

Agricultural Competitiveness White Paper Submission - IP359
Grazing BestPrac
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This summary is only skimming many of the issues. Agriculture is so critical to the success of our country in the following decades, that it is vital to gather information from existing sources, fill in the gaps and create a working group of alternative minds to assess the most appropriate way forward.

ISSUES From the White Paper

1. Food security in Australia and the world through the creation of a stronger and more competitive agriculture sector;

(This is a motherhood statement, so difficult to know where to begin)

Knowledge and application of innovation supported by good sound science will secure a stronger and more competitive agricultural sector. **“We cannot fix the problems with the same knowledge/ thought process that we used to create the problems – we need a new paradigm. We must work with nature”**

Agricultural science should be the most important science in the world as it provides all of our food, much of our clothing and some of our shelter. However, science in Australia is driven by corporate profits that focus short term on selling inputs. Agricultural science needs to be driven from the soil up and by the farmers in the paddock. The problem is – our soils are not performing well under climatic variability – they have lost their resilience.

- Most landholder and many scientists understand the basis of our production system is the soil which holds nutrients and biology to grow all crops, whether grains, fibre, fruits, vegetables, tree crops or pastures, with some being converted to meat and other fibres.
- The second most important factor is photosynthesis and how the sun's energy is used to convert carbon (CO₂) from the atmosphere into sugars (CHO chains) by plants. The plants then convert the sugars to proteins etc for our production systems.
- The third factor is that most of the nutrients in our soils are only made plant available for production if we have a healthy active microbial population. The fungi, bacteria, protozoa and nematodes are responsible for biogeochemical cycles that are imperative for a healthy production system. They convert nutrients from unavailable to an available state and provide it at close proximity for the root systems to take up.
- A group of microbes called mycorrhiza (fungi) are essential for nearly 90% of all terrestrial plants to thrive. These mycorrhiza can be established when a seed is planted and will act as an extension of the root system to collect many nutrients including phosphorous for the plant. There are large volumes of science available to prove this, just not promoted by many government organisations, because it seems most government science is managed by chemistry majors who simply do not understand biological function (it is not their field).
- Soil microbiology is the new frontier of discovery that will excite new students for decades to come. It is such an unexplored field that every new science graduate in Australia this decade could discover and identify a new soil micro species every day of their studies and still not exhaust the list.
- In Australia, we use up to 1.7 million tonnes of N+P+K fertilisers annually (\$3 – \$4 billion) and up to 1 million tonnes of synthetic nitrogen fertiliser annually. At the same time a low cost natural system has bacteria cycling nitrogen from the atmosphere into our soils and plants. With 78% of our air being made of nitrogen, why are we not concentrating on converting atmospheric nitrogen into plant available nitrogen naturally. A number of bacteria's will do this role for free and we can forget about using a large proportion of the man-made urea and other synthetic fertilisers that include nitrogen. There has been a large amount of research by CSIRO many years ago developing knowledge about legumes that form a symbiotic relationship with a specific *rhizobium* that fixes nitrogen into clay soils (up to 450kg/ha/yr). However, funding buckets changed and it was forgotten. Today a smaller corporate (Agrimix) has continued to work with James Cook University to select the most successful desmanthus cultivars. This work needs to be supported and extended under Australian government funding.
- As stated above, there is much that is not known about the roles and various species of soil microbes, with a single spoonful of soil containing up to 10,000 different species of bacteria alone. And less than 10% of soil microbes in the world as yet being identified. However, this single area needs to be an important area for Australian Agriculture to concentrate on the future as it will hold all the answers to sustainable agriculture. As an example, our extension and research organisations

have not even acknowledged the existence of other bacteria essential to agriculture such as the azospirillum, pseudomonas, cyanobacteria and azotobacter species which are proven to fix nitrogen into root zones of grasses and many crops. Under various conditions bacteria which are free-living in soil may fix up to 60kg N/ha/yr of nitrogen.

