



Wantfa News

Newsletter of the Western Australian No Tillage Farmers Association (Inc.)

SEPTEMBER, 1996

EDITORIAL COMMENT David Rees

The no-till band-wagon is well and truly rolling, with the support for the no-till seminar at Morawa, the no-till field days, and the machinery demonstrated at Dowerin and Newdegate.

On the south coast, the cause has been stimulated by a late break to the season, then dry and extremely windy conditions. On sandy soils, many crops have therefore been defoliated, and some have still not recovered. This was one of the original motivations for us to adopt no-till seeding - there is much less soil disturbance to start the erosion, and hopefully the surface residues break the wind.

To many Wantfa members it must now seem that no-till is no longer different, it is cultivation which has become abnormal. In fact one of my clients suggested that trials such as with fertilisers, new varieties or herbicides should not be done with anything but no-till seeding.

However even if every farmer in the State was using no-till seeding, we still face many questions, that can only be addressed by an organisation such as Wantfa. The technique now demands that we re-assess all our agronomic practices, and this will be done to assess both short term and long term effects. For example many no-tillers have been willing to accept lower yields (if there are any) to gain overall and perhaps long term benefits. Hopefully this newsletter can help share some of our experiences.

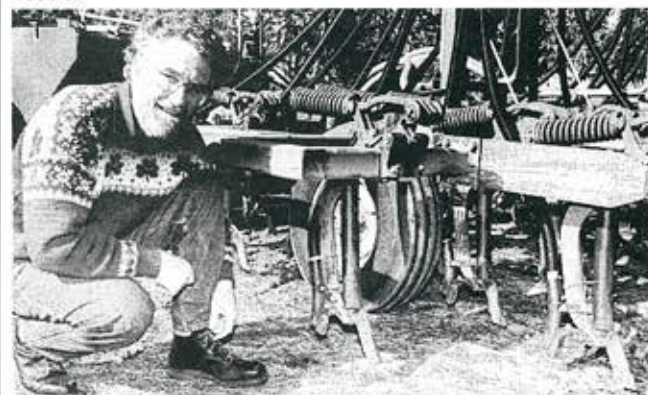
EXCUSES FOR NO-TILL

It is disturbing to still hear the excuses for not using no-till. This has been brought home with some recent statements about the unusually dry and windy year on the south coast. In an effort to re-assure farmers and reduce some of the emotional stress, statements are being made that "even no-till paddocks have suffered wind erosion". Cont P. 2

640 Attend first Australian no-till farmers conference.

By Kevin Bligh, Secretary, WANTFA

Morawa Town Hall was packed for the first Australian No-Till Farmers conference on August 7 and 8, expertly organised by the Koolanooka Bowgada Landcare Group. You could have heard a pin drop while Victorian Farmer Allen Postlethwaite and South Australian scientist Albert Rovira described their no-till systems and research. Brian Scarsbreck of Landcare Australia Ltd set the scene, describing his experience of direct drilling in NSW Agriculture in the 1980's.



Agriculture WA development officer Kevin Bligh inspects the Harrington points fitted to Mr Peter MacLeay's modified international scarifier he uses for seeding.

Sixteen talks were given in four concurrent sessions in marquees outside the hall after lunch. Farmer Digby Lee-Steere of Northampton enthusiastically described the success of his no-till system since 1993.

Interstate speakers from Queensland and New South Wales added an Australian perspective to talks by Western Australian farmers, scientists and engineers.

Refreshments and a barbecue were followed by round-table discussions, tapping the expertise of the thirty interstate guests - and one each from New Zealand and Canada. Sessions on soil organisms, warm-season grasses in wider crop rotations, and the Manitoba-North Dakota Zero Tillage Farmers Association attracted interested audiences.

The following day's field day featured one bus-load at a time at each of eight field stops. There were several speakers and trials at many sites, including Koolanooka-Bowgada Landcare Group and Conference Chairman Graeme Malcolm, describing no-till as an essential feature of landcare in the 13,000 ha catchment. Adoption to date has been 92 per cent.

