AFSA
Australian Fertiliser Services Association

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FERTILISER NEWS

FERTCARE®

Volume 40, No. 3
NOVEMBER 2019

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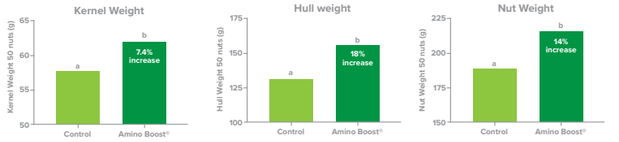
FIELD TRIAL RESULTS ON ALMOND YIELD



YIELD:
- Kernel, hull and nut weight significantly
- Total return on investment
- Plant Nutrient status
- Tree vigour

NUTRIENT UPTAKE:
- Nutrient transport into plant
- Nut and leaf nutrient concentration
- Nutrient translocation to deficient areas

ROOTS:
- Root structure & hairs
- Endodermis (nutrient and water regulator) diameter
- Quick crop establishment
- Overall plant development

This trial over 3 years showed that Amino Boost Transit Max® facilitates nutrient mobilisation in the soil and assists in transporting nutrients into plant tissues to efficiently increase the overall almond yield. Amino Boost treatment significantly increased the yield parameters: nut weight by 14%; hull weight by 18%; and kernel weight by 7.4%. These Australian studies reflect the same trial data generated from trials in California.

In conclusion, Amino Boost was found to be effective in improving plant nutrient status, crop vigour and the yield parameters of almonds. Return on investment was calculated at 2340%.

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SCANIA

Vol. 40 No. 3___November 2019

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AUSTRALIAN FERTILISER INDUSTRY CONFERENCE 2019

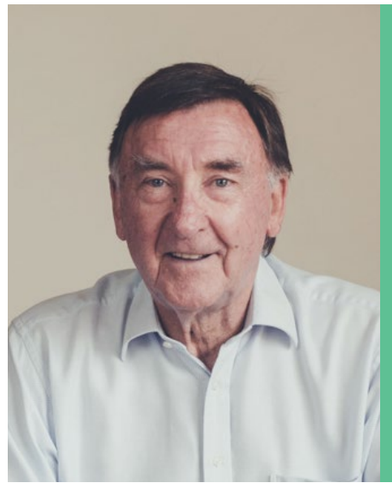
Kim Bailey, Krysteen McElroy, Amy Wyer and Andrew Chivell

from right to left - Chris, Jeremy, Jsaana, Xavier, Shane and Jackie Dellavedova.

Photos courtesy of Fertiliser Australia

NATIONAL CHAIRMANS REPORT

Kim Bailey



I preface my report by acknowledging the time and effort the AFSA Board Members, our EO and our Company Secretary have recorded this year and particularly in the last 3 – 4 months. Some ventures and activities have required intensive opinion and debate for the development and future success of our association and several extra ordinary Board Meetings were scheduled to address these issues.

My report includes reference and updates to some key objectives previously advised in the "Fertiliser News"

As you may be aware, the AFSA National Board has seven directors who serve on a rotating two year appointment when they then become eligible for renomination. Currently we have Board members from each state except Tasmania. We meet bi-monthly which includes to face to face meetings, our AGM is usually in September or October and held at the National Conference. The remaining meetings are held via teleconference. Strategic planning and communication activities are managed by our executive officer, and our finance and administration matters are handled by our company secretary.

At the AFSA National AGM held during the F.A Conference at RACV Pine Resort, Gold Coast, on September 5th, nominations to be directors were received from Amy Wyer, Noel Squires and Shane Dellavedova, who were re-elected along with Jarrod Keyte and Stephen Button as new nominations. All five nominations were appointed by the board with nominations and elections for Board roles being held at the following Board meeting.

• Chairman	Kim Bailey
• Deputy Chairman	Noel Squires
• Company Secretary	Neil Henry
• Accountants	G.J Waters & Associates of Hamilton
• Auditors	McLaren Hunt of Warrnambool
• Fertiliser News Editor	Krysteen McElroy

Board Committees (with Chair being named first)

• Governance	Brian Lund	All Directors
• Membership	Noel Squires	Andrew Chivell, Jarrod Keyte
• Stewardship	Amy Wyer	Shane Dellavedova, Andrew Chivell, Jarrod Keyte
• F.A Board	Kim Bailey	Noel Squires (Alternate)
• FMC	Kim Bailey	Noel Squires, Andrew Chivell (Proxy)
• Finance	Kim Bailey	Noel Squires, Stephen Button, Amy Wyer, Neil Henry

I am very pleased to inform you that the Australia Fertiliser Service Association (AFSA) and their 300+ members have joined Family Business Australia (FBA) as 'Associate Members'.

This membership will provide AFSA operating family business members with another level of support and ensure both the business and their families are working together in a way that benefits all.

AFSA members will receive the following benefits as a result of this Associate Membership with FBA:

- Entitlement to use the FBA Associate Membership logo
- Entitled to use the ''A Family Owned Business'' emblem and a listing to the www.wearefamilyowned.org.au website (provided they are a family business)
- Free attendance to the Family Business Essentials workshop for one nominated member from their business
- Free attendance to the FBA Family insiders' program
- Access to over 150 Accredited Family Business Advisors
- Access to the FBA's Accredited Advisor Directory
- Access to FBA's Recourse Centre
- Access to FBA's Family Business Diagnostic Tool, and
- The opportunity to join FBA as full Members to gain access to all of FBA's products, service and events programs

Greg Griffith, CEO of FBA said, "The rural sector has many family businesses that can benefit from the services that FBA has to offer''.

''This partnership means FBA can support and add value to ASFA, but more importantly it means we have a partner that we can share our offerings to a sector that will truly benefit from what we do''.

ASFA CEO Krysteen McElroy said, "We are incredibly excited to partner with FBA, we have many family business members and we know that the services offered by FBA including access to education and Accredited Advisors will be well received by our members. FBA is a well-known and respected organisation that has been providing support and guidance to Family Business for many years and this is a wonderful opportunity for our Association to work together with the FBA and add significant value to ASFA members, rarely offered within Australia before".

8 AFSA Members attended the NZGFA conference at Taupo on the North Island:

Andrew Chivell	Amy Weir	Nick McLeod
Geoff Vickery	Jarrod Keyte	
Paul Weir	Rick Barbary	Kim Bailey

In my opinion it was one of the best organised conferences I have attended. Over 200 delegates and members attended, they enjoyed a wonderful location, hospitality, food & beverages, a well organised programme which included informative and inspirational speakers. A fabulous conference dinner and awards night. The trade displays were extensive and well presented. The field tour was informative and educational.

Congratulations to Graeme Martin and the Waikato team for the exceptional organisation and the assembly of the large number of conference sponsors. Congratulations also to John Schultz the newly elected NZGFA president. The conference acknowledges the leadership and commitment of past president Dean Brooks and the retiring CEO Kevin Geddes. The NZGFA 2020 conference will be held at Christchurch from 5th – 7th July. I would encourage AFSA members to attend.

National Conference

After introducing the subject of AFSA holding our own independent conference the Board resolved unanimously in favour that the 2020 Conference is to be held in South Australia. A working group comprising of Heath Boseley, Stephen Button, Andrew Chivell, Amy Wyer, Jarrod Keyte, Jarrad Reilly and Krysteen McElroy was formed to review potential venues, develop a conference theme, access potential speakers, MC's, celebrity guests etc. Directors were encouraged to make suggestions promptly as the conference committee were enthusiastically moving forward. The sponsorship aspects were considered, the Board approved the Executive Officer investigate the appointment of an advisory consultant to source high level, long term sponsors.

Fertcare Online

At the Fertcare Management Committee on September 5th, to avoid further confusion it was agreed that the program will be known as Fertcare Level A Online. It was resolved that a contemporary online delivery alternative to Fertcare A be developed and made available.

The group acknowledged the work done by Shane Dellavedova and agreed the program needs to be reviewed to ensure a professional product can be offered as a commercial venture. It was resolved that Jeff Kraak and the Technical Committee review the program and prepare a brief ready for endorsement at the December meeting.

The Board recorded a vote of thanks to retiring Director Craig Swan for his contribution to the Board during his term as Chairman and as a Director and wishes him well for the future.

Thanks to all Board Members for your respective contributions over the last 3 months, we have considerable work still to be completed and new exciting projects for 2020.

Best wishes for Christmas and the New Year

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TASMANIAN REPORT

Tim Murfet

Hi all, greetings from Tassie.

Well finally winter is over and things are starting to heat up, slow to grow though due to unforeseen circumstances. However I'm sure I can speak on behalf of every Taswegian when I say...good riddance winter! The east coast has been very dry but September came and so did the rain. A low came across the state on the 6th and 7th which brought with it 158 mm rain at Gray on the East coast. Unfortunately, talking with some customers down that way, they drastically needed the rain but not all in one huge dump, damage to areas due to flash flooding can be more of a headache than a dry spell! Across the state the West coast has seen significant rainfall with the last 6 months seeing half of the state with between 1200 and 1600 mm falling, no shortage of precipitation there! Through the middle fell between 400-800 and the east coast over the last 6 months grabbed between 100-300 mm. So not really a major improvement for the East coast, even though the middle of the state, parts are very dry. The southern end of the state has also experience drier than average conditions. With the year closing in, rainfall is a must if we are going to have any sought of a hay season.

I have found and I'm sure others has as well a inconsistent start to the spring regarding spreading, around mid-August we struck a blow and became quite busy and since then it has been quite all over the place! Jobs coming and going , quiet then flat out. Anyway, the ups and downs of it all, we all love it!

The season our customers are having can be frustrating for dryland in particular, with the weather forecast predicting a substantial amount of rain and then continually backing it off to next to nothing. It would be so hard, I imagine to know when to take a punt and when to hold off and applying fertiliser to a rain forecast. We also have had rain events where it wasn't forecast at all but all of a sudden we end up with 5-10 mm!!!

