



MADE in AUSTRALIA

'Factory' ensures year-round fodder

By EMMA DOWNEY
AN ENTERPRISING Wingham farmer has developed a hydroponic unit that can produce up to a tonne of fodder a day, year-round in any location.

Known as the Fodder Factory, the unit has drawn overseas interest and is operating on a number of NSW coastal farms.

Peter Ryan designed the Fodder Factory about five years ago, spurred by necessity after the winters of 1988 and 1989, when conditions were too wet for pasture growth.

"I thought some sort of controlled growing environment was needed and hydroponics seemed the best alternative," he said.

The resulting unit is basically a shed in which fodder is grown in trays.

Mr Ryan had no experience with hydroponics, and it took a long time to iron-out technical bugs and refine the growing process involved with the Fodder Factory.

Mr Ryan and his wife, Susan, have 200 hectares of land at Wingham, where they run Ryan's Deer Farm, which consists of 100 head of deer, as well as a small beef herd of 20 head and 50 emus.

Diversification has been their aim and the Fodder Factory, which is manufactured on-farm, fits the bill admirably.

All welding on the sheds is completed before delivery, so the owner only has to bolt the structure together.

Interest in the Fodder Factory has come from drought-stricken farmers, drawn by the promise of a constant supply of fresh green feed. However, the \$38,000 (fully installed on-farm) price tag is sometimes a hurdle.

At this stage, exporting seems to be a viable alternative.

"It is quite plausible we could ship the kits anywhere in the world; already we have received interest in the Fodder Factory from New Zealand, France and Saudi Arabia," Mr Ryan said.

"This is the only unit I know of that can produce green feed in such bulk, right in the middle of a desert if necessary."

Mr Ryan has sold 10 Fodder Factories since 1990, to mainly dairy and beef producers, although the unit's applications are far more diverse.

Results have included veal produced on dryland farms during drought, dairymilk replaced by fodder — which has in turn increased milk production by 10 per cent — and rising stocking rates on properties using the unit, while drought-affected neighbors have been forced to sell stock.

