

# Beechwood Biological Solutions Newsletter

ISSUE December 2016

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## Crown Rot in Giant Rats Tail Grass

Crown rot has developed in Giant Rats Tail grass after spraying with Parra Trooper AND we now have a strain of Parra Trooper grown from crown rot-affected Giant Rats Tail plants ready to go out in the new year.

Giant Rats Tail grass, a close relative of Giant Parramatta grass, has rapidly invaded vast areas of Queensland and northern NSW.

Together, the Weedy Sporobolus Grasses threaten more than 60% of Queensland. Yes, more than 60%!

In a collaborative response to what's potentially a very large scale problem, landholders, Councils, Landcare, and Government Agencies have come together to combat Giant Rats Tail. Large scale trials using Parra Trooper cultured from crown rot in Giant Rats Tail grass (GRT) are afoot on the Atherton Tableland and in the Fitzroy Basin in early 2017.

You can order the GRT Parra Trooper now and we will send it out early in the new year. Just make a note in the "comments" field at the checkout [www.parra-trooper.com.au/shop](http://www.parra-trooper.com.au/shop) or call/text us on 0448 562 024.

We keep seeing and receiving reports of positive impacts on Giant Parramatta grass despite some adverse conditions for fungal growth this season. (Who was it that said we were in for a wet Spring?)

We love to hear from you. Send us your story and photos via email [cath@parra-trooper.com.au](mailto:cath@parra-trooper.com.au) or facebook <http://www.facebook.com/parra.trooper.spores> or just ring us for a chat on 0448 562 024.

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PUBLISHED THE INDEPENDENT



We wish you all a safe and happy Christmas & new year and thank you for your support in 2016.



Thanks to all of you who came along and enriched our field day on Friday 16th. Fortunately we had a shower of rain a few days earlier to show up crown rot symptoms. Crown rot can be difficult to spot during dry weather.

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Farmer turned fungus researcher Jeremy Bradley propagates a native organism that improves soil and helps kill an invasive weed

## Winning war on weed

By NIKALA SIM

**WHEN** government funding for research into a biological control was cut, a Hastings couple decided to put all their time and money into finding a way to stop a devastating weed.

Giant Parramatta grass has invaded most coastal pastures from Victoria to south-east Queensland, Cathy Eggert and Jeremy Bradley say.

The couple, who are devoted to principles of sustainability, are well known in the region for their organic garlic, cattle and Landcare contributions.

It has been four years since they made the momentous decision to turn a farm shed into a sterile room and explore the merits of a fungus to improve soil quality, and decrease the ability of Giant Parramatta grass to thrive.

"*Nigrospora oryzae* is a very beneficial native soil organism," Jeremy says.

"It helps with soil conditioning and improves nutrient cycling, moisture retention, carbon sequestration, and helps control erosion".

NSW Department of Primary Industries researchers have also found the fungus will affect grasses closely related to Giant

Parramatta grass.

There was much research needed to understand how their product, Parra Trooper, could assist the formation of crown rot, Jeremy says.

But from a farmer's perspective what mattered was that there was enough fungus in the soil to trigger the crown rot process, Cathy added.

"The beauty of Parra Trooper is that it does not die," Cathy says.

Giant Parramatta grass has become a big problem because of its ability to thrive in a wide range of soil types and a wide range of conditions, Jeremy says.

It dramatically decreases the economic viability of grazing land because it replaces more productive grasses, especially if the land is overgrazed or disturbed.

The seeds are sticky when wet and catch a ride on vehicles, animals and machinery with one plant able to produce 85,000 seeds per square metre.

"Cath and I have both been involved with sustainable agriculture for most of our lives," Jeremy says.

"This has ultimately led us to soil microbiology because that is what makes soil in the first place.

"We had been watching the decrease in research on this weed and eventually I said 'how hard can it be – it's just another soil fungus'."

This goes down as a famous underestimation of reality, Jeremy says.

The couple found out exactly how hard it could be, but four years and all their savings later, they have been successful.