Water down through the middle of the state has been a huge blessing for all involved in the irrigation scheme, obviously being able to create your own application of Fert and water on demand is a massive advantage, if dams and lakes

have adequate water supplies that is ! Talking to a lot of customers over the last couple of months, the main thing on their mind is rain....we all need it, some more than others.

Obviously goals for the rest of the season is to knuckle down across the state and try to service all of our customers with a positive and professional outlook, before we know it, it will be Christmas time and the Autumn top dressing season will hit us all like a tonne of bricks. I've done a typical male thing and drafted this up on the 11th hour, sorry Krysteen....please don't sack me....!!! Anyway, hope you all have a fantastic season, please be safe and enjoy being in a fantastic industry. Cheers, Tim.

VICTORIAN REPORT

Campbell Brumby

Hello Members,

The season is continuing quite well in much of Victoria, with only a matter of weeks before harvest will get underway in the North.

Crops look tremendous through the Wimmera and Western District with lighter soil country in the Mallee also in good shape.

Growers in northern and north eastern regions not confident of getting grain fill, have opted to drop crops and seize the opportunity of good early hay prices.

Feedback from Nth east and Goulborn Valley is that irrigation water too dear for growing maize, and that cereals have been cut for hay on an ever widening basis.

Wheat hay crops yielding up to 8mt/ha around Tocumwal and currently getting $200mt + GST in paddock behind the baler.

Kiewa Valley dry with fertiliser demand running at 20% of this time last year for the month.

Driving down the Newell Hwy from Goondiwindi a couple of weeks back and every 3rd or 4th truck heading north was loaded with new season cereal or canola hay, mainly from Southern Riverina and Northern Victoria.

The tough conditions along the Newell Highway were certainly apparent, but it was heartening to see pockets of crop along the way that were certainly worth harvesting.

Feedlots are full of cattle and demand for grain and fodder is very strong.

The spin off from the African Swine Fever outbreak in China (that has decimated their pig herd), is the huge growth in demand for animal protein from this market.

Prices for beef, lamb and mutton would appear to be strong for the near term on the back of this export demand.

Accordingly, this should assist in holding up feed grain prices.

Dairy would also appear to have turned the corner, with some of the highest prices for milk solids being offered for new season production.

Fertiliser:

The favourable conditions in much of the cropping regions translated into excellent demand for nitrogen.

UAN, Sulphate of Ammonia and Urea were all keenly sought and applied by growers over much of the state in a bid to utilise good soil moisture and growing conditions.

HayBoosta and pasture topdressing blends have also experienced good demand as growers look to boost hay yields.

FertCare Training:

FertCare training is going through some exciting updates with an online training module being developed to cater for entry level participants.

The strategy is to make this level of training more accessible and more cost effective for business with a number of employees.

It is expected once up and running, it will enable a far greater take up of training across the industry.

Victorian AFSA Annual Conference and AGM at Camperdown:

A good number of members, guests and industry people came along to the AFSA Vic State Meeting held on 23rd,24th,25th July at Camperdown.

An agenda that was targeted to AFSA membership covered the development of Prescision Ag technology and OHAS and systems for ensuring a safe workplace was enjoyed by attendees and initiated thought and discussion.

Wish everyone a good outcome for the rest of the season

SOUTH AUSTRALIAN REPORT

Stephen Button

The Mid North and Adelaide plains area have been impacted by frosts and low rainfall again this year with Crops running out of moisture to fill grains. The season this year started a month late and has cut off a month early putting pressure on any long season varieties. Many farmers are opting to just cut for hay and not worry about getting the header out. A lot of hay is heading out of the paddock straight to NSW and Queensland.

East of the mount lofty ranges minimal crops were established as any early rains fell predominately in southern areas and they missed out. For many in the more marginal areas this is the third dry year in a row with some properties completely destocking.

West coast

Once again Eyre Peninsula is good to excellent in the south with areas around Cowell and north to Kimba very dry.

The impact on small rural supply businesses has been huge as farmers are still acquiring machinery and to justify their purchases are going contracting. There has been other years when these businesses have been impacted by farmers out contracting but within a couple of years opt out due to realisation there is minimal income and/or the season has turned around and they don't need the extra cash flow. In the meantime contractors lose clientele.

Goals for this season is just to survive as best we can. We don't have the biggest and shiniest machinery on show but does the job effectively enabling us to keep our costs down to be competitive in this current market with many contracting rates coming under pressure and decreasing by up to 25% over the last 2 years seasons as farmers fight it out for market share.

On Monday 30th September SA conference committee had the privilege to inspect 'THE BEND' motor sport facility at Tailem bend. This is a brand new facility having been built in the last two years In preparation for the national AFSA conference 5-6 August 2020. What a great asset and facility this is to the state and local area of Tailem bend. I am excited and look forward to South Aust being able to hold this great event

Two politicians go to lunch together.

In the middle of lunch one jumps up and says "Bugger, I forgot to lock the office safe before we left".

The other polly replies ***"That's no worries, we're both here"***

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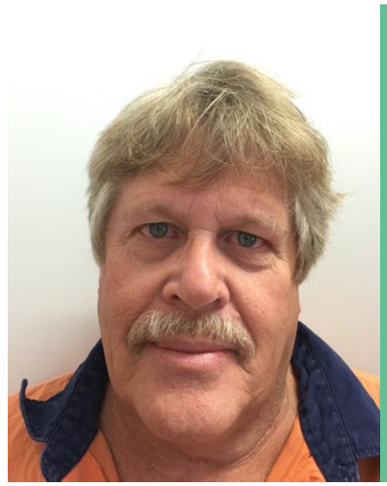
WESTERN AUSTRALIAN REPORT

David Holdsworth



Hello all again, WA has been caught up in the Big Dry Australia East coast has been getting with a late break to the season and little rain in the Growing Season.

WA AFSA thank the organisers of the Queensland Conference 2019, it was a great venue, food was good and the Field Trip very informative, nuts and sugar are a big part of our diet and they grow well in QLD.

Cut lunch and a water bag for us (be sure we topped it up a few times) in the West but a great experience, even the kangaroos are friendly.

As I write this north of Koorda, I saw headers harvesting barley on 10th of October, that's very early.

Also, further north near Binnu a harvester is going around the 13th of October.

Harvest brought forward by the hot, late September, early October weather and strong winds just doing the job on most of the state to bring a quick maturity to all crops.

There is some green canola around but looks like yields will be well down, crops not very thick and flowers cooked or blown off, if that's possible.

Reports are that crops will be about half 2018 for some, but really it is such a varied outcome due to frost, storm rain, or just lack of rain it is hard to generalize.

Some paddocks next to each other, Tonks tells me from Newdegate, there will be 1 tonne h/a difference one side of the fence to the other, frost taking a toll on some paddocks and missing the next one.

Around Goomalling some farmers are reporting frost where they have never seen it before.

Merredin and Muntagin, dry, some frost, rain 1 month too late.

A fair bit of the state got 5 to 10mm on 11th October.

South Coast Albany to Esperance similar - getting frost where the proximity to the coast usually means some protection, but not this year.

What will the outcome be? Less grain to cart generally, less summer spraying unless storms hit us, maybe less Lime and Gypsum carted and spread again, but farming is not a one year prospect so those that can afford to stick to a plan will still apply to set up for future cropping years. If you wait for a good year, it is too late to apply to get the best result .

I have heard it said "better to be nearly right all the time than exactly right at the wrong time."

So we will do as our clients do, trim non-essential costs and look ahead, that's agriculture, and probably a lot of other industries also. I would not want this to seem as we are the only industry affected, I spent a number of years in a group connected by a course we all did at Curtin Uni WA, and over the years saw that pretty much all industries have their good and bad times.

All rural businesses will be affected as will country towns, I have driven through a lot of towns on my way to Exmouth and there is already stress in many of these. Big ag retailers have taken over the smaller ag dealers over the last 20 years and they cannot be replaced with other industry in those small locations. A couple of towns I see now without a general store as the population is lessened by growing farm size, and unconnected to farming other than location, the making of Year 7 now part of high school meaning only 6 years of local schooling has had a big effect on country towns. One or two less teachers, and for those that board, a long time away at school, and we know how hard it can be to get many to return to the country.

Invariably, for every 5 people you lose from a community, it will cost one more job (i.e. rule of thumb - 5 more families means 1 more job in a town).

We will know the real outcome in January, but suggest we are still better off than the east as we saw Queensland is very dry.

AFSA Meetings

We have just had our AGM for AFSA WA in Wyalkatchem, "The Cradle of Bulk Handling in WA", and although not well attended those who did enjoyed a tour of the local area after the meeting including, Gypsum Mine, WW2 Historic site, Rare Foxglove Plants, Wyalkatchem CBH Agricultural Museum, and D & D Transport (I've seen the last 1 before but a great tour).

At the AGM, yours truly again elected as WA President, Dave Tonkin from Newdegate elected as Vice President and Larry Marchant, Treasurer.

We re-endorsed Kim Bailey as our WA Board member of the AFSA.

We also endorsed Kim's Director's report and wish to acknowledge how import Krysteen McElroy is to our association.

Thank you Krysteen.

Our next meeting will be late Feb or early March 2020 in Newdegate. We have decided it's a better way to engage with members by going to them and spending some time with them.

Hope to see some city folk out there, I think there is more fertiliser sold/used in the bush than in the city.

We are keen to encourage fertiliser sellers to look at Fertcare adoption within their business's service providers. They have the most contact with Reps and Agents across the state represented in one way or another in every town, our small group have no chance of covering the state.

I hope we all get a bit of rain (after harvest) before the next report to set us up for 2020.

NEW SOUTH WALES REPORT

Paul Wyer

Questions:

1. ***In terms of the current climate, environment, weather patterns – what is the most pressing issue in your region and how long has this been going on for? Is this just in your region or statewide?***

The most pressing issue for our business based in the Southern Tablelands of NSW is the ongoing drought. It is now the 3rd failed season for the southern tablelands and we can only pin our hopes on a good Autumn. The North and West of the State is a lot worse off than we are with towns now running out of water. I am sure you have read about it, so I won't go into detail.

