disease problems.

There are local strains in Hajar Mountains which are known to persist over ten years, but they fail when grown in coastal regions. There are also distinct ecotypes grown in different regions like “Sharqiya” around Sur and “Qaryati” in the interior region. The strains growing in the South have been found to be distinct from those of the North.

Depending on the environmental conditions and type of soil, alfalfa yields range from 50 to 100 tons of forage per hectare.