Farming for the Triple Bottom Line

Sustainability in the Twenty First Century

A report for

by Tim Napier

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Foreword

This study had its genesis in a recognition that many of our agricultural commodity production systems in Australia are stressed and that some major new ideas need to be investigated to try and address this situation for the long term. The aim was to look at some of the bigger picture issues to see where some major, more permanent, more fundamental changes could be made in an effort to achieve the ultimate goal of 'sustainability' in mainstream agriculture. I recognise that there are management practices and processes already in place in some areas of agriculture that showed a measure of promise in offering some value, in the form of solutions to some of 'mainstream' agriculture's problems.

In Australia, we are all the more sensitive to unsustainable practices because of our comparatively poor soils and harsh climate. Where producers in some European or North American countries may be able to do certain things, we can do the same thing for only a short time before we see evidence of problems beginning to emerge because of the different environmental factors that we have in play in Australia.

This study also looks at the characteristics of people in agricultural production who were considered to be 'sustainable', and also at their strategic differences from the 'mainstream'. The aim was to look at these people from the standpoint of the 'conventional' farmer to see what practises, processes or policies could be adapted into the existing production models to try and add value to that model and also move it toward the goal of 'sustainability'. The emphasis is placed on practical measures, rather than feel-good, cosmetic changes, or purely ideologically driven ones.

An awareness of some of the different agricultural production models around, such as organics, bio-dynamics and holistic management lead me to believe that there is a lot of potential in these areas to greatly improve some production models if they were adopted broadly across main-stream agriculture. I set out to find some of the best practitioners of some of these models around the world and to see what I could learn from them that might be adapted into mainstream agriculture to address some of the current issues. I was looking not just at the detail of how they manage their production, but more broadly at the principles and practices of how they run a successful and 'sustainable' farm business.

Acknowledgments

There are many that I must thank for making this opportunity a reality.

- Phil Donges for sowing the seed and suggesting I consider it.
- The drought of 2003/04, when we didn't grow a crop for over 18 months, for convincing me that I could afford the time.
- The Corish family who knew I would be absent for 4 months, but decided to employ me anyway. Also for their flexibility to enable the trips to happen and for their watching brief over my family while I was away.
- Brian Scarsbrick and Landcare Australia for their generous sponsorship of the scholarship.
- Dave Cattanach and Mike Hastings, my intrepid travelling companions on the Global Focus Program, for their patience and fellowship while on the road.
- All of the people and organisations that I was fortunate enough to visit in all of the countries I travelled through, especially those whose hospitality I was honoured to enjoy.
- My wife, Jodie, who has endured the whole Nuffield experience. I thank her for her strength and support. It is a special woman who can put up with her husband being overseas for 25% of their married life and the last part of a pregnancy, and not develop murderous intentions. I acknowledge that this now entitles her to a reciprocal trip to a destination of her own choosing, for a similar period of time. She has made me a very happy old tractor driver.

Contents

Executive Summary

- There is a growing awareness of the ways our food and fibre is being produced and consequently pressure is being exerted by consumers to have that production occur in a socially acceptable fashion. An unofficial 'Social Licence' is increasingly being imposed on farmers to carry on a business exploiting our natural resources.
- We live in a dynamic and rapidly changing agricultural world, and our ability to survive in the long-term is largely dependant on how we manage that process of change at both farm and business level.
- There is a wide range of interpretations of the term 'sustainability', and the expectations of how agriculture should manage its resources in the business of producing food and fibre for the nation.
- Sustainability of Family Farm Businesses is subject to a wide range of factors, only some of which are under our control.
- There is no one 'silver bullet' solution to addressing sustainability. Each situation will require its own unique combination of factors.
- 'Triple-Bottom-Line' principles provide an easily understood and clear path to monitoring progress toward 'sustainability'
- Farmers need to understand ALL the factors that affect their businesses, both internal and external.
- In some situations, addressing the issue of sustainability appears to be at cross-purposes with the immediate issue of staying in business.
- Farmers are generally forced to concentrate on the short-term due to marginal economic situations brought about by the 'cost-price squeeze'. This situation denies many farmers the opportunity to work realistically on long-term issues, such as sustainability.
- Successful 'sustainable' farmers use a combination of 'soil-building' crop rotations and natural composts and manures to eliminate or greatly reduce their reliance on conventional inputs of fertilisers and pesticides.
- Farmers pursuing sustainability find a great deal of change is required from 'conventional' farming. This change is required at several levels, not just in the paddock.

- ‘Sustainable Production’’ is being used as a marketing tool to differentiate from the ‘commodity’ stream and generate extra value for the farmer.
- When done well, a state of sustainability can be achieved through achieving greater value for money spent on inputs and creating more lucrative marketing opportunities, improving all three bottom lines and the terms of trade.
- Much of the knowledge of the principles of sustainable agriculture already exists and is readily transferable where the practices are not always so. There is not a requirement to re-invent the wheel in this regard. Research is required to find the particular applications of these principles, in all parts of our diverse agricultural production, at a local level.