2. ***How is this impacting you and your business?***

The impact on our business when this happens is always uncomfortable. We have seen it before and this time around we are a lot more prepared to meet extended dry and wet periods. The business has had a 35% fall in gross turnover for last financial year and this year will be worse. Reducing business expenses to match lower income is always difficult to manage because it always means reducing staff numbers and that hurts when you have spent years teaching and training young people to work in the industry. Sometimes we are lucky and they come back but very few do. If they are tough enough to work in the fertiliser game, they can usually source a well-paid job very easily elsewhere.

3. ***How do others see this situation, ie your customers? What are they saying/thinking?***

Our customers often sympathise with us but there is little they can do as they are having the same problem with drought related farm issues. In the long term it will affect them as the service we were able to offer with a full team takes time to rebuild. Very few people other than farmers know the extent of the problem. People outside of the agricultural sector have nice things to say and they like to mention how terrible it must be for you but at the end of the day we don't need them to remind us on a daily basis that we are in such a horrible situation. A good example of this was at our industry conference in September, everyone talked about our drought and we didn't go there to hear that.

4. ***What is your goal for this season? What needs to happen to see that achieved?***

Our goal for this season is very simple, we just need to survive until the Autumn. However, I can't speak for our other NSW colleagues as we are in one of the better rainfall areas and still dealing with the impacts of the drought. I imagine the outlook for our other NSW members is not this positive.

NSW executive AGM was held in September and all positions remained the same. The executive attended the national AGM and conference in QLD and it was nice to catch with friends and colleagues in the industry.

I believe that the AFSA now has a solid board and a good balance of older and younger members. They have a lot of great ideas that we will see coming through in the future. The first of them being the AFSA national conference in Adelaide being run totally by AFSA. This should mean a conference focused more on what we do as service providers. I hope to see you there.

NEW ZEALAND REPORT

John Schultz

With increasing pressures on environmental impacts, the ever ongoing debate of consistency and quality of fertiliser in relation to spreadability is gaining considerable traction.

The Fertiliser Quality Council have set up a sub-committee to work on quality. This is a significant step forward because until now, it has been difficult to get all the share holders to firstly, admit there was a problem and secondly, to agree on an end result .

In New Zealand there are several significant contributors to spreadability problems:

- fines & size distribution of particles in domestic product
- degraded imported stock in stores, often as a result of handling.
- incompatible blends (chemically or particles size)

The mixing of products is arguably our biggest concern at present. We have had a report of spreading accuracy being compromised by a 25% reduction in a bout width over a truck load due to the chemical reaction between super and coated urea. The coated urea is losing its coating in the action of being mixed and then being spread, therefore producing up to 30 mm of product building up on the spinner flights.

NEW ZEALAND GROUNDSPREAD FERTILISERS ASSOCIATION
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Fertiliser News welcomes your input!

Please have all advertisements, articles, letters and photos supplied to the Editor by the following dates:

March edition	July edition	November edition
Closing date (15th February)	Closing date (15th June)	Closing date (15th October)

Contact: **Krysteen McElroy (Editor)**
0408 655 108 | bkmcelroy22@outlook.com

POWERFUL NEW PLANTING FERTILISER

Andrew Dickmann
Commercialisation Director, Incitec Pivot Fertilisers

Incitec Pivot Fertilisers is extending its range of enhanced efficiency fertilisers with the introduction of eNpowerTM 18:20.

The new product is the result of a technical development which enables DAP to be paired with an ammonium stabiliser for the first time.

Andrew Dickmann, Incitec Pivot Fertilisers' Commercialisation Director, says the patented new formulation ammonium stabiliser in eNpower 18:20 was developed by the company's R&D scientists.

"DAP is a key planting fertiliser for cane and a range of other tropical and temperate crops, yet we have been unable to offer it with ENTEC® protection due to incompatibilities," he said.

"The introduction of eNpower 18:20 closes that gap and gives growers the benefit of nitrogen protection with their planting fertiliser."

The ammonium stabilisers in both ENTEC and eNpower work by inhibiting the nitrifying bacteria in the soil, which stops them from converting the ammonium nitrogen to nitrate nitrogen for a number of weeks.

Cane and vegetable growers are already using ENTEC® extensively on urea to protect their nitrogen investments against losses.

According to Rob Dwyer, Incitec Pivot Fertilisers' Technical Agronomist – Tropical Systems, advisers who have had experience with ENTEC will quickly see the benefits of eNpower on DAP.

"Using eNpower 18:20 at planting could mean better nitrogen efficiency, reduced losses from leaching, runoff and denitrification, better protection in the wet and a nitrogen supply that better matches crop demand," he said.

Mr Dwyer said eNpower 18:20 also had the potential to increase phosphorus uptake by two mechanisms, which could give crops a better start at establishment.

"Firstly, phosphorus uptake is strengthened when crops take up ammonium nitrogen rather than nitrate nitrogen," he said.

"Secondly, using ammonium stabilisers promotes rhizosphere acidification. This very localised change to pH around each plant root improves phosphorus and zinc availability to the plant, which can greatly benefit crop production."

Mr Dwyer said eNpower 18:20 would be of particular interest to cane growers at planting.

"This is the first time an ammonium stabiliser has been available to be applied to the cane industry's most commonly used and favoured phosphorus fertiliser ingredient," he said.

"Using eNpower 18:20 will help keep the nitrogen from DAP where it's needed for longer, for stronger plant cane and improved yields and quality in the long run."

He also believes it will be valuable for vegetable growers looking to better match nutrient supply and demand using current equipment and practices.

"By switching to eNpower 18:20, growers can ensure the nitrogen is stabilised in the ammonium form for a number of weeks, so it's in the crop's root zone where it is needed," Mr Dwyer said.

"Most crops, including potatoes, can take up ammonium nitrogen, so there will be no delay in the availability of nitrogen by switching from DAP to eNpower 18:20.

"In fact, eNpower 18:20 can help promote quality and consistency in produce in crops like broccoli, potatoes, sweet corn or lettuce by reducing the incidence of nitrate flushes."

Incitec Pivot Fertilisers is selling eNpower 18:20 through accredited advisers who have proven their understanding of the product by satisfactorily completing a training course and assessment. To find out more about becoming accredited to sell eNpower 18:20, contact your local Incitec Pivot Fertilisers Regional Business Manager.

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eNpower™ 18:20

Organisation FERTCARE®

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AFSA
Australian Fertiliser Services Association

5TH - 7TH AUGUST 2020 -

SAVE THE DATE

2020 NATIONAL CONFERENCE FOR AFSA MEMBERS
(and others involved in the Fertiliser industry)

Fertiliser Fuelling Production

Dates: 5th - 7th August 2020

Location: The Bend Motorsport Park
(near Tailem Bend, one hour from Adelaide)

This conference is in the early stages of planning but it promises to be an excellent event!

At this stage we are looking at holding a bus tour on the 5th followed on the 6th/7th by conference, AGMs, meetings, displays, machinery demonstrations and other activities involving the racing track and facilities at The Bend.

More information will be available asap -
including accommodation options and keynote speaker

FACE TO FACE FERTCARE TRAINING OPPORTUNITIES

Jeff Kraak

Course	Location	Date	Provider
Fertcare A	Launceston Tas	3 & 4 Dec 2019	Peter Verrion E: pverrion@gmail.com M: 0467 922331 (TBC)
Fertcare A	Adelaide SA	4-5 Feb 2020	
Fertcare B	Perth WA	11 Dec 2019	Back Paddock Company E: training@backpaddock.com.au P: 07 3220 2959
Fertcare C	Mackay Qld	12 Nov 2019	
Fertcare C	Bendigo Vic	19 Nov 2019	
Fertcare C	Adelaide SA	20 Nov 2019	
Fertcare C	Perth WA	10 Dec 2019	
Agronomy in Practice (includes Fertcare C)	Horsham Vic	22 - 24 Oct 2019	Nutrient Advantage E: na.trainingcentre@incitecpivot.com.au P: 1800 803 453
Agronomy in Practice (includes Fertcare C)	Townsville Qld	26-28 Nov 2019	
Agronomy in Practice (includes Fertcare C)	Adelaide SA	10-12 Dec 2019	

Remember Fertilizer Australia and AFSA members are eligible for a discount (typically $70/person).

Fertcare training can contribute to Agsafe reaccreditation.

More information on Fertcare training can be found at http://www.fertilizer.org.au/Fertcare/Fertcare-Training

FERTCARE® ACCREDITED ADVISOR PERFORMANCE STANDARDS UPDATED

Jeff Kraak

The Sampling and Interpretation sections of the Fertcare® Accredited Advisor (FAA) Performance Standards have been updated. Agronomists are encouraged to review the new standard and change their practices to reflect the new standard, if need be.

The FAA Performance Standards describe what is expected of FAAs. This is the standard Fertcare Approved Auditors are comparing against when they review a sample of advisors recommendations.

As a result of a recent review, the ASPAC Fertcare Committee have endorsed changes to the Sampling and Interpretation sections of the Performance Standards.

Changes to the FAA Performance

Below is a summary of the changes to the FAA Performance Standards which come into effect from December 2019. Standards

Course	Location
1.5 Sampling Records & Observations	• The sampling approach used must adhere to the Fertcare Soil Sampling Guidelines. • The sampling approach used must be described as part of a recommendation report. • Sampling locations recorded by GPS co-ordinates. Recording should include individual sampling transect or cluster locations making a composite sample.
3.2 Local Knowledge Interpretation Criteria	• The evidence used as the basis of revising a system generated nutrient rate recommendation needs to be documented and availalbe for external review.

The FAA Performance Standards can be found in Appendix II of the FAA Participant Manual.

If you have not already done so, please take the time to read the Fertcare Soil Sampling Guide.

FERTCARE RECOGNIZED IN GREAT BARRIER REEF CATCHMENTS

Jeff Kraak

The Department of Environment and Science will be providing sugarcane producers, banana growers and graziers one-off rebates of up to $1,000 to offset the cost of obtaining professional agronomic advice. This advice must be related to nutrient and sediment management that will assist in meeting minimum practice standards and water quality targets, established under the Reef 2050 Water Quality Improvement Plan 2017-2022 in the Great Barrier Reef river catchment zones.

