Inventions & Ideas Version 1.1 14 March 2015

Never take "No" for an answer, or "Can't" as an excuse, and cash in on your ideas. See Inventing Patenting, Trade Marking and Copyrighting.

I was asked for a list of my inventions by Lex Riddle, dairy farmer of Gordonton, north east of Hamilton, for the Woodlands Historic Estate of 4,000 hectares which covered from Gordonton to Eureka and to Hamilton on the trust's west. Lex's family farmed in it from 1928, and he has helped with the historical development and recording. See http://www.woodlands.co.nz

Lex had noticed that farmers in the Gordonton area were more inventive than in most areas. New Zealand's first herringbone shed was invented and made by Ron Sharp, a dairy farmer near Gordonton, where the following were also formed - the first Farm Improvement Club, first Discussion Group, first Farm Labour Scheme, and one of the first Child Play Centres.

Lex's and our two farms, were on the Woodlands Estate. See the Woodlands History and the Peat Chapters for more and to see the aerial photos.

Inventions & Ideas by Vaughan Jones

1. Spinner Drain digger (ditcher) 1957. Three manufacturers would not make one for me as per the plans because they said it was so simple, it would not work. I bought a welder and made and sold many for £30 each. The manufacturers later laughed at their closed minds. Viv Gallagher of Vogal NZ Ltd later made them under licence. Now three companies make them in NZ and many overseas. See http://www.grazinginfo.com > Soils > Cultivation for more information and photos.
2. Chisel Plough 1958 for cultivating deeply in peat without furrows in which to sink and get stuck. It increased pasture production so much that Auriel and I made 12 chisel ploughs for farmers on Piako Road, Gordonton, by 1966 because farmers on the road saw the results. I cut and welded and Auriel chipped the slag and painted. Vogal NZ Ltd later made them under licence. Vogal NZ Ltd has been sold and the new owners only make fertiliser spreaders. See http://www.grazinginfo.com > Soils > Cultivation for more information and photos.
3. Grader Blade 1959. Many designs were already made, but this one was 8 feet wide, extendable with bolt on attachments to 11 feet and had a longer reach by mounting the blade on the back of the turntable, so no back protrusion, to allow getting to the base of far banks of drains, and it was adjustable from the tractor seat. Vogal NZ Ltd later made them under licence.
4. Back-end soil, fertiliser and silage loader attached to the tractor without leaving the seat. It could be let down to feed out silage off an ordinary trailer by turning left and right to knock the silage off on one or both sides of the trailer. The cost was a fifth the price of a front end loader. 1960. Vogal NZ Ltd then made them. They were ideal for soft ground like peat, because the loader reduced the weight on the smaller front wheels.
5. Ron Sharp invented the herringbone farm dairy in the 1950s. It is now used world-wide. In 1960 I invented the straight-rail herringbone (all said it would not work). It also had two front rails to stop cows lowering their heads and seeing and kicking the milker. The pit had narrow steel nib walls, all now commonly used, instead of 80 mm wide concrete ones which made the cow move the near back leg forward. I built some straight rail shed for farmers and designed one for the Massey University farm. The straight rail gave faster entering and exiting of cows that stood closer to right angles, so clusters were easier to apply from behind. It was cheaper and easier to clean. Cows feel less confined, so are more relaxed.
6. Quarter milker 1960. I showed it working to two black suited D McL Wallace staff who said farmers would not use one. They later copied, made and sold them. They are now used worldwide.
7. Facial eczema prevented by us from 1960 to 1987 on our farms and still on others, by applying enough LimeMagPlus (agricultural lime, serpentine, salt and trace elements based on each farm's pasture analysis. I promoted it in farming journals, but there was no money to be made out of lime so it was not promoted commercially. Lime costs only $12 to $18 per tonne. It reduced facial eczema spore counts by 90% to 10%. Ruakura ignored it because scientists after Rogernomics, needed to be rewarded for their time.
8. Forage Harvester heavy flails 1960. Later made by Vogal NZ Ltd then Gallagher Engineering.

