2. Chemical free process technology for the production of raisins

The existing practices of raisin making involve intense use of chemicals especially for pre-treatment, during drying and post drying as well. In this practice, the drying time of grapes is about 13-20 days depending on the environmental conditions; the process involves more number of unit operations and is tedious and laborious. Disposal of solution of chemical and water after use creates environmental issues. On the other hand, there is a consumer demand for chemical free products.

A package of technology with chemical free process has been developed at ICAR-CIAE, Bhopal for the production raisins. It includes a grape de-bunching machine (capacity: 150 kg/h) to separate intact grape berries, abrasive pre-treatment equipment (capacity: 135-150 kg/h) to remove waxy layer from the grape surface, drying protocol for grapes, packaging and storage of raisins. This package of technology is suitable to produce good quality raisins with no use of any chemicals in entire process and there is reduction in drying time of grapes (by 30-40 %). Solar dryer or convective type hot air dryer can be used to dry the grapes.

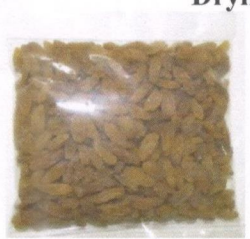
Salient features of the developed technology:

- No use of any chemicals in entire process of raisin making
- Reduced drying time
- Reduced processing cost
- Suitable to produce organic raisins, if production is organic

Grape de-bunching machine

Abrasive pre-treatment equipment

Drying of grapes



Raisin samples