The rebate will only be available to commercial primary producers who obtain advice from Accredited Agricultural Advisers (AAA) that are approved and listed on the Queensland Rural and Industry Development Authority (QRIDA) website.

Following discussions between Fertilizer Australia, QRIDA and the Office of the Great Barrier Reef (OGBR) an advisor who has a current Fertcare Accredited Advisor (FAA) certificate will be deemed to demonstrate the eligible criteria to be an AAA. All FAAs operating in GBR catchments are encouraged to apply. If you don't have an existing QRIDA portal account, you will need to register to create an account to submit your EOI application.

For more information on how to renew your FAA status, go to www.fertilizer.org.au/Fertcare/Trusted-Advisors/Maintaining-Your-Fertcare-Accredited-Advisor-Status. For most advisors, the Fertcare Qualifying and Interpretation Systems section of this webpage will be most relevant.

FAA recognition is a further step above Fertcare C. A Fertcare C certificate by itself does not meet the AAA eligibility standard.

More information on how to be recognised as a FAA can be found at:
www.fertilizer.org.au/Fertcare/Trusted-Advisors/How-to-become-a-Fertcare-Accredited-Advisor

PL AND PI: WHAT THEY MEAN AND WHY YOU NEED THEM

Mandi Noether

Do you know the difference between public liability and professional indemnity? For professionals in the fertiliser service sector, including suppliers, it's important to understand both these types of insurance cover and how they apply to your business practice.

For many – agronomists who provide soil analysis, advice and products, for example - PL and PI may overlap. The critical thing is that you know how they protect you and that your coverage is adequate.

Farmers all over Australia rely on fertiliser services providers to maintain profitability and to overcome soil constraints on their properties. Fertilisers may represent their largest business investment, while environmental issues such as runoff and leaching into waterways are risks that need to be managed.

Legal liability

Under Australian legislation we are legally liable if we directly or indirectly cause others loss, injury or damage. 'Indirectly' can refer to products, employees or the business itself, or the effects of failing to take a particular action (negligence).

A legal case can be very costly, not just in damages payments, but also the costs involved in defending yourself, and this applies even if the allegations against you are ruled to be unfounded. Public and products liability covers you for both.

How much cover do you need? That depends on your business activities and the products you sell. If you manufacture, distribute, transport, sell or spread fertilisers you need to factor the cost of something going wrong into your insurance limit.

Bear in mind that for all our easy-going reputation Australia is second only to the United States in the size of court awards for personal injury, with the highest single claim at an eye-watering $19,000,000 – and half of that was for legal costs.

Do you also carry out analysis and provide advice? In that case you also need professional indemnity insurance that provides protection against your customers being dissatisfied with the service that you deliver.

Case study

After having fertiliser laid on his paddocks the farmer customer informed the supplier that his animals were suffering from yield loss and the pasture growth had been sub-optimal.

It turned out the nitrogen and potassium ratio had been mixed in incorrect proportions, with too little nitrogen and too much potassium, an error on the supplier's behalf.

Laying more nitrogen helped partly fix the problem but could not compensate for the overuse of the potassium. Fortunately the contractor had PL insurance so he claimed on his policy which covered both the settlement to the farmer and associated costs.

Get help with your cover

A trusted insurance broker with industry understanding of the fertiliser services sector and the exposures involved can help you determine

- the level of insurance you require – don't try to cut costs on this because you and your assets can be garnished if there is a shortfall
- excess options
- entities and people to be covered
- whether you need a bundled business solution, a separate broad-form liability policy or a package that includes public liability and professional indemnity.

Questions to ask your broker include checking what exclusions apply and what endorsements you might need to tailor your insurance cover to your individual business's operational requirements. Recently some insurers have been applying chemical overspray exclusions to their PL cover and this is the sort of potential gap your insurance broker can help you avoid.

You should also ask them to explain what you need to do if an allegation is made against you or your business because your immediate response can influence the outcome of your claim.

If you would like to find out more about PL and PI and how they can protect your business feel free to contact Gallagher industry specialist Mandi Noether for a chat or to arrange a free of obligation review of your current insurance arrangements.

Mandi Noether
Account Executive
P: 03 5336 6913
M: 0427 105 350
E: mandi.noether@ajg.com.au

Insurance done right

Just as you need the perfect fertiliser mix for specific soils, you also need the right insurance plan for your business's unique risks.

Gallagher are experts at providing tailored insurance for the fertiliser services sector. That's why we're the proud insurance partner of AFSA – **and have been for 30 years.**

Our **Truckpac** policy is a perfect fit for many fertiliser businesses, but we can also manage all elements of your business insurance including:

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- Public liability
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- Cyber insurance
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- Business interruption
- Key person insurance

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info.ajg.com.au/afsa

If you'd like more info on our range of insurance products and services call us today on 1800 572 145 or visit info.ajg.com.au/afsa

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HOW FERTILIZER COMPANIES ARE USING TECHNOLOGY TO STAY RELEVANT

Louisa Burwood-Taylor

Charlotte Hebebrand, is director-general of the International Fertilizer Association (IFA), a nonprofit organization that represents the global fertilizer industry, on issues related to the promotion of plant nutrients, improvement of the operating environment of the member companies and the collection and compilation of industry information. We caught up with her to find out how the industry is reacting to the wealth of new innovation coming into the sector.

Can you give us an insight into the current state of the fertilizer industry?

The consumption of fertilizers has grown nearly six-fold between 1961 and 2015 (from 32 to 184 million nutrient tonnes), to keep up with a population expanding from 3.1 billion to 7.4 billion during the same period. Today, fertilizers feed about 50% of the world's population which amounts to around 20 billion meals per day.

In 2014, the combined value of the production of nitrogen, phosphate and potash raw materials was estimated to be $302 billion, while the sales value of products sold by fertilizer companies was $172 billion.

Fertilizers are by far the largest sector of the input market, compared to estimated current sales volumes of global crop protection at around $60 billion, crop seed and biotech at $45 billion, and biologics at $5 billion. Between 2015 and 2019, the global fertilizer industry is estimated to have invested between $86 and $91 billion in new mines and fertilizer-producing facilities, with a similar amount of investment occurring between 2010 and 2014

The fertilizer industry also makes a major contribution to employment and is responsible for almost one million jobs in production around the world, plus significantly more when also accounting for indirect jobs.

What is the biggest challenge for fertilizer use?

The environmental footprint of fertilizers – both in terms of production as well as application – must shrink, but this cannot happen at the expense of higher agricultural yields, considering that we may have close to 10 billion people to feed by 2050.

The bulk of the fertilizer industry's energy demand, approximately 87%, is used for the production of ammonia using natural gas or other hydrocarbon feedstocks such as coal, to produce nitrogen-based fertilizers through the Haber-Bosch Process. While production plants built today with the most advanced technologies use 30% less energy per tonne of ammonia produced compared to older plants, the process remains energy intensive given the widespread use of fossil fuel feedstocks. Using techniques such as hydrolysis, powered by renewable energy, to produce so-called "green ammonia" could be a huge breakthrough, and may come into reach as renewable energy becomes more affordable.

On the application side, to make fertilizer more sustainable, it is vital to improve nutrient use efficiency (NUE): the ratio between input of nutrients and output in terms of the nutrients taken up in the harvested crop. By increasing yields on existing farmland, higher NUE can help further preserve wild ecosystems, increase carbon capture through soil organic matter and reduce the estimated 1.5% of global greenhouse gasses that are currently produced by fertilizer application.

According to the EU Nitrogen Expert Panel, an optimal NUE should be in the range of 50%-90%, while the average global NUE is currently around 45%-50%. Although some cropping systems in West Europe, Brazil, the US and Japan currently achieve around 70% NUE, other countries, such as China still have relatively low NUE, although it has already been improving for almost a decade. it's important to keep in mind that a very high NUE (above 90-100%), such as we see in many parts of Sub Saharan Africa, signals that more nutrients are being removed by crops than introduced into the system, which leads to nutrient mining and poor soil health.

NUE needs to be improved by digital tools to help fertilizer decision-making and application, using climate-smart fertilizers that show enhanced efficiency, and, in the case of some regions such as sub-Saharan Africa, by ensuring greater access to fertilizers, to help all farmers achieve the 4Rs of Nutrient Stewardship: applying the Right nutrient source, at the Right rate, at the Right time, in the Right place. The 4Rs can be greatly facilitated by precision ag tools such as digital platforms, sensors and artificial intelligence, which can all help to improve fertilizer recommendations and more precise and targeted fertilizer application.

What is the fertilizer industry's approach to R&D?

While we do not have precise figures, the fertilizer industry is often seen as investing significantly less in R&D compared to other input industries, explained in part by the fact that it is still largely a commodity business.

An increasing number of fertilizer companies are beginning to invest into non-traditional segments like biologicals and digital tools, however, as they look to become full-service plant nutrition solution providers.

Recent examples include:

1. In April 2018, Nutrien launched a digital ag platform to help farmers better manage the timing of planting, fertilizer application and harvesting using weather and soil data. Since then the company has made seven additional major acquisitions and partnerships including several biologicals and digital AgTech firms.

2. In November 2017, Yara acquired the maker of Adapt-N, a computer modeling system that predicts precise crop application rates using weather data, field conditions and best soil management practices, to reduce nitrogen application rates and losses while increasing yields. And this year, Yara launched Yaralrix, a precision farming tool that allows farmers to measure crop nitrogen requirements with portable testers that connect to smartphones to make recommendations, as well as a partnership with IBM.

3. In June 2018, Morocco's state-owned phosphates company OCP acquired a 20% stake in Fertinagro Biotech, which manufactures and supplies a wide range of plant nutrition solutions, to bolster their know-how in product customization and innovation. The producer has also founded the agriculture-focused Mohammed VI Polytechnic University, opened in 2017 in Morocco, which provides university scholarships for African agricultural and environment engineering students. In June this year, it launched a startup acceleration program for Agtech, Biotech, Nanotech and MiningTech entrepreneurs.