- There are a myriad of sustainable agricultural soil microbe products that have been developed by innovators for farmers and graziers who are seeking solutions. These products need to be trialed and supported by the new Australian Agriculture (AusAG) initiative.
- Once we have active microbial populations, it imperative to manage them with the most appropriate fertilisers and systems, so that the populations and diversity is not damaged. There are several research papers summarising the impact of various fertilisers and chemicals on microbial populations.
- Now that we have the knowledge about soil microbiology, it is essential to create a soil chemistry that is good for both microbes and the plant community. To do this we need to forget the knowledge of the old paradigm that our local agronomist has been hammering into us for the past 30 years. Maybe we need to send the old agronomists on a long holiday. Yes, that information is mostly what has led to the situation we are now in – unbalanced base saturations especially calcium to magnesium ratios, locked up trace minerals, low soil carbon levels, low yielding crops, poor soil structure and low profitability.
- Our role as farmers and land managers is to balance our soils by understanding the impact of nutrients on microbe health, plant health and yield. Then as a secondary step, test the leaf of the plant to see which nutrients that are in the soil may be not entering the plant. Now the innovative farmers will be applying foliar trace minerals to balance the plant requirements. This will also limit the amount of fertilisers/ nutrients that are being applied and ending up in our water supplies, aquifers and marine parks such as the Great Barrier Reef.
- We need to limit the amount of pesticides being used to control insect pests and soil borne pests by using knowledge and understanding the theory of Trophobiosis by Francis Chaboussou (a pest starves on a healthy plant). That is every chemical we use to control one pest is weakening the plant cell structure so it is now open to attack by even more insects and pests. Now instead, if we work on maximising the plant nutrition, this will enable the plant to control the pest attack in a natural way. When a pest attack is imminent, improve the plant nutrition.
- As a community, we Australians waste a large majority of raw materials into landfill annually. This raw material which is a large carbon base with accessible trace minerals could be utilised to reduce our overall need for fertilisers as well as providing a natural method of improving pastures and cropping systems. The ideal methodology is to add necessary minerals (NPK and traces) to the compost to compile a complete fertiliser naturally. This process will reduce the impact of salt based fertilisers and make nutrients plant available. The role of recycling nutrients in products such as compost will be an essential part of the future of agriculture. Councils and farmers need to be supported with grants via the Carbon Farming Programs so they are able to convert waste products that would be burned or buried into recycled Carbon and nitrogen factories.
- Soils with high diversity of soil microbiology, we will need far less fertilisers and chemical inputs. Weeds are simply a symptom of the mineral balance or imbalance. If we are able to add the necessary nutrients, we will remove the weeds.
- Our production systems are running low on carbon (stored in soil), nitrogen, calcium and most of the trace minerals. Over a 50 – 100 year period, we have mined our resources and reduced the production capability so that yields are half or less than they were initially. Many of the extension staff working on pastures continue to ignore every mineral except nitrogen. They look at ways of ripping and digging the soil to free the nitrogen tied up in old root mass. However, farmers have been doing this process for decades and are still going backwards.

“We cannot fix the problem with the same knowledge that we used to create the problem – we need a new paradigm”

- That new paradigm is to use the animal and mineral balancing techniques to grow a healthy plant instead of an unhealthy plant. That means managing the grazing and resting phases of the plants and improving root penetration so that the plant can access the minerals that are locked up in the subsoil. The only successful grazing strategy is rotational grazing which will be different for every practitioner.

- Focus on trading with countries looking for clean products
- GMO crops contamination issues potentially will lose market share and world confidence in Australia’s clean green image. This will cost us \$billions in lost sales if not managed immediately.
- Do not import any product that will impact on our biosecurity or make our own growers uncompetitive.

2. Means of improving market returns at the farm gate, including through better drought management;

Farm gate returns have had highs and lows in every industry following the variation in climate, political and economic conditions. This cycle leads every industry. The only differences have come from a change in enterprise to meet niche markets such as organic, chemical free, free range or other specialist program to meet consumer requirements. Overall, returns have not significantly increased in the past 20 years. However organic and chemical free growers seem to be happy growers.

Better drought management means firstly understanding we have removed much of the carbon from our soils and emitted it into the atmosphere. This has led to the climatic variability issues we are facing today. The person who understands this issue better than most is an agricultural educator from Yandina in Queensland, Graeme Sait, who presents the science of managing soils, plants and human health better than anyone else in the world. Graeme has the ears of politicians, scientists, corporates and family farmers from nearly every nation of the world. He speaks to political leaders about how they can implement sustainable farming on a monthly basis. And they listen and take action. Is it not time to have Graeme Sait speak to our political leaders and have our leaders ready to listen.