A final plenary session back at the hall then discussed broader no-till issues, continuing to keep in touch Australia-wide, and acknowledging the wide range of commercial sponsors. Conference proceedings, including the No-Till Farmers Reference Manual, may be obtained by sending by mail \$30 to the... Koolanooka-Bowgada Landcare Group, PO Box 172, Morawa WA 6623.

EDITORIAL COMMENT (Continued)

However the facts are that wind erosion has been far less damaging than in the past, mainly because of the no-till seeding which is now common. Yes, the equipment can be expensive, which is the last thing you want to know when the crops are suffering because of inefficient seeding methods. But you can no longer keep your head in the sand and ignore the benefits of no-till.

OUR NEW 'PROFESSIONALISM' Along with no-till methods, our association is growing both in numbers and in professionalism.

In this issue, we are advertising for expressions of interest in a position as a paid secretary. Also in the wind is a project sponsored by the Grains Research and Development Corporation, to fund a "no-till systems development officer". This will be for a period of five years. Agriculture WA is also assisting with this project, providing a contribution of \$20,000 a year. Hopefully this does not mean that we cease to be a "farmers" association, but that with this support we can become more effective.

DISCLAIMER: Mention of trade names does not imply endorsement or preference of any company's product by WANTFA, and any omission of trade names is unintentional. Recommendations are current at the time of writing. Views expressed in this newsletter are not necessarily those of the Editor or committee of WANTFA.

Situation Vacant - WANTFA Secretary

WANTFA is calling for expressions of interest for a secretary to help with the increasing activities and consequent workload. This will be a paid, part-time role and will need enthusiasm and dedication. The successful applicant will need a computer, fax etc. Duties will be administrative and secretarial work, correspondence, payment of accounts, financial recording and reporting. Inquiries and applications to: Resident of Wantfa, Ken de Grussa, PO Box 772, Esperance WA 6450. Ken's phone is (090) 78 2026 and fax (090) 78 2007

No-till Systems Development Officer

Applications are invited for the position of a No-Till Systems Development Officer for a five year G.R.D.C. funded project. This project will be run by WANTFA Inc. and the position will require an experienced, enthusiastic individual, with excellent communication skills, an open mind and an ability to work well with others. The successful applicant will require good knowledge and interest in no-till, research experience, and an ability to work with minimal supervision. The preferred commencement date for the position would be February 15th 1997. Expressions of interest are invited for innovative ways to fulfil this position, with consideration to contractual arrangements. A key requirement will be to have one person clearly identified as the Development Officer. Advertisements will appear in newspapers across Australia at the end of September for the above position. Interested people should contact: Geoffrey Marshall, PO Box 51, Hyden, WA 6359 - Ph (098) 800018 - Fax (098) 800038

No-till in a trying year ...

By David Harrington, Darkan, (097) 361 165

This year is the sort of year that is going to make or break no-till, after the worst start in our area for as long as I have been here. There was no rain until very late May and mid June, we were waiting for sheep feed to grow, which didn't happen and is still struggling.

We therefore had to change our attack, by selling off sheep, shifting others to another farm and feeding. We knew there would be no feed until August/September.

We also had to crop paddocks that had not been prepared by prior weed spraying, so our herbicide treatments had to be right.

I had to keep my chemical program as simple as possible, and this year it has been the best weed control I have ever had. The knockdown mix was Roundup 500 ml/ha and diuron 800 ml/ha, spray today and seed tomorrow. We then came back with paraquat at 500 ml/ha just on emergence. This year the paraquat did burn the crop, though it has come away now.

Since we finished seeding on June 25, the latest we have ever finished, it has hardly stopped raining and there is water everywhere. This makes it difficult to

No-till for perennial pastures

Condensed from an article by Jesse Skoss

I have been researching perennial pastures in WA from 1957 to 1990.

Perennial grasses which were sown amongst annual species such as wild oats, barley grass and brome grasses, was soon eaten out when subject to set stocking. However we have realised that there is a need for deeper rooting perennial species to overcome problems from unrestricted clearing of native vegetation.

spray or spread urea, but so far we have not had much trouble.

We have been no-tilling for about 15 years, trying all sorts of ideas. We have noticed that it does not matter what you seed with, as long as the seed is 25 to 40mm deep, with loose soil underneath and properly covered.

Fertiliser placement above or below, or with the seed does not seem to make much difference.