4. In 2012, Israeli fertilizer and specialty chemicals company ICL launched ICL Innovation to accelerate the development of sustainable new products which announced a collaboration agreement with PlantArcBio earlier this year for the development of innovative crop productivity enhancers for agriculture. In May 2018, ICL announced an investment and partnership with ag analytics firm CropX as part of its strategic decision to invest in and develop precision ag solutions.

5. US group Koch Agronomic Services has been focusing on biologicals for a few years with the acquisition of the biological research and development business of Mendel Biotechnology in 2014 and by taking a minority of stake in microbial science company Pathway BioLogic in 2016.

What new innovations are cropping up in the fertilizer industry?

The range of agtech startups presented at the inaugural Plant Nutrition Startup Showcase during IFA's Annual Conference in June with significant interest from IFA members helped to highlight the numerous possibilities for innovative products to improve NUE.

There is considerable potential in developing new fertilizer products and techniques that better synchronize nutrient release with plants' needs. Researchers at the University of Adelaide, for example, have developed a new material that offers both fast and slow release boron to better match the needs of crops, as well as a manufacturing process that increases the solubility of zinc in fertilizers, improving crops' early growth.

Another area is new materials to help nutrient delivery, such as nanoparticles and graphene, as well as solutions that help with the fourth aspect of the 4Rs, namely the right place for fertilizer application. Replenishing soil nutrients by placing fertilizers in depths of 20 to 60cm, known as subsoil fertilization, for example, can potentially increase yields from 50 to 100%, according to studies, so developing methods for affordably delivering fertilizers to those depths could be very significant.

In addition to precision ag tools to further improve fertilizer efficiency, other areas with potential for innovation include products that can improve plant resilience to flooding and droughts, organo-mineral offerings that combine organic and mineral fertilizers, and products mixing mineral fertilizers with biologicals and biostimulants.

On the production side, the industry is also developing techniques to produce "green ammonia" entirely from sustainable, carbon-neutral inputs, like biomass or renewable electricity. With a number of pilot projects currently in operation focusing on electrolyzers, and next-generation technologies such as electrochemical processes, photocatalytic devices, and advanced nuclear concepts being developed, the industry may in the future be producing low-cost, carbon-neutral nitrogen fertilizers.

Nutrient recycling is another growth area, with the fertilizer industry and many start-ups actively pursuing phosphorus, potassium and nitrogen recycling to support sustainable agriculture and the circular economy. The major objective needs to be to develop fertilizers from recycled nutrients that have a higher than normal and more consistent nutrient concentration than traditional organic fertilizers, making them more economical to move over larger distances.

Several plant scale trials from producers including ICL are already under way to replace mined phosphates by recovering phosphorus from a variety of ash materials. These secondary sources of phosphate include meat and bone ash, sewage sludge ash and struvite (containing between 20 and 35% P2O5). Wastewater nitrogen recovery facilities have also been built by producers such as Yara.

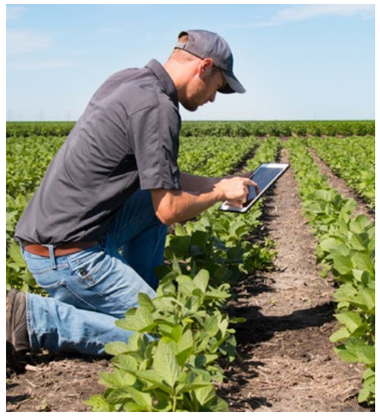
How do you see the future for fertilizer use and for the fertilizer industry?

We expect the environmental footprint of fertilizers to come under increasing scrutiny with growing pressure and new regulations from governments to improve NUE. This is already happening in developed as well as developing countries and may accelerate further in line with initiatives coming from the United Nations. Efforts by the fertilizer value chain and other stakeholders to help farmers improve their nutrient management performance are anticipated to produce a steady enhancement of the average global NUE.

It is hard to generalize but, in some regions, where fertilizers may be overapplied, as farmers become more efficient at using fertilizers, the demand in terms of nutrient tonnes may slow down. On the other hand, the need for more balanced nutrition, which includes all the major, secondary and micronutrients, provides for tremendous growth opportunities. Moreover, fertilizer demand will need to increase in some regions, which are under-fertilized, such as parts of Africa, Latin America, Eastern Europe and Central Asia.

There is also great scope for using micronutrient fertilizers to address micronutrient deficiencies not just in soils, but also in humans and animals. Applying micronutrients to soils is considered to be one of the most promising ways to fight malnutrition and alleviate nutrient deficiencies worldwide, especially for zinc, selenium and iodine. This method has been shown to be particularly effective for increasing the concentration of zinc in grains.

The fertilizer industry will increasingly focus on value over volume and look to offer a range of products and services to improve not only agricultural yields, but also plant, soil and human health.



GRAYMONT

Graymont Aglime applied prior to the pasture planting is major part of the program.

"We usually incorporate Aglime around our autumn cultivation time, when we are re-sowing our pastures."

"The growth of our new pastures is really accelerated compared to the older pastures."

"Aglime is an important part of the puzzle, and the growth of our new pastures is really accelerated compared to the older pastures."

Mark Hammond, Gippsland, VIC

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AG LIME AN IMPORTANT PIECE OF THE PUZZLE FOR GIPPSLAND DAIRY

Graymont Aglime

The use of agricultural lime prior to the planting of pastures is major part of the program each season to ensure good feed options for dairyman Mark Hammond, of Labertouche, in the Gippsland region of Victoria.

Mr Hammond said they milked up to 650 cows on the property, with perennial ryegrass being the base feed throughout the year.

It is grazed through the winter and early spring and then locked up and harvested for silage, which is then utilised across summer.

"We try and harvest as much silage in our spring, when it is surplus, so we've got that through the summer to feed," Mr Hammond said.

Turnips and chicory are also grown over summer and maize silage bought in as another option.

"Maize silage fills our winter gap. We feed that to the autumn cows at joining and we carry enough maize to feed our springers, as they're calving, in the spring time."

He said growing successful pastures could be put down to a number of factors which included paddock preparation, nutrition and weather conditions.

"I think it all marries in together and if you have a piece of the puzzle missing, it just doesn't quite fire as well as it potentially could."

"Ag lime is an important part of the puzzle and the growth of our new pastures is really accelerated compared to the older pasture."

He said the ag lime was normally applied around the autumn cultivation just after a turnip crop or replacing a poorer performing pasture.

Mr Hammond has been on the property for seven years and across that time nearly every paddock has had an application of ag lime.

"It has taken us between five to seven years to get around and improve nearly every paddock. We've been able to build a really good base level here now and we've just improved every year. We are at the point now of just maintaining everything and keeping it constant. So we're quite happy with that."

He said they used consultants on the dairy for genetics and herd nutrition and also relied on the company Gippsland Bulk Spreaders, from Drouin, for advice on soil nutrition.

"They've guided us which way we should be going with things and on the amounts and tonnages we need. We do a soil test around Christmas time so I've got a plan of attack running forward for the autumn."

Maintenance applications of ag lime are normally up around the 2.5 tonnes per hectare mark with the ag lime sourced from the Graymont facility at Buchan in East Gippsland.

Mr Hammond said there was good accessibility to Buchan and they were often able to get product at short notice to take advantage of weather conditions.

He said they would incorporate the ag lime in the autumn cultivation rather than putting it across an existing pasture.

The perennial pastures are normally sown in March to take advantage of early moisture and warmer conditions.

"I think the sooner you can get going, the sooner you can start grazing. Then we can get some traffic on the paddock and firm it up before it gets into winter."

Mark Hammond, of Labertouche, Vic, uses applications of ag lime prior to sowing perennial pasture on the property.

CHANGE IS INEVITABLE, BUT THAT DOESN'T MEAN IT HAS TO BE HARD

Krysteen McElroy

CHANGE! Did you know that our brains have evolved to view change as mostly threatening? Often with good reason, change is hard but is also almost inescapable! There is so much that is changing, so much that needs changing and there may even be some that appears to be unchanging.

To be successful we have had to adapt and change regularly – and in the words of singer, Roger Voudouris way back in 1979 – "You'd better get used to it" as change is one of the constants in life!

Almost thirty five years ago, I began my first office job working at the local car dealership. My role was to take care of all things office admin – typing letters, paying accounts and receiving money – all cash and cheques. And then reconciling it all at the end of the month.

I was an expert at the large electric calculator that sat on the desk. Finances were recorded by hand in a large accounts book – and added up at the bottom of each page before being carried over to the next page.

Bank reconciliations were all manually done – which meant knowing exactly where the numbers came from, which column they needed to go in and not missing any or entering of numbers incorrectly.

Letters and quotes were all typed on the trusty typewriter - using carbon paper to make the copy, which always resulted in black marks everywhere.

Phones sat on the desk and had a cord attached – you could only reach farmers at lunch time or at night and you had to chase someone down by foot if a caller needed to speak with them.

The best part was we had a fax machine – instant communication with the wider world – or so we thought!

Remember the beautiful shiny roles of paper that required an engineering degree to load into the machine? And when you needed to access the fax weeks down the track, the ink had faded and you couldn't read it anyway?

Thankfully, over time we have seen a lot of changes.

The computer, laptop and now hand held devices manage all of these tasks – and mostly it is much easier – we have paper (or electronic) trails and access to the world at the touch of a button.

Phones fit in our pocket or wherever else you like to stash them – and we are all able to communicate with the world in any given moment from almost any given location.

BUT what about all those wonderful old machines, the desktop calculator, landline phone and the fax machine? They are virtually obsolete now, but in their day – we thought they were just brilliant.

I am sharing this with you because I wonder if the associations you are a member of, and maybe even your business, are like the fax machine? Still working, but not needed, used and valued like you were in the past.

In her recent paper, Belinda Moore from Strategic Member Solutions, has outlined the dramatic changes affecting associations (and businesses) right now. She identified the changes that are coming, how to get things in order and how to strengthen operations.