Introduction

One of the issues which quickly became apparent when I started this study was that everyone has a different definition of what 'sustainability' is, and the extremes of these interpretations ranged broadly.

At one extreme is the 'subsistence' farm that would support the resident family forever without ever again needing any external input. These are extremely low-cost, low-input but also low output models, ideally suited to some of the people practicing this way in their individual circumstances. A 'subsistence' farming operation is relatively easily managed because there is little production pressure on this model and consequently fewer demands that are going to stress any of the three bottom lines. People are making a good living from such operations because they are essentially taking care of their own needs, without contributing too much to production for external markets.

At the other extreme is the farm that has made changes and is using slightly less in the way of inputs, of fertiliser and chemicals, than they have in the past, and have probably planted a few trees. They are recognising the direction in which they must change, and have started down that track, but still have much more to achieve. A living and good quality of life can be enjoyed with such a business, but ultimately it is still being 'subsidised' by the natural ecology if that is not healthy.

While it is correct to say that both have made positive changes towards sustainability, it is apparent that neither can exist in their present state in the long term. Both are in a transitional phase, but both having recognised that changing their ways toward a 'sustainable' model is necessary for their future.

As with most things in nature, the answer to achieving real sustainability lies not in the extremes, but somewhere in the middle, and every situation will require a different set of solutions.

While some exist very successfully, it is not realistic to expect mainstream agriculture to adopt a subsistence production model and still supply sufficient quantities of food and fibre to the established commodity marketing system. The global paradigm of 'produce to a price' will not allow that to happen on a large scale. These subsistence models will continue to survive, and even thrive, supplying produce into smaller, high margin niche markets, like Farmer's Markets and specialist produce merchants.

The ‘conventional’ or mainstream farm business is facing changes to survive financially on the one hand, and because of this pressure to produce a profit in a declining ‘cost-price squeeze’ situation, further aspirations like ecological or social outcomes are put on hold until there is sufficient surplus funds available to entertain the idea of achieving them. This is one of the central problems with mainstream agriculture today.

So, it is apparent that a ‘holistic’ view, one that takes into account ALL the factors affecting it, is needed to address the concept of sustainability. As a result, I believe that REAL Sustainability can best be defined as: ‘A state where the business can continue with its current methods of production indefinitely without degrading or consuming its resources – Natural, Social and Financial.

Community Expectations

There is a wide range of expectations held by consumers. Some are happy to purchase the cheapest product on the shelf, regardless of where or how it was grown or what was involved in the process of it coming to be on the shelf at that price in the first place. The more discerning buyers are questioning the methods of production used for their food, fibre and energy. Generally speaking this is happening in wealthier parts of the world (North America, Europe) and by well educated, morally aware people, who see the purchase of their daily necessities of life as a means of being able to influence the world for the better. This phenomenon has seen things such as organic or 'whole' foods, Fair Trade and Farmer's Markets growing rapidly in recent years.

