

Exploring new ways to plant perennials and serradella



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Overcoming non-wetting sand is a crucial element of success when planting perennial pastures in the Northern Agricultural Region (NAR). The technique of furrow sowing devised by Grant Bain has been a game changer as it successfully removes the non-wetting sand from the seed-bed of the perennial pasture.

Prior to the widespread adoption of this technique, perennial pasture establishment in the NAR was highly variable, with the odd excellent stand, many sub-optimal stands, and a number of complete failures. The use of furrow sowing, in conjunction with good weed and insect control, has virtually eliminated the failures and produces mostly excellent stands. Poor seasonal conditions are now the main reason for the occasional sub-optimal stand.

West Binu farmer Jim Wedge is no stranger to perennial pastures. He first started planting perennials in 2006 and now has 250ha of tagasaste and 300ha of subtropical perennial pastures. However, when provided with the opportunity in 2014 to trial some new establishment techniques via funding from NACC and the Federal Government, he jumped at it.

Jim was keen to see if wetting agents could be used in conjunction with furrow sowing to improve the germination of perennial pastures. In his NACC funded demonstration, he compared two different products to an untreated control. The first product was a true wetting agent, SACOA's "Irrigator" applied at 1L/ha in-furrow behind the press wheel. The second product, used more

commonly as a soil health priming agent, Bioscience's "BioPrime", was also applied at 1L/ha in-furrow behind the press wheel. Jim found that the establishment and early growth of the subtropical perennial grasses (a mix of Panic, Rhodes, Kikuyu and Giant Bermuda) was similar across all 3 treatments. The perennials were sown in early August and the rest of that month was dry, with only 15mm of rain received. Fortunately, September was very wet with 84mm of rain, and the newly sown perennial pastures really took off. A hot and dry summer followed, which put the perennials under some pressure, but a wet autumn with 83mm in March and 48mm in April was just what the doctor ordered. The new perennials were between knee and waist high and ready to graze for the first time by late April.



Left: Jim's excellent stand of perennial pastures in mid-March 2015, seven months after seeding

The other thing that Jim was keen to demonstrate was the introduction of serradella to the perennial pasture stand via the technique of summer sowing. This involves sowing Margurita French Serradella in the pod form in late summer, which gives the seed time to naturally soften up before the opening autumn rains. Jim ended up sowing his Margurita pod in early April at a rate of 25kg/ha using his Triple Disc No-Till Drill. Plenty of rain a week later saw an excellent germination of serradella, but this mostly failed to survive the dry conditions that followed in May and June. By the end of 2015, with little or no serradella in the paddock, Jim was ready to put that failure down to experience. But, as it turns out, the later than ideal sowing time of the serradella in 2015 (April rather than February) meant that much of the seed remained viable in the soil. A good start to the season this year has produced a reasonable stand of serradella in 2016. To help the stand thicken up over time, Jim has kept the stock out this spring and sprayed for budworm to maximise the seed set of the serradella.

Looking back over the last couple of years, Jim is very happy with the results he has achieved. The good weed control pre-seeding and the excellent rains post-seeding meant that furrow sowing on its own was sufficient to achieve an excellent germination of perennials. And in hindsight, the later than optimal sowing date of the serradella pod was a good thing in that it spread the germination of the serradella out over two years. This has enabled it to make use of the far better growing conditions in 2016. And although it's too early to tell, based on what he has seen in other paddocks, Jim thinks the addition of perennial grasses and serradella will increase the long term carrying capacity of the demonstration paddock from approximately 1 DSE/ha to 6 DSE/ha. In addition to this huge increase in productivity, Jim also knows the new pasture system will be vastly more sustainable with the risk

of wind erosion virtually eliminated and fertiliser use efficiency improved due to less leaching and more nutrient recycling.



Left: Jims excellent stand of perennial pastures in late March 2015 looking great after some rain

The demonstration and case study were delivered by Jim Wedge and Evergreen Farming. They were supported by NACC through funding from the Australian Government's National Landcare Programme.