The two concepts she has highlighted as being the most important are:

- Urgency because changes are occurring now and quickly
- Congruency (integration) because while each change is significant on its own, they are not occurring in isolation of each other – they are all occurring together

Associations and businesses with the will and capacity to change have the opportunity to become stronger than ever before by creating highly connected and engaged communities that fulfil members' and customers' needs. Conversely, those that get stuck in the past, in existing processes and offerings, will be left by the wayside.

Where are the changes coming from?

- ✓ Technology
- ✓ Generations
- ✓ Competition
- ✓ Tangibility – the desire for measurable outcomes
- ✓ Personalisation – knowing the differing market segments
- ✓ Community – understanding market segments v tribes

Due to the fact that we are all drowning in a never-ending stream of communications, associations are no longer the only providers of information that they once were. They are now the facilitators of meaningful interactions between members and their greater industry or professional community.

There is no doubt that change is hard, and that it comes with some perceived loss, but it can also bring about incredible growth for the those that become involved in the process – but you must be willing to meet the challenge.

I invite you to consider how changes could be made to ensure that your business and associations, particularly AFSA, remain valued and relevant.

How can you be part of the growth that comes from the inevitable changes?

- ? Make a call or send an email to share your thoughts with AFSA staff or a Board member.
- ? Are you doing something that others would be interested in or have an issue you can't solve? Maybe you could host an AFSA regional gathering (meaningful interaction)
- ? Come to the conference in South Australia in August 2020 – keep the ball rolling and be part of the change!

But the time for action is now - don't get left behind.....

DISCLAIMER – All views expressed in this article are my own and may not represent the opinions of any entity whatsoever with which I have been, am now, or will be affiliated with. These views may also not represent the opinions of all, or any, AFSA Board member.

Source: The Association Report, August 2019 www.answers.net.au

Source: forever skills, Kieran Flanagan & Dan Gregory

How can you convince someone to make changes?

Principle 1	Be sincere. Do not promise anything that you cannot deliver. Forget about the benefits to yourself and concentrate on the benefits to another person (or to the association)
Principle 2	Know exactly what it is you want the other person to do
Principle 3	Be empathetic. Ask yourself what it is the other person really wants
Principle 4	Consider the benefits that person will receive from what you suggest
Principle 5	Match those benefits to the other person's wants
Principle 6	When you make your request, put it in a form that will convey to the other person the idea that we personally will benefit

Source: "How to win friends and influence people" by Dale Carnegie

KNOW YOUR SOIL HEALTH: IS IT TIME FOR A CHECK-UP?

Dr Melissa Fraser & Claire Dennerley
PIRSA Rural Solutions SA

Broadacre farmers and graziers are in the business of converting rainfall into plant biomass that is either removed as grain or hay or converted into red meat, milk or wool. On many Australian farms, the water-use efficiency of the system (kg of product produced / mm of rainfall) is often constrained due to sub-optimum soil health.

It's easy to think of soil merely as the growing medium that supports root structures and holds plants up; in reality soils are complex ecosystems that contain chemical, biological, hydrological, respiratory and physical processes that interact to supply plants with what they need to grow. If one of these processes is hindered, one or more of the others tend to suffer too and the consequences for plant growth are often dire.

Whereas 'soil health' is a term well understood in agriculture and natural resource management, it is often poorly measured and monitored on-farm. Just as an annual health check is important for us humans, regular assessment of soil health status is vital to ensuring the optimum fertility and function of your farming system.

Diagnosis and treatment

Careful diagnosis is the key to unearthing the causes of productivity decline and stopping any deleterious problems in their tracks. The old adage "you can't manage what you don't measure" is certainly applicable when it comes to soils!

Considered diagnosis of the whole soil system, particularly below the top 10cm, enables the best treatments to be identified and implemented to optimise plant health and productivity. What to measure:

#1: Water repellence

Water repellence is a common problem on sandy soils, with waxes from decayed organic material coating grains to make them hydrophobic (lucerne and lupins are common culprits). This impedes water infiltration, affecting seedling germination early in the season.

Figure 1. Soil is strongly water repellent if a droplet of water remains on the surface for longer than 60 seconds.

Many soil laboratories offer the Molarity of Ethanol Droplet (MED) test as a means to assess the severity of repellence.

Treatment:

- Wetting agents (surfactant) or water retaining agents (humectant) applied at sowing to improve germination.
- Edge row sowing, furrow openers.
- Deep cultivation to bury and/or dilute the surface layer: Plozza plough, spader or offset discs.
- Clay spreading provides a permanent solution.

#2: Acidity

Acidity is a severe soil degradation problem that can greatly reduce the productive potential of crops and pastures. Diagnosed with a pH test, which measures the amount of hydrogen ions in a 1:5 soil water solution (or calcium chloride), a soil is considered acidic when the pH (in water) falls below 6.5. It is important to know if your soil is becoming acidic, and looking below the surface 10cm is crucial.

Figure 2. Assessing the pH down the soil profile can help to find discrete bands, or acid throttles, which can hinder root growth and exploration (Photo courtesy of Catherine Miller, Fairfax Media).

Use a field pH kit (Fig. 2) to assess pH in the paddock, digging a hole to at least 30cm. Follow the instructions on the box and record the pH for different depths in the profile. Aim to keep the soil pH >6 on an indicator card.

Alternatively, collect samples from similar soil types in a paddock (in 5 to 10cm increments) and submit to a lab for 1:5 assessments in water or calcium chloride. Aim to keep the surface pH in water >6 or pHCa >5.5 for cropping soils.

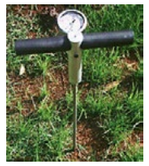
Treatment:

- Acid soils must be limed – lime it or lose it!
- Lime treats acidity by neutralising the acid reaction in soils. The carbonate component of lime consumes hydrogen ions in the soil solution and in doing so raises the pH.
- Liming is the only cost effective way to manage acidity and is best applied to prevent acidification in the first instance.
- Soil texture, rates of nitrogen fertilisation, rate of product removal, rate of lime applied and desired pH all affect liming frequency.
- Lime can come from a variety of sources with different qualities and effectiveness. If soil magnesium levels are low, consider using dolomitic lime.
- Calculators are available on the Ag Excellence website to calculate lime requirements and cost.

#3: Soil physical properties

High bulk density, which can be natural or induced by farm machinery (compaction), and high penetration resistance (soil strength) are both soil physical issues that inhibit root exploration. Problems associated with poor root growth will be most obvious in dry years when water is limited and plants are more dependent on deeper soil water reserves.

Bulk density (BD) can be measured using a steel ring of a known volume. Collect an intact sample and dry the soil in the oven at 110°C, weigh the dry soil and calculate the BD in g/m3. Aim to keep the BD <1.6 g/m3.



A penetrometer is used to assess penetration resistance (PR; measured in kPa) and is best performed when the soil is moist throughout (field capacity). Aim to keep the PR <2500 kPa.

Figure 3. You can buy a penetrometer from www.themeterman.com.au

Treatment:

- Compacted, consolidated or hard setting soils may benefit from being physically disturbed but where soils are dispersive (see below) the addition of gypsum or organic material is required to prevent soils from becoming even denser.
- Spading will provide uniform disturbance across the top 30cm of the profile.
- Ripping is also effective; target the depth to reach below the layer of compaction.

#4 Sodicity

Sodicity is a measure of the amount of exchangeable sodium in the soil, in comparison to calcium, magnesium and potassium; it is commonly reported as the ESP on a test result (exchangeable sodium percentage). Elevated ESP results in the dispersion of clay particles that can block soil pores, impeding infiltration and drainage, resulting in boggy, crusty and pugged soils. They commonly set very hard when they are dry; much like cement! A soil is classified as sodic when the ESP exceeds 6%.

Spontaneous dispersion (an indicator of sodicity) can be assessed by placing a few soil aggregates in a dish of distilled water. If the water becomes cloudy with fine clay particles, you can suspect the presence of sodium in your soil.

Send soil samples (0-10, 10-20, >30cm) to the lab for an assessment of the exchangeable cations to determine the presence and severity of sodicity.

Treatment:

- Correcting sodicity is best achieved by applying calcium to the soil.
- In soils with pH>7, gypsum (calcium sulphate) is the best option.
- Lime (calcium carbonate) can be used to treat a sodic soil that is acidic.

#5: Nutrient fertility and biological cycling

Monitoring soil nutrient fertility over time provides an indicator of whether nutrients and carbon are being maintained or mined in your system. All commercial labs measure nitrogen, phosphorous, potassium, sulphur, exchangeable cations and organic carbon in their basic soil test suites. Electrical conductivity, trace element concentrations and clay content can also be requested. Interpretation guidelines are usually included with test results but to derive the most benefit, recommendations should be tailored to your soil type. In-season tissue testing can also provide a useful indicator of nutrient availability to the plant, rather than total nutrient concentration in your soil. Your local agronomist or consultant can assist with sampling and result interpretation.

Treatment:

- Correct nutrient deficiencies by applying and incorporating a complete package of specific fertilisers.
- Apply and incorporate organic amendments such as legume based hay or pellets, chicken manure, compost or prilled materials to boost organic carbon and supply nutrients (primarily nitrogen).
- Combine nutrient fertilisers + organic amendments to supply all required nutrients.

Diagnosing the different types and severity of constraints in your soil is the crucial first step to take when seeking to increase fodder and crop production on your farm. Contact your local agronomist or advisor for advice and assistance on how, where and when to collect strategic soil and plant samples for assessment.

Vol. 40 No. 3___November 2019

WHAT IS ACCU-SPREAD®?

The Accu-Spread® logo provides professional contractors and natural resource managers with peace of mind; knowing farmers that the correct rate of fertilizer is being applied exactly where they want it in the landscape.

Uneven application means some areas of the paddock receive insufficient fertiliser and yield may be reduced in these parts of the field, while other areas receive more than the crop requires which both reduces profit in these parts of the paddock and significantly increases the risk of off-site environmental damage. Independent analysis of uneven urea spreading has revealed it can easily result in $25 - $40/ha reduction in wheat return for southern Australia.