Weed control is number one priority. At this stage we are having a good effect with trifluralin using knife points. We have even used trifluralin on oats this year, but will have to see what happens to the oats.

Seeding is now done without much effort, whenever the moisture is good enough to germinate the seed. If you use knife points in the future, there are a few basic rules -

- Tine pressure must be strong enough to hold the point in the ground without any jump action unless going over stumps or obstacles.
- Make sure the seed is at the right depth 25 to 40mm deep
- Kill the weeds the first time.

We do not use discs because our ground is too hard and very rocky, and would wreck them in the first few hectares.

In 1957, when the "Chase agreement" for land development at Esperance was initiated, I suggested perennial species for the area. The evidence of salinity and waterlogging was already apparent at the Gibson research station which was then barely six years old.

The introduction of perennial grasses in association with perennial legumes, when properly fertilised and managed can greatly increase production of stock, and species tolerant of salinity and waterlogging will arrest and reverse these land degradation processes.

Jesse Skoss believes the no-till sowing methods will assist with establishment of suitable species.

Full copies of his paper can be supplied on request.

1996 Wanta no-till tour

By Bob Porter, RMB 61, Geraldton 6530 - Phone/Fax (099) 361 021

This is a brief report on the recent WA No-Till field day tour and No-Till conference at Morawa led by no-till icon Kevin Bligh, my wife Dawn and I attended the field day events which were all worthwhile but too numerous to write all the details. We farm in the north of the wheatbelt, but noted the problems are the same throughout, only of a different nature in other areas. The southern area of the state, due to a late start and cold winds made some of the days on tour quite bleak or "brisk" if you wanted to be cheerful. Extremely strong winds and showers showed how no-till is needed to stop wind damage.

Mostly good crops at Esperance showed the benefit of early rains and not too much rain. It was so cold in Wellstead that even the locals didn't want to venture out to the paddocks. The hospitality of all the groups we attended was very welcome and much appreciated by us visitors. It would appear that the biggest single problem is weeds and in particular ryegrass in the south, with bromegrass and ryegrass in the northern areas. These weed problems are not caused by no-tillage but are easier managed under this system. The no-tillers are looking to different methods of weed control which includes both herbicides and rotations of different crops.

Plenty of innovative home-made machinery is still being used, with some no-tillers buying new machines off the shelf. The machines we actually inspected included Ausplow DBS, Great Plains Disc, Walker's Coulters and Discs, John Deere Bio Max and Nichols Tyne Press Wheel Unit. These machines add crops to demonstrate their ability. We were able to view demonstration modules of K Hart disc and coulters, A.F.M. coulters and press wheel assembly, plus the many home-made machines and standard seeder bars converted to no-till with narrow points. The no-tillers with discs are happy with discs and the people with tines are happy also. Its just a matter of choice and making your machine work the way you want it.

At Morawa we enjoyed a well organised conference. The large attendance showed how interested farmers are in the no-till package.

At New Norcia we saw a paddock which had been no tilled with narrow points and adjoining was conventional direct drilling with combine.

With all the rain it was really wet, but the narrow point working was quite firm to walk on compared to the other.



Bob Porter's home made double shoot system.



Amery wheat sown with Bob's machine at 300mm spacings

This issue was also highlighted at Northampton when the convoy of Jeeps got bogged on the road at Digby's. The first two vehicles who managed to get across the boggy patch were able to drive out to firm ground across the no-tilled paddock of wheat.

It was good to see the local landcare groups organising the no-till field days, and Graham Malcolm expressing that no-till is only part of the Catchment Management Package.

Most farmers are now looking at the 'big picture' and not as short term gain. The width of row is still a matter of choice. We saw plenty of wide row cereals to 300mm, including my own crop. There doesn't seem to be a problem provided correct seed and

fertiliser placement is done to suit to conditions. Poor plant establishment on wide rows is inviting lowered yields. My impression from the tour is that no-till is quickly being adopted as normal practice by many farmers. This is shown by the large numbers of farmers at the field days and conference.

Where to from here? One move will be into controlled traffic to complement the no-till package. Controlled traffic was mentioned in quite a few places so no-tillers must be thinking about it. Another move will be to try some fairly radical rotations such as late winter-summer crops to give a better control of weeds and disease. We heard a lot about the growing of 'warm summer grasses', particularly in the higher rainfall areas.