9. Round hay-bar on the bottom front of the forager, which reduced power required by 30%, and allowed hay to be cut at the full length of grass. They were copied by others, but I got two free forage harvesters for the ideas!
10. Removed the whole back of a Forager Harvester hay chute to stop blockages. 1960.
11. Round yard gate winder to bring cows in without electricity. 1960.
12. Triangular bracket to hold the last cow in herringbone shed without getting out of the pit. 1960.
13. Remote TV volume control using speedometer cable brazed together in one length, then threaded through a 6 mm plastic tube which lay across the lounge floor from my chair to turn the TV volume knob. 1967.
14. Bale loader/stacker mounted on a tractor 1961. In 1975 a similar one won a Fieldays inventions award for Gordonton farmer Authur Riddle.
15. Bulk fertiliser spreader made on the back end of an Allis Chalmers tractor and driven with Ferguson axle-drive ground speed power take off (pto) that made it like a four wheel drive. It allowed the spreading of lime and fertiliser on soft peat, where only aeroplanes could spread it. 1963. Later large tractor wheels were used, without using ground-speed pto which only Ferguson tractors had. They could be coupled to the tractor with Vaughan's automatic hitch, which saved having to get off the tractor.
16. Massey Ferguson tractor disc brake cleaning system which saved having to remove the wheels and open up the side shaft, saving hundreds of pounds to owners. 1963.
17. Rotating weed wiper 1966. Ivan Watkins Dow Ltd declined making it because it would reduce their hormone sales. Vaughan got Bisset Engineering to make the Rotowiper. Now they are made in many countries, reducing weed spray and avoiding drift and clover damage.
18. Solmin soluble mineral developed between 1979 and 1987 and sold to DeLaval and later copied incorrectly by four NZ companies. None are as good, because they got it analysed, but didn't know that 10% of copper needed four times more copper sulphate which is used and has only 25% copper, so four times more copper sulphate is needed.
19. The plastic no-shorting electric fence Treadin, made by Gallagher. 1981.
20. A quick clip for fibreglass posts. Bill Gallagher said it was impossible, so I got them made in USA first in 1982.
21. Spring Gate that stretches across lanes and can be seen by animals and farmers on motorcycles. Single wires were injuring motorbike riders. 1982. Many companies made them.
22. Non-conductive centre of Tumblewheel. 1982.
23. Screw-on round rod insulator. 1982. Many make them.
24. Electric fence earth clamp. 1983. Many make them.
25. Central heating vent to blow hot air across floor rather than upwards. 1983.
26. In 1985 suggested to Dr Brian Wickham at LIC that cow weight had to be used in the cow Breeding Index, otherwise New Zealand cows would get too big for their legs to carry them, as had occurred in North America. This changed the Breed Index to Breeding Worth. LIC initially didn't copy my software correctly, so later had to correct it.
27. When we bought neighbours' land and had to roll up wire, I made a three foot diameter pto driven winder that pulled the wire in and wound it up. The circle was tapered and the back un-bolted to let the roll of wire slide off. To use it again we slid it back on and pulled it out.
28. White polywire to be more visible at night when most animal breakouts occur. 1985.
29. Fifty computer Agricultural software spreadsheet templates made from 1987 to help with most farming activities. They are the only agricultural ones to survive so long. One spreadsheet shows that fewer cows/ha sometimes gives more net profit. The total cost is $200 for all 50, many of which cost $200 for one, from some software vendors.
30. Developed the computerised hand held data logger programme with LIC in 1991.
31. Wide subsoiler tip for Vogal subsoiler. 1991.
32. PastureGauge dry matter measure and recorder for Alistair George. 1991.
33. PastureGauge Junior for Alistair George. 1992.
34. Auto-Gateopener for Alistair George to make. 1992.
35. On-line soluble mineral dispenser for McInnes. 1996.
36. Two-piece Hose Swivel for Starks, rather than their original four piece one. 2001.
37. Water Flow indicator to find leaks on farms that won a Fieldays farmer invention award for Starks in 2003.

38. Bank robber trap that at the push of a button would drop over the robber. A thick black plastic would stop the robber seeing. Rope could then be wrapped around him. I've never heard of a "her".
39. Farming ideas later copied by LIC, Ruakura, DFC, Dexcel and fertiliser companies such as -

1. Using Sulphate of Ammonia, then Ammo for establishing new pastures until clover produces nitrogen. 1957. This stopped ryegrasses dying.
2. Applying 17 tonnes of LimeMag and synergistic elements per hectare on raw peat and chisel ploughing it in to 30 cm deep. This took standing Manuka on peat to pastures milking two cows per hectare in three years. 1960.
3. On/off grazing 1960.
4. Applying 28 kg of mixed pasture seed per hectare rather than 40 kg recommended by the establishment, leaving more money for more lime, which pasture analyses showed was too low in 99% of North Island farms.
5. Lime and coarse agricultural salt stopped potassium and some other minerals leaching. Ruakura disputed it. Massey University trials confirmed it - twice.

Other New Zealand inventions

1. Facial eczema control with zinc, for those who don't apply enough lime and synergistic elements to use earthworms to eat dead pasture on which facial eczema spores multiply. (Gladys Reid).
2. Herringbone milking sheds (Ron Sharp). He had a decade long fight with dairy inspectors and was made to place a bucket behind each cow. While building the first one the wall boxing collapsed and the concrete ran out on to the floor. "Leave it there, it can be the floor," he said to his neighbour who was helping him.
3. External rotary milking system. Rotaries are still on the increase. The first one (Turn-Style) was invented by Merv Hicks. He knew that he was relying on the cows backing off, and no one before him had got cows to reverse on their own. He instructed his wife and school children to not mention it to anyone in case it didn't work. The central pivot bringing power in and taking milk away was unique.
4. High Power electric fencing Dr Doug Philips of Ruakura.
5. Hamilton Jet boat and others like Academy Award winner Richard Taylor of Weta, and bungy-jump pioneer AJ Hackett.
6. Gear driven non-stall travelling effluent irrigator - Ecostream Ltd, Te Rapa.
7. Shoof for damaged hooves by Geoff Laurent.
8. Vacuum silage by Jack Green, Papakura. Used in USA.
9. Tail painting of cows thought of by PioPio farmer Barrie Ridler<2bjr@xtra.co.nz> who told Dr Jock MacMillan, a Ruakura scientist about it. He said he would check it and stole the idea and launched it as his idea.
10. Fieldays may be able to supply a list of the +/- 50 New Zealand inventions each year. The Australian National Field Days, UK Royal Show and other shows, average only about 6 a year.
11. If you are looking for items to manufacture visit the 50 odd Farmer Inventions at each Fieldays.
12.
13. See Inventing Patenting Trade Marking Copyrighting.

Vaughan Jones
GrazingInfo Ltd
www.grazinginfo.com