Just 500gms of their Parra Trooper product can spread a billion spores of the fungus over one hectare of land.

For the last year Cathy and Jeremy, as Beechwood Biological Solutions, have tested the product on their own and other farmers' paddocks.

"Our paddock trials are consistent with government research and now just a few sickly tussocks of Giant Parramatta grass survive," Cathy says.

The couple will hold a field day at Beechwood on Friday, (December 16) to explain the product and show impressive on-the-ground results.

To ensure your free lunch and get directions, call Cathy on 0448 562 024.

Media attention: check out The Independent [here](#) and Focus Magazine (Dec 2016 p.102) [here](#)

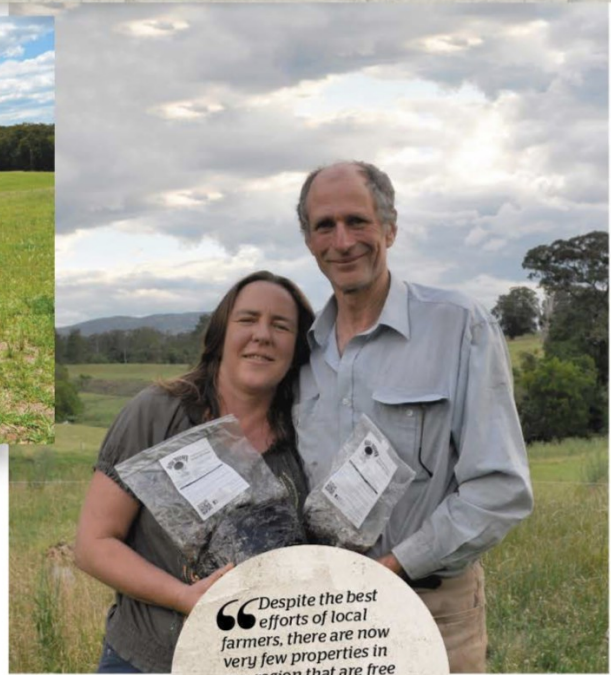


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focus interview.



## PARRA TROOPER

*Giant Parramatta Grass is an issue for many farmers, resulting in a loss of productivity and leading to great expense. Locals Cathy Eggert and Jeremy Bradley have spent four years developing a product that may just mean issues with this grass weed will become a thing of the past. Best of all, it's natural, has no side effects for other grass species, and can actually improve soil health ...*

**W**here in the Greater Port Macquarie area do you currently live/work?  
We live on a farm near Beechwood. Cathy's family has farmed in the Wauchope area since the early days of European settlement. Jeremy came to care for and support his mother, Daphne, in 2002. It was through Daphne's passion for organic farming that Cathy, then Treasurer of the Hastings Organic Group, and Jeremy met. After her passing, Jeremy stayed on to farm with Cathy.

### What are your career backgrounds?

Cathy studied Science at SCU and went on to work for National Parks, Farming for the Future and Landcare. Jeremy has a farming heritage and has lived and worked in a wide variety of building, mining, farming and road-building jobs throughout Australia. He has worked on some of the largest and smallest agricultural projects and has always been an innovator.

### When did you become aware of the problems that Giant Parramatta Grass causes?

Giant Parramatta Grass (GPG) was first identified as a serious problem in the Hastings more than twenty years ago. After seeing a poster in the Co-op Rural Store, Jeremy started seeing the grass at his mother's Huntingdon property, along the Oxley Hwy and in neighbouring properties.

Despite the best efforts of local farmers, there are now very few properties in our region that are free of GPG. On top of that, the closely related Giant Rats Tail Grass (GRT) has more recently begun its invasion.

**People who live in urban areas may not know about these grass weeds. What can you tell us about the family of plants that it belongs to, how it can be identified and**

### some of the more severe issues it causes?

Collectively known as Weedy Sporobolus Grasses (WSG), GPG, GRT and other closely related species now dominate millions of hectares in Eastern Australia and have started to invade the NT and SA. WSGs form dense tussocks of individual plants that have a single seed bearing stem in the centre. Each plant can produce many thousands of seeds that stick onto and are spread by animals and vehicles.