Western Australian No-Tillage Farmers Association Inc.

1995-96 EXECUTIVE

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The Manitoban Prairie Farmer

Bill Crabtree, Brandon, Manitoba
Ph 204 727 6970 (h), Fax 726 7619

What an amazing place I am in! Just a few weeks from late July, the sun rose before 5am and set after 10pm, making it 17 hours of sunlight (this is called sunny Manitoba). Then you have to add an hour of light before the sun emerges and another hour after it goes down, as the angle of setting is very oblique. Then imagine trying to get four small children to sleep at night or leaving the office for home while the sun is still high in the sky. They tell me the sun makes up for this in the winter time.

Not surprisingly, their summer sun does not burn like ours does. The effect of these long, but not burning sun hours is fantastic on crop growth. Can you believe this - the crops planted in late May are now (18 July) flowering and starting grain filling. I'm sure you could sit down and watch the plants grow. The better wheat crops will yield 60 bushel (4 t/ha) and the poorer ones a quarter of that - does that sound familiar? Harvest will start in 2 weeks!

A summer's day typically is about 13 to 15 °C at 8am climbing to 25 to 31 °C by about 9pm. It did reach 35 °C one long hot day when the crop was just in the ground and apparently it can reach 40 °C a couple of times a year. There is no cooling sea breeze, but often perhaps twice a week, fantastic thunderstorms, where the forks hold to the ground for a couple of long flashes (maybe one to two seconds).

The implications for such a short season are numerous for farmers, families and advisers. Many activities need to be well planned before the season starts. All the decisions must be made so quickly with only six weeks to watch out for and kill insects, weeds, diseases and other pests at home with them.

Cheap grain drying ...

By Bill Crabtree, Brandon, Manitoba

Many aspects are different in the grain handling industry over here. Almost every farmer has 8 to 15 big (100 to 130 tonne) grain bins lined up near his house and shed. The grain is harvested as conditions are getting cool and wet. They have to deliver their grain at about 12 per cent moisture and delivery is all year long, as the grain handling system requests. Farmers often have to harvest grain at 20 per cent moisture to be sure they will get it off in time. I know a farmer who couldn't get 500 acres of legume crop off in time and it finished his farming career. Sounds like the south coast! While grain dryers are also used, the most common form of drying is just aeration in these 120 tonne bins.

The flat bottom bins have normal air blown in from a 5 hp electric motor with a centrifugal fan (important to note, it is not a standard propeller fan). The fan costs \$3 to \$5 a day to run and, of course, works better with lower relative humidity. Interestingly, having the fan on during wet weather will not make moist grain more wet but will stop the grain from spoiling.

Some farmers in drier areas boast of these fans dropping the moisture content from 20 to 12 per cent in one day. In wetter areas, with higher humidities they perhaps take three to seven days to do this. The cost of the air blowing equipment is less than \$1,500 for each bin. Think of all the barley that now would go manufacturing and the savings from having less GP wheat. Down grading is common when you have to wait a week because of damp grain. Swathing does do a similar job but, here like home, you can get severe grain damage after swathing just before a big rain. Also with no-till it is often preferable to have tall standing straw than low cut straw that forms a mat when spread back out (causes more pinning and vinegar problems).

This can also work to a farmer's advantage as the season starts after a freezing thaw that has killed billions of pests and they often hardly have time to build up enough to cause significant damage.

As a new adviser it's overwhelming as there is no time to react to specific problems, unless you are forewarned. As a research officer there is little time to neglect plot work to attend the almost daily field tours in July. As a family - you know you will have more time together after harvest. But then the kids will be going back to school in September after eight weeks of holidays. Many farmers do not have stock, so after cropping there is time to catch up on family, unless you are one of the 20 to 40 percent of farmers who have a second job. Many of my fellow agronomists also have a stake in land and take four weeks a year off to grow and harvest a crop.

