



The Turpan Depression



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THE VINEYARDS OF THE TURPAN DEPRESSION OF THE Xinjiang Uygur Autonomous Region of north-west China are a good example of man's determination to beat the odds. The climate is very continental: summers are extremely hot with more than 40 days each year greater than 40°C and winters are bitterly cold with minimums of -30°C to -40°C. The annual rainfall is less than 16 mm and the evaporation more than 3,000 mm.

Although Turpan may seem to be a challenging environment in which to grow grapes, the lack of rain does confer one advantage over other regions on the east coast of China: fungal diseases are virtually non-existent. However, the winter freeze risk is much higher. The most northerly distribution of vineyards without winter protection in China is determined by the 14°C isotherm: this roughly coincides with 35°N latitude (by comparison, Adelaide is 35°S).

Grapes were introduced into China from central Asia during the Han dynasty (2nd century BC). It is likely that they were introduced via the trade route which later came

to be known as the Silk Road. The Turpan oasis lies on one of the major branches of the Silk Road and, for this reason, Turpan is likely to be one of the oldest grapegrowing communities in China. The deserts of Xinjiang have been crossed by trade routes for several thousand years and the oases colonised by many different peoples: there is

even evidence of early Celtic peoples who are thought to have migrated from the west and lived in this region up to 4,000 years ago (*Weekend Australian Magazine*, 13/14 March 1999). The Uygur (Uigur) people have been the predominant ethnic group in this region for more than 1,000 years. They speak a Turkic language and are predominantly Muslim.

The Uygur are the traditional viticulturists whereas other ethnic groups such as the Kazak tend to be nomadic graziers.

The major variety grown here is Sultana (locally known as Wuhebai). It is a native of the Middle East so it is likely to have been introduced along the Silk Road many centuries ago. Most of the production is dried and a small



This is the first in a series of articles by ASSOCIATE EDITOR PETER DRY that will demonstrate the wide range of environments in which grapes are grown and how the culture of the grape is an important component of many societies. Some of the best-known vineyards in the world will be described, particularly those which are famous for the wine produced from those sites; for example, Corton (Burgundy), Nierstein (Rheinhessen), Bernkastel (Mosel), Hill of Grace (Barossa). In the series Peter will attempt to demystify many issues and describe the special features of the most interesting vineyards of the world.

amount is used for tablegrapes and wine. Other varieties of *Vitis vinifera*, which appear to be unique to China, are also used in this region as table and drying grapes: for example, Longyan (Dragons Eye) and Niunai (Cow's Teat). Another variety called Suosuo looks very much like Zante Currant.

Production of raisins is the most important end-use of grapes and the same techniques have been in use for millennia. The bunches are dried in earthbrick towers (*qunje*): whole bunches are hung on pegs on vertical timber poles. *Qunje* have solid roofs but latticed walls which allows bunches to be dried by the hot winds. This slow drying in the shade for 30 to 40 days results in a characteristic green-coloured raisin. They are subsequently hand-sorted into grades, the highest grade being the palest green. Most of the crop is still treated in this manner because it is the only satisfactory method to produce the green raisins desired by the market.

Protection from winter freezing is essential: the above-ground parts of vines (and some fruit trees) must be totally covered with soil, straw or other materials to prevent freezing and permanent injury. While this is a relatively simple task for those vines grown close to the ground without trellising, it is a tedious and labour-intensive operation for those vines with long trunks which are grown on pergolas. The trunks must be detached from the trellis and then bent so that they lie on the soil surface where they are covered. In spring the trunks must be uncovered and re-attached to the trellis. In addition, 'fan' training is commonly employed whereby each vine has three or four trunks of different ages. When a trunk is no longer sufficiently



Grapes are dried in earthbrick towers called *qunje*.

flexible to be bent to the ground, it is cut off and replaced with a one-year-old watershoot from the base of the vine.

In Xinjiang, apart from nomadic grazing, all agriculture is irrigated and confined to oases scattered around the rims of deserts and at the feet of mountain ranges. Oases make up just 5% of the land area of Xinjiang but support 90% of the population. Most oases have been continuously occupied for more than two millennia. The Tianshan mountain range, with 40 peaks higher than 6,000 metres and many permanent glaciers, is the main source of irrigation water. Water is channelled for many kilometres out into the desert in underground canals called *karez*, many of which are said to be older than 1,000 years. Water runs continuously in the *karez* except in winter when it is frozen.

Many of the vineyards are untrellised and the vines simply sprawl over the soil surface. Some are grown on low trellises. Pergola trellises are widely used: even in the towns and villages, 3 to 4 metre high pergolas are a common sight over streets and lanes—not only do they provide food but also valuable shade.

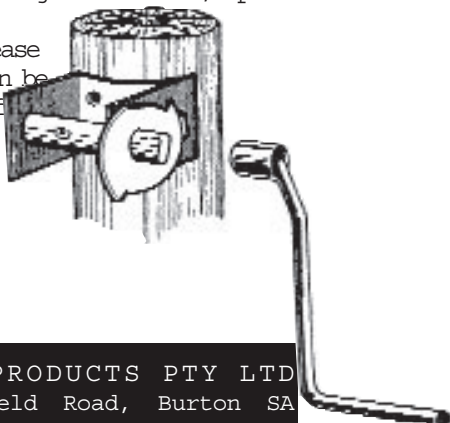
The wine of Turpan has been renowned in China for more than 2,000 years. However, my experience is that the commercial wine produced in this region is better left in the bottle. Nevertheless, there is good potential for winegrape production at cooler sites on the slopes of the mountain ranges: new vineyards have been developed with varieties such as Cabernet Sauvignon and Riesling.

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