SMASH Field day - Matakana Island 13th March 2013

Notes from Terry Harding

Area Sales Manager – Eastern Region, Ballance Agri-Nutrients

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Thanks Wilma and Good morning everyone!

So, yes today I represent Ballance Agri-nutrients, which is not only New Zealand's leading fertiliser manufacturer & supplier but also a 100% New Zealand farmer owned co-operative and a now a group of companies, owning 100% of Ballance, Altum, Super Air, Seales Winslow and Farmworks (Aghub) – any more information, feel free to chat to either myself or our TSR for this area, and here today, Jon Schellingerhout.

Thank you to the SMASH committee for giving us the opportunity to discuss with you a very important topic … one that relates to the very core of your farming business.

The topic … "How to save money on your nutrient inputs" – this could be a direct saving in quantities or an indirect saving by the improvement production per unit of nutrient input.

Feed and fertiliser are the second and third highest input costs respectively to your business and I want to discuss ways to ensure you can ultimately make more profit.

In addition, yes, it will also keep regulators happy but more importantly it will make your business more environmentally friendly and sustainable – and that's got to be a good thing.

It is a big topic and my goal is to cover just some key points that give you some "food for thought" and then challenge you, to make it happen!

Could I have a show of hands of those folks who believe that <u>there is</u> room for improvement in this area of your business – ie. Do you believe you can save money on your nutrient inputs?

O.K, we know "WHAT" we want to achieve, so, let's investigate the "HOW TO"

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There will be many ways “HOW TO” achieve our goal but ultimately I believe they will all be connected in some way to these TWO key ways:

Firstly,

1. Maximise the Efficiency – that is …
    1. the amount of output (measured in either kgMS/ha or kgLW/ha) per unit of input

Secondly,

2. Minimise Loss – that is …
    1. the reduction of nutrient “leakage” through the profile (as in the case of Nitrogen leaching) or across the profile (as in P runoff either in the form of fert itself or nutrients attached to soil / sediment being eroded)
    2. Or the reduction of wastage as in the case of applying more nutrients than that required and / or not utilising the full extent of nutrients available such as effluent being spread over too small an area
    3. Reduce any loss of cow condition by not getting the most out of elements required for animal health

To make this happen requires a PROCESS and I want to now share with you an easy to remember process to make this all possible,

Also, as we work through this process – remember that we are talking about nutrients and this could be in the form of fertiliser, effluent and even supplementary feed

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It is important to “begin with the end in mind” …. And that is to make more money and ultimately more PROFIT, while still being environmentally sustainable.

So here is the process – Plan, Implement, Monitor and the final step … more profit.

The beauty is, it can be easily remembered by the acronym …. PIMP – now that may be seem provocative and yes it has a few meanings … but at least it should “stick”!

So the first step … Plan …

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- 4 main parts and they all fit together
- A GPS map will provide:
    - Accurate paddock areas
    - Clearly identified blocks based on either, soil type or slope, management (eg. Non-effluent, effluent) and / or non-productive, possibly sensitive or just non-effective grazing
        - This will ensure the right amount of nutrient is applied and also in the right place
- The soil test:
    - Provides crucial information about the soil’s nutrient status and this fundamental to the steps that follow … namely the nutrient budget and fert reco
    - It will also provide so much more than this as well, it just depends on the amount of money you are prepared to spend
    - Soil tests should be taken annually for at least 3 years if you have no history and then at least every two years thereafter
    - It is advisable to take a soil test for every clearly identified block I spoke about earlier
    - The Rolls Royce would be to take a soil test of every paddock and then test individual blocks every two years to check the nutrient trends

•The fert program:

- This is initially built around the soil test information, type of soil and topography and then tailor made to apply the correct type and quantity of nutrients at the right time of the season to support

•The nutrient budget:

