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Thinking of farmer Scientists for National Science Week

How often do you think of farmers as Scientists and inventors? “It’s National Science Week, this week (10-18 August), and I thought its school theme was a pretty good one for the Wimmera - *A Century of Australian Science* - if you focus on farmers,” said environmental educator Jeanie Clark, from Warracknabeal.

National Science Week is about raising the profile of Science in our daily lives. What is Science? For me, it’s the huge body of knowledge based on testing that has been developed over time, and the ideas that spark investigation and theories into further developing our knowledge of our total environment. National Science Week encourages us to recognise Science in our lives and to celebrate those who have gone before, or are today working with Sciences. Science isn’t just for specialists, we all do it.

So in the Wimmera-Mallee, what better part of that body of knowledge to focus on than things to do with farming? Think of all the branches of Science involved in farming, and organisations using Science to better farming here over time! For example, crop farming has some marvellous Australian 20th Century Scientific advances, demonstrating farmers as scientists in solving problems. Farmers themselves don’t often recognise that their ‘tinkering’ involves them in Science. Sometimes their imagination is ignited and they put their Science to the test trying to create something new, often machines.

What could be done about a fungus called ‘smut’ ruining the harvest? In 1914, a farmer in South Australia found a way to protect the seeds from smut with a ‘pickle’ and to remove small seeds. **Hannaford’s Seed Pickling/Grading** machines have improved the quality of seeds greatly and he built a company on it, like other inventors did.

How can you build a cropping machine so it won’t get bogged so easily on the Darling Downs? In 1956, a farmer in Queensland found a way to make a much lighter cropping machine. **Fuss’ Air Seeders** are common for cropping here now, as in the 1980’s, they were found to make cropping into stubbles possible and thus became a key to the development of ‘no-till/ conservation’ farming methods.

Imagine something that makes me drive perfectly straight lines! In 1994, a farmer/ IT designer, in New South Wales, took up his father’s wish and found a way to do that using GPS technology. **Mailler** called it the **Beehive Navigator Auto-Steering System** and it went on to win an Australian design award, as well as make many farmers drive in perfectly straight lines.

How can I get bigger hay bales than the small ones used for so long? In 1961, a farmer in W.A. found a way to roll the hay up into great big round bales and leave them in the paddock. **Avery** called the machine he made in 1961, the **Econ Fodder Roller**. It took away a lot of work with little bales and had the added advantage that they could be left in paddocks, ready for use when wanted.

Making harvest work simpler and on a larger scale, seems to have had continuous improvement. There was one big jump, when a farmer in NSW in 1923 worked out how to make a machine that didn’t need a horse or tractor, and could do the main harvest jobs in one operation - a self-propelled auto-header. **Taylor’s** imagination had been very much ignited by the task he set himself, which he showed locally in 1923. However he needed money to manufacture it, so teamed up with McKay, industrialist at Sunshine Victoria and the **Sunshine S-P auto-header** was born.

There is a lot more detail about these farm inventions on my enviroed4all website starting at <http://enviroed4all.com.au/2013-mathsplanetearth/machinery-shape-sleuths/> and following the links to the pdfs on the next webpage which include information about them, photos, and some exercises to use the inventions for the 2013 Maths of Planet Earth, to bring it into a global project.

There are also some wonderful books on this subject: Ken Arnold’s *A century of farmyard relics in Australia 1840-1940*; Gerald Walsh’s *Pioneering Days*’ and Graeme Quick’s *Remarkable Australian Farm Machines*.

You can also find machines at the agricultural museums, for example at Warracknabeal and Jeparit in the Wimmera.

“Ignite your imagination” is the slogan for National Science Week. I hope like me you’re inspired when you think of these important inventions created by farmers last century and still in use, further developed, today.

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SP Auto-headers from an early model to today's.

Early Sunshine SP autoheader 1936 model at the Jeparit Wimmera Mallee Pioneer Museum



2012 harvest with and SP Auto-header near Warracknabeal. Same basic design as the early ones.



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