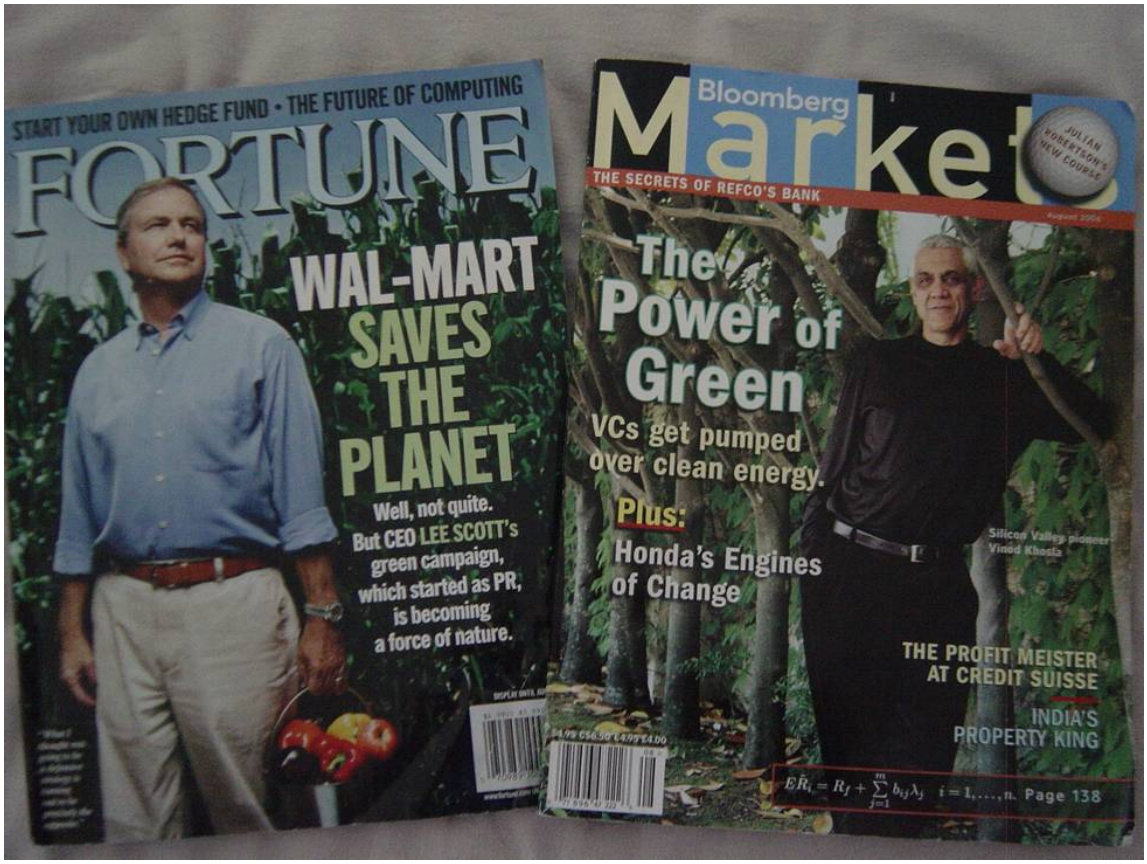


Photo 1 – Magazine Covers

This is an example: this issue becoming front – page news in two large and influential publications.

The realities are that the modern, western world's growing population lives largely in an urban environment, and choose to buy produce, rather than grow it themselves, as has been the case in earlier civilisations.

By making this choice they require farmers to work the land and utilise it's natural resources to provide this produce, to enable the chosen quality of life for that consumer. So, obviously, the greater the human population, the greater the demand for such produce and greater outputs required from the farms that produce it. This demand places a growing pressure on our natural resources to be utilised to provide the food, fibre and energy to the modern society, commonly termed the 'human footprint'. The growing awareness among consumers of their individual footprint, leads to their demand for produce grown in a more 'sustainable' way.

While it is a natural consequence of consumer demand, and one we need to take very seriously, it needs to be met with a measure of education on just how the production systems operate and why, to and keep these consumer expectations close to realistic.

Some commonly held unrealistic expectations:

- Society's food and fibre requirements can be provided for from an agricultural sector that works on a subsistence model, or something close to it, that has a minimal impact on the virgin environment.
- Productive farmland will be returned to its pre-settlement condition without food supplies or prices being effected.

To the uninitiated, these expectations seem plausible, but farmers everywhere wince at the prospect of more well-intentioned, but misguided influence being brought to bear on their legislators, which ultimately make life harder for farmers generally.

Consumers need to be made aware that what they buy does have an influence on what happens on the farm and that they are as responsible for any negative outcomes, such as land degradation, as the farmer managing the land.

Both producers and consumers need to understand that a sustainable agricultural system is possible. It is possible for society's needs to be met with a system of production that is regenerative for the land, but it will cost more to produce and therefore to buy to consume.

The Triple Bottom Line

I chose to use the concept of the 'Triple Bottom Line' as the means to measure or to test the 'sustainability' of a farming operation. The three items used are:

- Economy
- Ecology
- Community

Every business uses the financial performance of their operation as the main benchmark by which they measure their success or otherwise. We have well established and commonly recognised benchmarks to tell us whether or not we are succeeding (eg. Annual accounts and The Annual Bank Review), but we don't have the same emphasis on the health of the landscape that we exploit, nor the community of which we are a part.

I think we all know of agricultural businesses that are making a profit in the annual accounts, but that financial profit is being 'subsidised' by the decline in value of the natural ecology and/or the decline of the local community. It may be soil erosion that we see as our creeks become silted-up or hungry livestock wandering around bare country looking for a feed that we see from the outside. In many parts of our own wheat-belt the levels of inputs required to produce an economic crop is growing larger and more expensive every season. Northern Hemisphere-style cropping regimes have led to much of the soil's natural fertility being consumed, the quality of grain produced must be of a better and more consistent quality and be produced in greater quantities to be commercial, thereby creating a greater need for inputs. This increases the production risk enormously, making it more of a 'boom or bust' proposition in a dryland situation, where sufficient rainfall does not always occur. The practice of 'mining' these resources by depleting them and not renewing them is obviously incapable of being sustained in the long-term. These 'non-cash costs' end up being expensive to rectify, or even to stabilise at current levels.

But the dilemma exists that it is difficult to objectively measure the ecological and social impact of any given production system, let alone the individual farm within that system.

Why do we need all three?

Farmers the world over have a number of things in common, but one of the main ones is a deep and reverent regard for the natural environment. No farmer wants to be seen to be responsible for the degradation of his environment or have a bad effect on the local community.

