Doing the right thing by our growers, markets and industry – it is in your hands

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Just like farming practices have changed so have the markets that we deliver our produce into. Greater emphasis is now on consumer requirements, particularly with Pulses that are essentially going from the paddock straight to the plate in countries right around the world and locally.

Weidemann Farm;

3500ha growing Wheat, Barley, Canola, Pulses & Hay. Incorporating a 350 Head White Suffolk Stud and currently 11000t on farm storage system. Graincare Accredited.

Going right back to the early days of growing field peas in the early 80's the Weidemann family has had a high focus on dealing directly where possible with the end user of our product. From this we have learnt valuable lessons over quite a period of time which has helped us to continue to add value to our produce and gain reward for effort.

During the early 90's along with local farmers, we went through a training process to provide assurance to a segment of the market requesting quality assurance. This program was called Great Grain which was eventually superseded by Graincare which was an industry led assurance program. Like most farmers we saw little value in the early days other than recognising where we needed to improve certain management areas within our business. Buyer acceptance of the program was minimal which eventually led to very low farmer participation.

The introduction of the computer age at the same time has allowed us to keep records much easier along with reporting requirements for the markets we have developed. Since 1994 we have relied on PAM (paddock action Manager Fairport) as our production recording system which has also evolved to manage the reporting requirements of any Quality system. Pam has a range of recording process from using hand held Palm recorders to now using Ipad's which automatically sync with the base computer. As a part of our planning developing work sheets for spray jobs and silo treatment records can also be developed in PAM.

In 2003 we were part of a pilot program in Victoria with five growers looking at providing quality assured barley to a new market in Japan. The basis for the trial was to ensure that the barley would meet the extensive MRL's (maximum residue limits) that the purchasers of the Malt required. This process requires us to provide a comprehensive list of all activities used in growing the crop which is provided to the malster and made available to the purchaser of the malt. Advances in technology and computers have made this process unobtrusive in the business however it does make crop choice and chemical usage paramount in any planning discussion with our agronomic advisor. The final product in most cases carries the traceability identification on through to the barcode on the bottle.

While this would seem quite a process to most farmers ultimately it is recognising good farmer practice which ultimately has its rewards through better management and extra value on the grain we produce. We have established a range of markets over time which have grown and most growers would now have had some experience with grain sales into PRF (pesticide residue free) markets which usually pay a small premium for quality grain or provide storage opportunities. More

recently the markets we deliver to operate under an identity preserved process which requires full knowledge of the production process being made available at the point of sale.

The CUB Crown Lager program is an exceptional example of what can be achieved but it is unrealistic to believe that the grain market in the short term will offer these types of premiums on a broad scale. But the landscape is changing as deregulation of the grain supply chain continues to reshape itself in my opinion from being a commodity based delivery system to a more defined quality supply chain system.

Australian Grains Industry Today

Australian grain has a well earned reputation for quality and reliability. Maintaining this valued reputation relies on diligence by the industry in its management practices.

A number of issues are creating a need for the industry to work together to assure and protect its reputation. These include:

- Markets becoming increasingly concerned about food safety, more stringent about maximum chemical residues levels (MRLs) and increasingly sophisticated in grain testing
- Markets becoming more aware of and demanding of standards of farming practice in relation to food safety, environmental and workforce management
- Customers establishing their own audited assurance and certification programs
- Chemical drift to other properties and MRL breaches placing increased pressure on chemical registration and use restrictions
- Chemicals uses requiring some form of assurance
- Identity preservation grain to meet specific market requirements'.
- Profitability of the farming enterprise.

Careful management of agricultural chemicals and good hygiene in field, in on-farm grain storage and handling and post-farm gate and clear lines of communication are important to avoid chemical uses that may unintentionally result in residues that could exceed acceptable limits.

The industry is reliant on developing new strategies to combat the weeds, pests & diseases which create problems for high production farming systems in the Australian environment.

Whilst new approaches are essential, real care is needed as some off-label chemical strategies appear to be the cause of the higher number of detections of chemical residues though NRS (National Residue Survey) residue monitoring. The levy-funded NRS Grains Program was put in place by the grain industry in 1992. The NRS component of the overall grain levy funds the collection and analysis of about 6,000 samples per year. The program helps to maintain the confidence of Australian grain purchasers by providing results which indicate that the product meets market requirements and relevant food standards.

