



Gary and Janet Flohr farm 1600ha at Lameroo SA in 325mm rainfall, intensively cropping 1500ha each year in full rotation. Crops grown are wheat, barley, oats, lupins, beans, canola, and peas.

Skeleton weed *can* be controlled with No-Till



Presswheel/Harrow combination

Gary and Janet say it wasn't easy starting in 1990 doing just 15% of our cropping program no-till with limited knowledge. But our confidence grew with each successful year until we were total No-Till in 2000.

The difficulties we experienced earlier were limited trash flow with existing machinery, getting a suitable agronomic package together and a robust seeding system that would stand up to harsh conditions.

Today a Morris 9000 bar with Agmaster seeding system, press-wheels and harrows is used. We have added coulters to the front of the 9000 bar to enable us to seed through summer vines with minimal wrap around the tynes. Our machine performs to our satisfaction of seeding our crops with accuracy.

Skeleton weed is a problem in our area and we have not found it to be any harder to control with no-till. In fact, the old theory of "let sleeping dogs lie" applies, less disturbance - less germination. If a skeleton weed plant is cut off it splits and forms two new plants.

It can be argued that cultivation kills what is there, but does it create a bigger problem as time goes on? Timeliness and effective spraying with good rotation has had a positive effect on skeleton weed control on our farm. Ryegrass is still the biggest challenge and every option is used to control it. Lowering the numbers by seed set control, rotation, hay production and spraying after swathing all help. We are considering trying late sown Unicorn barley with a boom on the swather to clean up any surviving weeds with either roundup or spray seed. We take any opportunity to lower weed numbers.

Provided there is no yield loss on cereals we would like to try wider row spacings {10in+}. We would consider going even wider for legumes so that we can utilise a shielded sprayer on the inter-row. This will hopefully minimise the need for selective herbicide and helps slow the rate of resistance down.

No-Till has changed our farming operation; it has become more flexible and easier at sowing time with far less tractor hours to sow the crop. Erosion once a concern is virtually eliminated and because of no cultivation there is far less dust making our chemical application more effective. Good knowledge of chemicals and application is essential to success. Also seeding can commence on far less moisture with acceptable germination. A cultivation can cause a loss of about 8mm of rain equivalent and sometimes this is all we have to sow on.

In the future we want to look at yield mapping, guidance and controlled traffic on the light soils. A question mark remains on whether unsown rows will drift. No-Till and conservation farming has opened up a lot of opportunities for us and we look forward to the challenges it offers in the future. To date there have only been gains with our yields very acceptable at our district.

Our advice to those looking at No-Till is: definitely have a go at what you are comfortable with. Try a smaller area first, as it is a different way of farming. Then you will be hooked - converted.

Good luck.

Liquid Fertilizers
- are they the
new frontier in
broad acre
agriculture?



Bill Moore with Liquid fertiliser on Agmaster seeding kit



Modified point for liquid fertilizer



Liquid fertilizer tab for seeding kit

There has been a lot of talk about liquid fertilizers over the past few years with some farmers having good success with their use. In WA liquid nitrogen is becoming popular as the main source of nitrogen, whereas in SA liquid phosphate seems to be favoured. Many are trying mixtures with varying degrees of success.

Agmaster has had enquiries about liquid kits to fit our seeding systems, which we can now supply that accommodate liquid tubes to points and seeding boots.

I have the help of agronomist Bill Moore who has done a lot of work with liquid fertilizers, mixtures and compatibility in writing this article. While liquid fertilizers may not be for all farmers, I think it is good to think outside the circle and see if it is of benefit to use and improve our farming practices - hence profitability.

Liquid fertilizers are nothing new, but have not been used extensively in Australian broadacre agriculture. Liquid nitrogen known as Flexi-N has started to take hold in WA. In some cases it is a slightly more expensive form of nitrogen than urea, but other products such as trace elements and fungicides have been mixed with some success to create an economical blend for broad acre cropping.

Bill Moore says the learning curve has been steep and keeping some of the mixes in suspension has been difficult, often requiring a lot of agitation. Ground drive agitation doesn't seem enough as mixes seem to separate quickly when stopped. Good agitation is essential to stop any blends from separating out.

The use of liquid trace elements seems to achieve a more even spread along the furrow and could also go toward solving some nutrition problems in some instances.

Farmers are experimenting with mixing fungicide with their liquid fertilizer and putting it in the furrow. There are two main products used and have registration for diseases like black leg in canola, strike rust, take all, septoria, tritici, powdery mildew and scold. There has also been some success in the application of these products.

The idea of mixing fertilizers and fungicide is fantastic. However, there is still a lot of work to be done in the compatibility of products to make sure mixes remain stable during sowing conditions. In time, farmers and researchers will master it and ease of application will improve.