While they may not always have the money or necessary knowledge and skills to manage their land positively, farmers have a special relationship with the land and also the livestock that they run on it.

As farmers, regardless of our enterprise, whether we like it or not, we are being required to maintain a "social licence" to manage the land for our personal profit, whether we own it or not. This community expectation of responsible environmental practices for community benefit is growing in influence both in the marketplace and in politics. We have been fighting the battle for resource security in many areas for a long time. But along with the right we have to exploit the land comes the responsibility to do it in such a way that we are not degrading it. As farmers we enjoy substantial political influence, possibly in greater proportion than our numbers would indicate, but this influence is diminishing as our numbers shrink. As fewer farmers are being required to operate on the same amount of land, and fewer and fewer staff are being employed on the farms of today, that political influence will be increasingly concentrated into fewer hands. This influence is not something we can buy or something we can expect to keep as a birthright indefinitely, without demonstrating substantial credentials for doing so.

There have been a number of methods trialled to measure Ecological performance of farm businesses, but having a broadly accepted method of monitoring has proved elusive thus far.

Many of the factors that make up Ecological health are difficult to objectively measure, especially on a family farm lacking the resources for expensive qualitative tests on air, water, etc. every year. Simple monitoring through a practice as basic as 'Fixed-Point Photos' can be extremely valuable in comparing the condition of the same piece of land over time. This type of process used in conjunction with a farmer's gut-feel for how things really are can give the necessary input to decisions that are made at that level.

Community health is a more difficult thing to measure at a farm level, as, generally, each farm makes up only a small part of the overall community. it is difficult to objectively measure just what impact an individual farm is having on it.

One of the best examples I came across was being used by a large corporate farming operation, Threemile Canyon Farms LLC in Portland, Oregon, USA. This company produces potatoes, some organic crops, cereals and runs a 15000 head dairy herd on 100,000 acres. Each year they publish a 'Corporate Social Responsibility Report which runs through a very detailed account of their 'non-financial' performance. For Ecological performance they run a system that monitors Soil Health, Water Usage, Pesticide Usage, Air Quality, Energy Use, Waste Produced, % of farm in Certified Organic production and Conservation Management. They maintain these objective measurements and over time trends emerge that indicate not only the ecological performance of the operation, but whether they are improving or not.

For Community performance they monitor Charitable Donations (as % of Annual Revenue), % of Charitable Donations benefitting local groups, Property Taxes Paid, % of locally based suppliers and contractors, % of Minority or Woman-owned suppliers and contractors, and the number of internships and scholarships they provided.

While I acknowledge this is an example of a corporate policy, a few farmers I found use a similar methodology, without perhaps the formality of such a document or depth of analysis. The point is that it is possible to monitor such things and to even use them as a marketing tool to extract greater value for their produce.

The time-frame in which we view the 'sustainability' of a farm is crucial to the question of whether a farm is or isn't. The shorter the time-frame used to make the judgement, the easier it is to qualify, just as it is harder to qualify if the longer term is used. (eg. I am still in business after the drought, so I must be sustainable.) So, this time-frame reference is crucial in understanding the real state of sustainability of any operation.

This also illustrates one of the fundamental barriers to adopting better practices. As most farm businesses are focussing on this season or the crop currently in the ground, their efforts are channelled primarily towards the success of the 'here and now'. There exists less time and energy to put towards longer-term objectives. The greater the pressure to succeed in the short-term, the less is the ability to succeed in the long-term. So the long-term survival of a farm business receives a lower priority then the short-term survival.

Is Sustainability Realistically Achievable?

This is the central question to the study.

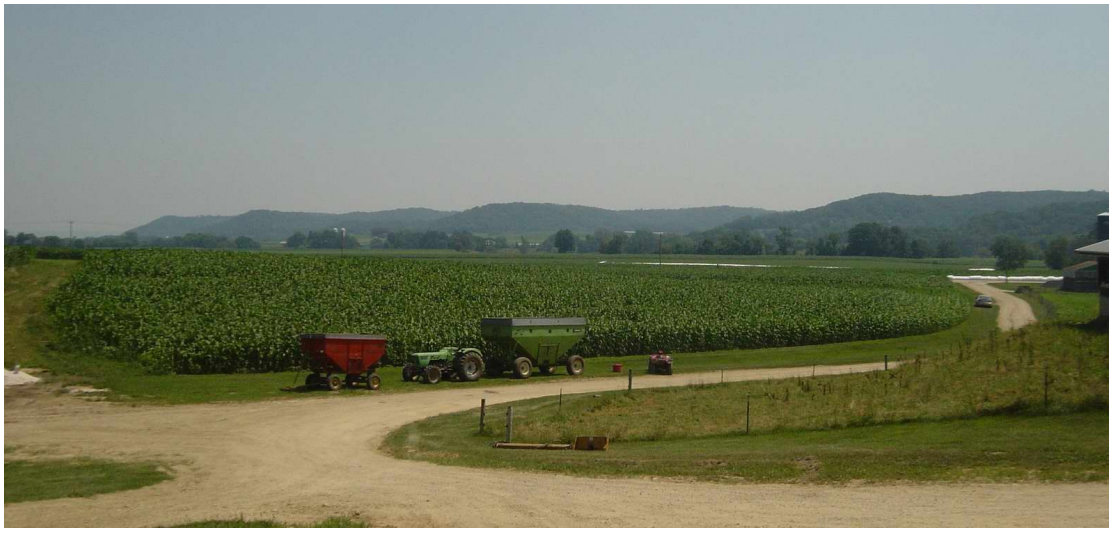
It would be an indictment on our role as farmers, land managers, and indeed our society, if we cannot reach a point where our food and fibre can be produced without badly damaging our natural resources. Indeed, it must be a cornerstone of a sustainable society that we develop a sustainable form of agriculture.

