
Establishing Our Own Plantings...Putting The Theory Into Practice

Mountain Blue Orchards Plantings

Layout and Irrigation

Because water is a precious commodity in our state, one of the first questions that we asked about the property as What water licences did it have? In 1997 it was an area based licence, (totalling 10 hectares) but this is subsequently being altered to a volumetric licence, taking into account the crop and the relevant stream that is being pumped.

Having established that we could water 10 hectares, we commenced to plan for 10 hectares of blueberries. Because there was a lot of scrubby weed species on the farm including groundsell, wild tobacco, lantana and camphor laurel trees, the first step was to have these cleared.

With the rubbish removed it became clear which areas could be used efficiently and what was the best aspect for the rows to run and a general layout was possible. We began to put location pegs in to give an idea of possible blocks. One of the key issues at this point was to have a number of blocks with a reasonable proximity to one another's size, so that a workable irrigation design could be done. An irrigation engineer was employed to do our design and recommend the various fittings, filters and emitters to suit our preferred management system.

We had already sifted through various management systems that we had observed and/or developed with other growers, and it was now time to put the theory into practice on our own orchard. We chose the mounding / weedmatting / T-Tape under the matting system with plants spaced at 900 mm within the rows and 3 metres between the rows, as we were using narrow based orchard tractors.

Because we had chosen to use T-Tape with emitters every 400 mm, and our water supply was from a creek that is not particularly clean, we had to spend big bucks on adequate filtration, including three self cleaning sand filters in series, one screen filter and then a disc filter at each block.

Soil Preparation

The first two blocks, consisting of approximately 8500 plants each, were pegged accurately and then sprayed with glyphosate to kill the grass (mainly kikuyu) and weeds. This was done not only to allow the soil to be worked properly but also was done over 6 months in advance of planting in an attempt to rid the ground of the scarab grub (*Lepidiota frenchii*) which is a serious problem in blueberries on the red soils of this area.

After the soil was ploughed a soil analysis was taken from each block in order to estimate what fertilisers, if any, need to be applied for a "top-up application".

After the grass was well rotted, soil preparation commenced in the following order :

- Ploughing with an off-set disc plough
- Disc harrowing to break up the clods
- Deep ripping in the direction of the rows
- Deep ripping diagonally and finally at right angles to the direction of the rows so that the tractor pulling the moulder could maintain a straight line.
- "Top up" Fertiliser broadcast at recommended rates.
- Disc harrowing to leave a fine finish

At this stage each row was now pegged, both at each end and with sighting pegs beyond the ends and across the middle of the block to ensure that the mounds could be made straight for aesthetic reasons. A moulder pulled by a 115 H.P. tractor was hired to carry out the mounding. Timing and weather conditions at this stage are important as heavy rain on the mounds before the weed matting is laid may require the mounding process to be repeated. A commercial operator was hired to lay the irrigation line, the weed matting and black plastic over the matting in one operation, as soon as the mounding had been completed.

I think that I may have covered the reasons for the use of weed matting mulch in an earlier article in this journal, however, suffice to say that the primary reason for its use is not to control weeds, although it helps, but in fact to protect the soil structure in the mound from deterioration and compaction from heavy rain and other elements, as well as providing a warm environment in which the root systems can develop. Mike Mainland in fact at the Berryfruits conference last year on the Sunshine Coast, asked the question ... "What is the most important element for the growth of blueberries in the soil?" to which he then answered OXYGEN !!!

Planting

We made up a bicycle wheel on a stem that punctured a small hole every 900 mms to make the marking out process quick and easy. Then a hole was cut in the shape of a cross approximately 12cm x 12 cm to facilitate planting. Because the soil was so friable, it was scooped out by hand and approximately 20 gms per plant of slow release fertiliser was incorporated into the planting hole. We prefer to plant smaller actively growing plants where the root systems have almost filled the pot but have not become root bound. The plants were then firmed in, ensuring that they are not planted any deeper than they are in the container as blueberries suffer badly from planting too deep. The plants are then watered in and regular irrigation applications were then made to ensure that the plants settled in well.

Variety Selection

We have designed our plantings to ensure that the early flowering, early fruiting varieties are planted on the warmer sites, and that the later flowering varieties are planted in the frost pockets. We have so far planted a mixture of the "tried and true" southern highbush varieties, such as Sharpeblue and Misty, along with some new selections that we have been involved in assessing. These, whilst they show some good potential, have not been proven over a long period of time.

An important consideration for growers is the planting time. Here on the North Coast of NSW we have found that it is not wise to plant dormant plants between the months of April and August. Spring plantings of actively growing plants allow the plant to grow enough to be able to carry a small crop of fruit 12 months later, however, actively growing plants may be planted successfully between August and March. With smaller plants we are committed to removing the flower and fruit buds over winter, to ensure good vegetative growth during the following spring.

Now we must wait patiently for the first crop, and hope and pray that the local birds don't all find us too quickly.

Editor : Since this article was produced for the Australian Blueberry Growers Association Newsletter in 1999, the orchard has grown to approximately 10 hectares, and successful crops have been harvested over the past few seasons, with a large proportion of the crop being exported.

About the Author

Ridley Bell has been closely involved with the development of the blueberry industry in Australia since 1975, when he worked with blueberries at The Institute for Horticultural Development at Knoxfield, Victoria. Since that time he has helped to develop plantations for small and large growers, having done research into a variety of cultural practices, and having assessed literally hundreds of varieties from the United States, New Zealand and Australian variety assessment programs, and propagated countless plants for the industry. He has travelled overseas to many blueberry growing areas, to assess varieties, obtain new ideas and has attended most of the International Vaccinium conferences held every four years at various locations around the world. He has spoken to grower groups both here and overseas about various aspects of the industry, but the thing that he has not done anywhere near enough of is the thing which he enjoys the most about the industry, and that is growing the fruit for sale to the public. In 1997, with his wife Mieke, he made the decision to purchase a 50 acre property about 10 minutes from Lismore on the Lismore - Ballina Road in Northern NSW. The above article will tell some of the story of their planning and preparation for the growing of their own blueberry orchard.