Are liquid fertilizers the new frontier in agriculture? Will they allow farmers to apply what they want in close proximity to the seed without toxicity? There are a lot of questions to be answered and in time I guess we will find out.

Agmaster has liquid fertilizer kits available, we are keen for your ideas so we can further develop what is needed, at this time we have available two options:

- (1) Down behind point as banding option and
- (2) Placed on the seed boots for side banding.

Steve King

Geoff and Barb Forster, in conjunction with their son Mark crop 1000ha of their 2800ha farm at Binya, 30km east of Griffith in the Riverina NSW.



Mark and Geoff Forster

The country is gently undulating with predominately red loam soils with areas of rock. The Forsters have used Agmaster's no-till system since 1996.

Binya receives an annual rainfall of 450mm and Geoff and Barb run a mixed farm of crop and grazing. The no-till system is a big part of the cropping operation, the main crops grown being barley and legumes. Peas have been grown for 18 years and the Forsters are impressed with the response in crops following peas. Wheat is still conventionally cropped on the property. No-Till farming is treated as a tool rather than a religion to fit into the overall farming approach. They have green manured once and are quite encouraged with the results.

No-Till and Minimum-Till methods of cropping were established on the farm as early as 1996, and the Forsters found the change to a No-Till method easy, managing to have the system up and running in a year, once the common problems of old mind sets and habits were overcome. The Forsters found that the use of a straw chopper on the header is an essential part of their No-Till program as it spreads the residue over the full width of the machine leaving as even distribution of straw and mulch in the stubble.

Although the operation has been running smoothly and efficiently for seven years, some problems still occur. Rye grass became a substantial problem with the implementation of the system but this is avoided and controlled by modification to the system, which involves the spray topping of legumes.

Farming operations have been greatly effected with the implementation of the No-Till system. Some of the advantages include a reduction in expenses, a decrease in the hours on the tractor, and allowing more time to do other things.

The Forsters see the biggest advantage of No-Till is its simplicity.

However, the system is being continually improved on the Forster's farm in an attempt to enhance and create the greatest and most efficient yields possible while remaining sustainable. The Forsters are now seriously considering whether presswheels would be an advantage in dry start years and are also looking to controlled traffic and guidance systems as the way of the future.

GEOFF'S RULES FOR NO-TILL ARE:

1. Use of a straw chopper at harvest
2. Rotation (eg. incorporation of a legume)
3. 100% weed control essential
4. Sow early
5. Flexibility of the program



Employee Profile

GREG KOCH

Greg Koch, known as *Kochy*, has been with Agmaster for 8 years. Previously he was employed as a deputy in the underground coal mine in Collie.

Greg has the responsibility of packaging and dispatching of all goods from the factory - a job he performs with great competence. Greg originally hails from Lameroo in the Mallee SA and still has family farming in that region.

Kochy is an avid Collingwood supporter and has umpired over 320 league games in the local South West Football League.



New Product, Changes & Upgrades

Agmaster strives to make available product of the highest quality and constantly makes improvements and upgrades to existing product lines. Where possible we offer these changes as upgrade options at minimal cost.

1. **CONCORD KIT** Agmaster now manufactures a seeding kit to suit the Concord side mount type tine. It has a bolt-on point with bracket attached to take the standard range of Agmaster fixed seeding boots.
2. **KNIFE POINTS** While we enjoy a high durability and wear rate of tungsten on the points there have been some cases in extremely rocky conditions of tungsten shattering. We now offer a **RED POINT** which uses a softer grade of tungsten that will tolerate much more severe impact. The trade-off is that it will not wear as well as the standard Black Point.

3. **RUBBER FLEXIBLE SEEDING BOOT** This new boot makes provision for deep banding of fertilizer. The stiff double braid hose maintains the best possible seed placement that a rubber hose style boot offers. This boot was developed to supersede the pigtail spring boot and an upgrade option is available that utilises most of the spring boot components.

4. **HARROWS** For the older harrows there are bearing upgrades available that relocate the bearings externally. They provide much better protection for bearing seals from weed wrap.

ARMS - The latest harrow arm is now telescopic, allowing adjustment in or out from the machine and is interchangeable with presswheels.

5. **LIQUID FERTILISER KITS** consist of a modified point with provision for a liquid tube for banding of fertilizer, and/or a tab that can be fixed anywhere on the seeding system to allow side banding. There is a lot of discussion as to where different fertilizers should be placed and these options offer flexibility.

6. **PRESSWHEELS** Agmaster has experienced good success with the individual presswheel modules.

Some changes we have made to the 2004 model include:

- Bearings in all pivots instead of bushes to alleviate binding problems in dusty conditions.
- Undersize bushes are available to existing presswheels if binding is a constant problem.
- New double yoke mount.

For further enquiries please contact your local representative for prices and to discuss your needs.



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