Pesticide registration and establishment of MRLs can differ markedly from country to country. Awareness of the MRLs established by our overseas trading partners is critical to successful marketing. There are many cases where for a particular Australian MRL there is a lower or no corresponding MRL in the overseas market.

Some countries do not have a pesticide registration. In almost all cases, these countries choose to adopt Codex MRLs. Australia is very active at the Codex Committee on Pesticide Residues to ensure

Year	Bulk Samples	Bulk Compliance (%)	Container Samples	Container Compliance (%)
2004-05	3,659	99.9	77	100
2005-06	2,953	100	89	100
2006-07	2,085	100	168	100
2007-08	2,055	100	565	99.6
2008-09	2,621	100	391	98.2
2009-10	2,673	99.8	827	98.3
2010-11	3,302	99.8	821	98.9
2011-12	4,005	99.9	886	99.0
2012-13	3,802	99.8	1,229	98.9
2013-14	3,351	99.7	1,802	98.9
2014-15	3,452	99.9	2,034	98.8

where practicable the Australian MRL is the same or near to the Codex MRL. With many developing countries adopting Codex MRLs, these efforts help to reduce the potential impacts from differing trading standards.

Recent industry monitoring data and commentary from National Residue Survey

Table 1. Grain monitoring results comparison

Bulk results are slightly better than container because:

- Aggregation can dilute a residue issue
- Bulk handlers have consistent application of grain protectants
- Container packers will at times source grain direct off farm

Export grain monitoring results indicate two things:

- Good agricultural practice by Australian grain producers and grain handlers
- Indirectly, a good understanding of overseas market requirements by exporters

However, ongoing vigilance is paramount to market access
NRS programs seek to identify emerging issues and facilitate industry resolution
The following slides flag two issues at the forefront of industry attention

Table 2. Haloxyfop – Six year snapshot

	Grain	Samples tested	> LOR < Aust MRL	> Australian Std
2009-10	canola	70	25	3
	chickpea	20	8	1
2010-11	canola	64	36	5
	chickpea	18	4	0
2011-12	canola	56	26	2

	chickpea	9	3	0
2012-13	canola	83	43	8
	chickpea	30	12	0
2013-14	canola	131	48	11
	chickpea	34	19	0
2014-15	canola	120	51	7
	chickpea	41	19	2

Traceback investigations indicate application of Verdict:

- later in the canola growth cycle than is indicated on the label
- on canola windrows – not in accordance with any label instruction
- to control grass in chickpea crops

Table 3. Flutriafol – 6 year snapshot

Year	Samples tested	> LOR < Aust MRL	> Aust MRL
2009-10	4539	11	5
2010-11	5220	13	8
2011-12	5718	9	6
2012-13	5836	16	20
2013-14	6137	9	10
2014-15	6239	13	15

Traceback investigations indicate that:

- flutriafol detections most commonly caused by back-loading trucks with fertiliser
- results from in-adequate cleaning – some samples found with fertiliser
- contamination of on-farm storage has also caused residues (includes silos and augers)

Herbicides in barley

7 February 2014, a grain exporter notified of MAFF surveillance sample results

Formal MAFF notification to NRS via our Minister-Agriculture (Tokyo)

- notification - herbicide residues of imazapyr and imazapic - levels > Japanese MRLs

Intervix is the only registered product for use on barley in Australia

- contains imazapyr and imazamox (not imazapic)

Australia imazapyr MRL 0.05 mg/kg – No Codex or Japan MRL

No products registered in Australia for imazapic use on barley. QLD and NSW only have registration for use at pre-sowing – if used according to label no residues expected.