The average farm size is about 1,200 acres in Manitoba and the average farmer is all of 50 years old. Their yields are not much higher than ours (perhaps 10 percent) and their costs are much higher (\$200 to \$280/ha). They typically apply 20 to 40 units of P and 60 to 100 units of N. Their cost of carting grain to the port is about \$35 to \$42/t, not the Crow rate (rail subsidy) has come off. And they get similar prices for their grain, and fuel is about 30 percent cheaper than ours. They crop perhaps 5 percent of their land every year and they don't have fences, or dams, unless they are in the minority with cattle.

I think if we can get a decent run of seasons in WA we will compete well against Canadian farmers. This is sad to say as we have much in common with Canadians and we feel at home with them. I wonder if we should work together with them at marketing our grain as both countries have a reputation of excellent grain. They, like us, feel the US's marketing power is setting the terms.

Having so many flat bottom bins may mean more work cleaning them out properly. But you can buy auger extensions that swivel 360 degrees and clean the bin out for you. Having 3-5 of these big bins could really improve grain quality, management flexibility and take a lot of stress out of harvest. I am puzzled why we don't already use this type of grain aeration.

The type of air flow system used varies a little. Most commonly used a few years ago was a fine grid which was put within about a metre of the edge and submerged below the concrete surface by about 15cm. A problem with this system was that rodents would enjoy what grain was difficult to retrieve. Also it is more elaborate than what is required. Since air in a bin naturally cycles upward in the centre and down the walls, any fan fed air system only ensures that it keeps going out the top.

More popular recently is a single V shape shaft that is submerged in the concrete about 30cm deep and stopping 60cm before the other side wall. A removable flat mesh is then placed neatly over the hole (shaft) and is easily cleaned. When bins already have a flat surface, the inverse of the V shaft can be made out of mesh. In which case metal strips are used as braces to stop the shaft from collapsing.

Most progressive farmers over here use this technique. If there are any readers who have used this drying system in Australia then please drop a note to David Rees our editor for the next edition. Some Canadian farmers I (and my brother Tim) have spoken to about this are Richard Nordstrum (phone 00151 403 336 4875 and fax 336 4030) and Art Cowan (phone 00151 204 858 2709).

After a dozen field days and meetings I have had a great opportunity to meet good people, hear good talks and learn new ideas. It is refreshing to hear senior researchers speak positively about zero or no tillage.

My region is loaded with scientifically credited individuals who only know one way to think about no-tillage - that is "how do we improve it!" Let me share some exciting ideas relevant to you.

Canola

You have probably heard of the resistant canolas over here. These include canolas that are resistant to Roundup, Pursuit and Basta. Perhaps we should now forget the triazine resistant canolas, especially those that are contaminated with the dreaded cleavers. Cleavers are considered a horrible weed here and likewise closer to home - in South Australia. We must keep it out, it is worse than Kochea!

There is also Muster, a broadleaf herbicide from DuPont that takes mustard out of Canola. I have not been able to find out if it takes radish or turnip out of canola, it would be great if it did. Paul Carmody or Matthew Applebee should be able to tell you.

Urea toxicity controlled

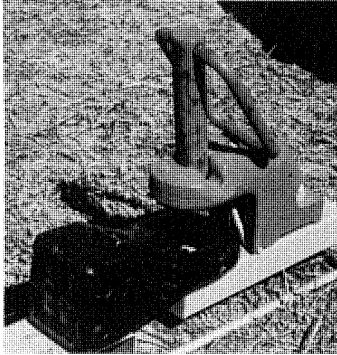
Years of research shows that a synthetically produced substance almost stops urea toxicity. Called NBPT (n-butyl thiophosphoric triamide) the product is put with urea and slows urea conversion to ammonia. This happens before the ammonia gets converted to nitrate, the form most available to plants.

With NBPT about 20 units of N, both here and in WA with knife point sowing, is considered enough to kill emerging plants in some common conditions. However, 60 units of N as urea is safe with NBPT application and even 90 units has sometimes been safe.

This product is owned by Alan Sutton from IMC Global (US) PO Box 1629, West Geneva Rd, Henderson Kentucky 42420 US on 502 826 5231 or fax 502 827 4825. The product was initially researched by IFDC, Alabama, US (and Brian Christianson of PVA). It could be released world-wide soon for perhaps \$5 to \$10 a/ha and is already released in the US. Elders in WA have looked into it a bit. I have seen a lot of trial work here at Brandon by Cynthia Grant. It may be cheaper for us, given that we might use lower N rates. How this will affect Canadians who mostly use liquid ammonia (20 to 25 per cent cheaper than urea) before or at seeding? I'm not sure.