Yes, it is possible, but farmers, generally, need to make some fundamental changes to the way they farm the land and the way they manage their businesses. Some of the people I have seen have been very proactive in recognising these changes early and have capitalised on them as a result.

To measure up positively on each of the three bottom-lines will take considerable skill and effort to achieve.

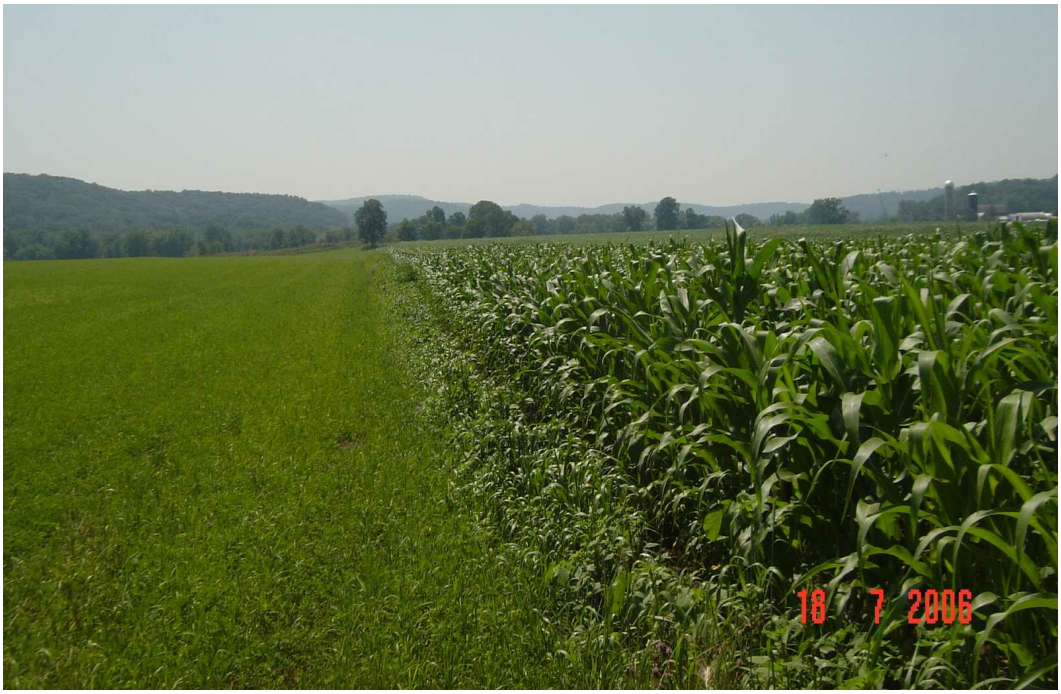
Farmers like Gary Zimmer in Wisconsin (www.midwesternbioag.com) who runs an expanding business producing Bio-Dynamic Dairy produce, beef and grains have successfully achieved a state of sustainability. Gary is an excellent manager of his natural resources and also his business. While some of his marketing power comes from the fact he is supplying what is still a niche market, which may change over time, his fundamental advantage is his high standards of management. He owns a commercially successful and rapidly expanding farming operation that is thriving due to ecologically sound production methods, good business practices and a very genuine desire to keep as much of his business local. His success can be seen from the fact that he is being approached by his neighbours who can't make a living farming, to farm their land for him on a long-term lease. These neighbours make a more reliable income from collecting rent than they do from their conventional corn and beans farming operations. Gary starts these farms by implementing a 2 to 3 year soil-building rotation, which also covers the period of transition to Organic Certification. While this period is low in income, he finds the pay-off comes in the subsequent crops of corn and soybeans which often out-yield his conventional crops and sell for a premium, and are produced without the cash-costs of fertilisers and pesticides.

