

Innovation – The Klima Pruning Machine

New Zealanders are innovative people. Give us a piece of number eight wire and we seem to be able to solve most problems. But when you get two viticulturists, two engineers and sheer genius ideas – you may be able to change the face of vineyard management forever.

Marcus Wickham and Nigel George are the two viticulturists in question. Like so many of their peers, they are constantly looking for ways of making work in the vineyard more productive and cost effective. For example pruning. As we all know, it is the most expensive task of the entire year. It requires large numbers of staff and the associated costs of travel, equipment, OSH requirements and training, all add up. Then there is the problem of keeping experienced staff and attracting them back year after year. As the former National Vineyard manager for Mudhouse Wines, Marcus had experienced enough headaches during the pruning season to know there had to be a better way.

Nigel agreed and over a few drinks one night they endeavoured to come up with a solution. Suggestions began to fly and as the pair had more drinks, the ideas began to seem totally achievable. What if they could create a machine that would lift up the fruiting wires, detach them from the post and in turn remove all the uncut canes that were only holding on via cordons wrapped around the wire? It



Lifting the fruiting wire, the Klima machine pulls all the cordons upwards, feeds them back into a mulcher and leaves just the prepared canes.

seemed rather logical at the time.

“So I said, let’s talk about it in the morning when we’ve sobered up. But by 6am we were both up and raring to go, we knew we were on to something.”

After drawing up some basic designs the two men decided to have a trial run to test the idea. Initially they fitted a chain to a front end loader that was used to lift the fruiting wires away from the post. The first attempt saw them bringing those fruiting

wires down towards the ground.

“Usually when you are stripping out a vine you strip downwards, so we thought we would do the same thing. We quickly realised that wasn’t going to work. After three bays, when we looked back we discovered we had snapped off every vine. Then we thought maybe we should just try pulling the wire upwards. This time after seven or eight bays we were pushing this big jumble of canes in front

of us. We looked back at what we left behind and thought – this is it!”

The sheer simplicity of the idea was almost too good to be true. Although they had to figure out the best way of dealing with the jumble of canes that preceded the machine. If only they could suck them backwards and mulch them up.

Which is where the two engineers come in. Across from the Mudhouse vineyard where Nigel was working, is Eagle Engineering, run by Gary and Arnold Love. They looked over the plans the two viticulturists had drawn up and nonchalantly agreed to have a go at building something. The end result is a partnership called Klima (Greek for vine) and a machine that could well revolutionise pruning in New Zealand. Created to sit on the front on a tractor, harvester or front end loader, the machine lifts the fruiting wires up and outwards, feeds them through a protective channel and drops them back down near the ground ready for the upcoming growing season. All the unwanted canes are fed through a mulching machine and the

end product is distributed back onto the ground.

The greatest advantage of the machine is that it allows growers/contractors to employ skilled staff to undertake the most important task in terms of future productivity – cane selection. Growers will be able to employ and pay on a skill basis while optimising a smaller number of skilled staff over a much larger area than has been previously possible. The pruner, instead of having to make a cane selection, then cut out all the unwanted material before stripping it out, can quickly move from vine to vine in a matter of seconds. The hard yakka is undertaken by the machine, which once it has been through leaves the preferred canes ready for trimming and wrapping. The machine also takes the time out of pruning. Marcus estimates that what it would take one pruner 90 minutes to do, the vine stripper can do in four minutes. He should know, because for the last three months he has pruned more than 300 hectares of vineyard in both Marlborough and Waipara, to ensure

the machine lives up to his and Nigel's expectations.

“We came up with the idea just over a year ago and since then we have been in the research and development mode. All our resources, time and energy have been going into putting the machine out there, trialling it and fine tuning bits and pieces.”

New Zealand patents have been applied for and Klima is about to apply internationally as well.

So are there any downsides? Marcus admits you will have to change the set up in your vineyard if your fruiting wires are currently stapled – but that is a one off cost. It won't be suitable for spur pruning, but is suitable for Scott Henry. And it can deal with nearly every variety. It has been trialled on Sauvignon Blanc, Pinot Noir, Riesling, Chardonnay, Pinot Gris and Gewürztraminer.

Marcus says they will have something commercially available in time for next year's pruning season. ☺

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