- Could I have a show of hands of who has a nutrient budget?
- I won't put you on the spot to explain – but who feels they actually understand what the nutrient budget is all about?
- The nutrient budget is a very clever recording an modelling tool and it has a number of uses but ultimately it plays a significant role in what we are talking about today ...
- It combines the information from the GPS map, soil test, fertiliser program and many other aspects such as; climate, soil characteristics, supplementary feed, effluent systems, and stock - type, production and management to name the most important ones.
- In the context of this discussion the nutrient budget will tell us:
    - If there is too much or too little nutrient going into the system and this allows for adjustments to the fertiliser, feed, stock programs
    - What the nutrient losses are and in particular Nitrogen and Phosphorus, but the others also
    - The nitrogen use efficiency
    - How big the effluent area should be to achieve the effective use of this valuable nutrient source
    - How the farm is doing on all the aspects against the industry average
    - Ultimately it plays a significant role in reducing losses, improving efficiencies and thus ultimately making more profit
- So the next time your shed inspector requests your nutrient budget – my advice is to see it differently …

So onto the second step … IMPLEMENT …

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I would like to discuss 3 aspects of the Implement phase … all of which relate directly to maximising efficiency and minimising losses

- Firstly, SPREADING:
    - If you are going to use a contractor – it is preferable to use one that is "Spreadmark" registered – this is a voluntary certification that requires the contractor to meet certain standards and to operate using best management practices
    - But perhaps you do your own spreading …
        - Either way – the equipment being used should be in good working order and calibrated to apply the given product at the correct rate and thus ensuring the
            - Correct amount of pasture or crop is grown to support production ie. Maximising efficiency and
            - Reducing any over application and thus loss or wastage through leaching or runoff
- Secondly PLACEMENT:
    - The comments already made about equipment maintenance and calibration also apply here in that the swath width needs to be known and controlled to ensure product is not applied in areas of high nutrient status or non-productive and / or of a sensitive environmental nature – such as around water troughs, gateways, races, drains, streams etc.
    - Also is important is whether product is applied on the surface or incorporated – this becomes more important for cropping and it is certainly more efficient and effective to have products such as P and trace elements such as Boron to be applied closer to the seed and plant roots – eg using Cropzeal DAP Boron Boost
    - "Proof of placement" is available now through GPS tracking of the "snail trail" or "track" taken by the applicator -

        - This information may show you that not all the area you thought could be applied is able to be applied and thus possible savings could be in order and
        - The industry is slowing moving in the direction where it may be necessary to prove where product has been applied

- Lastly TIMING:
    - Application of nutrients when it is too wet or even too dry can negatively impact on efficiency and / or losses
    - The key nutrients influenced would include Nitrogen and Phosphorus
        - Nitrogen –
            - If is too wet there will be a portion that is leached through the profile – so it is best to avoid waterlogged / flooded paddocks and N application in general during the very wet months of winter, especially when soil temperatures are lower than 7degC.

            - If is too dry (as is the case at the moment) – there will be a portion lost through a process known as volatilisation
                - In this case we can minimise this loss by using a nitrogen product such as SustaiN Green which is urea coated and infused with a product called “agrotain” and this reduces the N volatilisation by up to 50% of that compared to urea
        - Phosphorus –
            - If it is too wet it is possible that the P will be lost from direct runoff of the product or if already attached to the soil particles – with the soil as it is being eroded. This is obviously worse, the steeper the topography
            - If is too dry – there is no real problem – as it will not go anywhere and once rain is received will move into the soil and do the job.
- So hopefully you can see where improvements can be made in this step …

- Now onto the last step … MONITOR …

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It would be unwise to perform step 1 and 2 correctly and then fail to Monitor progress,

- I have listed 8 key areas to monitor and all of these enable us to benchmark both efficiency and loss against budget YTD or Final Year, and current year vs previous year/s.
- In addition, this comparison can be against your own farm or between other farms you own or within district or even the industry average
- Monitoring informs you what, if anything is changing and gives you the ability to make adjustments to your systems and / or programs.
- It is the "early warning system" or also known as the "traffic light system" that tells you;
    - What IS working well
    - What is NOT working so well
    - What needs to CHANGE / improve
- It is then up to you to make the right decision that will either improve efficiency or reduce the loss!

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- In the short time available I will run quickly through some examples of what impact a few changes on farm can make to the bottom line ….
- Thank you for your attention and I hope I have given you some food for thought to support you in your journey to making more profit
- So just before I finish – who can tell me the acronym for the process we have talked about today? …. Yes, PIMP, great!
- My final comment is now that …..

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"It's got to be right !"

- Right nutrient
- Right amount
- Right place
- Right time

Thank you ….

I will be happy to answer any questions ...