



## Crop Drying

Xin Zheng Feng Li Food Company, China



600 ft<sup>2</sup> of roof mounted SolarWall<sup>®</sup> panels provide heat to the fruit dryer.



Tunnel dryer for jujube fruit

### Background

Xin Zheng Feng Li Food Company is a major jujube producer located near Zhengzhou, the capital of Henan Province in Central China. Jujubes are a small fruit or Chinese date that are dried in two stages:

- The initial drying stage lasts for about 4 weeks in September immediately after the harvest. Daily batches of 8 tonnes each pass through the drying system where the fruit is dried from 60% moisture content to 20%.
- The second stage drying operates for about 36 weeks from October to May, where the moisture content is further reduced from 20% to 10%. This allows the fruit to be stored for at least 9 months.

### Problem

The existing drying process was very inefficient; much of the heat from the coal escaped up the chimney as unburned hydrocarbons. Also, poor quality products were coming back from the drying room because the fruit at the bottom of the rack was being over-dried, and the fruit at the top of the rack was under-dried.

### Solution

The company's objectives with the installation of a SolarWall<sup>®</sup> drying system was to reduce their use of coal and increase the quality of the dried fruit by employing a superior drying method.

The 600 ft<sup>2</sup> system was installed on the south roof of a nearby building. The solar energy is incorporated as the heater for the drying air of the new tunnel dryer, which uses a tray and rack system for uniform drying.



A tray of jujubes which are now solar dried.

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