Macadamia 'economics.' 2018/2019 Season Approx 1000 trees (planted 2005 2006) Jan and Nick King. Last year's report is available on the NZMS website**. All figures are net of GST.**

Last year we finished up with these words; 'Our orchard at Mahurangi East is … a large hobby orchard, originally meant to provide a supplementary income for 2 people living an active retirement. It has taken a few years to see if this goal is going to be achieved. It seems to be on track to do so.' However, this proved to be a very optimistic statement.

For this season we processed 3769 kg NIS. This yielded 801 kg of kernel. Of which 245.80 kg was processing grade and 555.70 was sound kernel. Processing costs for the 801.50 kg was $16/kg. Our actual production was down to 2751.60 kg due to pest damage. We had expected close to 6,000 kg NIS.

Rats, GVB and guava moth severely impacted the crop. More so than last year.

To make up for this we bought 1018 kg of NIS from a nearby grower and 500 kg of kernel @ $25/kg from another. Together this gave us our 1055.70 of sound kernel and 245.80 kg of processing which we need for our farmers' market stall. Purchasing outside our own orchard greatly increased our Cost of Sales. Below is the comparative Profit and Loss statement for year end March 2018 and March 2019.

Profit and Loss

Mahurangi Macadamias Limited

For the 12 months ended 31 March 2019

Income	**2018**	**2019**
Grazing Income	$6,817.04	$6,864
Sales	$40,452.18	$46,977
Total Income	**$47,269.22**	**$53,841**
Less Cost of Sales		
Purchases Processing Costs	$12,512.37	$12,849
Purchases 500kg kernel@25/kg		$12,500
Total Cost of Sales	**$12,512.37**	**$25,349**
Gross Profit	**$34,756.85**	**$28,492**
Less Operating Expenses		
Advertising	$265.00	$270
Bank Fees	$306.86	$499
Consulting & Accounting	$4,033.77	$2,984
Electricity	$2,032.94	$1,807
Farm Development Expenses	$478.02	$511
Fuel & Oil	$3,593.88	$4,476
General Expenses	$1,364.98	$4,507
Insurance		$2,224
Interest Expense	$9.57	$25
MasterCard Do Not Use	$2,237.73	
Packaging	$776.98	$931
Printing & Stationery	$6.91	$173
Rates		$5,101
Rent -Kitchen	$650.00	$480
Repairs and Maintenance	$568.75	$227
Subscription	$43.48	$50
Telephone & Internet	$960.22	$724
Travel - International		$16,523
Travel - National	$377.09	$936
Vehicle Expenses	$81.18	$786
Total Operating Expenses	**$17,787.36**	**$43,234**
Net Profit	**$16,969.49**	**-$14,742**

The sales result is very similar to last year with the increase in processing costs partly offset by a reduction in packet size. For example, a $5 packet of natural nuts reduced from 95 gms to 90gms. The bad news is there was a large reduction in profitability. This is due to the reduced NIS volume, down 29% and the doubling of the reject percentage from 14% last year to 30% this year. This necessitated buying kernel at wholesale from another grower. In effect doubling our cost of sales.

The result looks even worse than it is because of the travel costs to the 2018 World Macadamia Symposium in Lincang, China. I have also included rates which are of course part of the costs of owning land in the wonderful, most livable, blah blah blah super city of Auckland
Removing these 2 items will bring a direct comparison to last year. Net profit for 2019 $6882. Some $4/hr.

What are we doing about this? We have introduced a comprehensive baiting program for rats. Some 50 bait stations over the 8 hectares, just under 3 hectares in macadamias at 6x4 spacing of 416 trees to the hectare. This is a density of a bait station every 1600 sqm i.e. every 40x40 block. This has eliminated damage due to rats in this year's crop to almost nil.

Guava moth disruptor trials have been in place on our orchard and others since early November. There are over 1000 pheromone twisty ties on the 500 trees on the South side of the block. The block next to it, separated by a eucalyptus shelter belt, also of approx. 500 trees acts as the control. Both blocks have pheromone traps placed in them to monitor moth numbers. Ahsa Chagan, a scientist from NZ Plant and Food Research is conducting this and numerous other trials. The results appear promising and we will hear the outcome of the trials from Asha, hopefully at the AGM, if not when they are finalized and can be posted to the website.

The outstanding problem is that of GVB. This bug has rendered up to 50% of our crop unusable. I have read of GVB infestations of GVB in maize crops in the Hawkes Bay being so bad that the corn was not usable even for chicken feed. In our case sound kernel production has halved. The parasitoid wasp, Aridelus rufotestaceus has not arrived or if it has it has not made an impact on our orchard. What to do? Our spray free days may well be coming to an end. Talking to a wide range of growers from both Australia and South Africa at the World Macadamia Symposium, all had a monitored spray regime in place that is trigged when preset threshold levels for particular pests are exceeded. Combating GVB will be the focus of the 2019/2020 year. It is clear now to us that even this size of hobby orchard needs to be run under a sound orchard management regime. All in all, a character-building year on the land.