Accu-Spread® is a programme that involves the independent testing and accreditation of fertiliser spreading equipment for accuracy and evenness of spreading.

It contributes significantly to quality assurance, productivity improvement, environment sustainability and management of risk. When a machine is Accu-Spread® accredited, the operator will know the capacity of the machine to apply a number of nominated products to an industry standard of accuracy.

Regular Accu-Spread testing is a key component of a spreader operator being able to provide quality assurance to clients. Untested machines may be spreading unevenly, leading to striping in topdressed crops, to costly liability claims and therefore unprofessional and unreliable service.

The primary benefits of having an Accu-Spread tested machine are to:

- Optimize returns from fertiliser investments through even application
- minimise environmental damage through over application of nutrients
- ensure the appropriate amount of fertiliser is evenly applied
- provide operators with information about the performance of their machines
- provide farmer customers with confidence that spreader operators are accurately applying the right amount of fertiliser in the right place
- improve efficiency for spreader operators
- improve operating standards in the industry
- provide operators with a risk management tool in the form of an independent test of the performance of their machine.

Farmers and fertiliser spreading contractors are encouraged to have their machines accredited under the Fertcare Accu-Spread program, so that they know the spread pattern of their machines. If they don't have this information they will not know whether they are spreading the right amount of fertiliser in the right place.

An improved understanding of the performance of the spreading machine will enable modifications to optimise performance, reducing operating costs and improving the productivity outcome for the farmer.

Accu-Spread is a key component of the Australian fertiliser industry's Fertcare initiative and for more information go to www.fertcare.com.au and click on Accurate Spreading.

An Accu-Spread tested machine and a Fertcare trained operator are essential elements in best practice fertiliser application.

The following business' have Accu-spread accredited machines
Agri FertiliserServices
Agrispread Australia
Agvance Rural Services Pty Ltd
Altrac Spreading
Baileys Fertiliser
Browns Fertilisers
Clarke Bros
Crossling Contractors
Dellavedova Fertiliser Services
Earley Spreading Pty Ltd
Fertspread
Gibsons Groundspread
Gippsland Bulk Spreaders Pty Ltd
Glenvincent Holdings Pty Ltd
Gorst Rural
Harringtons Spreadmasters
Henry Fertiliser and Freight Services
J and J Spreading
Korumburra Lime and Spreading
Kuhn Machinery
Landmark Kerang
M & J Moffat Groundspreading
McDougalls Fertiliser Services Pty Ltd
Murray Goulbourn Trading
Nichol Trading Pty Ltd
Quinn Transport and Spreading Services
Rich River Seeds& Fertiliser
Saxa Spreading Service
Swan Brothers Pty Ltd
Terrae Spreading
Vickery Brothers
Webber & Chivell
Wheelhouse Group
Whiteley's Fertilisers
Yenda Producers Co-op Society Ltd

Organisation	No of Premises
Ameropa Australia	19
Australian Mineral Fertilisers	1
Baileys Fertiliser	1
Bio Ag Ptd. Ltd.	1
Browns Fertiliser	3
CSBP Limited	7
D R Agriculture	1
Dual Chelate Fertilizer Pty Ltd	1
Fertspread	1
Incitec Pivot	61

Organisation	No of Premises
Korumburra Lime & Spreading	1
McDougalls Fertilizer Services	1
Nu-Edge Solutions Aust	1
Rich River Seeds & Fertiliser	1
Summit Fertilizers	5
Sustainable Liquid Technology Pty Ltd	1
Vickery Bros Pty Ltd	6
Webber & Chivell	1
Wengfu Australia Pty Ltd	1

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Damien Wyer, 0428 273 444

Jarrad Keyte, 0429 163 743
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John Forrest, 0457766552
forrej@bigpond.com

Fertcare Accredited Organisations

These organisations are licensed to use the Fertcare® Logos, incorporating the Fertcare trade mark, according to a license agreement.
The granting of a license is based on an organisation having 100% of eligible staff Fertcare trained and 100% of spreading machines Accu-Spread certified.

Refer to Fertiliser Australia website for more information

RURAL COMMODITIES WRAP

September 2019

KEY POINTS

Seasonal conditions remain at the forefront of concerns for Australian Agriculture. Weather conditions have been generally unfavourable across many winter cropping regions over the last few weeks, with frost, heat and a lack of rain menacing the crop. Yields in Western Australia and South Australia are under pressure, and are likely to be further dented by the dry spring outlook. Victoria should see the best yields nationally, although a dry spring will take some of the cream off. Meanwhile New South Wales and southern Queensland remain under intense pressure, with rain desperately needed ahead of summer crop planting.

Livestock markets remain fairly resilient despite the challenging season. Cattle markets remain reasonably sound given the seasonal challenges in some areas. Lot feeding continues to perform and processors are chasing quality finished stock. EYCI has drifted lower but at around 468c/kg amid drought conditions represents a fairly resilient price. Lamb prices remain hot, hovering at around 795c/kg for trade lamb. Whether this can be sustained through the spring is far from clear, although there is a possibility that supply will remain constrained, keeping prices elevated. Wool prices are starting to look quite crook and are likely to remain so absent any resolution to US-China trade dramas.

Temporary water prices in the Murray-Darling basin continue to surge, reflecting moribund inflows and very low allocations. This will continue to put pressure on northern Victorian irrigated dairy, although strong farmgate prices and a good season have confidence return to south-west Victoria and (to a lesser extent) Gippsland.

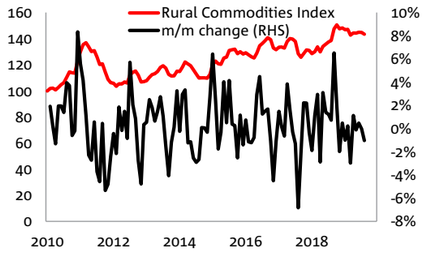
We now see the RBA cutting rates at least twice more, down to 0.5% by December this year, while the AUD is likely to remain in the 60s for some time.

MONTHLY COMMODITY PRICE CHANGES

	June	July	August
Wheat	▲ 8.4%	▼ 4.2%	▼ 3.5%
Beef	▲ 1.7%	▲ 5.9%	▼ 9.7%
Dairy	▼ 9.7%	▼ 2.5%	▲ 3.4%
Lamb	▲ 10.3%	▲ 5.4%	▼ 9.7%
Wool	▼ 5.0%	▼ 3.8%	▼ 8.6%
Sugar	▲ 5.3%	▼ 2.9%	▼ 1.9%
Cotton	▼ 3.2%	▼ 3.3%	▼ 3.4%

NAB RURAL COMMODITIES INDEX

Index and m/m % change



Source: NAB Group Economics, ABARES, Meat and Livestock Australia, Australian Pork, Ausmarket Consultants, Australian Bureau of Statistics, Bloomberg and Profarmer.

SEASONAL CONDITIONS

The Bureau of Meteorology's latest three-month outlook is best read sitting down. The outlook points once again to below average rainfall for most of the country. Only the Pilbara and Kimberley are forecast to see above average rainfall in the three months to December.

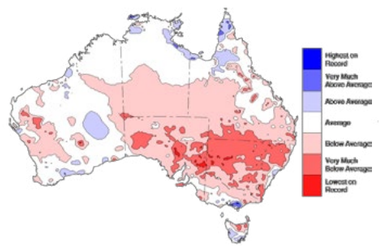
August rainfall was generally below average, with the notable exception of south-west Gippsland and parts of the Great Southern.

Root zone soil moisture is well below average, except for most of Victoria, Tasmania and parts of Queensland (but notably not the Darling Downs).

Most models suggest that ENSO is neutral and the Bureau's El Nino outlook is inactive for the coming months.

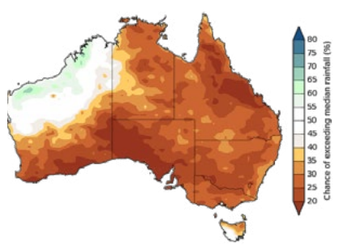
RAINFALL - AUGUST

Deciles



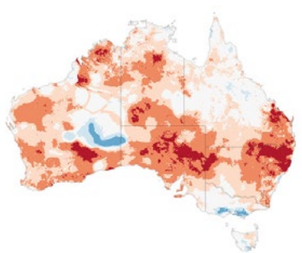
BOM RAINFALL OUTLOOK

October to December 2019



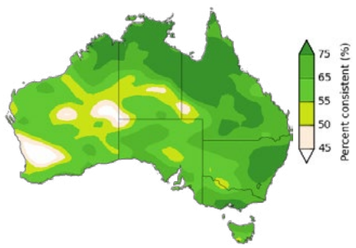
ROOT ZONE SOIL MOISTURE

Relative to average, 17 September



RAINFALL OUTLOOK ACCURACY

Past Accuracy for outlook period



Source: Bureau of Meteorology and NAB Group Economics

STATE PRICES

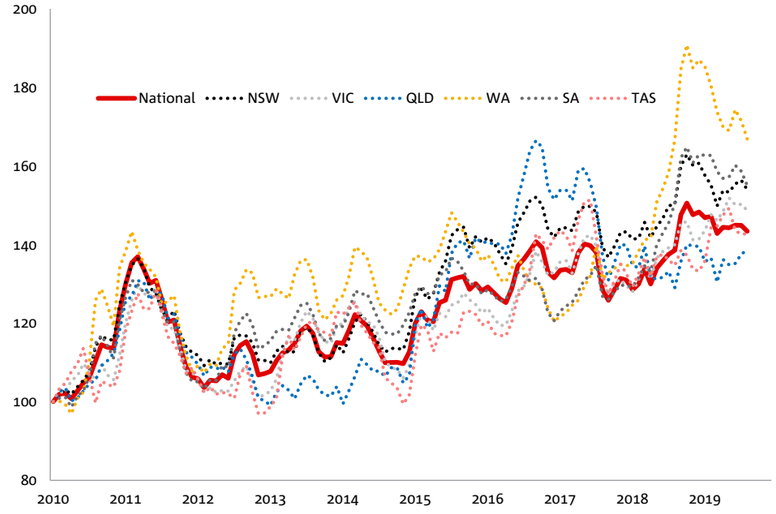
Overall, the NAB Rural Commodities Index fell 1.0% nationally in August on a month on month basis, but was up 3.5% on a year basis.

