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Table Grape Growers Australia



To Whom It May Concern,

Table Grape Growers Australia (TGGA) are a table grape growing and marketing company with vineyards located in the Northern Territory, Queensland, New South Wales and Victoria. The companies strength is in continuous supply of grapes to Australia's supermarkets. With the continuing drought a potential hole in supply in the key Christmas/January timeslot was opening up due to poor water quality (and volume) in the Darling River. The water available to the vineyards in Menindee NSW, ranges from 2400-3300EC with a pH up to 9.3. Production of fruit on vines in this situation is near impossible. High salt levels in the vines greatly inhibited cane growth and berry set was very poor. Trace element and phosphorous uptake was near non-existent. Fertigation was impossible because the temperature change in the water after fertiliser was added 'dropped out' calcium carbonate into the irrigation pipes. This quickly blocked the irrigation pipes and ground irrigation to a halt. Most nutrients were being added foliar, an expensive exercise but vital to simply keep the vines functioning in the hope the River would flow with better quality water. Twenty-one extra foliar sprays were applied to a 350acre farm to simply keep a green tinge in the leaves. Nutrients such as iron and zinc were applied at 11 times label rate to get a sufficient result in the petiole.

Two Hydrosmart units were fitted to the looped irrigation main supplying all irrigation water to the property in October 2004. More than half the 75% of the foliar sprays were able to be deleted from the program and application rates were only twice label rates. The risk of a complete shutdown of the irrigation system diminished and the fertigation system functioned again as per normal.

Petiole tests on the vines showed levels of sodium in the vines had continued to climb as expected. The sodium levels exceeded those of vines that had died previously but the vines were retaining foliage and carried a modest crop. Most importantly cane growth was sufficient to allow the vines to be ready to hold a full crop when the River again flowed. Salt burn was visible on the oldest leaves but a green tip remained throughout the 2005/06 season. Water pH levels had dropped to 8.5 at the dripper and visible rings of iron and zinc fertiliser were visible on the ground. From this observation it was assumed phosphorous would also have precipitated back out into an available form.

The volume of fruit harvested (0.5box/vine) was restricted to modest levels by our removal of bunches. However the quality of the fruit was still sufficient to meet Supermarket standards even after forty days of between 40 and 52degrees. This far out weighed our expectation of little or no commercial fruit off these vines. This maintained our commitments to the supermarkets and recovered many expected lost costs.

The build up of crusty calcium carbonate started to reduce immediately after the units were installed. Instead of a hard white crust forming in the pipes, a grey slime was finding its way to the filters. This was easy to wash out although it had to be done every couple of hours. At least the pipes were not in danger of permanently blocking.

The Hydrosmart Units have enabled TGGA to keep the vines in a healthy enough state to minimise crop losses during a time of very poor water quality and be ready to farm again when water quality improves. The irrigation infrastructure is also being maintained in a functioning state at a time when the water should be rendering it useless.

Yours truly,

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