

## HISTORY

Although vineyards may be associated with a warmer drier climate than is usual in Wales, there are more than a dozen vineyards in the Principality and the number is increasing. Welsh vineyards are spread across the length and breadth of the country, from Anglesey in the north west to Monmouthshire in the south east. Between 1875 and 1914 it is claimed that the only commercially produced wines in the UK came from Wales.

Commercial production of wine is governed by strict regulations and any potential growers should seek advice on these. Contacts and websites for further advice and information are given at the end of this technical note.

## SITE SELECTION

Grape vines (*Vitis vinifera*) require deep, well-drained soils. A wide range of grape varieties is available, suiting many differing soil characteristics. However, none will thrive in a heavy clay. Soil tests should be conducted to assess the need for nutrient and pH adjustments.

Gentle slopes with a southerly aspect ensure that the vines will intercept as much sunlight as possible: this is particularly important at the beginning and end of the season.

Frost hollows should be avoided and, if possible, shelter should be provided from the prevailing wind.

Consideration should also be given to precipitation - both total amount and the way it is spread throughout the year. A figure of around 750mm rainfall is sometimes quoted as optimal, but if all the rain falls through the winter months with summer droughts, vines will not thrive. Conversely, if rainfall exceeds around 1000mm per year, the risk of fungal disease is significantly increased.

## VARIETIES

The EU publishes a list (see Table 1) of vine varieties which are classified as being of production potential in Wales. The Welsh Assembly Government has recently suggested that Frühburgunder, Acolon, Cabernet Sauvignon and Merlot be added to the list of approved production varieties for Wales.

Not all of these varieties will perform equally well at each site. It is essential when selecting varieties for your vineyard that you consider the characteristics of your site (temperature, rainfall, humidity, soil type, pH, etc) alongside the requirements of the varieties.

**Table 1: Vine varieties classified for the production of wine in Wales**

White grape varieties		
Auxerrois	Kanzler	Regner
Bacchus	Madeleine Angeline 7672	Reichensteiner
Chardonnay	Madeleine Royale	Riesling
Chasselas / Gutedal	Madeleine sylvaner III	Ruländer / Pinot gris
Ehrenfelser	Müller-Thurgau / Rivaner	Scheurebe
Faberrebe	Optima	Schönburger
Findling	*Orion	Senator
Gutenborner	Ortega	*Seyval blanc / Seyve villard 5/276
Huxelrebe	*Perle of Alzey / Perle	Siegerrebe
Kerner	*Phoenix	White Elbling
Kernling	Pinot Blanc / Weissburgunder	Würzer
Black grape varieties		
*Cascade	Pinot meunier / Wrotham pinot	*Rondo (GM6494/5)
Dornfelder	Pinot noir / Spatburgunder	*Triomphe
Dunkelfelder	Red Elbling	Zweigeltrebe / Blauer Zweigeltrebe
*Léon Millot	*Regent	

nb: names precede by an asterisk (\*) are interspecific crosses or hybrids which are not permitted to be used for the production of quality wines psr

Source: Welsh Statutory Instrument 2001 No 2193 (W.155) The Common Agricultural Policy (Wine) (Wales) Regulations 2001

There are three quality designations for labelling Welsh wines. **Table wine** has the least stringent conditions and grapes can be sourced from anywhere in the UK. Wine classed as **regional** must source at least 85% of its grapes from Wales. The most stringent requirements apply to wines to be sold as **Welsh Vineyards Quality Wine psr** (psr means produced in a specific region). The varieties in Table 1 which are marked with an asterisk cannot be used in Quality Wines and 100% of the grapes used must have been grown in Wales.

## PLANTING and ESTABLISHMENT

Successful establishment of a vineyard requires careful planning. Production of grapes is a labour intensive activity and consideration should be given to access and travel routes for machinery before any setting out is undertaken.

Planting rows are normally oriented north – south to maximise interception of sunshine on both sides of the trellis. Take care to ensure plantings are in straight lines and completely parallel to one another.