We also produce the NAB Rural Commodities Index on a state-by-state basis. Queensland again saw the best price performance in in August, up 1.7% on a month on month basis while Tasmania was flat. The other states were all negative, with Western Australia the weakest performer. A likely tough grain season may see WA prices rally later this year though.

Source: NAB Group Economics, Bureau of Meteorology, ABARES, Meat and Livestock Australia, Australian Pork, Ausmarket Consultants, Australian Bureau of Statistics, Bloomberg and Profarmer.

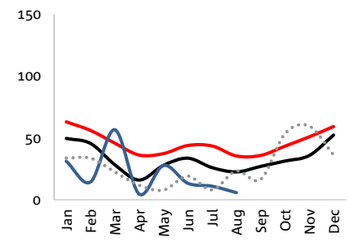
RURAL COMMODITIES INDEX BY STATE

Index value

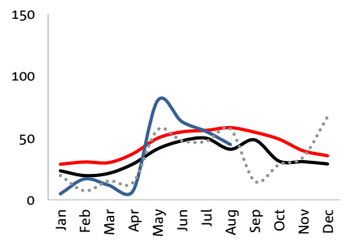


MONTHLY AVERAGE RAINFALL IN WINTER CROPPING REGIONS (MM)

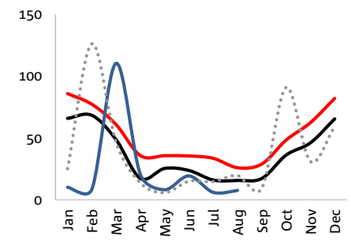
NEW SOUTH WALES



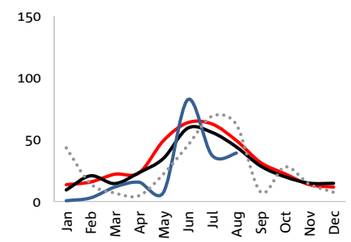
VICTORIA



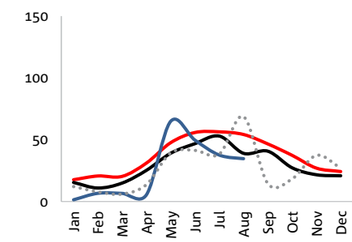
QUEENSLAND



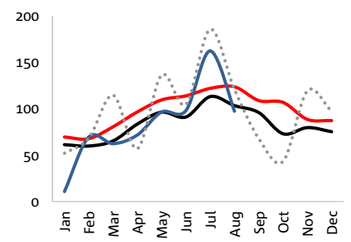
WESTERN AUSTRALIA



SOUTH AUSTRALIA



TASMANIA



Source: Bureau of Meteorology and NAB Group Economics

TO KNOW WHERE YOU ARE GOING, YOU HAVE TO FIRST KNOW WHERE YOU HAVE BEEN

Donald and Bronwyn Carter

Saving the environment..... Giving back to the environment and the community

In 2004, Donald and Bronwyn Carter of Laharum Bulk Handling Co Pty Ltd were the recipients of the Fertilizer Industry Eco-efficiency Award - also known as the Kookaburra Environmental Award.

Below is an extract from the application that was submitted by the Carters to Fertiliser Australia

Introduction

Laharum Bulk Handling Company Pty Ltd (LBH) is a private company owned and operated by Donald and Bronwyn Carter, based at Horsham in Western Victoria. The company has been involved in the fertiliser industry for over 20 years, and from small beginning, the operation has grown to become a major distributor and handler of all fertiliser products in the Wimmera area.

During the early years of operation, LBH sub-contracted its spreading operations to various operators around the region, however due to business growth, LBH started its own spreading business, and today the company operates three spreading machines. It is through this part of the business operation that LBH wish to display the advantages of "Accu-Spread" and "FertCare", towards efficiency and environmental responsibility.

As Principal, Donald Carter was heavily involved in the structure and implementation of the AFSA Codes of Practice and he decided to convince others by example.

High Local, Regional & National Priority

The first major step was to have all LBH machines "Accu Spread" accredited (at this stage two). The recognised AFSA spreader tester was employed to carry out this task. One machine was basic and had little potential to be rebuilt to the standard set. A second and third machine could be modified to meet the challenge. The machines were operating at around 20-22 metre bout width, and the target was set at 30 metres.

Magnitude of the Efficiency Improvement

Following a large degree of modification, a 28 metre bout width was achieved (an increase of 6 metres or 27% in productivity). This percentage increase was evident by significant savings in hectares spread per litre of fuel used. The average daily hectares covered increased from 250 per 8 hour day to 320 per 8 hour day. When a spreader is using 14-16 litres of fuel per hour or 120 litres per day, the rate per hectare dropped from 0.5 a litre per hectare to 0.4 a litre per hectare. Not big figures, however over a 6 month period, this equates to a fuel saving of 4160 litres, therefore less diesel fumes permeating the atmosphere and a saving to the end user in costs per hectare spread.

To be able to achieve the maximum bout width it was essential that spreading machines be fitted with guidance systems. This provided the operators with assistance to maintain even spread patterns over various paddock sizes and shapes. The machine operators who have completed the AFSA spreader driver's accreditation course use this knowledge to their advantage

Productivity & Profitability Outcomes Achieved

The productivity gains achieved by having Accu-Spread machines and accredited drivers has been significant. As a large percentage of our spreading business covers broad acre farms, the financial gains have proven to be substantial. Prior to increasing the bout width and testing the machines, they worked at 22 metres on superphosphate and 18 metres spreading urea. Today's machines work at 28 metres bout width on superphosphate and 24 metres spreading urea. The increase in productivity over an 8 hour day is substantial.

Superphosphate: 28 metres over 22 metres = 27% increase in productivity. Assuming a charge out rate of $3.00 per hectare then the daily return increases from an average of 250 hectares @ 27% to 317 hectares or 67 hectares @ $3.00 = $207.00. This increase carried over 6 months becomes significant and allows the company to maintain competitive rates in the field.

To achieve today's results on improved productivity, many changes were necessary. The increased bout widths became a challenge to the operators; having GPS helped achieve this change.

Change from Previous Practice

Clients had to be made aware what we had done. This aspect of our project was the most demanding; to see the same machine yesterday and again two days later, doing a very different job, was not easy.

We published the fact that we had made dramatic changes, with large press ads in local papers and on the radio.Fig 5 We have achieved about 99% acceptance rate. Some farmers still request that we spread at 22 metres bout width hence they pay.

The guidance systems fitted to two spreaders allows maximum bout width to be achieved on a constant basis. The guidance systems were classed as toys for boys until the machines were pushed to their limits. Now they are an essential part of the operation.

Degree of Community/Government Stakeholder Involvement

The AFSA initiative to start this project and obtain Government support to complete the project, allowed LBH to extend its operation and achieve the desired result. Before the AFSA Accu-Spread program, we requested the manufacturer of our spreading bin to modify the bout width to our target of 30 metres. After some time and numerous failed attempts, we stepped outside the square and achieved our target.

Resource Investment of the Company

To achieve our goals with Accu Spread, the contribution by LBH was considerable. The dollars invested in machine modification and installation of guidance systems has been recouped many times over. The initial outlay per machine is approximately $28,000.00 with an annual signal cost of $2500.00 per machine.

Moving forward to 2019.

Where are Laharum Bulk Handling at now?

Our business grew thanks to Accu Spread from originally one machine to three in total, we covered an area from Beaufort to the border and from Warracknabeal in the north to Harrow in the south.

I was told that Fastrac's would fall to bits, my philosophy was and still is that machines are a floating asset - you buy them, wear them out and replace them with new ones, whist making them pay for themselves along the way. Not like spending money on fixed assets, that become hard to sell unless it is farmland.

Today we still have one machine left working, the farming community today have invested heavily in three point linkage machines, from our yard we can count at least six machines that five years ago did not exist.

LBH are in wind down mode, we are trying to sell our fixed asset which is our bulk grain storage and fertiliser depot at Laharum, this asset has grown from the two small 350 tonne silos we bought back in 1982 to a site that now can store 11500 tonnes of grain in upright bins with one bunker capable of holding 8000 tonnes and still space available to build more bins or bunkers. The grain storage was acquired to complement the cartage of fertiliser from Portland back to the southern Wimmera areas.

What lies ahead for the for the fertiliser services industry?

The fertiliser services industry needs to become more vigorous in its approach towards new technology and implementing new strategies that should be developed by the industry participant. Agriculture is becoming the yard stick for development in many ways, members should be pushing the boundaries to the limits when they invest in new equipment and fertiliser product development.

MAP and DAP was developed maybe thirty years ago, what has changed? We add Zinc and Urea to a dry blend. Why can't we develop a product that has 30 units of P or may be even more and combine all ingredients into an homogenised product that could show a huge cost saving on freight alone.

There are a lot of people in the industry that sit on their hands and wait for someone else to come forward, if we had sat on our hand 20 years ago we would not have Fertcare or Accu Spread.

A closing comment from Donald Carter

We are a part of very important industry so why not show the agricultural sector that we are needed and be innovative towards what we do. To progress we should encompass every business that operates in our section of the supply chain.

By this I mean - why should a handful of people provide the backbone to our industry so that others hang onto our coat tails and get a free ride.

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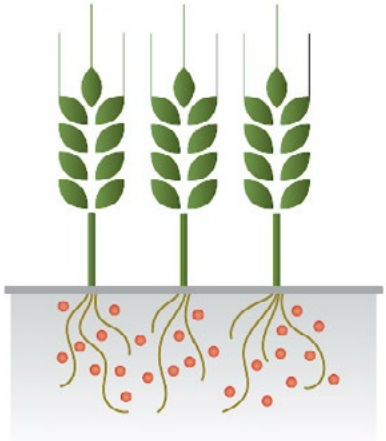

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