NRS added all 5 imidazolinone analytes to grain screen - no imi herbicides detected since Feb 2014

Communication

- Japan warns barley exporters about residues

http://grdc.com.au/Media-Centre/Ground-Cover/GC110/Japan-warns-barley-exporters-about-residues

Common residues detected in 2014-15

49 residues > Aust APVMA MRL including:

- flutriafol in bran/canola/chickpea/field pea/lupin/oat/wheat (15 samples)
- haloxyfop canola/chickpea (9 samples)
- carbaryl in canola (2 samples)
- bifenthrin in sorghum (2 samples)
- spinosad in canola (2 samples)
- thiabendazole in lentil/field pea (3 samples)

Residues detected exceeding import tolerances in 2014-15

98 residues > import tolerance MRL including:

- fenitrothion in wheat/barley/oat/chickpea/canola (15 samples)
- glyphosate in barley/sorghum/canola/oat (23 samples)
- haloxyfop in chickpea (5 samples)
- methoprene in wheat/sorghum (12 samples)
- piperonyl butoxide in canola/wheat/chickpea (18 samples)
- spinosad in wheat/canola/lentil (7 samples)

Market access – be aware

Australian MRLs and overseas standards can differ

Compliance with Australian MRL DOES NOT mean compliance with trading partners

No MRLs for certain chemical-commodity combinations

Information sources:

- Out-turn tolerances on GTA website
- NRS MRL database - https://www.edaff.gov.au/NRSMRLExternal/Public/Disclaimer.aspx
- Other international databases
    - USA - http://www.globalmrl.com
    - EU - http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
    - Codex – http://www.codexalimentarius.org/standards/pestres/en/

Another challenge facing industry is the increasing sophistication of food safety regulation and associated residue monitoring in overseas countries. With ever improving laboratory analytical methods, our overseas trading partners are better able to detect lower and lower levels of pesticide residues in imported product. This applies to most Asian markets and coupled with increasing product certification requirements which means that Australian grain growers, advisers and marketers must ensure that pesticide use patterns do not create potential trade issues.

During 2014 the industry was faced with a potentially long term issue with a positive sample of Scope Barley from barley destined for the Japanese market, showing a breach of the herbicide Imazapic which is not registered for usage on this crop. Japan has now put in place a stronger testing regime across all grains which have intensified the issue.

Over the coming season's growers have the potential to see further barley lines with the tolerance trait seen in Scope barley introduced but without a significant adherence to stewardship around the technology we face the potential of not having these products reach registration because of the potential market issues as seen with the usage of off label chemistry.

What is Industry Doing to Address This?

Over the last 5 years GPA has been exploring with key industry stakeholders right through the supply chain the need for the good practice pre and post farm gate to be recognised.. In July 2013 the post farm gate adopted the Australian Grain Industry Code of Practice which included reference to the pre farm gate or on farm sector adopting its own code.

The on farm sector, through industry associations and technical specialists, has been working on developing a set of grain production stewardship principles. These principles outline the basic components of good farming practice. In July 2015 the pre farm gate sector Launched the growers guide "Growing Australian Grain" http://grainsguide.grainproducers.com.au this document has been approved by grower organisation's across Australia. These principles within the guide are a way of publicly recognising the good farming practices of Australian grain growers and promoting this good practice to customers and stakeholders.

The aim is for these principles to be embedded in existing industry assurance programs, record keeping packages, supplier declarations and chemical use requirements. These common principles can give consistency and reliability of the integrity of Australian grain. It is hoped this will make a simpler, streamlined system for growers by avoiding the need to complete a plethora of assurance and other records for different purposes.

This in itself will not solve the potential issues from the usage of off label herbicides in our industry which can potentially cost the industry market entry worth millions and our reputation as a safe food provider . Our supply chain has the ability to trace MRL breaches back ultimately to the source of the breach and simple actions such as cleaning trucks after fertiliser cartage are crucial awareness's steps that should be paramount. As advisors to the agricultural sector we all have a responsibility to understand the impact this can have and be aware of the potential issues uninformed advice can have.

Who Benefits?

Adoption of best practice herbicide stewardship provides benefits to many sectors of the industry, especially those sectors where investments are long term and high risk:

- Those companies developing herbicides will be able to see long term benefit in the maintenance of those investments in herbicide development
- Breeding companies, with 6 – 10 year cycle times in developing varieties, will have the confidence to continuing breeding for herbicide tolerant varieties to be released next decade
- Grain marketers can have confidence that the product they are selling will meet with customer satisfaction
- Customers will have confidence that products produced in Australia meet the highest levels of quality standards
- Growers will have farming systems that are sustainable, and be able to pass on valuable technologies to future generations of farmers with the confidence that those technologies have not been abused and devalued, ultimately increasing their property values.

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