

# Focus

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## JIGSAW SOLUTION

Good run: Mark Wootton and Eve Kantor at Jigsaw Farms north of Hamilton in Victoria's Western District. Picture: KARLA NORTHCOTT

HIGHLY productive farming — where inputs are generous and outputs have doubled — is compatible with carbon neutrality, improved biodiversity and happy staff.

This is not rhetoric but reality for the large-scale Jigsaw Farms grazing and forestry business, operated across six properties totalling 3441ha north of Hamilton in the Western District.

Jigsaw proves that with a firm compass and capital investment, it is possible to build profitable, resilient farms in the face of a changing climate. Owners Mark Wootton and Eve Kantor say the vocation is a passion.

Walking through their paddocks, lush pastures cushioning each footfall, snugly surrounded by trees and shrubs, it's clear this is not an impulsive passion but a cool-headed and evidence-based drive to meet targets.

One platform Jigsaw Farms stands



Thinking big has been a winning approach for this livestock and forestry business that has achieved carbon neutrality, writes **KATE DOWLER**

on is bettering its environment. Nineteen per cent of the farm is committed to biodiversity, carbon and agroforestry plantations and has been carbon neutral since 2011 — evidenced in a 2015 University of Melbourne study.

Mark said they constantly sought ways to lower methane output.

"Carbon sense definitely makes economic sense," said Mark, who has managed Jigsaw to double food and fibre production in the past 23 years and achieve an average net return of about 10 per cent. "If you improve fecundity levels to increase lamb or calf numbers/breeding unit you'll be more

profitable, your methane impact lower, and it'll cost less to run that animal because it's a better feed converter."

Founder and former chairman of the Climate Institute and past board member of the Australian Conservation Foundation, Mark is also a staunch defender, on environmental grounds, of high-input farming and using chemical fertilisers and sprays to reduce carbon intensity per unit of product farmed.

"If we did not run a high-input system — using chemical fertilisers and sprays — there is no way we could be

carbon neutral and achieve the profit, along with biodiversity gains, that we have," he said.

### PIECING IT TOGETHER

MARK and Eve run 52,000 dry sheep equivalents on phalaris, fescue and clover perennials. Fine-wool Merino sheep and a prime lambs account for 80 per cent of the business.

They have a Merino stud producing dual-purpose, productive animals in addition to 510 Hereford-Angus cows and 600ha of hardwood, harvest timber. Shelterbelts and revegetated waterways link vegetation and boost productivity of pastures, sheep and cattle.

Before buying at Hamilton 23 years ago, Mark and Eve were teachers in Gippsland, where they had small farm holdings. "Neither of us come from farming backgrounds but we're passionate about it," Mark said.

After Gippsland was a stint volunteering in Botswana.

"We had four kids, under six, and tried living in Melbourne but it wasn't our cup of tea," he said.

"We bought here in '99, when it was \$600-\$700 an acre (\$1482-\$1730/ha), mostly pre-bluegums (which drove up land values). We got to 6600ha by 2016; then I had a heart operation and decided to sell 3300ha.

"We're fortunate we had a good beginning financially and then what we invested kept growing and we put any profits back into the business. We've taken good wages and had good lives; a bit of good luck, management and timing too.

"People say you were lucky (with land purchases), but I remember many years ago, buying a block up at Melville Forest and going to the hall for the auction and no one was bidding."

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# Jigsaw puzzle falls into place

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Driving home in his Holden ute, Mark remembers panicking over the viability of the underdeveloped land he had just bought. "I pulled over and vomited," he said. "But we bought it because we understood we could increase DSE — its potential was enormous."

**STANDING ALONE**

EARLY on, Eve and Mark identified they wanted a business with scale to produce good long-term income and capacity for succession.

"Our aim was to run 40,000DSE to justify labour investment to manage it," Mark said.

That scale will prove useful for Jigsaw's next chapter, with four adult children — Hannah, Nina, Gracie and Charlie — all interested in farming.

After his heart operation, and approaching 60 next year, Mark aims to reduce his on-farm role.

"If our kids come back and each want a stand-alone unit each farm can be separated off, that's part of our succession plan; each will need 20,000DSE."

Since 2006 the farm has operated without drawing from the family's other financial interests, and is now debt-free.