- Australia is placed in an ideal position where it is separated from other nations which have potential problems with disease, pests, weeds and other market related issues. In the past 30 years, our produce has been known world-wide to be clean and green and healthy. In fact many of our marketing opportunities have been built on being able to meet specific criteria, such as chemical free, organic certified, Hormone Growth Promotant free (HGP free) etc.
- Beef - Conventionally produced product such as Japanese Ox is known in the pasture finishing business as the baseline that all niche markets need to be better than. Programs such as EU, Organic, Pasture Fed and Chemical free need to be at least 80 to 90 cents a kg better (dressed weight) than the baseline or they will not increase net farm-gate returns and not be taken up by producers.
- Grains/ Oilseeds – The only significant debate within cropping systems is the GMO vs Non GMO debate. Conventionally developed (hybrid) crops receive similar or better prices per tonne than GMO developed crops. In fact some exporters prefer non GMO as they have more market options. The difference is the GMO crops have been developed so that farmers can purchase and spray even more chemicals that will impact even more on the health of the plant. In general, there is no definitive yield gain from using a GM seed over a non GM seed. However, many GMO crops are designed to either be sprayed with loads more chemical or they produce their own toxins to control parasites. If the farmers go back to growing non GM crops, use their new knowledge and management systems to improve their soil and plant health, they will no longer need the excessive amounts of chemicals previously being used. GMO crops such as Canola have been accepted by some Australian state governments to be grown while this may severely impact on Australia’s clean green image in future years. Already China has been seen to refuse GMO grain exported from the USA. Within South Australia, GMO contamination has caused an enormous disagreement where an organic farmer is seeking compensation from his neighbour, (a GMO canola farmer) for loss of organic status.
- Our Australian Government needs to work with each industry body (Meat – MLA and CCA) to ensure there are no impediments to the market access and that nothing impacts on our clean green image. This is why we need to remove the GMO sources of crops and feed to give our consumers confidence until such time as there is scientific consensus. If GMO cannot be removed,

then all crops and foods containing any GM substance must be labelled for consumers. The Australian Government needs to work with and support the organic organisations and other specialist markets that are supplying our clean green products.

Carbon.

- Farmers are carbon managers – some are good at it and some are poor managers as they do not understand how the carbon story works. Farmers all need to become successful carbon managers who understand the importance of soil carbon and managing photosynthesis. Farmers will need to be paid for the carbon they store in their soil by organisations who are emitting large amounts of carbon. If a farmer knows that the value of his carbon is directly related to ground cover and removing livestock early, prior to extreme drought conditions, he will act sooner. Or if a grain farmer knows he will be paid for carbon management even if his crop fails, he will manage it for ground cover and carbon sequestration. In the past five years, Grazing BestPrac has promoted to and trained nearly 3,000 farmers about the importance of carbon. This is the most important and dynamic issue when managing for climate variability. If we are thinking about and manage for increasing carbon, protecting the soil and improving pasture health, and getting paid for the carbon, then we will destock early.

Our Australian government needs to establish guidelines for an Australian Soil carbon Market and to finalise research projects demonstrating carbon sequestration methodologies.

3. Access to finance, farm debt levels and debt sustainability;

Farm Succession is critical for future success.

The biggest single issue facing the future of the family farm is the age of farmers (average at well over 60 years) and the need to undertake or develop a succession plan. Often the need to pass on the farm, keep the farm in the family and the guilt faced by the next generation means that young people take on debt levels that are simply not sustainable for the size of the business. And mum and dad leaving the business will often live for 20 or 30 years longer and so rightly require funds to live a full and complete life away from the farm. This issue needs to be managed and progressed by professionals who can create a way forward for all involved parties. Often, simply knowing if the farm is viable as a business is the most important first step.

- All farming families are either starting or finishing their succession and so all families require education about debt risk – risk education and a complete business plan should be key requirements for loan applicants to receive lower interest rates (reduced margins). Many farming families may have inherited debt. That is they may have large debts to service that have been inherited from previous family business arrangements or from farm transfers to younger generations. They need to develop a full business plan with a recognised consultant prior to establishment or refinancing the debt.
- Banks need to work with families and to be held accountable for decisions of loaning funds to farming businesses as each client simply becomes a number and is no longer supported after signing the paperwork. There will need to be a real focus on succession in the next 5 – 10 years as this is impacting on the profitability and enthusiasm of all farm businesses, today.
- Farm succession consultants and educators need to be supported as part of a consulting and training program to be promoted nationwide to farming families.

