

## Mini-Series: Vegetable Cultivation in Oman (1)

### Part 1: Vegetable farming in the Nejd

We will introduce some examples of vegetable farming in the Nejd area in southern Oman. Let us first provide a briefing on the climate in this region. The lowest average monthly temperature is 22.7oC which occurs in February and the highest is 32.0oC which occurs in August. The average relative humidity is 45%, while the difference between the highest and lowest humidity levels during a year is about 10%. The annual rainfall is 0 to 150mm and there is a great fluctuation in the rainfall as sometimes it does not rain at all during a whole year, while the annual evaporation level is very high; 4,200 mm per year. The natural climatic conditions here are very harsh, but despite this in the 1980s farming were started in this area by using ground water. According to a 1994 survey the number of farms in the Nejd was 155, of which 28 were engaged in pasture cultivation and the rest in vegetable and fruit cultivation. The total area under cultivation was 1,337ha (608ha for pasture and 729ha for vegetable and fruit).

The vegetable cultivation in this area can be classified in three types according to the different irrigation methods used. All the irrigation here utilizes ground water through pumps, but there are three types of irrigation method used in different farms, namely furrow irrigation, center-pivot irrigation, and drip irrigation. The most common system being used by farmers is furrow irrigation. The center-pivot irrigation method is adopted by those who used to be engaged in pasture cultivation but later switched to vegetable cultivation as the former requires large machines and a lot of manpower. The drip irrigation system is used by only a handful of farmers, as it requires a significant amount of initial investment when compared to furrow irrigation. However, considering the high irrigation-efficiency of the drip irrigation (about 85%), this method should be adopted by more farms in the future.

Let us now turn to the types of vegetables grown here. These are mostly common vegetables such as watermelon, melon, cucumber, tomato, okra, squash, eggplant, green and chili peppers, etc. The sowing seasons for these vegetables vary significantly. Watermelon, melon and squash are sown from late July to early September and from February to March of the following year. Cucumber and tomato are sown in October and November. Okra is sown in August, and eggplant, green and chili peppers are sown from September to October. If vegetables were sown in May or June the whole growing process would have to go through the hottest period of summer, which would result in poor harvests. The farmers' wholesale prices of the vegetables also vary depending on the season, but the rough figures would be about BZ700 per kilo (BZ100 = approx. JPY 30) for cucumber, which is relatively expensive as it is susceptible to pests and diseases, BZ200/kg for watermelon, melon, squash and eggplant, BZ100/kg or sometimes as cheap as BZ50/kg for tomato, and BZ500/kg for okra, green and chili peppers. Thus the vegetables are very cheap, and the prices are determined by weight irrespective of the quality. On the other hand, in supermarkets you can find high-quality vegetables imported from Europe, which are priced several times higher than the produce of Oman. Therefore, if the prices are determined according to the quality of the crops and superior produce can fetch better prices, the farmers will become more motivated to improve their cultivation techniques and their farming will develop further.

The main problems pertaining to the development of dry-land agriculture using ground water are salt accumulation and the depletion of ground water, and the Nejd is not free from such problems. On the other hand, here the sun light, which is crucial for crop cultivation, is in plentiful supply throughout the year. Therefore, if sustainable agricultural development is to be achieved in the Nejd region, more consideration should be given to tasks such as the assessment of the availability of usable water resources and the assessment of the size of areas suitable for proper development using available resources, as well as development and proliferation of cultivation methods which would enable the efficient utilization of the limited water resources and which would make the most of the plentiful sunshine in the region.