While it initially sounds counter-intuitive, given the

**MARK WOOTTON and EVE KANTOR HAMILTON**

**OPERATE** a highly-productive farming enterprise over six properties totalling 3441ha  
**RUN** 52,000 dry sheep equivalents with wool, lamb and beef enterprises  
**HAVE** doubled food and fibre production in the past 23 years  
**FARM** has been carbon neutral since 2011



sharp environmental focus and carbon neutrality, Mark and Eve are advocates of high-input and high output systems, or "carbon efficiency", where production costs — financial or emissions — produce maximum bang for buck.

The 650ha of trees is half high-value sawlogs and half permanent revegetation for biodiversity and carbon. Only marginal country is allocated to trees.

Introduction of a feedlot has also slashed emissions by preserving pastures and soil carbon.

"The key to lowering carbon footprint is high fecundity levels and speed to finishing," Mark said. "Feedlotting helps us achieve the second goal as lambs reach desired weight quicker."

In the paddocks, high fertiliser rates and quality pastures grow more grass, delivering more food and fibre a hectare. "We spread capital applica-

tions of fertiliser until Olsen P's reach high teens or 20s; then maintain with 0.8 units of P/DSE," Mark said.

Annual soil tests and the "law of minimum principle" are applied, where trace elements are replaced. Jigsaw's farms at Hensley Park run 22DSE/ha and at Melville Forest, 18DSE/ha.

"High stocking rates continually put genetic pressure on flock and herd fertility," Mark said.

Equally, sustainability of native fauna is crucial to how Mark and Eve farm. Quarterly bird counts have seen species numbers rise from 48 to 164.

Monitoring ground cover to preserve soil and retain carbon means a "100 per cent coverage rule" is applied.

Containment areas are also used extensively in dry months to regenerate pastures and all creek lines and salty areas are fenced and planted to trees and shrubs.



Helping hand: Mark Wootton with staff member Jack Leonard at Jigsaw Farms. Pictures: KARLA NORTHCOTT

**SHEEP SHAPE**

SOME 49,000 ewes and lambs were shorn at Jigsaw Farms this year, producing 840 bales of wool.

The self-replacing flock's breeding focus is positive muscle and fat figures and wool attributes. Jigsaw has used semen from Merinotech, An-

derson, Mumblebone, Walladale, Triggervale and Moojepin studs, producing highly fertile sheep with good lamb survivability.

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# on a grand scale



**"If we did not run a high-input system — using chemical fertilisers and sprays — there is no way we could be carbon neutral and achieve the profit, along with biodiversity gains, that we have"**

"This year we achieved our best scanning results, with 97 per cent of joined ewes in-lamb," Mark said.

There is a strong focus on survival, with 81 per cent of Merino foetuses ending up as lambs weaned last year. Merino lambs weaned at 100 per cent-plus. Ewes average 5.2kg of 18.2-micron wool.

"If wool maintains strong returns we'll join more to Merinos. If not, we'll use terminal rams," he said.

Poll Dorset rams, mostly sourced from the Derrynock stud, and some White Suffolk rams are used to produce supermarket-weight, early maturing lambs.

Last season, 9000 terminals were sold as suckers or to finished weights via the feedlot and a further 7000 Merino wether lambs went as stores or to the light Muslim Kill market.

Almost all finished lambs are sold under contract.

This year, high supplementary feeding costs saw two-

thirds of Merino lambs sold as stores on AuctionsPlus.

### FLEXIBLE APPROACH

MUCH of Jigsaw's approach to sheep is underpinned by teachings of Lifetime Ewe Management and More Lambs More Often programs, which provide tools to manage climate variability.

As part of this, Mark analysed Jigsaw's weaknesses, finding a lack of flexibility when seasons tightened due to its concentration on breeders.

"The feedlot has now given us that flex; we get stock off pastures, or if we need to, finish lambs there," he said.

Now, moving the June and spring lambings all to spring is being considered.

"Even though June lambs grass-finish as suckers, and it's

easy, we could instead run 25 per cent more ewes and finish lambs in the feedlot or sell stores," Mark said.

For a decade Jigsaw has bred towards plain-breed Merinos, ceasing mulesing three years ago. They are using freeze branding, developed by vet Dr John Steinfort, as an interim step from mulesing to fully achieving a plainer breed through genetics.

