Wool production & biodiversity
Testimonial
working together for
Michele & Graeme Blackman

Above—Michele & Graeme Blackman.

Background photo—'Pint Pot' ewes.

'Pint Pot'

Location

22 km north-east of Armidale, New England Tablelands NSW, Macleay catchment

Property size

820 ha (2026 acres)

Paddocks

75

Average annual rainfall

762 mm (30 inches)

Main enterprises

Superfine Merino wool (16-17.5 micron), Beef cattle, Off-farm electrician business

Stock numbers

2500 Merino sheep (2100 currently)

120 breeding cows

Stocking rate

5.9 DSE/ha (2.4 DSE/acre), 5.3 DSE/ha currently

Main soil types

Meta-sedimentary ('trap')

Vegetation types

Mainly scattered timber after clearing, with timber belts on the ridges; stringybark, yellow and grey box and Hillgrove spotted gum on the ridges; Blakely's red gum, box and rough-barked apple on the slopes, and black sally, snow gum and New England peppermint on the lower slopes and flats.

Elevation

990-1090 m above sea level

Introduction

Michele Blackman is a fourth-generation woolgrower, having grown up on 'Brookside', of which 'Pint Pot' was a part until 1990. Her husband, Graeme, grew up in Ballina on the NSW North Coast where he developed a life-long interest in conservation and environmental issues.

'Pint Pot', now owned by Michele and Graeme, was mostly cleared in the 40 years to 1990, although scattered trees and several small timber belts were left untouched. About 75% was sown to pasture, the last of those in 1985. Until 1990, the developed country was fertilised with a hundredweight to the acre of superphosphate every second year. With time, the sown pastures have reverted to natural pastures dominated largely by native species.

Michele and Graeme are passionate about their property's native vegetation and its natural values. "It's basically all native species providing the feed, shelter and shade," says Graeme. "We need the native species of flora and fauna to run our grazing activities, so we try to work in harmony with nature to be sustainable well into the future."

This testimonial describes Michele and Graeme's grazing operation and the way they have gone about protecting and working with their farm's biodiversity to sustain their farm business and lifestyle.

Below—Four-row tree and shrub lines planted as wildlife corridors and for stock shelter across cleared country.

'Pint Pot' wool

The 'Pint Pot' self-replacing Merino flock is based on Merryville blood lines and Stanley Vale rams. The wool is a traditional New England style of light, bright, stylish, soft wool (16-17.5 µm) with a 75-mm staple, sought after by the Italian mills.

"It's about quality rather than quantity," says Graeme. "Quality always matters in the end. In the past few years, we have concentrated on cleaning up our wool clip preparation and on classing."

Despite the native pasture base, vegetable matter is not a problem. Wool strength in the main lines averages over 40 N/ktex and yields average 75%.

The Blackmans have always tried to minimise chemical use on their farm, so they are not perturbed about the pending restrictions on insecticide residues, to be placed on wool imports by the European Community.

"Our lambing percentage has averaged 92% in the last three years," says Graeme. "I'm pretty happy with that and put it down to shelter and good nutrition."

Although flock size was about 3000 sheep in the 1990s, low prices and poor seasons have led the Blackmans to class and cull hard to reduce the flock to 2100. "It's disappointing when you produce a quality product and you're not getting the prices for it," says Michele. "The last couple of years have been a battle."

Cattle

The beef cattle breeding enterprise constitutes 40% of farm income. "The cattle complement the sheep by eating down in the gullies and helping reduce the worm burden," says Graeme. "We run an Angus-Murray Grey-Santa Gertrudis cross. We calve in August and sell the calves in about May. We feed the cattle cotton seed in winter, and put out dry lick."

Below—A microlaena pasture.

Below—Front dam, fenced largely from stock to enhance water quality and wildlife habitat.

Background—Scattered blackthorn and paddock trees of grey box.

