

Murcia

Spain

THE PROVINCE OF MURCIA may not be among the most scenic wine regions of the world. However, from a viticultural point of view this region is very interesting—the fact that grapes can be grown at all under non-irrigated conditions here is a convincing demonstration of the drought-tolerant characteristics of Monastrell (syn. Mataro).

The province of Murcia, in the south-east of Spain, is one of that country's smallest autonomous regions. The university city of the same name is located on the River Segura, 35 km inland from the Mediterranean coast and the resorts of the Costa Blanca. Murcia was founded in the ninth century by the Moorish caliph Abdu'r Rahman who was known by the Arabic name *Mursiyah*. The fertile plains of this region have been used for centuries for a range of crops including stonefruits, citrus, olives, almonds, melons and grains.

There are three *Denominación de Origen* (DO) zones within the province of Murcia: Jumilla, Bullas and Yecla. The total vineyard area is 44,000 ha (Jumilla 60%, Yecla 24%, Bullas 16%). The towns of Jumilla, Yecla and Bullas are 75 km north-west, 95 km north and 65 km west of Murcia respectively. Bullas has the largest zone in terms of land area, comprising the western half of Murcia province.

The major winegrape variety is Monastrell (80% of the total area). Other varieties for red wine include Tempranillo (5%) with lesser areas of Cabernet Sauvignon, Merlot, Shiraz and Garnacha (= Grenache). White winegrape varieties are not extensively grown; the main varieties are Airén (3% of total area) and Macabeo. In recent times the trend has been for the minor red varieties to make small inroads at the expense of Monastrell (also occasionally called *Morrastel* or *Morastell* in Spain) which is the same as the *Mourvèdre* of France and *Mataro* of Australia. The variety is most likely of Spanish origin and much of the total 100,000 ha in Spain is grown in the south-east.

Despite its close proximity to the Mediterranean Sea², Murcia (latitude 37°58' N, 40 metres above sea level) has cold winters and very hot summers (with an MJT³ of 26.4°C, this makes Murcia comparable with Broken Hill, NSW). However, most of the vineyards in this province are located at much higher elevations than Murcia: for example, the vineyards of the Jumilla DO are found between 400 metres



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and 800 metres and those of Yecla between 400 metres and 700 metres. Therefore, the town of Jumilla at 500 metres is likely to have an MJT closer to 23.7°C⁴ (comparable with Mildura, Victoria, but with a more continental climate). However, in comparison to Australian locations, this region has a much lower variability with respect to temperature during the growing season⁵. This may explain, in part, why grapevines are well adapted to heat and drought in this region—they are conditioned by the relatively constant high maximum temperatures.

The climate of this region is also characterised by high sunshine hours and low relative humidity. Growing season rainfall is relatively low: the long-term average for Murcia is 131 mm with no effective rainfall for June to August inclusively. Rainfall is highest in spring and autumn with a yearly total of just 305 mm. In recent years, there has been lower-than-average rainfall in this region: for example, the annual rainfall of Jumilla in 1999 and 2000 was 253 mm and 245 mm



Above: A new vineyard in Jumilla with trellising and drip irrigation
Left: A traditional vineyard in Jumilla being converted to drip irrigation

respectively. This is one of the reasons for the increasing interest in irrigation.

In Jumilla, the soils are typically deep and light-textured over limestone. On these soils, vines tend to be deep-rooted, an important attribute given the low rainfall. Ninety per cent of the vineyard area is dryland with just 10% irrigated⁶. The former are all low-trained bush vines and the latter are mostly trellised. In the Jumilla DO, all irrigation water is derived from local aquifers; however, salinity is becoming an increasing problem due to over-exploitation and inadequate recharge. The typical irrigation rate is 1.5 ML/ha: this is quite low considering that evapotranspiration here is at least as high as the Riverland in South Australia. Vineyards in other parts of the Murcia province are able to irrigate with good quality water that originates in the La Mancha region.

The spacing in dryland vineyards is 2.2 metres \times 2.2 metres whereas irrigated vineyards with trellising tend to be 2.5–3.0 metres \times 1.2–1.5 metres (row \times vine). The standard trellis has a fruiting wire at 45 cm with fixed foliage wires at 75 cm and 115–120 cm. Spur pruning is most common with 3 \times 2-node spurs per vine for bush vines and 6 \times 2-node spurs for trellised. The number of nodes per hectare is controlled within each DO. The pruning level may be appropriate for dryland vines but, in my view, it is excessively severe for the irrigated vines, resulting in unnecessary shoot vigour. Weed control is almost exclusively by cultivation. The soil surface

appears to be maintained in a relatively bare state all year round. This, plus the relatively late budburst of Monastrell, reduces the risk of frost damage in spring. Disease pressure is very low and only 2 to 3 sprays of sulfur are applied each season for control of oidium.

The main rootstock is 1103P, followed by 41B, 110R and 161–49. The typical vineyard size is only 1 ha (as part of a mixed farm with tree-fruits, sheep etc.). The average yield of vineyards in the Jumilla DO is less than 2 t/ha. Grape prices are also relatively low (A\$700/tonne).

For Monastrell in Jumilla, budburst is typically in early April with harvest in early September. In the past, harvest always took place on 29 September, irrespective of the season; as a result, fruit was very shrivelled and wines typically had high alcohol (15–16%). Improvement in winemaking technology and earlier harvest has led to an increase in wine quality. For the DO wines of Jumilla, there must be a minimum of 85% Monastrell with a minimum of 12.5% alcohol.

- Further reading: Radford, T. (1998) *The New Spain* (Mitchell Beazley).

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REFERENCES

1. Not to be confused with Graciano which is known as Morrastel in France.
2. In much of the Mediterranean basin, the influence only extends a few kilometres inland, unlike the situation in Australia.
3. MJT = mean July temperature (northern hemisphere) or mean January temperature (southern hemisphere).
4. Based on temperature data for Murcia and adjusted for elevation (minus 0.6°C per 100 metres).
5. Mean daily maximum (\pm standard deviation) and mean daily minimum (\pm standard deviation) temperatures for Jumilla in July 2000 were 36.2 ± 2.0 and 16.8 ± 2.1 °C respectively; the same parameters for Adelaide in January 2000 were 28.3 ± 6.4 and 17.4 ± 5.3 °C.
6. Since 1996, irrigation of winegrapes has been permitted in Spain. Each DO has its own regulations with respect to volume and timing, and indeed, whether any irrigation is permitted at all. At present, less than 3% of the total winegrape area is irrigated.