His beef operation supplies a butchery in his local town of Blue Mounds, which he owns. All his supplies, machinery, services and staff are sourced locally. He part-owns a bio-dynamic fertiliser production business which supplies many other organic and bio-dynamic farmers in Wisconsin, Minnesota, Illinois and other parts of the mid-west.



Organic Corn Crop – Gary Zimmer, Wisconsin

While it is always inspiring to see a successful farmer and have a look at his farm, Gary was particularly valuable because of the way he was achieving that success. He was making a great contribution to his local economy and community and the land under his management was being improved in the process.



Hay Pasture and Corn Crop – Gary Zimmer, Wisconsin

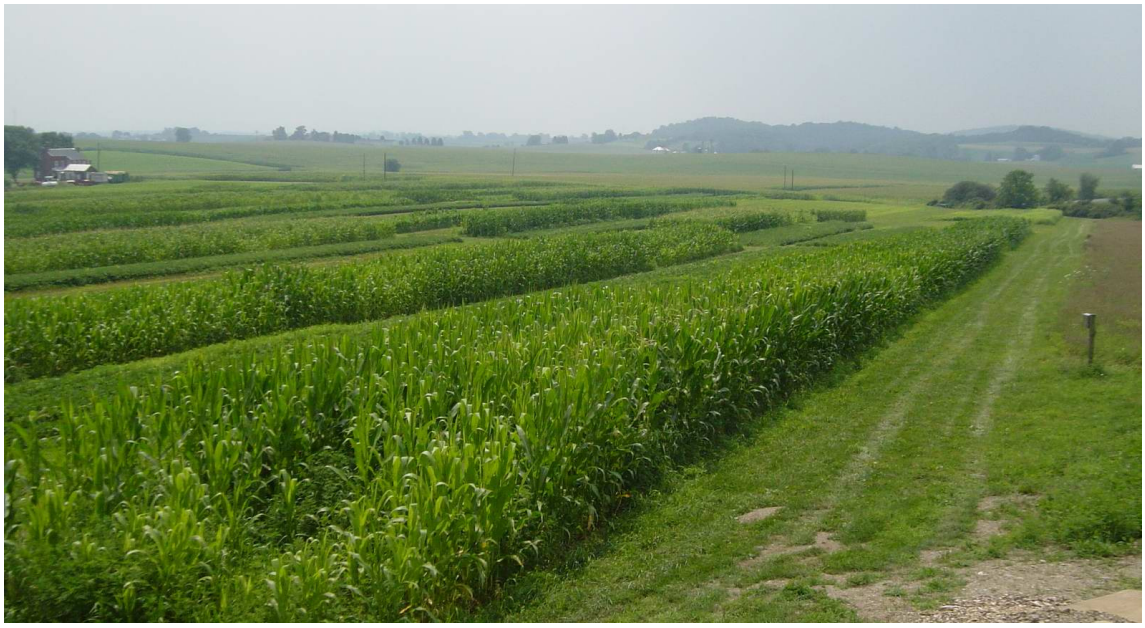
The people farming in this way are only able to do so by being really good managers in the first place. They would probably be successful in whatever they may have chosen to do. The time-frame in which it can be achieved will vary a great deal.

Research

The information we need to move forward on sustainability is largely already in existence, though we need more research to be done into local management issues in the application of these principles.

The Rodale Institute in Kutztown, Pennsylvania, (www.rodaleinstitute.org) has been conducting this type of research for more than 20 years. They have been running a farming systems trial, comparing conventional farming methods with 2 types of organic farming systems – Legume-based and Manure-based. The Legume-based system utilises crops such as soybeans, vetch, clover and lucerne to fix nitrogen and cycle other nutrients, while the Manure system has mature cow manure and various other blends, containing composts, spread and incorporated into the soil by cultivation.

Farming Systems Trials, Rodale Institute, Pennsylvania



Farming Systems Trials, Rodale Institute, Pennsylvania

No-till Soybeans – Rodale Institute, Pennsylvania

Organic Corn Trials – Rodale Institute, Pennsylvania

The results of these long-term trials have shown the differences between these methods shown up in terms of commercial profitability, soil health and energy use. Both organic methods have been proven better than the conventional option in the long term. Another feature of the Institute is their involvement in a number of international research projects, notably in Japan and Africa, looking at finding compatible 'sustainable' farming systems in these unique locations.

See Appendix: Rodale Institute Farming Systems Trial – The First 15 Years.

The Institute has maintained a reputation for reliability and high quality research by maintaining rigid scientific protocols and methods of research. This facility has become the default source of knowledge for much of the 'on-farm' practical knowledge required by producers to move towards their goals of sustainability or fully fledged organic production, but also for academics and Universities.