Following drought in the mid-2000s Jigsaw now holds large feed stores. This goes against consultants' advice that a healthy bank balance is enough drought coverage.

Another change has been shifting from buying first-cross ewes to breeding better Merinos.

"We had old Merino gen-

etics that weren't robust; now you see a Merino lamb here and you can drop it in a puddle and it'll get up. Years ago after a puff of cold wind it would die," Mark said.

In the past year Jigsaw took advantage of high sheep returns, selling older ewes and replacing with cheaper cattle.

"We backed off ewe numbers and increased cattle. Normally we have 25,000-26,000 ewes, but will now have 19,000-20,000, 25-30 per cent joined to Poll Dorsets and White Suffolks," Mark said.

### HIGH STEAKS

AFTER selling their cattle at the top of the market in 2016, Mark and Eve bought cattle from NSW last year, re-establishing a crossbreeding enterprise.

The herd is based on Wirruna Poll Hereford-blood female lines, due to Mark's affection for the superior temperament of Herefords, joined to Weeran Angus bulls, selected for calving ease and high indexes.

"We also traded in blacks and they'll have a Hereford over top," he said.

"That produces the best mother of all, black baldies, and we get the free lunch of hybrid vigour."

Calving begins mid-August to match pasture growth. In the 2005-06 drought Jigsaw maintained 2300 breeding cattle comprising two purebred herds and a crossbred herd.

Mark compared their productivity and found the best heifers for getting back-in-calf were black baldies, followed by Herefords then Angus.

Weaners have been sold via the saleyard system, but now decisions are made each season whether to sell stores or finish them.

Despite Jigsaw's carbon-neutrality, livestock are not yet sold into markets recognising this and timber plantations established pre-2010 are ineligible for payment under the Carbon Farming Initiative. One plantation was paid to offset carbon for Telstra's car fleet.

Jigsaw's wool is marketed through AWN, including its Direct Network Advantage — where consumers can find out



a product's provenance — and MerinoSnug brand.

Mark has also been asked by Coles — which bought 90 per cent of the Jigsaw lambs in recent years — how a product's carbon footprint could be communicated to consumers, but said it was early days for the retailer regarding that.

### PIECE OF PUZZLE

JIGSAW runs 45 full-time equivalent staff at a rate of one labour unit to 12,000DSE.

"Really, staff is the key; we can talk about sheep and trees, but it's people who make it," Mark said.

With a new manager joining the team, Mark said they would make the decision jointly whether to move all lambing to spring.

"You keep good staff by empowering them ... I've never seen someone act more responsibly if you give them less responsibility," he said.

Above-average pay and housing are also vital, Eve says. Creating the right culture and leading by example are paramount in regard to work ethic and OH&S.

After two ATV accidents, and two successful Work Cover audits thanks to documentation and services records, Jigsaw is switching to mainly side-by-side vehicles and fewer ATVs.

ATVs are now fitted with flexible Lifeguard rollover protection instead of hairpin roll bars, which Mark said could jam a bike's suspension if not maintained.

Boiling down the farming philosophy to cold hard cash,

Jigsaw is no leaner.

The business generates an average, long-term financial net return of 10 per cent.

"Since 1996 we've averaged 4.4 per cent return on asset income, plus 6.8 per cent per annum capital growth (revalued yearly in line with land prices)," Mark said.

"Three years ago we had a cracking year, getting out of cattle when they had their peak and the land hadn't caught up, so that was an unbelievable ROI that year, but if you look at the worst, 2005-06 were droughts and the reverse and we lost \$1.2 and \$1.8 million in those years with supplementary feeding."

### MARGIN CALL

IN the past 23 years, Mark said the Jigsaw team had doubled its food and fibre production.

On a gross-margin comparison, sheep won 19 of the 23 years with cattle triumphing twice and the enterprises even in two years.

"Since 2006 all capital works have been paid for from revenue earned, and not from debt," he said.

With succession plans on the horizon, Mark and Eve retain the rule of 3 per cent annual improvement.

Mark also wants to spend more time examining regenerative farming; adding there needs to be more objectively measured scientific research before it is promoted as a panacea. Eve said she hoped they had done enough to set the business and family up to match the challenges of a changing climate.

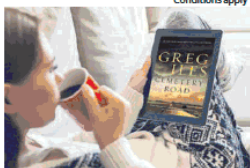
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