FARMING

Hydroponics solves feed problem

By LOUISE NICHOLS

A WINGHAM farmer has been able to thumb his nose at the Mid North Coast drought which laid his district bare this year, by producing his own green fodder — hydroponically.

Using water, nutrients and a controlled atmosphere, Peter Ryan has been able to turn seed oats, in eight days, into a highly palatable green feed for a cost (all inclusive) of around $40/tonne.

Although Mr Ryan is only a small-scale livestock producer, his hydroponic fodder-growing technique obviously has wider applications and is being looked at by others as a drought management option.

The process converts one kilogram of seed oats into 7kg of edible fodder, with the protein level rising from six per cent for the grain to 11.5pc for the green feed.

Sprouted and grown in trays in a specially designed shed, the oats are fed out when the plants reach 25-30cm in height, with the entire crop as feed — stock roots and all.

Mr Ryan's shed has now been in use for 18 months producing 2.4 tonnes of green feed a week. During that time he has been able to feed all his livestock — 135 deer, 12 cows and calves and 12 goats — through one of the district's most severe droughts.

Located on his 200-hectare property at Bobin Creek near Wingham, the shed was the brainchild of Peter Ryan and Wingham engineer Garry Brown.

While the concept has been ideal for producing feed during drought, Mr Ryan's original idea was to provide feed during the winter shortage.

"During the 1989 winter we were forced to buy in $13,000 worth of feed to keep the stock alive," he said.

"At the time I started to look around for a way to grow fodder on the farm during winter.

"From there developed the concept of the fodder shed, with its controlled environment making production a year-round process."

At Wingham, a drought buster

Peter and Gary formed a partnership to develop the fodder shed and after three prototypes the shed today consists of an eight-bay 10.3 by 3.3m galvanised steel construction covered with Solarweave plastic.

It has a gable roof and 0.3 metre cavity walls. The inside temperature is kept to 28 degrees by use of exhaust fans and an evaporative cooler.

A Japanese-designed mist spraying system keeps the feed trays moist, with nutrient-enriched water to produce the green fodder.

Peter Ryan uses 400 litres a day of water in the shed to produce 350kg of feed.

Operating the shed requires only one hour a day of labor.

The single biggest cost input has been the grain, bought in at $220/tonne, with 50kg being used each day to maintain throughput.

The other main costs are nutrients at $52/bag, which lasts more than 30 days, and electricity to run the cooling and watering systems.

Mr Ryan said he had tried other grains such as barley, sorghum and corn with mixed results. Sorghum had been a "dead loss", while barley "showed promise".

As for results, the stock had thrived on the oats ration. The only problem had been a lack of roughage as the old kikuyu stands were eaten to the ground.

In response to growing interest in the concept from other farmers, Peter and Garry have formed a business partnership to build the sheds.

A shed of the type used by Peter costs $19,800 fully erected, including the 13,600-litre tank.

Above: Peter Ryan feeds out hydroponically grown sprouted oats to his deer at Bobin Creek, near Wingham.

Left: Trays of eight-day-old sprouted oats grown under controlled conditions in a special shed. The oats are feed out at this stage.