CCW All Weather Performers
Case Studies of Successful Plantings by Members of CCW Cooperative Limited

BEN VAGNARELLI
Viticulturist, CCW, Berri, SA

Shiraz vineyard establishment - Case Study 1
Vines were planted in September 1993 using callused cuttings, i.e. bare sticks. By the end of the first growing season, the Shiraz vines in this vineyard had been trained up and covered both wires on a 2-wire vertical trellis, the top wire being 1.5 m from the ground. At the end of the second season this vineyard was machine harvested in March and yielded grapes at 12.5% B.E, at a rate of 12 tonnes/ha. The site in Renmark North was formally a peach orchard.

Chardonnay vineyard establishment - Case Study 2
A vineyard of Chardonnay on Ramsey rootstock was planted in August 1994 in Renmark South. This picture was taken in December 1994. These vines have been trained up in the first growing season with the goal of filling both wires on a 2-wire vertical trellis, the top wire being 1.8 m from the ground. An adjacent block operated by the same grower and planted in the previous growing season was successfully machine harvested in March 1995 yielding at a rate of 11 tonnes/ha.

The best performing new planting in the Renmark area, not discussed in this paper, was a patch of Chardonnay on Ramsey that, machine harvested, yielded at a rate of 19 tonnes/ha in its second growing season.

Shiraz vineyard establishment - Case Study 3
The following describes a vineyard in a different set of circumstances. This vineyard was replanted on an old furrow irrigated vineyard. The 10 hectare planting immediately followed grubbing out the previous vineyard. The vineyard has a 2-wire vertical trellis, the top wire being 1.8 m from the ground and is mainly planted to Shiraz on K51-40 rootstock. The planting took place in August 1994.

This vineyard suffers pressure from rabbits, it has every weed imaginable, the soil is very a lot and some nutrient deficiencies and perched water tables did appear. It is an exposed site with a south westerly aspect. The unusually windy 1994/95 growing season had a big impact on the effectiveness of the overhead irrigation. With the exception of a contracted post knocker, the total labour input for the installation and propagation of this vineyard was from only two men, one a part owner and the other a paid employee.

Notwithstanding these many limitations, the grower's objective of covering the bottom wire in the first growing season was substantially met. A bout 90% of the bottom wire is covered, and it is estimated that next year this site will yield at an average rate of 7-10 tonnes/ha, machine harvested. There is plenty for everyone to learn from such a success.

Background
To help understand why this type of management of young vines came about it is useful to know the social, commercial and natural environment that these growers operate in.

CCW is the largest winegrape supply co-operative in Australia and is Riverland-based. Formerly the proprietor of the Berri and Renmark wineries, CCW is now the preferred grape supplier to BRL Hardy. CCW has an influence as the major shareholder of BRL Hardy as its members largely make up the Wine Trust of Australia. CCW has, currently, 560 members. Members have the opportunity to have 15 year rolling contracts. For new plantings this contract provides minimum prices for the first 6 years after planting for some preferred varieties.

Examination of the ages of CCW members shows a predominance of members aged 41-50. Comparison of age against the size of grafted planting material orders indicates that it is these growers who are most involved with redevelopment; they still look forward to at least 15 more years of working life before they reach retirement age.

In contrast, the older age groups have mostly not taken up the opportunity to redevelop, instead opting to see out their working days with their existing vineyards. In this older group however there is a small but high profile number of debt-free growers who are redeveloping using paid labour. They provide a clear role model for those younger growers who wish to keep open the option of redeveloping one more time after this current planting cycle finishes.

It is expected that the Murray Valley will maintain productivity in its irrigated horticultural areas for another 100 years. We have liquid fossil fuels to last at least another 50 years.

Hence the social, commercial and natural environment that now prevails suggests that most Riverland growers are looking to plant a vineyard that would be a completely mechanised operation using machine harvesters, minimal or mechanical pruning, no tillage after establishment and with irrigation well matched to soil type and crop requirement. Growers should expect to reach production as soon as possible to make the most of the high prices being paid at the moment. Such a vineyard would have a productive life expectancy of at least 15 to 25 years.