Off-farm income

Graeme has an electrical business, and enjoys working with a wide range of trades people in the building and mining industries.

It supplements the family income and cash flow. "Although it's less than 50 per cent of our income, it's the only way we can afford to do the things we are interested in," says Graeme.

The business is flexible, allowing Graeme to vary his off-farm commitments to suit what is happening on the farm.

"There's also the psychological benefit of getting away from the farm when the going gets tough, such as when you're feeding."

Pastures & water

Today the pasture mix is dominated by the better native grasses, principally redgrass, paddock lovegrasses, Parramatta grass, microlaena, digitaria, wallaby grass, knob sedge and hairy panic, as well as a variety of forbs, including yellow buttons and cudweed. Some moister areas retain a mix of sown and naturalised introduced species such as cocksfoot and paspalum.

As the whole property is rotationally grazed, Graeme is hoping to see the better grasses dominate even more, with time. The pastures have been supered once since 1990.

Pint Pot Creek runs down the eastern side of the property and waters those paddocks fenced on to it. The remaining paddocks are watered from dams. Water is pumped from two large dams, Front and Back, to hill-top tanks and reticulated to troughs.

Front dam is mostly fenced from stock. "Water quality is important to us because living things are all mainly water," says Graeme. "Good water equals good production."

Grazing management

Graeme began to implement cell grazing on 'Pint Pot' in 1994 after undertaking two courses with Resource Consulting Services, although he now refers to it as rotational grazing.

The stock are run in three separate mobs (ewes, wethers and hoggets) in their own cells (with cattle in with two of the mobs). Paddocks are 10-30 ha in size and are grazed for 3-8 days. Rest periods between grazing events are about 30 days in summer and 45-60 days in winter.

In a normal winter, Graeme aims for three grazes from a paddock. The first is a quick graze across the top and the second is a normal graze. A third graze is possible if it has rained and feed has grown.

According to Graeme, "Rotational grazing where pastures are rested for much longer than they are grazed is more sustainable than traditional practices."

Paddocks were initially subdivided with 2-wire electric fencing. This worked well despite Graeme working a couple of days a week in town. With the poor seasons and low wool prices since 2002, Graeme has spent more time working in his electrical business. Electric fences became high maintenance when he was spending more time off-farm. He now relies more on permanent fencing.

Benefits of rotational grazing

Graeme and Michele view their investment in rotational grazing as an important natural resource management initiative. "We've seen lots of changes over the last 12 years. It's been good for our soils, pastures, native vegetation and waterways, as well as for the stock," says Graeme.

"The pasture and ground cover has thickened up, there are a lot less bare patches, and if you dig up the soil, it smells healthy. I'm pretty pleased about that. We have less weeds than we used to. I drive past the posts which indicate where we used to chip saffron thistles – we haven't had to do that for a while.

"Where we have fenced on to Pint Pot Creek, the ground cover in the riparian zone is good, with less stream bank erosion and bare ground than there was. The banks are all grassed up."

Although there is a deficit of young paddock trees, "Some angophora regeneration is starting to occur," according to Graeme. "The saplings are above sheep browsing height now. Red gum seedlings are starting to appear too."

Protecting natural areas

About 20 ha of dense timber was left untouched during clearing of 'Pint Pot'. Timber belts dominated by stringybark, grey box and Hillgrove spotted gum grow along ridge lines, with blackthorn, orangebark, black sheoak and clematis understorey. Some of the open belts of stringybark are affected by dieback, but most of the paddock trees of box, peppermint and Blakely's red gum are remarkably healthy.

Graeme did a 5-year farm tree plan with David Curtis (Greening Australia) in 1990. "We value our native vegetation highly and are still fencing out remnants and planting new corridors with assistance from grants where we can get it," says Graeme.

Animal health & nutrition

The rotational grazing system has led to an improvement in animal health at 'Pint Pot'.

