

requirements. Therefore they are grown successfully on a wide range of soils and topography, whether rainfed or under irrigation. As such, it is considered in principle a tree of considerable potential in the West Bank physical setting.

Though they have much in common, there are still important agronomic differences between grapes and olives, most importantly the following:

- a. Vineyards come to commercial bearing much earlier after initial planting (three years versus eight).
- b. They are also much less vulnerable to climatic aberrations and do not display significant variations in output to any extent comparable with that of olives. This gives important economic advantages to grape producers.
- c. Grapes are much easier to propagate, since that is done by direct growing of cuttings taken during the growing season.
- d. Grapes are much more susceptible to insects and diseases than olives, and if inadequately protected, pest damage may go close to 100%.

A fundamental pre-requisite for establishing a commercial vineyard in the Hebron hills is reclamation of desired land. This involves removing bedrocks and constructing gently sloping terraces by building retaining stone walls. This process has become very expensive, and the cost of development per donum is estimated at JD125 (see Table VII-7). The breakdown of this cost, however, reveals that about 90% of it goes to manual labour, mostly contributed by farm families themselves. However, there is still ample room for reducing the cost of land reclamation by providing machine services at more competitive prices. As we shall argue in a later section, there is a strong case for subsidizing the costs of land development.

Table (VII - 7)

Development costs of vineyards land

(JD per donum - Spring 1981)

	<u>Unit</u>	<u>Price</u>	<u>No of units</u>	<u>Total cost</u>
Bulldozers	Hour	7.1	3	21.3
Removing Stones	Day	3.3	4	13.3
Wall construction	Meter ³	2.2	40	88.0
Levelling (by tractor)	Hour	1.8	1	1.8
Total				124.4

Source: Farmers sampled during the course of this study.

After the land is prepared, vines are grown by direct planting of cuttings taken from desired varieties in the pruning season. The vineyard takes 3-4 years before it starts commercial production. In the meantime the farmer has to provide such basic services as weed elimination (by repeated animal-ploughing) and pest control. The farmer also has to decide on the method of rearing his vines, which could be one of three: creeping, standing by poles, or trellised on elevated wire frames.

Trellising of vineyards entails significant advantages to growers. By virtue of more efficient cultural practices, productivity of vineyards increases by more than three-fold as compared with the traditional creeping method.

There are only around 5000 donums of trellised vines at present (about 4 percent of the total area). The only important constraint for a more extensive expansion of trellising is its high initial construction costs, estimated at JD 130. If this problem is effectively solved, then this is likely to accelerate trellising on a much larger scale.