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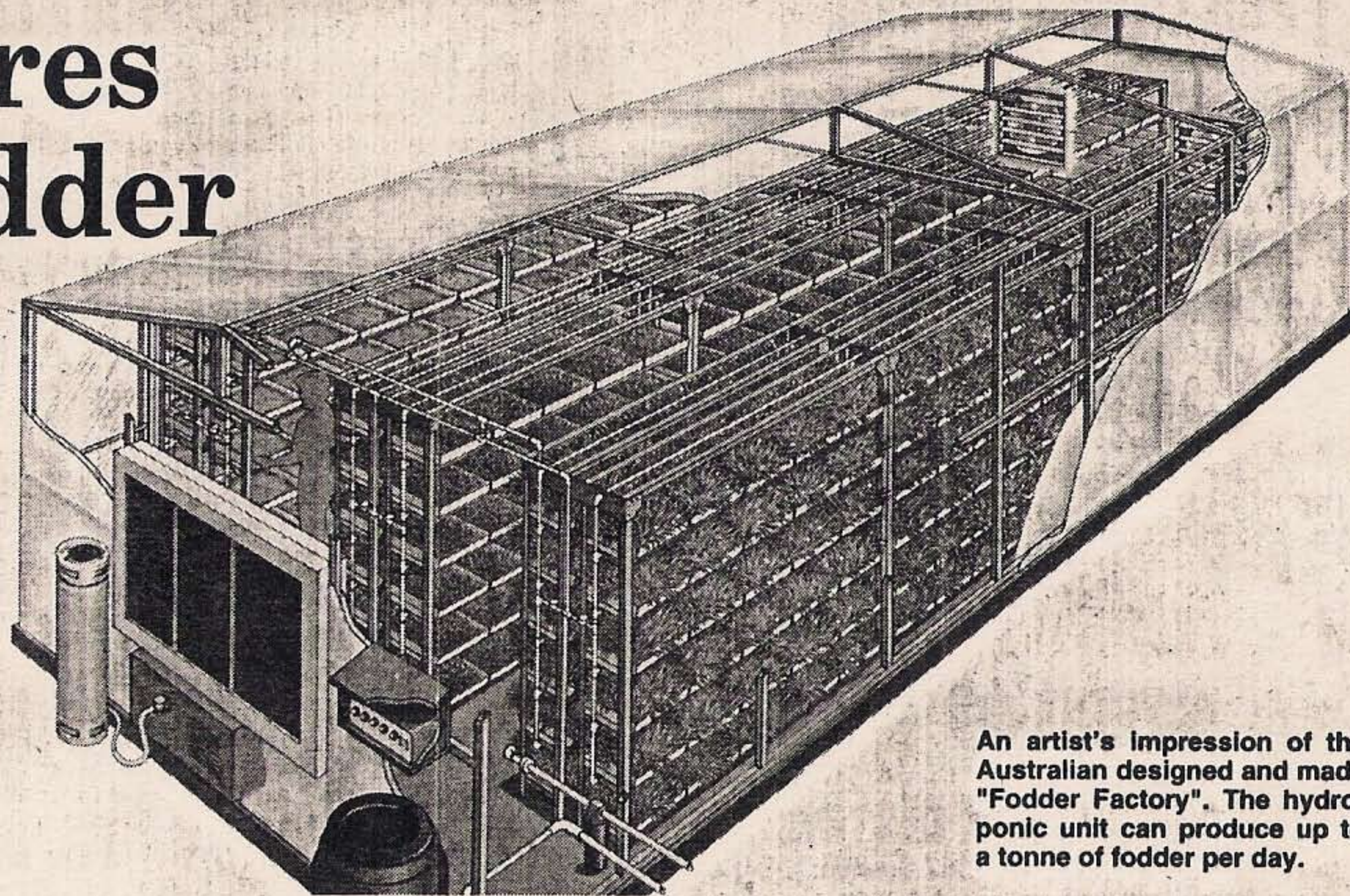
— Peter Ryan

At present Mr Ryan is manufacturing a unit for a fish farm to enable re-use of waste water from the fish tanks.

The sheds entail a galvanised steel frame, covered internally and externally (to produce a wall cavity and assist temperature control) with sewn, woven translucent plastic.

The temperature is maintained at a constant 26 degrees celcius.

The largest shed is 10.5 x 5.5 metres (the smallest 8.5 x 3.5m) and can produce one tonne of feed a day, at a cost of about \$40/tonne.



An artist's impression of the Australian designed and made "Fodder Factory". The hydroponic unit can produce up to a tonne of fodder per day.

Mr Ryan said feed quality seed can be used, while oats and barley seem to produce the best results, although rye, clover and alfalfa, or a combination of these seeds can also be used.

The seeds, which need not be pre-soaked, are placed in plastic trays, then put onto galvanised shelving.

No growing medium is needed — which means no time waste in separating the growing medium and fodder before feeding out — and the trays are watered by a series of misting sprays.

With the specially designed nutrient powder, added to the water storage tank when it is replenished once a month, it costs \$75 to make 25,000 litres of reconstituted nutrient.

Mr Ryan said the seeds sprout in a similar way to alfalfa sprouted in a jar in the kitchen, and after eight days 22 centimetres of green growth, with a 3cm root mat, is produced. The mat is then turned out of the tray to be fed.

The unit uses as little water as

400 litres a day and any type of water can be used, including bore water.

The water in the system is used for only the eight growing days, preventing salinity problems from building up and affecting the quality of the fodder produced.

Mr Ryan said the Fodder Factory, which is made totally of Australian components, has been designed as a low maintenance, operator friendly unit.

"You do not have to constantly monitor the growth, as the whole system is controlled by a computer which operates on a 10amp 240 volt power source, and the water supply is replenished once a month," he said.

"I spend about two hours a day re-filling trays with seed and emptying out trays ready for feeding.

"The water is not recycled through the system, but has only eight percent water waste, which is run into a holding tank and then irrigated onto nearby paddocks."

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