

#### Discussion of results:

The following conclusions regarding profitability of grapes can be drawn from data presented in the previous section:

1. Grapes are among the most profitable crops in rainfed agriculture. Comparing their net returns with those of olives, which are often less than JD 10 per donum, grapes are far more profitable.
2. The share of unpaid family labour amounts to 35% of total costs in trellised vineyards, 26% in standing vines, and 56% in creeping plantations. It is clear that trellised vineyards are sufficiently remunerative even if served entirely by hired labour.
3. Trellised vineyards are far more profitable than creeping ones, with standing vines falling midway between the other two (see previous data). It is apparent, in fact, that trellised vineyards are as capital and labour intensive as most irrigated patterns of agriculture and no less profitable.

#### Problems

##### a. Problems related to production

Grape producers in Hebron/Bethlehem have acquired a marked degree of expertise in this pattern of farming. Available data on grape productivity in that area suggest that farmers have achieved superior yields, given existing physical and capital constraints. Damage caused by such chronic pests as powdery mildew (Utinula necator) and the grape fruit fly (Polychrosis botrana) is kept to a minimum through efficient control measures. On the other hand, it is precisely these pests which constitute the major problem in vineyards of northern districts, where infestation is more acute due to higher temperature and humidity. Despite attempted control measures, those pests are still virulent and they

inflict heavy damage, even exceeding 70% of expected yields.

Commercial grape production in the south is confronted with a number of problems bearing on production, marketing, and supporting services. These problems are summarized below:

1. Inadequate credit facilities. It was noted earlier that reclamation of land and construction of trellises require large capital outlays, much beyond the means of most farmers. Efforts to subsidize part of the needed capital, as being currently practiced by the CDF\*, have been warmly received by farmers.
2. Variety problems. The indigenous variety, Dabouki, is used in about 80 percent of the vineyard area. Though highly productive and notably sweet, Dabouki fruits are excessively soft and deteriorate rapidly when stored or shipped, even for short distances. This imposes a rigid constraint on their marketing potential.
3. Phylloxera hazards. This microscopic insect is a serious menace to vineyards and it wiped out extensive areas in the thirties and early fifties. After a prolonged absence, it was diagnosed recently in an area of 2000 donums in Bethlehem district. Although its dissemination is relatively slow, the risk is still great due to the lack of resistant root stocks and to the unavailability of effective control measures.
4. High cost of production inputs. This applies to such purchased inputs as fertilizer and insecticides, as well as hired labour. Fertilizer is usually added at less than half of recommended rates. Problems of labour are further aggravated by the lack of appropriate machinery and scarcity of custom service units.

\* Community Development Foundation.