

Conference N°5



Research starts providing some of the answers to Ningxia's vineyard management issues

Development of the Ningxia wine industry implies overcoming several obstacles and gaining a better understanding of the most suitable grape varieties and vineyard management techniques for the region. Junxiang Zhang outlined the current challenges, possible remedies and the outcome of recent research.

In the eastern foothills of the Helan mountains, a number of major issues currently face local wine growers. "The nutrients in the soil are low; thin soil layers hinder the development of the root system; the weather is cold and dry; the vines have to be buried in the winter; there is low standardisation; costs are high and it is difficult to achieve large-scale planting", enumerated Junxiang Zhang. Two key techniques for overcoming some of these issues are pruning vines uniformly for easier buried shapes and implementing sustainable soil management methods. The main trellising system used in Ningxia is the single cane with several spurs, but it has several disadvantages, explained Zhang. "It makes burying the vines in winter and

introducing mechanisation difficult; there is high shoot density; and berries ripen at different times". In a country where the rising standard of living is pushing labour costs up, mechanisation is increasingly being viewed as an impending necessity. Sustainable soil management, too, has repercussions on all-important overheads: "Poor management leads to short-lived vineyards and hence extra costs", said Zhang.

Soil and climate suitability are key aspects for the future
All of these aspects of wine growing are currently being studied in Ningxia and several avenues are being explored. Experiments on naturally grown weeds have shown that



they reduce reflection of the sunshine and therefore extend the ripening period. They also enhance organic matter in the soil, improve the microbial environment and protect the micro-ecological system. Leaving vineyards fallow so that the soils can recover is another lead that is being followed, for similar reasons. Research is also focusing on the physical and chemical indexes of grapes such as pH, sugar and juice levels and phenols. Choosing the grape varieties best suited to the local soils and climate will be pivotal to the region's success, though consumer expectations also have to be factored into the equation. Because deeply coloured wines are highly sought-after in the domestic market, a varietal such as Marselan is deemed to have great market potential by Zhang. "It has high total anthocyanins and very good aroma", commented Ningxia's chief expert on wines and grapes. Cabernet-Sauvignon is favoured by producers

for similar reasons, whilst Cabernet Franc is used by many wineries to improve smoothness on the palate and enhance aroma. Syrah, which has the advantage of yielding deeply coloured wines with a strong structure and full body, showed some of its limitations in 2018 due to the wet weather. Conversely, German staple Dornfelder produces the kind of smooth mouthfeel young Chinese consumers in particular enjoy, and also offers high juice yields. Bordeaux varietal Petit Verdot is one of the latest ripening grapes – around October 5-12 – but it is suitable for blending with low acidity wines. And Italy's similarly late-ripening Sangiovese – of which a small amount is planted in Ningxia – has shown itself capable of producing fruity dry reds or rosés with medium to high yields. With so many variables, it is likely that it will be several years before Ningxia finds the solutions to many of these issues.