Another group conducting on-farm research is the Practical Farmers of Iowa (PFI) who have maintained a close affiliation with the Iowa State University (ISU). PFI have a focus on 'sustainability' rather than organics, so don't exclude all fertilisers and pesticides from their production systems, but rather only use them on an 'as needs arise' basis. They conduct research on many farms around Iowa concentrating on the 'practical, sensible' move towards sustainability, as opposed to the quantum leap from conventional to fully organic. They trial farming systems, rotations, products (manures, composts, etc.) as well as the livestock role in mixed-farm types. This group has also attained a reputation for high quality research in this area and have ongoing involvement with ISU, National Soil Tilth Laboratory, etc.

How Is Sustainability Being Achieved?

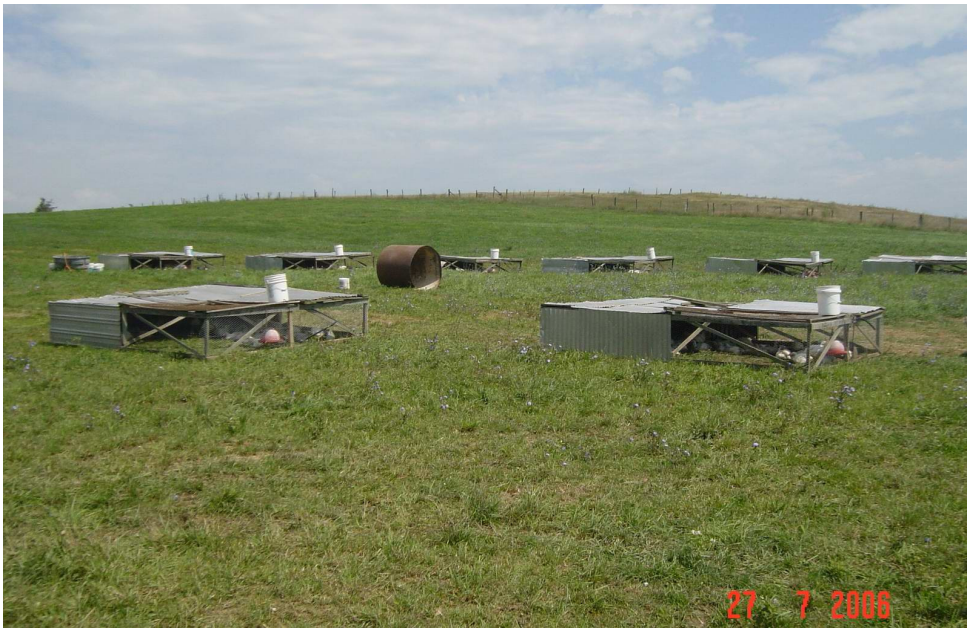
Complimentary Enterprises

A major feature of the successful sustainable farmers was their use of complimentary enterprises. The synergies that can be created by combining several enterprises that have a positive impact on one another within a single business or group of farms, are a powerful tool. In some cases it has enabled the complete elimination of artificial fertiliser and chemical inputs, the reduction or elimination of pasture renovations and tillage operations in farming situations and the overall improvement in the biology of the soil and the local ecology. Add to this the financial benefits from the reduction in the cost of production in ALL the enterprises concerned and the improvement in Net Profit that it brings, and then the benefits are obvious.

They even achieved this on single-commodity operations by establishing strategic business relationships with other nearby farmers. Where farms have no livestock, they would supply feed in the form of hay, silage or grain to a livestock operation. In return, they would receive manure, or compost to incorporate into their soils as a fertiliser replacement. Another example of a closed system involved the strategic use of rotation crops to perform different functions in the farming system that had more than one benefit. One farmer was growing oats and rye as a soil amendment between crops of organic corn and soybeans. The oats drew Phosphorous from low down in the soil profile and deposited it in the upper zone where it became available to the following crop, added some organic matter, left a groundcover of straw on the surface to protect the soil and was credited with having some allelopathic effect on some weeds. The following soybean crop was sown straight into the litter, which helped protect the emerging seedlings and suppress a few weeds. The soybean crop, in turn, fixed enough Nitrogen for the following corn crop, and gave a healthy cash-flow on the sale of the organic grain. In some cases where country was going through the three year transition to organic certification, the crops grown during this transition were purely for ‘soil-building’ purposes. They were green-manured and returned to the soil without any grain harvested, but with some grazing value utilised, which also contributed to the soil through the depositing of manure and the ‘herd-effect’ of cattle trampling plants into the ground.

Joel Salatin, in Virginia, runs poultry, mostly layer hens and broiler growers, pigs and cattle, all pasture-fed. Cattle are grazed on the pastures at heavy stocking rates with frequent moves to fresh pasture. The broiler chicks are housed in mobile pens that are moved every day, while the layers are penned inside electric fences with the mobile laying shed, and these follow the cattle.

The chickens eat the grass, the insects living in the pastures as well as seeds on the ground, but also deposit their droppings and scratch around on the soil surface, a cheap method of cultivation. The results being that the cattle produce meat and the chickens produce eggs and meat while acting on the land in a beneficial way. Joel has not had to use any pesticides or fertilisers in more than 20 years he has been doing this. The only inputs into the soil are composted manure from the shed where the cows are wintered, and the manure from the cattle and chickens as they graze.



