



Use of Ultrasol® K and Qrop® KS in seed potatoes and raisins in Iran

In the Takistan region grapes of the Thompson Seedless (or Sultana) variety, are on the



Figure

1. Raisin offerings on the roadside near the town of Takistan in Iran.

Iranian grape vines are grown without trellises, trained to grown up and on top of the constructed ridges (Figures 2, 3). The grapebearing shoots are allowed to develop unsupported on the vine sections on the ridge. Growth of the seedless berries is



stimulated with gibberellic acid during flowering, resulting in grape yield of 24 MT per
are produced in open sheds



Figure 2. The vines are planted in

the trough between parallel ridges, and are trained to grow up and on top of the ridge. The vines shown are 40 years of age.

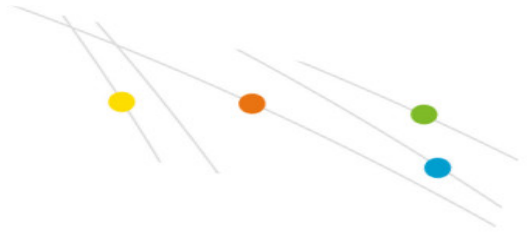


Figure 3. Cultivation in

spring is done using hoes. Weeds and grasses are worked into the soil. Cultivation also reduces insect



Figure 4. Open shed



comprising drying racks used for the production of raisins.

In winter, to protect the vines from the extreme cold experienced in the region, the vines are often covered with a thick layer of soil (buried). Chicken manure is used to fertilize the vines and condition the soil. 300 to 1000 g is applied per vine twice, at the end of winter and in spring. The manure is worked into the soil surrounding the base of each vine. Three kg of 20-20-20 (N -P₂O₅ - K₂O), with one liter of a humic acid formulation, applied to the water reaching the vine bases when flood-irrigating, is applied at Stage 2 (berry growth lag phase until veraison) of berry development. Sprays of boron and zinc-chelate formulations are made after harvest to cater for the need of these micro nutrients by growth the following season. It is noteworthy that the soil pH generally exceeds 7,3 and the soils often contain a substantial quantity of clay (>20%).

Navid Barahimi and Sina Jafari of Sepahan Rooyesh Co. (Figure 5) are actively involved in developing the Iranian grape market for water soluble fertilizer blends with rations more suited to grape culture, as well as granular products designed for base dressing. Qrop[®] KS and Qrop[®] Complex Top K are being developed for basal dressing, and Ultrasol[®] Magnum P44 (urea phosphate), Ultrasol[®] 13-3-43, Ultrasol[®] Calmag and the Ultrasol[®] K-acid and Ultrasol[®] AntiStress lines for top dressing. Dr. Oosthuyse has been instrumental in providing specific fertilization programs.

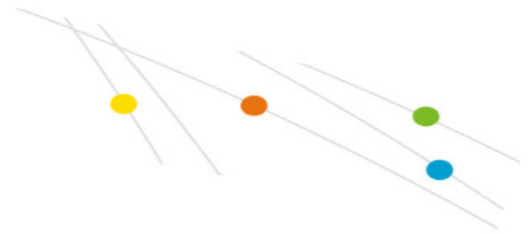


Figure 5. Navid

Barahimi (left, - Technical Support Manager) and Sina Jafari (right -Market Development Manager) of Sepahan Rooyesh Co. are actively involved in developing the Iranian grape market for water soluble fertilizers having nutrient ratios more suited to grape culture.

Total production of potato in the Hamadan province is 30 000 ha, and seed potatoes are grown on approximately 5000 hectares. The region is also well known for canola, wheat, barley, alfalfa and sunflower seed production. The alfalfa is highly sought after for its high protein content. Local seed potato growers were presented with the concepts of nutrition in potato, and were enlightened regarding the ability of potassium nitrate to maximize tuber size and number.

The terms seed potato may be confusing: these potatoes are not grown for seed, but for tubers which are planted to generate the next crop intended for human consumption. The seed potatoes are shipped to local markets local and abroad (e.g. Iraq and Kazakhstan) at times when these markets require seed. The seed potatoes are packed in 50 kg pockets and stored in cold rooms in stacks supported by metal



frames (Figure 6). The first two months tubers are placed in cold storage at 4° C after (in the tuber) from sprouting. This is termed



Figure 6. Seed potatoes after harvest stored in cold

room set a 4° C in stacks supported by metal frames.

Prior to planting, each potato is cut equatorially into three to four sections to increase seed number. In planting tuber sections to produce seed potatoes, the lands are first ridged. Granular fertilizer is placed in the ridge (basal dressing). Plant emergence generally occurs during the second half of April. Harvest date depend on the variety grown. Aspargis, Fontane, Arnova, Banba (nematode resistant), and Agria (yellow



own amongst others. Generally yields in
in seed potato plantings. 60 MT/ha are
n.

Figure 7. Agria is a yellow fleshed potato,

descending from an old European line. It is still a popular variety in Iran.

The seed potato lands are irrigated with raised or overhead microsprinklers. These push-up from ground level when pressurized and are spaced 12 m apart.

To increase yield, size and shelf-life, it was emphasized that KNO_3 be broadcast from



the time of flowering until harvest. 100 kg/ha of Ultrasol[®] K per ha was advised per application, and that at least 4 applications be made at two-week intervals. It was also advised that 50 kg/ha calcium nitrate applications per hectare be made between the Ultrasol[®] K applications to improve tuber finish, this practice being particularly relevant of table potato. It was emphasized that Qrop[®] KS (prilled KNO₃) be applied in the basal dressing to meet the basal need for potassium and sulphate. Research to back-up these recommendations was presented.