One of the main problems is that the high Silica content of these grasses wears down the teeth of cattle on WSG dominated pastures. This slows weight gain and shortens the productive life of breeding cattle.

The loss of productivity from infestations of WSGs in pastures is many millions of dollars per year.

### What methods are traditionally used to control WSGs, and what are the downsides?

Practicing good weed control hygiene by controlling vehicle movements in pastures and quarantining newly arrived stock are key to managing all pasture weeds. Collectively, it is impossible to estimate how many thousands of hours we've spent throughout the Hastings Valley carefully cutting and removing seed heads and then digging out the plants. Encouraging competition by desirable pasture species through fertilising and strict grazing management is helpful, but these are really tough weeds to control.

Herbicides have been used over the years, with mixed success. Sometimes these expensive treatments have resulted in increased infestations, and many farmers can't afford the legal requirement of locking up their pasture for months after spraying the poison. Even when the herbicide is effective, the grasses will return after a few years, and the cost will always increase.

### What is Nigrospora oryzae, and what led to your research and production of it?

Nigrospora oryzae is a naturally occurring, beneficial, soil fungi that is implicated with the formation of a crown rot infection in WSGs. We, like many other farmers in the area, heard of N. oryzae about ten years ago at a Landcare field day. NSW DPI research scientist, David Officer, told us how introducing infected GPG plants to a farm was the only way to spread the disease.

At that time we were experimenting with introducing fungi into soil as a method of assisting soil health and pasture productivity. When budget cuts virtually stopped the DPI research into the practical application of Nigrospora, we drew on our experience with science, innovation and sustainable agriculture to make a concentrated source of the fungi. It has taken us four years of hard work and most of our savings to develop our product.

### How are these spores used to help control GPG?

Parra Trooper is a living organism in a bag of a special fungi food called substrate. The bags have an air filter patch that allows the fungi to "breathe". Each gram of substrate contains about two million spores and kilometres of microscopic hyphae, the vegetative part of the fungi. The hyphae can, in good conditions, speed up the establishment of the fungi in the soil, and it is this innovative combination of the spores and the hyphae in a convenient form that makes our product so effective.

Once applied, N. oryzae should permanently remain in the soil as a beneficial part of the soil

*“Despite the best efforts of local farmers, there are now very few properties in our region that are free of GPG. On top of that, the closely related Giant Rats Tail Grass (GRT) has more recently begun its invasion.”*

biology and a deterrent to the re-infestation of WSGs.

### What results have you observed, and have there been any side effects?

Unless the conditions are perfect for fungal growth, it can take up to a year for crown rot to spread throughout a paddock, but we have seen results in weeks. Early summer is the time that the disease becomes most obvious, due to the bright orange leaves of the dying grasses, and we are getting a lot of positive feedback now from excited farmers who sprayed Parra Trooper last spring and summer.

Trials by various land management authorities throughout NSW and Queensland are showing very promising results with our product in GPG and GRT.

Nigrospora oryzae is unique as a native species that affects introduced plants. It has the great advantages over chemicals that it is non-toxic, damages no other pasture species, and remains permanently in the soil.

### Where can interested readers find out more info about Parra Trooper?

Have a look at our website [www.parra-trooper.com.au](http://www.parra-trooper.com.au) and find us on Facebook [parra.trooper.spores](https://www.facebook.com/parra.trooper.spores)

We are having a field day at a trial site near Beechwood on Friday 16<sup>th</sup> December to demonstrate how Parra Trooper is working in a GPG infestation. Contact us on 0448 562 024 if you'd like to come along.

### Thanks guys. Interview by Jo Robinson.

Photo (left) Bob Lynch - a neighbour who used Parra Trooper, holding some dying Giant Parramatta Grass.

Photo (right) Cathy Eggert & Jeremy Bradley.

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