Case by case techniques

Case Study 1
The patch of own-rooted Shiraz shown described yielded at a rate of 12 tonnes/ha, but this patch only yielded 4 tonnes, because it is only 3000 m2 worth of planting. However small, the lesson learnt from it was of great value. In this case the grower, a husband and wife partnership, used it as a trial on which the inputs of money, time and confidence for the next year's planting plans could be based.

Preparation
These techniques were used to establish a Chardonnay on Ramsey planting commencing in July 1994. The peach orchard was grubbed out immediately after harvest. The block was ripped three ways, the first two rips were with three short tines mounted on the back of a caterpillar tractor, and the third rip, after laser levelling, was with a single large tine along the
planting rows. A single furrow was then formed along the planting rows. At that stage one irrigation was applied to prepare the site by:
1. providing the leach-in irrigation prior to planting
2. softening the soil for the rapid planting of posts
3. moistening the soil for the receipt of rootlings

A second irrigation, after planting the posts and rootlings, was then applied to water in the planted rootlings and set the pre-emergent herbicide spray into the soil.

Training and fertilising

Planting was complete by the end of July. After attaching wire to the posts and strings to the vines, the process of training the vine up to the wires commenced immediately upon budburst; in this case, late August. Of particular interest is the evenness of growth among the vines. Fertilising was done every two waterings by driving through the vineyard and manually tossing urea to each vine. Feathering and training was usually done every two weeks. Twelve rounds of feathering and training were eventually completed to get the vines up and spread out along both wires.

Irrigation

The practice of furrow irrigation with a single furrow underneath vine on such well-s suited soil as has the same advantage during establishment that drip irrigation has, that is the delivery of water as frequently as necessary right on top of the then small rootzone. Watering was usually done weekly, depending on weather conditions. Once the vines were being trained along the wires, the single furrow was replaced by the traditional furrows either side of the planted row.

On the basis of the trial planting results, this grower ventured with 3 hectares of new planting last year. One important aspect which was seen was that the 3 hectare patch has met complete success and is expected to be machine harvested next year, yielding a crop of between 10 and 12 tonnes/ha.

Case study 3

This vineyard is owned by a partnership of two brothers, one effectively the financier, and the other as operator.

Preparation

An attempt to rip the soil was made, but in the end this ripping was not completely successful as the soil was too dry and the clumps of weeds were too big, so the operation was abandoned. Then the irrigation system was installed. The posts and planting material were put in with the assistance of a water jet.

Planting of the Shiraz was complete by the end of August, planting material were put in with the assistance of a water jet. A second irrigation, after planting the posts and rootlings, was then applied to water in the planted rootlings and set the pre-emergent herbicide spray into the soil.

Training with the height of the cover crop, suggesting that the wind protection was the limiting factor in young vine growth.

Irrigation

This grower would let the sorghum reach 2 metres in height, then was obliged to slash it down to allow the overhead sprinklers to work. In order to maintain access to the vines, yet provide the wind protection, every second row would be slashed down and then the access rows would alternate as the slashed down sorghum would reseed.

Regard to the wind affects on the overhead sprinklers, this grower made ad hoc decisions about when it was necessary to water and in the middle of the very hot December we had, that meant watering twice a week.

If there was any criticism to make about the planning and development of this vineyard, it is that he opted not to have a soil survey done, even though the immediate neighbour has peach and apricot trees that showed plenty of necrotic yellow leaves. Not having a soil survey done means a saving of time and money at the expense of greatly increased risk of suffering yield limiting problems. In this case, the gamble paid off.

Another grower not too distant from this block who had done the same style redevelopment—that is converting a piecemeal furrow irrigated block into long straight pressure irrigated vine rows—without a soil survey, discovered an impervious clay layer just beneath the surface over one quarter of his block. The difference between the success of these two skilled and experienced growers was only determined by luck.

Conclusion

Luck is a big factor in agriculture and many CCW growers use the consideration of luck in their plans. However only fair weather performers rely on luck alone without prepared back-up options.

This last growing season has demonstrated that the margin for error is a lot smaller than it used to be. Back in the days when it used to rain during winter, it was much easier to establish vineyards. However these conditions are still manageable for most Riverland grapegrowers, and any grapegrower can redevelop with confidence given the excellent examples provided here. Regardless of the adverse weather conditions, these growers, along with many other all weather performers not detailed here, have succeeded.