Ideas gleaned from Canada

Bill Crabtree, Brandon, Manitoba



"EASY HITCH"

By slowing the conversion of urea to the damaging ammonia by 10 to 15 days (in Canadian sowing conditions, soil average temperature of 15°C) NBPT gives the plant a chance to emerge before the ammonia can damage the seedling. This will be a fantastic tool for no-tillers particularly during a second non legume crop, when using disc machines or with wider rows or a combination of these. Being able to apply three to four times more N at seeding may take away the need to apply N later. However, keeping the N as urea for longer may not reduce leaching as urea is quite leachable (like nitrate) it is the charged ammonia that sticks to the soil. But it will be in the dry situations where urea toxicity occurs that we will most want to use NBPT - where leaching is limited.

Precision farming

After attending a two day course in precision farming I am convinced that it will become a valuable tool. Using GPS (Global Positioning Systems) and GIS (Geographical Integration Systems) the \$20,000 package which you can buy off the shelf from Case IH or John Deere and probably others, will produce lots of data. With common sense it will be useful and may surprise you.

Apparently farmers who have used it (I hear two talk) have been surprised that some parts of their fields have either done better or worse than they thought they would.

There are two main parts to precision farming - the part that helps you seed exactly where you want and varying rates as you go, and the part that tells you the exact yield from exactly where. From a precision planting view, many argue it is not yet precise enough, only to within 30cm (and that is with correctional towers). From a harvest view, it is good enough now! By putting a portable computer in the tractor you can store all the information as you go. If you just buy the harvest monitoring package for \$9,000 to \$12,000 you can use this to do your own trials. For example, by doing three fertiliser strips from one side of the paddock to the other and then using GPS and harvesting these strips you will have a clear idea across a range soil types.

This data will be as good as any scientist's data and it will have scientific credibility, being on your farm and you will be able to relate to it. You may be surprised that some soils will give little N or P response and others a big response. Once you know this then the next step might be to go the whole way by attaching variable rate equipment for seeding. Do not be scared of learning the computer or be overwhelmed by the amount of data it will generate. I'm sure consultants will love this one and so will your son!

Barley in wheat

The herbicide called Horizon (Group one or sister to Hoegrass) will take barley out of wheat. This will help clean up some dirty wheat crops. Horizon is marketed by Ciba, and your herbicide outlet should be able to tell you if it is registered in WA.

Easy hitch

To save the annoyance of getting off your tractor to see if you have lined up properly to put the pin in the hitch you can now buy a self locating hitch. For more details ask Daryl Hine at Wellstead - this is a fantastic idea!

Easy grain bin monitor

For \$36 (Canadian) you could buy a simple but brilliant plastic tool that will tell you when your grain bin is nearly full. It will save you going up and down the ladder to see how full the bin is. It works like a float in a water trough, using about two litres of plastic float which hangs down from the roof (needing two holes in the silo roof). When the float gets pushed up an attached indicator rises for you to see the bin is nearly or completely full. A simple and great work saving tool.

Granular trifluralin - see last WANTFA issue (May 1996).

No-Till Study Tour

... By Kevin Bligh

Most interstate visitors also took part in the No-Till Study Tour. Local field days were organised by WANTFA members and Agriculture Western Australia personnel at Kondinin, Hyden, Lake King, Esperance, Wellstead and Kojonup in icy winds, the week before the Conference. No-till field days at New Norcia, Miling, Kalannie, Mullewa and Northampton then complemented the First Australian No-Till Farmers Conference.

The Canadian angled-disc opener (see photo) attracted considerable interest at Paul Blackwell's research site north of Morawa. The single-row unit was imported for the project "Development of No-Till Sowing Systems" funded by the Grains Research and Development Corporation after developer Ben Dyck's visit in 1995.

The single angled-disc opener was operated at about 50mm and 100mm depths by farmer Garry North. The plain 450mm (18 inch) disc leans at about 22 degrees to the vertical and 7 degrees to the direction of travel. It lifted the moist loamy soil and placed seed and fertiliser, before the soil fell back, with little disturbance.