4. The competitiveness of the Australian agriculture sector and its relationship to food and fibre processing and related value chains, including achieving fair returns;

- In a free market economy, the government cannot be involved in the returns to the producer, except to support market access by developing free trade agreements. Any trade agreement needs to be constructed over a 5 – 10 year period and not 15 – 20 as most of our growers today will

never live to see the benefits. Any future program should be able to be implemented immediately or else it will probably never happen.

- The trade agreements must maintain a – no dumping policy – to ensure imports will not unduly impact on Australian primary production.
- Organisations such as Woolworths and Coles supermarkets have seriously harmed many agricultural enterprises in the past decade, with the pricing wars and general arrogance that “we can do whatever we like”. Their philosophy seems to be to look after shareholders at any cost and farmers are dispensable players in the game.

The Australian Government needs a high level policy that allows the ACCC to close down companies that act against the National Interest and harm agricultural industries. This needs to include jail terms for those people at the decision making end of the corporations.

5. The contribution of agriculture to regional centres and communities, including ways to boost investment and jobs growth in the sector and associated regional areas;

Farming, grazing and the environment are the growth areas of the future for rural Australia. Regional centres and towns have existed for decades due to the services required by agricultural businesses and to provide a social link for farming families. However these towns will only grow and prosper if agricultural enterprises are profitable enough to purchase the services and able to invest in the regional centres.

- These regional centres need to be the heart of learning for agriculture, where research staff and extension staff can learn and work directly with the client base (farming and grazing families). The Universities and agricultural colleges in each region need to operate similar to the Land Grant type Universities (similar to the USA model and funded by the Australian and State Governments) with their own extension services. Most Universities already have satellite centres such as Central Queensland University with offices in Emerald and Gladstone and based in Rockhampton. This model would be an extension of the existing model, but have a focus on local industries and new innovations.
- Growers need transparency of funding and project direction from industry groups. Most growers have not got the time to assess where their industry levy funds are being spent, and are certainly not asked where they should be spent. A group of bureaucrats and government staff often give lip service to farmers thoughts and comments. GRDC is a great example where all the boxes are ticked so that the farmers are asked their thoughts at seasonal meetings and then it seems the government staff decide what is important and what they want to actually do.
- The Land grant Universities would need to be primarily funded by State and Australian Governments and supported by grower levies, through locally based projects from each region. This would work well if the MLA producer levies were redirected to the LGU's for hands on livestock based projects and the grain grower levies were redirected from GRDC into hands on grain/ broadacre projects. One of the major problems with today's R&D funding system is the involvement by large multinational corporate chemical and biotech companies who dictate where research funds are spent. Therefore, it is important that external corporate funding be restricted and managed by the LGU via an established local LGU management committee.
- In the past decades, state governments have mostly gutted the agricultural extension services, reducing staff numbers and the footprint in regional areas. However, the NRM/ CMA bodies have increased support roles to partially fill this gap, funded by Australian Government. This has also led to an increase in user pays consulting and advisory services such as Grazing BestPrac, which is certainly a good move for the rural industries. It may be possible for a percentage of the NRM funding to be redirected into the LGU system so that research and extension into NRM issues can also be regionally funded.
- With reduced staff numbers in many regions, the major role for DPI/ DAFF staff is the regulatory role for biosecurity. With the new LGU model, all agricultural extension staff would be directly linked to Universities and projects at a local level. Innovative graziers and farmers would willingly pay for good advice from extension staff if it was valued. The Universities may then be able to charge a fee for service for the extension activities and advice.

- The other important development for the LGU would be to work with established networks of producers and producer groups and consulting/ educational organisations. In our region we have two established large networks that are working closely with the CQUniversity. They include the “Healthy Soils incorporated (Landcare Producer Group) and Grazing BestPrac networks.
- This advisory and research model would certainly grow the educational linkages to agriculture within regions and build a locally based extension service. It would be possible to have large numbers of research and extension staff involved directly at ground level as well as creating an enthusiastic and motivated farming community.
- Another area where the regional communities can be boosted is to invest in composting and bio-char projects that will recycle waste materials from the local landfills. Our regional university, CQUniversity has undertaken several studies to analyse various materials and options and continue to find road blocks. We have found the cost of establishing a local composting project would cost tens of thousands of dollars in reports and red tape to simply get to step one.
- The raw materials being composted could be converted to valuable fertiliser, saving millions of dollars in landfill costs, reduce landfill requirements, employ new staff and contractors, improve the council’s economic position and grow a new industry.

