

American prairies were remote from tractor dealers.

Such was the acceptance of Sears Roebuck as a reliable provider of quality goods, that few farmers would have harboured any hesitation in posting off a mail order accompanied by a cheque for the deposit on a new tractor.

Graham Bradley tractors sold particularly well in Iowa, Indiana and Illinois, where market centres could be many miles apart. Speeds of up to 40 mph could be achieved by overriding the governor, even when hauling a wagon. As the fee for a tractor road permit in these States was only \$8, compared to around \$60 for a truck permit, many farmers sold their conventional tractor plus their truck and ordered a high speed Graham Bradley and a wagon.

From 1938 Graham Bradley tractors were equipped with a bigger capacity engine. It was a Continental 217 cu. inch six cylinder side valve unit. While producing similar horsepower to the Graham Paige engine, it had a greater torque backup, enabling the tractor to 'hang on' longer in a specific gear when encountering a stiff patch of soil or a steep incline.

Contributing to the popularity of the Graham Bradley was the policy of Sears Roebuck in offering deals that no opposition company could match.

Upon receipt of a 10 per cent deposit, the mail order company would land a brand new tractor at the nearest railway siding, while giving the farmer five years to pay off the balance at an attractive low rate of interest. Further, a new plough and cultivator would be 'thrown in' at no extra cost. These were compelling reasons for a farmer to bypass the traditional tractors, particularly as the delivered price for the tractor, plough and cultivator was around the same as for a bare John Deere or Allis Chalmers of the equivalent horsepower.

Additionally a money back guarantee accompanied the purchase of each Graham Bradley. This unprecedented and generous offer exhibited a total confidence by Sears Roebuck in their tractor.

America went to war in 1941 and the priority requirement for Graham Paige was to switch to military production. This marked the end of the remarkable Graham Bradley tractor, following the production of 1596 units. The marque was not revived after the war.

Graham Bradley tractors were not marketed in Australia, but it is known that at least one example was privately imported.

## Plans to double water efficiencies

The Australian cotton industry has announced plans to double its water use efficiency in the next 10 years, through investments in research and further changes to on-farm practices.

According to Cotton Australia CEO Adam Kay, Australia's cotton growers are already three times more efficient than the global average, but with a changing climate and continuing drought, getting the most out of every drop of water is the industry's greatest challenge.

"With cuts to allocations and higher prices for water, cotton growers have been ahead of the game on this issue for many years. Data shows 70 per cent have changed their irrigation practices in the past five years," Adam said.

"The industry will invest \$17 million in research and development to improve water efficiency over the next three years and the Cotton BMP Land and Water Module will provide the framework that irrigators can use to achieve further on-farm change.

"Meeting difficult challenges isn't new to the cotton industry, nor is setting ambitious targets to achieve environmental change. Fifteen years ago we set out to reduce pesticide use by 50 per cent — but through a whole of industry effort, the end result was a 80–90 per cent decrease in the past decade," Adam said.

"The application of water on cotton farms has become an exact science, with

growers careful to measure and monitor every drop to get the most out of scarce supplies," Adam said.

"The idea is to have the most efficient and practical delivery system possible. All this is done through a scientific system using moisture probes, weather stations and forecasting tools," Adam said.

"The cotton industry has long recognised reducing evaporation is a major challenge, with one study showing as much as 39 per cent can be lost from on-farm storages.

"To overcome this, cotton growers are also using techniques such as deepening dams, lining channels, watering at night, removing weeds quickly to stop them taking up soil moisture and using overhead sprinklers and drip irrigation systems.

"On some farms, these systems have improved water use efficiency by over 20 per cent, and there are new varieties of cotton being trialled showing promise of using up to 30 per cent less water than conventional varieties.

"Large scale efficiency changes are expensive, and that's also why we're preparing detailed plans for how funding under the Prime Minister's National Plan for Water Management could best be spent in cotton regions.

"To achieve our ambitious goal of doubling water use efficiency in the next 10 years, all sectors of industry will work together to find new and improved methods of cotton production," Adam said.



Cotton Australia CEO, Mr Adam Kay, pictured with some of the latest technology used to manage water.