Alternatively fertilisers may be placed behind the disc, and seed separately behind either a sowing tine or second disc, mounted on an arm to a following press wheel, which controls depth. The main disc features spring break-out both vertically and laterally, in case it hooks under a sharp rock.

Congratulations to the Koolanooka-Bowgada Landcare Group for organising such an excellent First Australian No-Till Farmers Conference - their third major no-till conference in four years - and the entire range of commercial sponsors for supporting such a successful event.

WANTFA looks forward to maintaining and developing Australian and overseas contacts in the rapidly expanding area of no-till sowing.



The Angled-Disc no-till opener developed by Canadian engineer Ben Dyck at ... Fabro Enterprises Limited, Box 517, Swift Current, Saskatchewan, S9H 3W3. Ph. (306) 778 3955, Fax (306) 778 3538

Behind The Header

Bob Bradley, Development Officer - On exchange from Canada

With harvest not all that far away, we need to once again focus on "Management of Crop Residues at Harvest Time". In many cases, problems encountered at seeding time could have been solved during the previous harvest. I know that is not new to Western Australian farmers, but personally believe it to be of extreme importance in any cropping system, but especially so in No-Till. Ideally, it would be nice to see all straw and chaff spread out evenly over the total area from which it came. The topic of handling crop residues has been addressed by several of your local researchers, extension workers and farmers in previous WANTFA Newsletters from November 1993 through to January 1995. I recommend you have a read back over these. They address some of the many complex and related issues here in WA which become a part of retaining stubble, straw and chaff.

May I suggest, however that the Crop Establishment System under No-Till and retaining all crop residues has a lot going for it - on any soil. I believe there is a definite need to maintain and improve soil structure and the Health of the Soil in general - and over the long haul, surely the retaining of crop residues to break down (decompose) is a real step towards improving the condition of WA soils.

Many farmers who have been in No-Till for several consecutive years and have managed to return all crop residues to the soil are reporting improvement in condition (health) of their soils. And of course, the no-till system with all crop residues retained can eliminate wind erosion. If the soil takes off to the neighbour's paddock or to another Shire - then there isn't much to look forward to! So, let's look again at ways of improving the handling of crop residues during harvest. It is a key component of a successful no-till crop production system. Some headers

come equipped with fairly adequate residue handling capability. You decide. Where it is not adequate, there are a number of attachments on the market that can be adapted to improve the situation. Now is the time to check these out. Some considerations would include: mechanical or air activated straw and chaff spreaders, second cutter bars and for chaff only, collecting carts could be used and the chaff used for feed or otherwise disposed of. Functional residue management equipment can also be designed in the farm workshop.

I am considering organising some field demonstrations in areas where farmers and others feel they may be appropriate. Your suggestions would be most welcome. Please give me a call on phone (090) 831 111 or fax (090) 831 100 if you have any ideas.

By the way, thanks so much to WANTFA members who returned my questionnaire (greensheet) enclosed with the May Newsletter.

Our Secretary, Kevin Bligh has changed his address. He was not allocated to no-till sowing under the restructured Agriculture WA so applied for and was granted voluntary redundancy.

He is now available at:
9 Windich Road, Bull Creek WA 6149
Ph (09) 332 7003, Fax (09) 332 7149
or email at walburra@net1.nw.com.au
or at
RMB 442, Busselton 6280
Ph (097) 557 589, A/hrs (097) 524 215

Esperance grain grower, Ross Whittall, needs no convincing about the merits of no-till, a practise he adopted in 1991.

It was the same year he sold off all his sheep.

"If we stayed farming as we had been we wouldn't have survived," Ross said. "No-till has opened our eyes to the damage we had been doing to the soil without ever realising we were damaging the soil."

Ross came to Esperance in 1981 from Wiltshire, in England, quickly falling in love with the wide-open spaces of the sandplain.

Today he operates a 1400 hectare all-crop enterprise working alongside his nephew James, niece Susie, and a full-time employee, Stewart Anderson. "Stewart is very good and as keen about farming as we are," Ross said.