6. The efficiency and competitiveness of inputs to the agriculture value chain—such as skills, training, education and human capital; research and development; and critical infrastructure;

“Agricultural science today needs to be immediately overhauled. It needs to be useable and applicable on farm.”

The success of Australian agriculture is being held back by farmers attempting to use out-dated science promoted by large multi-national corporates and old fashioned scientists who have developed a form of band-aid agriculture that ignores plant health and soil health. They call it the latest science in the war on weeds and the only way to grow crops with the newest band-aid available. The science was based on replacing the most limiting nutrients in the soil and ignoring nutrient balance and soil life. And then creating chemical solutions to the new problems created. Balance is about:

- managing the soil battery or cation exchange capacity (CEC),
- Balancing base saturations,
- Ca to Mg ratio,
- micro and macro nutrient impacts,
- fungi to bacteria ratios,
- carbon/ humus etc.

It is about understanding soil health, the role of microbes and how to build soil structure.

- Today’s old model for soil management is limiting factor chemistry and is still all about adding more NPK, urea, MAP, DAP, SOA, anhydrous ammonia or other synthetic fertiliser that simply makes our soils more out of balance.
- The more synthetic stuff we add to the soil the more unbalanced our plants become and the more prone to disease and pests they become. And just for good measure, we are told the only way to control a pest or weed is to spray as many chemicals as possible. Forget about the health of the soil or the health of the plant or the food we are eating or the profitability to the farmer.
- Every time there has been a problem caused by this form of science, a new band-aid has been developed to replace the last band-aid. Chemicals have been developed as an answer to every problem instead of looking back at the cause of the problem. A great example of this thinking is the “Australian Herbicide resistance initiative” <http://www.ahri.uwa.edu.au/> we have a problem with “Super Weeds” – caused by chemical over-use. So, let’s make a stronger chemical (bigger hammer) cocktail.
- Farmers are simply over this ridiculous situation. Our soils are now so out of balance and our plants so unhealthy, that they need hand feeding. And the farmers continue to have reduced gross margins, because of all the problems that follow the new technologies. The excessive cost of new crop varieties developed to handle the poorer (out of balance/ low carbon) soil conditions and the more weeds and pests are simply making the business unviable. And every day, we see a new high tech answer to the last problem. If it isn’t a chemical fix, new fertiliser, new weed spray or new

treatment for killing fungus, it is a new way of measuring or monitoring the problem. Just so we can charge the farmer some more to fix what the old management system caused.

- It is time to truly build on the knowledge we have about what does not work for us - Begin with the soil - In the past two decades, the Australian rural research and innovation program has been driven by large corporate businesses, intent on promoting their band-aid responses to problems in the paddock. The truth is, that the past 50 years of “kill everything you don’t want” and “apply the limiting nutrient (NPK) to grow everything needed” is not sustainable. The model simply does not work, with today's depleted soils. Many farm researchers are simply lost as to what to do to get yield responses today. A good example is the latest research from Dr Mike Bell QAFFI, showing that the old way of applying Phosphorous fertiliser and the rates are not working. Dr Bell, said, “Basically the nutrients in our northern soils have been mined and we are moving to a system where more of the nutrients need to be added to meet the needs of each crop.”
- The old NPK model has got us to the position we are now at, that is low carbon, mineral imbalance, reducing yields and increasing pest and weed problems. Most agronomists and chemical resellers need to sell more and more (the moron position) to make a profit. And so they compete with each other to get even more sales. The resellers will not look for change as they are still in business and today's situation is simply perfect for the large multi-national corporations to make billions of dollars profit at the hands of the farmer in Australia. Our recent “farm innovation successes” have been to develop “Super Weeds” that cannot be controlled with the old herbicide and so a new stronger product has to be developed. All the while, we the consumer are eating this potentially contaminated product. Old chemicals have low concentrations of active constituents while the NEW MORE BETTER product has a higher concentration of active constituents.