"We don't drench like we used to," says Graeme. Knowing where the sheep have been and the life cycle of the worms is important. We do our own egg counts now. It's proved very worthwhile. Monitoring is not as expensive in time and money as drenching. We don't have any fluke to speak of."

Graeme and Michele have fenced stock out of 10 ha of stringybark and box timber as a nature conservation initiative, partly to protect their stand of the rare Hillgrove spotted gum (*Eucalyptus michaeliana*), a 'ROTAP' (Rare or Threatened Australian Plant).

Despite excluding stock from most of this remnant timber belt, the Blackmans still derive shelter benefits from it. "We have a laneway inside the timber along one edge," explains Graeme. "We put the sheep off-shears in the laneway if we are worried about the weather."

Most of Front dam has also been fenced to exclude stock, sheep only being allowed to graze a portion. The dam was constructed with islands for wildlife, and the fenced perimeter was planted with native trees and shrubs. Chocolate nodding lilies, an iconic grazing-sensitive species, grow in the fenced perimeter.

Although some graziers dislike blackthorn, Graeme is happy to see it thrive and regenerate in the timber belts and plantings. "It attracts the wasps that help control the scarab larvae that cause dieback. It's also good cover for the little birds. And it grows well, unlike some of the species you plant!"

To ensure the future of some of the less common trees on their property, the Blackmans' son, Ben, collected seed and propagated the seedlings for planting into the corridors and tree lines across the property.

Their latest project is to fence off the riparian zone along Pint Pot Creek into a long paddock. "I was inspired by Jon and Vicki Taylor and their Long Frog paddock at 'The Hill'. That's amazing," says Graeme. "We want to create a riparian protection zone along the creek, including our frog hollow seep, plant some of it up, and manage the area for its natural and riparian values while still retaining the option to graze it occasionally."

Wildlife corridors

Graeme and Michele have planted 15 000 trees and shrubs in a 60:40 ratio for wildlife corridors and shelter. This amounts to 7 km of tree lines and 5 ha of planted blocks. According to Michele, "The plan is to link the timbered areas on 'Swallowfield' and 'Thalgarrah' across our place to 'Bailey Park' at the back. We applied David Curtis' notion of honeypots and webs, by linking up areas of wildlife habitat with corridors of native vegetation."

"Later, I learnt about paddock engineering and the importance of shelter for lambing and sheep off-shears," adds Graeme. "So we have also been thinking about revegetation for livestock shelter, as well."

Revegetation has brought several production benefits. According to Graeme, "The fenced-off timber and plantings provide a seed bank of better grasses that seed into the adjacent country. The tall pastures, shrubs and bushy trees in the planted tree lines provide good shelter. The birds attracted to these areas are eating pests, to even up the balance."

"We wouldn't like to graze these areas, not for the foreseeable future. The stock would take everything you're trying to grow or regenerate at this stage. The cattle did get into one planting and chewed down the grass. Reduced grass competition is probably a good thing for the trees, but we want thick grass in the tree lines for habitat for beneficial insects."

Tree planting

"The secret to successful tree planting is preparation, preparation, preparation," says Graeme. "The ground has to be well prepared and you need to plant after good rain into moist soil."

"We spray and rip tree lines 12 months before planting, and spray again before mounding. If necessary, we spray again before planting, and then follow up with weed control in the first year after planting."

"Watering hasn't really helped in the dry years we have planted," adds Michele. "Those plantings have always struggled. It's OK if everything goes

Below—Healthy grey box paddock trees.

Below—Four-row tree lines provide dense habitat and stock shelter.

Below—Blakely's red gum sucker in rotationally grazed pasture.

Below—Grassed up banks and cumbungi beds along Pint Pot Creek, slowing flows, reducing streambank erosion and enhancing water quality.

well, but it's sad when you have disasters."

"We have almost finished our original tree plan, and we are starting to plant more blocks than corridors. When linked to corridors, the blocks provide better habitat for birds and beneficial insects, and better shelter for stock."