This year about 1300ha has been put to crop including 130ha of Abacus triticale seeded at 50kg/ha with 155kg Agras 1 and follow-up 80kg of urea and being grown in areas prone to waterlogging.

Also growing is 220ha of Harrington barley, 450ha Merrit lupins, 500ha Stilleto wheat plus canola grown under share-crop nearby. The rotation is typically barley, lupin, canola, wheat and recent cereal yields averaging from 2.5t/ha to 3 t/ha, and up to 4 to 5t depending on the season. Cyclone Olivia brought 37mm of rain in April which allowed seeding to start April 18 with canola and the bulk of the cropping completed in early May after two knockdowns.

Ross is particular to clean up grasses in the lupin phase and most-in-crop spraying this year has been for broad-leaf weeds mainly radish and sprayed with Tigrex at label rates.

Both May and June were dry with only light 3 to 4mm falls and non-wetting has been a widespread concern affecting germination by 30 per cent in areas.

Ross uses a 36-tyne John Ryan DBS bar hitched to a Foward 660 air-seeder and used for the first time last year after four years with a John Deere Biomax Unit. Ross has found that the furrows remaining from the 1995 program wetted up after the heavy April rains, but tended to rob moisture from this year's seeding furrow. The non wetting effect has probably been exaggerated by the dry year, but with 40 per cent of the property having non-wetting type

No-till proven on Esperance farm

By
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Ross Whittall with results of no-till

soils, Ross is looking to fit a bar to the front of the DBS unit next year for spraying wetting agent.

The 30-foot wide three-row DBS unit operates on 10 inch row spacing and is fitted with Ryan's paired coulters for working into stubble.

When he first came from England, Ross worked on paddocks pre-seeding before adopting direct drill (single pass, full cut of the surface) in 1986 using a five-row John Deere 746 combine with the front three rows set to till deeper than the back two seeding tyres.

But wind erosion was a real concern. "It's heart breaking seeing a nicely seeded paddock and then you get those devastating winds," he said.

"I don't think trees are the answer though I'm not against planting trees but they only shelter a small area out from the belt, take up nutrients and I think a thick stubble is more effective, not only providing the emerging seedling leave ground bare with shelter but also for its mulching effect and its role in building up the soil."

It was a photograph shown to Ross in the late '80s by Esperance John Deere agent, Doug Slater, of Ratten and Slater, that put Ross on the no-till trail.

"Doug showed me some photos taken in America of a soybean crop coming up in cereal stubble," Ross said.

"I knew that if we continued with our existing methods we wouldn't survive the coming years.

"Cultivation can rip the guts out of our soils and we'd have to leave paddocks under pasture for three or four years to mend what we had destroyed.

"And sheep were not helping, stirring up our wind erosion areas in summer."

In 1990 researcher Kevin Bligh, of the then Department of Agriculture, did trial work at Whittall's farm with the first John Deere Biomax seeder in WA.

Impressed by its ability to work into stubble, Ross bought a unit the next year for \$60,000 which comprised modules fitted under a JD 700 series combine. The Biomax single disc units operating on a 7in row spacing performed well from 1991 to '93. But in a dry 1994 Ross found the implement wanting.

The Biomax left a furrow that tended to channel water to one side of the seed and it was then that Ross decided on the DBS unit.

Despite the non-wetting effect this year, many crops are a picture of health, helped by 160kg/ha Agras 1 on cereals at seeding and a later top dressing of 100kg/ha of urea.

CSBP soil tests are regularly carried out and amongst other things show the pH steady at pH5.2 and organic matter levels at 1.5 per cent.

Ross is confident that the stubbles and plant roots remaining are building up the soil.

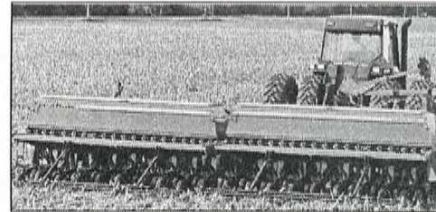
"Without no-till I doubt I'd be prepared to keep farming," Ross said.

"In a lot of ways I think we can learn from market gardeners in the way they use mulch and create organic matter.

"If we kept to our old methods I know we'd have destroyed the place and it is not good leaving a place in a mess when you finish, is it?"

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