Our soils are in the worst state they have ever been. A good example is that:

- Seed manufacturers continue to throw out old crop varieties and develop new ones that can adapt to the poorer, low carbon, higher salt soils.
- Insect and soil borne pests are becoming such an issue that seed manufacturers are developing genetically modified varieties that can produce insecticides. And this risks our clean green world market.
- Poorer soils, reduced soil carbon levels and unhealthy crops have added to the issue of climate change. The carbon lost from our soils has been added to the atmosphere over a 60 year period of extensive agricultural development, but especially in the last 30 years.
- Farmers are requiring more and more fertiliser to do the same job as a decade ago, profitability is down and yield is highly variable.
- Many farmers don't bother to join farm lobby groups anymore because they find it hard to afford and they cannot see the returns. More farmers are simply keeping to themselves and looking for innovative groups who understand the issues today.

THE ANSWER

- Australian Agriculture needs a new **paradigm** where by the Australian Government invests in new practices that are low cost and focussed on building soil and plant health. Universities and R&D bodies need to be re-energised away from corporate sponsorship and GRDC type programs into practical hands on applications based regionally. The American system of Land Grant Universities (LGU) needs to be developed in Australia whereby agricultural science is driven by local and regional rural bodies. A great example is the Healthy Soils Incorporated group working in the Rockhampton region with the Central Queensland University (CQU). There are 30 – 40 farmers who have been attending activities aligned to CQU projects monitoring soil health and learning about soil microbiology.
- These LGU universities need to be assisted with grants to establish commercial soil and plant (chemistry and microbiology) testing facilities so that more farmers are able to access low cost analytical services. Extension staff need to be trained in problem solving for soil health management, not simply promoting the latest band-aid fix.
- LGU's would have their own extension service which reduces the need for a QDAFF/ DPI/ Dept of AG extension service. This service is guided by the projects being undertaken and promoted in

each region. The extension service cost will be part of any project undertaken by the LGU and costed back to the farmer. Farmers would certainly pay for a good service if it was available.

The science that we need to know more about are:

- How to be profitable while changing practices;
- the role that plants play in mitigating climate variability;
- the role of soil carbon and soil microbes;
- management practices to improve soil health;
- how soil and plant health relate to human health;
- how to balance soils to improve yields;
- how to reduce pesticide use;
- how to use older seed varieties in place of developing new ones;
- how to farm in saline soils (balance) ;
- how to improve meat production with management;
- how to reduce the use of fire;

None of these science issues require a new chemical band-aid.

- The Australian Government needs to work with state governments to develop a knowledge economy to up-skill the farming sector in methodologies that improve soil health, plant health, crop yields and profitability. Agriculture is about soil and plants and animals producing food and fibre for the world. It is about working with nature to secure a clean, green, healthy future. It is not about developing the newest poison or genetically changing a plant to become a poison producing machine.
- Cover cropping is a technique that has been developed in the USA by innovative farmers who had the same problems we are facing in Australia. It has been supported by the USDA extension service NRCS and is growing within the USA. Cover cropping keeps a green plant growing in the paddock year round cycling carbon, building microbe capacity and soil health. A multi-species planting is carried out at the end of the winter cropping growing season. This crop of pasture, legume and other species is killed prior to planting the next crop using either crimping or chemical control. This is similar to a ley pasture or green manure crop that builds moisture holding capacity, worms and soil life. The majority of our farming soils need to be managed under a similar farming system to improve their production, sustainability and profitability. Some of our state based agricultural extension staff will require retraining as they will struggle with any system that reduces or removes chemicals from the farming system.

Education and Training

- Many farmers can see the old conventional management systems are simply not working the way they once did and the pastures and crops are not as productive or profitable. We have noticed a big shift in attitudes towards change in the rural areas. Farmers are looking for new ways of being more productive, sustainable and profitable in the future. Our business, Grazing BestPrac has been working with farmers and graziers for 10 years as a leading private training provider in regional areas of Queensland and New South Wales. Our past experience in the training and educational fields has shown there is a need to support farming families with education and hands on training/ consulting. We have worked with both state and Australian Government programs to deliver various initiatives. We have found that the Farm Ready and FarmBis programs were the most successful farm training programs run in Australia. These programs led to enormous change, with thousands of families learning about soil health, plant health, new agronomy, business planning, grazing management, benchmarking, succession planning, natural resource management and financial management. We believe it imperative that a new program is established as soon as possible to enable farm families and businesses to grow their knowledge and skills for a sustainable future. In the 2009 – 2012 period, our business, Grazing BestPrac trained a total of nearly 3,000 farmers as participants in education and training activities. All training providers were qualified trainers with quality training programs. Farmers and employees were subsidised by government program for up to 50% - 90% of course costs with an upper limit each year. This subsidised

program was far more successful than interest rate subsidy that assisted only a small group of farm businesses. The benefits were enormous and spread across the entire community.

