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POTATO CHAIN IN ISRAEL

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Potato cultivars grown in Israel were bred in the moderate climates of Europe and are not adjusted to the hot conditions of the Mediterranean region. To escape periods of high temperatures potatoes are grown during autumn and spring seasons.

Autumn growth is planted during September-October (max. temperature is 24C) and harvested during January-February. Spring growth is planted during January-February (max. temperature is 18C) and harvested during May-July (max. temperature can reach up to 35C).

Total growth areas of potato were expanded in the last years. In 2011-2012 potato production used 17200 ha, 8200 ha in the autumn and 9000 ha in the spring, indicating a total increase of 21% in the last three years and 72% increase in the last decade. The autumn production is mainly for export, while the spring production includes potatoes for export, local market, and tuber seeds for the following autumn growth. From July to January local supply is of stored potatoes (~ 65% of annual marketing of fresh product).

Potato constitutes 23% of total of the Israeli fresh vegetable market – the average consumption is 40kg per person a year, with average price of washed potato around \$ 0.5 per kg at the packing house .

The main growth site (80%) is located at the western area of the Negev region. Additional sites include the central region of Israel (Sharon) and the Upper Galilee. The agricultural production is dominated by nine co-operative communities, and yearly production is

around 636,000 tons: 265,000 to local fresh market, 266,000 for export, 70,000 to the industry of French fries and crisps and 35,000 for potato seeds to be planted in the following autumn.

Potato seeds for the spring growth are imported from Holland (39%), Scotland (35%), France (14%), Germany (11.5%) and Denmark (0.5%), following approval of the phytosanitary authorities.

Potato constitutes 40% of total exported vegetable products. Export markets of Israeli potato products include the United Kingdom, Germany, France and Russia; high season is between March and June.

Notably, potato growth is very intensive and yields 35-45 tons per ha. Basically, growth is supported by irrigation, 4000-5000 cubic meter per ha, and nitrogen fertilization of 350-400 kg per ha. Haulm defoliation by herbicide is performed at 110-130 days after planting according to the variety, while the foliage is still green. This is followed by additional three weeks waiting until harvest to allow skin setting. Improving efficient use of water and fine tuning of nitrogen application are at high priority.

Main cultivars grown include 20% red skin varieties and the rest are of white skin and flesh. These include: Winston (12.6%), Desirée (red, 10.9%), Mondial (8.3 %), Rosanna (red, 8.3%), Vivaldi (5.5%), Nicola (3.9 %), Bellini (3.9%), Ditta (2.9%), Daifla (2.8%). In the last years there is an increasing demand for red-skin cultivars and the dominance of Desirée was replaced by Rossana, Mozart and Romance.

For introduction of new cultivars, a semi-commercial field trial is held every year testing about 60 new potato lines for their fitness to the hot and dry Israeli climate. The trials are performed in both growth seasons, autumn and spring, in the main growth areas: Negev, Sharon and Upper Galilee. Their growth in different soil types and suitability to specific markets (export/local/processed) are tested. Total and marketable yield, size and shape uniformity of tubers, skin visual appearance, physiological disorders, dry matter content, dormancy period, etc. are monitored. Cultivar suitability for baking, cooking or frying is tested as well. Selected cultivars are tested for a total of three years prior to being recommended for commercial growth.