In the first year, plants are often supported with a bamboo cane, but a trellis will need to be set up for the long term. A range of different trellis designs is in use, the most appropriate for any given site will be determined by site-specific and varietal characteristics.

Plants are usually supplied as bare rooted stock. Planting holes need to be large enough to accommodate the spread root system and the graft should be around 5cm above ground level. In practice, this means a hole around 40cm x 40cm x 40cm will be needed. This is easily achieved with a power auger. Ensure that the vine roots do not dry out during planting

The leaf canopy of a vineyard is mainly vertical - against the trellis structure. To optimise production, the full canopy height needs to intercept as much sun as possible. Therefore, the distance between rows should be at least the expected canopy height (c. 1.2m) to avoid shading. In practice, rows are usually spaced to accommodate machinery. Optimal within row spacing is a subject of great debate, with recommendations ranging from 1m to 3m. 1.75m is probably a good guideline, but advice should be sought from your consultant.

## PESTS AND DISEASES

Vineyards need to be protected against deer and rabbits. Birds can also be a problem, particularly as the fruits ripen, and bird scaring devices may be needed.

Fungal, viral and bacterial diseases present a serious challenge to viticulturalists. Good crop management and hygiene practices can help to reduce the risks of disease, but most commercial growers follow routine prophylactic spraying regimes to try and prevent disease outbreaks. This is a complex subject and professional advice should be sought. The Soil Association has an organic standard for vineyards.

## HARVESTING

A newly established vineyard will not come into production until its third year. Yields in this first harvest will only be 50% - 75% of what will be obtained in later years. In Wales, harvesting usually begins mid-late September and runs through until late October – early November. Harvesting is usually by hand and is labour intensive.

## YIELD

As with any crop, yields will vary greatly depending on variety used, soils, climate and pest and disease pressures. Furthermore, if yield is quoted in hectolitres (1 hectolitre = 100 litres), pressing and processing methods will also affect the final yield figure. The UKVA cites 19.0 hectolitres per hectare as being the average annual production across English and Welsh vineyards for the five years to 2005.

## COSTS and REVENUES

Given the wide range of variables (site, variety, planting density, weather, etc.) it is difficult to predict costs and returns for a new vineyard. The following provide a very rough indication with establishment costs annualised over 10 years. The potential returns may look tempting but the risks are also considerable. As with any diversification, a thorough feasibility study should be undertaken prior to making any changes.

**Table 2: Indicative costs and revenues per hectare of vineyards (using contract wine maker)**

	Item	£/ha	Low	High
<b>Costs</b>	Establishment (yrs 1 and 2) including materials and maintenance	£24,000	£21,000	£30,000
	On-going annual management, maintenance and harvest	£7,250	£6,250	£9,000
	Vinification & bottling (range from £1.50 to >£4.00 / litre depending on style of wine)	£4,275	£2,850	£7,600
	Total annualised production costs (over 10 years)	£13,925	£11,200	£19,600
<b>Revenue</b>	2,533 x 70cl bottles ranging from £7.50 to £15.00 per 75cl bottle	£25,333	£19,000	£38,000
<b>Margin</b>		£11,408	£7,800	£18,400

NB: Additional costs to be considered - labelling, marketing, distribution

## CONTACTS

UK Vineyards Association (UKVA) – [www.englishwineproducers.com](http://www.englishwineproducers.com)

Vine and Wine Ltd – supplier of grapevines and advice, with experience in Wales – [www.vineandwine.co.uk](http://www.vineandwine.co.uk)

## REFERENCES

The Common Agricultural Policy (Wine) (Wales) Regulations 2001 -

<http://www.opsi.gov.uk/legislation/wales/wsi2001/20012193e.htm#n8>

Soil Association advice on organic production – [www.soilassociation.org](http://www.soilassociation.org)

Visit [www.calu.bangor.ac.uk](http://www.calu.bangor.ac.uk) for more leaflets. For further information please contact CALU – e-mail: [calu@bangor.ac.uk](mailto:calu@bangor.ac.uk) tel: 01248 680450.

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