Foxes and rabbits are an issue in timbered areas. "We will have to bait rabbits this year, and we bait foxes as part of Southern New England Landcare's area-wide program each year," says Graeme.

Wildlife

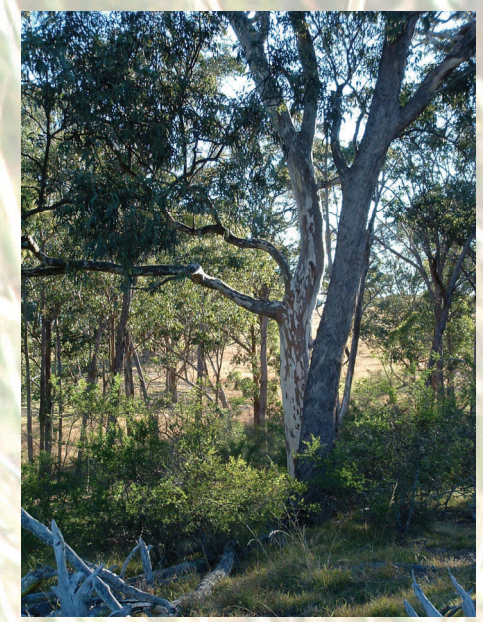
Michele and Graeme love wildlife and encourage birds and animals on their property. They have recorded sugar gliders, ring-tail possums and echidnas, and a wide variety of birds including choughs. "There are lots of frogs in a seep we call 'Frog Hollow', and water dragons and eels in the Creek," says Graeme.

"Although we have too many grey kangaroos, they are not a bad indicator of how much grass you've got. I don't mind the wallaroos."

The Blackmans view birds, bats and beneficial insects as pest control agents, and appreciate the importance of dense woody vegetation for sheltering livestock and pastures.

Background—Autumn-seeding whitetop or wallaby grass in naturalised pasture at 'Pint Pot'

Below—The rare Hillgrove spotted gum and a yellow box in remnant timber fenced off for nature conservation. The blackthorn understorey and dead timber provide valuable habitat for woodland birds.



Realising a vision

Fifteen years on, Michele and Graeme's vegetation plan is a reality and their vision is almost realised.

"You can see the tree lines now," exclaims Michele. "It's taken a long time and hard work, but when you see the trees growing, you know it's been worthwhile."

"Really, we have done it for personal gratification and our own understanding and education as much as anything. It's a continuing learning exercise; it's about personal satisfaction. It's been great learning about the birds and bats, and the job the bats do eating insects."

Notwithstanding partial support from a variety of funding sources, they have achieved all this at considerable cost to themselves, both in time and money. They continue to learn and adapt their farm and environmental management through experience.

Our place—our heritage—our future

Michele and Graeme feel fortunate to live where they do, and being able to raise their three children on the farm. While it is not always easy balancing two businesses or living out of town with teenage children, "It's pretty hard to beat," remarks Graeme.

"The children are environmentally aware, they're interested in nature, and like to care for animals. They know how trees grow and how animals interact with the environment," adds Michele.

"I can't imagine being anywhere else. New England autumns always bring me back to the farm," says Graeme. "It is just indescribably beautiful."

Michele and Graeme's testimonial is a classic demonstration of the thoughtful management of native vegetation producing stylish New England Merino wool while retaining and enhancing their farm's natural values. Biodiversity is not simply compatible with wool production at 'Pint Pot,' it is the basis of production.

Michele and Graeme's is a story of an ordinary family demonstrating extraordinary commitment and respect to their land, its heritage and our future. We are better off for their efforts.

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native vegetation and biodiversity
improving farm profits through biodiversity

The Native Vegetation and Biodiversity sub-program of Land, Water & Wool is working with woolgrowers and demonstrating that biodiversity has a range of values, can add wealth to the farm business and can be managed as part of a productive and profitable commercial wool enterprise.

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