7. The effectiveness of regulations affecting the agriculture sector, including the extent to which regulations promote or retard competition, investment and private sector-led growth;

- Mining Industry and Agriculture – Our previous governments policies have created all of the problems in the agricultural sector in the past decade where farmers and graziers have been persecuted by mining companies. Regulations involving the mining industry are very one sided in favour of the mining and resources sector with little or no support for the farmer or long term sustainability of the land, water or environment. Very little has been discussed in recent years about the short term only benefits of the minerals boom. Our governments seem to want all the development now, in the next five years and care nothing about the next 50, 100 or 500 years. Once the resources have been removed and on-sold to another user, there is no re-use or recycling of any product. Farmers and the community (our children) are left with a hole in the ground, damaged aquifers, destroyed vegetation and unproductive soil structure. We need to value the future potential production of the land being mined over the next 100 years at least.
- There are many claims of rehabilitation of mine sites – maybe it is possible in the future, but not at this point in time. Until it can be proven that a mined area is capable of producing the same as it was doing pre-mining, then it should make payments to the Australian Government for loss of production. Therefore mining companies who destroy the productive capability of the land need to make provision for payments for up to 100 years of production payments back to the Australian economy. As an example, if a land area has a beef production potential of 100 kg of beef per hectare valued at \$2.50/kg, then the resource company may need to provide an upfront payment of \$250/ hectare per year for 100 years. This would be offset by some production being created as the mining program is completed and rehabilitation begins to take effect. These payments are not in lieu of rehabilitation programs as many resource companies simply ignore their duty of care.

8. Opportunities for enhancing agricultural exports and new market access; and

Australia has a niche position that most countries in the world look up to. We need to ensure nothing impacts on our existing markets or potential future markets. We need to cement the competitive advantage that Australian agriculture has held for decades. The advantage is to provide clean, green food for the world, that can be trusted. That is, we need to be developing the

- Grass fed (PCAS) market to supply the world (Beef)
- Build on the EUCAS beef program (Beef)
- Promote and expand the Certified Organic market with stringent guidelines – doubling annually.
- Reduce the use of GMO developed crops and products so they do not damage our existing markets. (Grain and Fibre)
- Promote a GMO free product that can be trusted around the world.

- We have seen examples of countries refusing GMO contaminated products in the past year. Our AQIS program needs to protect our markets by developing a GMO protocol that tests for products that are contaminated by any foreign GMO seed or material. Our organic program markets itself as GMO free and has been increasing market share every year.

9. The effectiveness and economic benefits of existing incentives for investment and jobs creation in the agriculture sector.

Incentives for farm investment –

- Grants – direct to the landholder on farm planning and technology and inputs for improving competitiveness
- Investment allowance – 40 – 50% investment allowance on technology and inputs for improving competitiveness
- University (LGU) support for developing commercial programs such as soil and plant testing facilities. (good for the farmer and the LGU)
- Local councils are supported to develop regional recycling facilities where landfill is composted or bio-charred for local use back on farm land or within urban areas. This could support urban gardening programs and local food production.
- The cost of changing enterprise or changing the technology is an enormous cost for any business to be competitive. Farming and grazing families who are educated and understand the importance of managing soils, water and plants are more than happy to establish a plan to improve their natural resources, so they are more productive and sustainable.
- The Australian Government needs to build a program that enables farmers to develop a plan for the whole farm for the future so that:
 1. Soils are rebuilt to need less synthetic fertiliser input
 2. Practices are sustainable (getting better)
 3. Local products are recycled.

Funding

- The most effective funding program we have had in Australia was the ENVIROFUND program delivered by the Australian Government in 2006/ 2007. This program was delivered directly to farmers and community groups throughout Australia. It was primarily supported by consultants and landcare groups. Our business developed 15 – 20 projects over two rounds.

The reasons why it was successful –

- Projects were developed by farmers in consultation with professional NRM consultants who understood the issues and created real answers.
- Projects were delivered on time and in-budget
- Proponents consulted with the local NRM group to ensure projects aligned with the regional plan guidelines
- Funds were provided up front to establish the on-ground works.
- Projects had a \$50,000 limit (cash support from Australian Government)
- Proponents provided 50% of project costs as in-kind.

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