CQ BestPractice Newsletter

September 2011

Liquid Injection shows promise at Springsure

CHRRUP and CQ BestPrac group were hosts to a "Pasture Cropping and Liquid Injection" Workshop at Mountain View, Springsure on the 30th August. Local grazing specialist, Mick Alexander arranged the day as a wrap up for the two year program, "Managing Climate Change – from the ground up".

A group of producers from as far away as Gogango travelled to Springsure to assess the value of pasture cropping and managing the crop nutrition in a grazing enterprise. Fred and Fay Wheeler run their enterprise in partnership with (daughter) Adele and son in-law, David O'Connor. The family has

David, Adele and Emily O'Connor at Mountain View, Springsure in their pasture cropped oats.

embarked on an exciting journey in the past two years, changing to a rotational grazing management system and direct drilling oats into pastures, as strategies to improve the health of their country. The Wheeler family run a 6,400 ha (16,000 acres)grazing operation, south of Springsure on heavy basalt soils. They generally breed and grow out stock to finished 600 kg steers and are always looking for an edge to finish stock earlier.

David and Adele attended the very first "Soil and Plant Nutrition" workshop, run by Bart Davidson in Rockhampton in March 2010. The workshop focussed on working from the soil level, soil and plant testing and assessing the capacity of the soil and balancing the important nutrients. They learned the importance of Calcium to the plant and how to analyse the soils and plants. The O'connor's goal was to simply see what new ideas were being promoted within the grazing industry and see what difference they could make to the family enterprise. Both David and Adele were very excited about the concept of benchmarking their soils.

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The main practices being promoted at the first workshop were pasture cropping and rotational grazing. The pasture cropping was a method of direct drilling cereal crops into existing dormant summer based pastures. The wet season had meant that much of the farming country had not been ploughed and so was in the perfect condition to pasture crop.

Initially they started in mid 2010 by simply planting oats directly into paddocks that had not been farmed, using a scarifier and a series of Napier planter boxes. This had the effect of getting the seed in the ground and was mostly successful although required a better design of a planter and some plant nutrition.

The family was so impressed at the potential of the concept of pasture cropping from the first year, that they hosted a field day with CHRRUP and CQ Best Practice Group in August 2010 to share their experience. David O'Connor said, we see the pasture cropping as a means of getting more legumes and other species into the grass paddocks as well as supplying nutrients and microbes if necessary to balance our soils. In the first instance, we are planting Oats to fill the winter feed gap and then looking to correct the nutrition, he said.

In 2010, well known pasture cropping specialist, Colin Seis, "Gulgong" New South Wales, presented a full day program as to the best way of adapting the concept to the central Queensland region. More than 30 producers attended the day on Mountain View to discuss, methodology, tynes vs discs, machinery, seed types, rates, fertilisers/ liquid nutrition, climate and chemicals. After, analysing their soil tests in 2010, Adele O'Connor said, they learned a lot about nutrition. She added, Our Carbon levels were pretty good at 1.7—1.9% SOC compared to many farms at well below 1%. Our Phosphorous levels are ok, but we need more microbial activity to make more P available to the plants and the Nitrogen and Potassium are a little low for the plant requirements.

In 2011, they worked with Bart Davidson to design a liquid fertiliser program for their soils. To improve plant vigour, they added Calpac at 6l/ ha to increase the plant available Calcium, Phosphorous and Sulphur. Adele said, the brew was added to water and applied at a total rate of 50l/ ha in the slot with the seed at planting. She added, these fertilisers are not like granules and so do not impact the seed. In many cases we see the plant roots following the liquid in the seed slot.

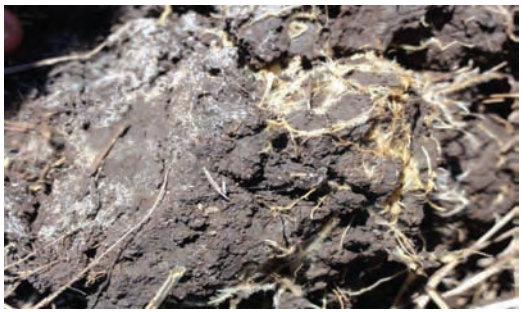
Fred Wheeler demonstrates the use of the BNS Easyflow for applying liquid nutrients.

We designed a planter with a Liquid Fertiliser configuration to allow them to feed the plant down the slot. The family adapted a 511 International combine with a new underframe tyne and press wheel assembly to allow it to handle heavy grass pastures. The assembly was then fitted with a liquid injection head to gravity feed liquid fertilisers. The tractor is fitted with a 1,000l front mounted shuttle tank which pumps the brew up to the BNS EasyFlow distributor head and down tubes for each tyne.

Fred Wheeler planting oats into pasture.

The family has also established a rotational grazing program with paddocks receiving 90 days rest during the dry season and reducing in the summer growing season. The pasture cropped paddocks are also in the rotation and will be rested. Adele O'Connor said, we are trialling a number of ideas including rotational grazing to improve pasture production and soil health.

She continued, We see it as a way of having our steers going forward and having our grass pastures being supported by the oats crop. In a way, we are improving our soils at the same time as profits. Our goal is to turnoff steers faster and be able to finish them in winter, she said.



The root development of liquid fertilised oats.

David explained, we had not looked too closely at the roots of the oats until after 8 weeks and we were amazed at the extra growth. Under the liquid injected rows the roots were double the density and length of those without nutrition. And the plants were simply double the size above the ground as well and a deep dark green. In the unfertilised rows, the plants per metre were less than half of the fertilised rows. Next year, we would simply not plant any oats without nutrition. Adele added, this year, we waited for the first frost to kill the grass competition and it made planting too late. Next year we will plant in March.

Our pasture cropping was planted between May 29 and June 17th. The seed mix consisted of Moola oats at 17kg/ha, and an undersowing of Silver Snail Medic and Caliph Medic for increased legume content. The liquid injection included 5L Nitrogen per ha, 10L Calcium, 250gm Boron per ha, 60mg Sodium Molybdate per ha at a total cost of $33.41. The cost of the planter and liquid injection set up was $18,800.

Adele added, The areas that have been pasture cropped have returned to a greater amount of green as soon as the days started to warm up after winter. We had a late frost in the last week of September and the areas that were pasture cropped have held on without much damage were as the areas not pasture cropped the green shoot has suffered significantly.

She said, We also have found that our cattle will walk past cultivation areas planted with oats to get to the pasture cropped oats to feed instead. There are also benefits of regenerating the soil with the planter by knocking down older pasture as well as a little bit of aeration.

Thankyou to the many producers who have supported the project and activities in the past 2 years. Your input has made it work. We look forward to the next major project we can drive for the community.

A big thankyou for the support of CHRRUP in the past two years in developing and delivering the most targeted training activities in central Queensland. And to DAFF for having such great foresight. Thankyou.

Rob Fry, Selected Seeds and Megan Daniels, CHRRUP Executive Officer.

The key project achievements:

Promoted increased awareness of options and uptake of "best practice" strategies for dealing with climate change and climate variability in central Queensland.

Accelerated the adoption of climate change management in central Queensland through education and training programs.

Encouraged the wider community to take up "best practice" management techniques and strategies to reduce the gap between climate change research and on-ground practice in central Queensland.

Promoted improved community awareness and understanding of climate change and climate variability

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