



A PASSION FOR PERSIMMONS

Chris Stillard (left) discussing the G5.9 gas engine with Cummins Wodonga sales executive Adrian Melotto.

Cummins gas engine is delivering irrigation cost efficiencies for NSW farmer.

A Cummins natural gas engine is slashing irrigation costs at a NSW farm where 4000 persimmon trees are grown for both domestic and export fruit.

Chris Stillard and wife Belinda farm 260 hectares (700 acres) at Barooga on the Murray River where they produce around 1000 tonnes of lucerne, pure clover and oaten hay a year along with persimmon fruit and winter cereal crops.

The Stillard family has owned the property for 114 years – in fact, Chris is the fourth generation Stillard to manage the farm which today is one of the largest producers of sweet persimmons in Australia.

Around 100 tonnes of the orange fruit are hand-picked a year and packaged at the farm in 'Gold Dragon' branded boxes. The Stillards are in the process of expanding their persimmon orchard from 4000 to 7000 trees.

Bruce Stillard first looked at using a gas engine for irrigation pumping 10 years ago when he calculated a fuel cost saving of more than 50% compared with using a diesel engine. The gas is available from a nearby pipeline running from Bass Strait.

Using grid power was also considered although it was just a fleeting thought. "I'd heard too many horror stories about the cost of electricity," he says.

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The Cummins G5.9 gas engine is achieving a fuel cost reduction of 50 to 55%.



Above: Around 100 tonnes of the persimmons are hand-picked a year and packaged in 'Gold Dragon' branded boxes.
Below: The Stillards are expanding their persimmon orchard from 4000 to 7000 trees.

Investing in a premium product.

His first gas engine was a cheap brand from overseas and lasted just a couple of years. His next gas engine brand provided longer life but aftersales service was non-existent.

"I can't afford to have an engine down for even a couple of days," he says. "During peak pumping periods, the engine needs to run six days a week, 24 hours a day."

In 2017, with irrigation demands increasing engine operation to around 3000 hours a year, Chris Stillard decided to invest in a well-supported premium product and Cummins got the nod with its G5.9 natural gas engine.

Stillard worked with Cummins Wodonga sales executive Adrian Melotto to come up with a suitable package which included heat exchanger rather than fan/radiator cooling.

At today's gas and diesel prices, the G5.9 gas engine is achieving a fuel cost reduction similar to that calculated by Stillard 10 years ago – a 50 to 55% reduction.

Impressively long life.

The naturally aspirated G5.9 is based on one of the most successful ever Cummins diesel engines, the six cylinder 5.9-litre B-series, and is well proven in continuous-duty 24/7 operations in Australia. Over 150 units are working in gas compression applications in Queensland's Bowen Basin and they consistently achieve impressively long life – in excess of 85,000 hours – before requiring overhaul by Cummins. Importantly, these long-life engines are serviced and maintained according to Cummins guidelines.



At the Stillard farm, the G5.9 is rated 85 hp at 1800 rpm and is pumping 3.5 megalitres (3.5 million litres) a day at 55 psi during peak period periods. The pump itself draws 54 hp from the engine at 1500 rpm.

The Cummins-powered pump serves sub-surface drip irrigation for 40 hectares of lucerne crop; mini sprinklers for five hectares of persimmons; and one central pivot which covers 40 hectares of clover or cereal crop. The rest of the farm is flood irrigated.

Chris Stillard likes the heat exchanger cooling. It provides cooling stability when ambient temperatures climb into the 40s, and it also low maintenance in that it eliminates the fan, fan drive and radiator. So what exactly are persimmons? Commonly grown in Japan, they have a sweet, honeyed flavour and are best eaten crisp "like an apple", says Chris. They are high in beta carotene and minerals such as sodium, magnesium, calcium and iron, and studies have found that they also contain twice as much dietary fibre per 100g as apples. Chris estimates there are only around 80 persimmons growers in the country. He should know – he's vice-chairman of Persimmons Australia. ■