Broilers intensive grazing on pasture – Joel Salatin, Virginia

Portable layer chickens on pasture – Joel Salatin, Virginia

Pasture for hay – no external inputs for 20 years – Joel Salatin, Virginia

It is these synergies, where one plus one equals three, which are the key strategic components in farming this way. The economic benefits are obvious, the ecological benefits are also easy to recognise visually, if not easily measurable and the social factor is also positively impacted by the healthier businesses and profitable farms.

Thinking and Decision Making

The differences in the way different people think about things is an interesting observation on its own.

Generally speaking, people who are practising 'holistic', 'sustainable' or 'organic' agriculture, (that is anything differing greatly from 'conventional') think in a different way. There are basically two main ways of decision-making: Conventional Reductionist thinking and Holistic or Dynamic Systems thinking.

Reductionist thinking aims to reduce the number of variables in a decision down to a minimum, where they only consider a few different factors in their decisions. This is completely valid and actively taught in some parts of academia, particularly in subjects where variables can be minimised, where outcomes can be assumed or calculated very accurately (eg. Mathematics, Chemistry). (Hard Systems, where the answer is either are either wrong or right). It is also probably the most common form of decision-making as it is the simplest to do.

Dynamic Systems thinking, however, aims to include many more variables in the same decision model, in order to arrive at a more reliable conclusion. It is often used in the Engineering & Weather Forecasting & Biology fields particularly anything where nature is involved, and its equations are generally 'what-if' scenarios combining a large number of variables, many of which are constantly changing. These models allow the piecing together of the relationships between many of these variables & then working that through to a likely range of results. (Soft Systems where there are many shades of grey between the two extremes of the continuum).

The other key difference in this method of thinking is the inclusion of the 'Feedback Loop'. This incorporates results from 'actual' situations and analyses the effectiveness and accuracy of the model and suggests alterations that can be made to improve the model in the future.

It should be pointed out that neither of these methods is exclusive to either field. There are many successful examples of the opposite method being perfectly successful, but the observation made is that these different methods of thinking are broadly more suited to one area than the other.

I include it because the decision making methodologies between the two broad camps of agriculture are frequently markedly different and the "holistic' or Dynamic Systems appears far more robust in its results, when used in the agricultural application.

Interestingly, other fields often criticised for using the narrow, reductionist method of thinking are Government Bureaucracies and Legal Practitioners and this is because "The System" of Laws: their synthesis & application works in the 'Black & white', wrong or right paradigm.

Change Management

Change is the 3rd known constant in life after death & taxes. Different generations have had different experiences with change. A conversation with anyone of mature age shows that change has been a huge factor in everyone's life. Where my grandfather saw two World Wars, the motor car and aircraft and then a man on the moon, my generation has so far witnessed the coming of mobile phones, computers and the internet in every home and genetically modified organisms in our crops. Each scale of change appears equally beyond the imagination of the previous generation. The world is in a constant state of change, in ways and at a speed that are ever increasing in magnitude. According to established wisdom, Man is happiest in a state of stability, where he can relax in safety and not worry about anything changing.

How people manage change in that competitive environment and their attitude toward change in their farm businesses has a huge bearing on the performance of that business in the long term and therefore on the sustainability of that business.

Generally speaking, people only change for two reasons:

1) They want to.
2) They have to.

When they want to, change is more easily dealt with and more readily accepted as they are more in control of their own destinies.

When they have to, the pain of staying where they are must become greater than the pain of changing for any shift to occur. So they are at a disadvantage to begin with and then have to deal with the stress of changing in a way they do not know or understand and are probably quite sceptical about.

My observations during my travels made it very obvious to me that the people who are the most successful in any area of agriculture, or any other type of business, are very adept at managing change. They do not change for changes sake, but they are very aware of the changes that are happening around them, in their area of concern. While they don't necessarily understand the intimate detail of everything they observe to be changing, they keep tabs on the nature and extent of the change and to what extent it may potentially impact on them or their business. They observe many changes as trends. By doing so, they can be continuously aware of possible changes that they may need to implement, in the event that circumstances require it. They have an open mind and are frequently learning about new things. They may observe traditions, but do not let those traditions become a barrier to their success.

It is a common feature of less successful operations that they appear to get stuck in a rut and find the very thought of changing painful. I think we all know of situations where farms have become a casualty of not moving with the times. That is not to cast a harsh judgement on the people, but to acknowledge that they chose a path that ultimately led to their demise, and that they learnt a lesson from it.

So, the people who change themselves are generally a lot more successful than the people who are forced to change, often at the point of a legislative or fiscal gun.

Marketing Strategy

Some of the successful farmers have developed their business model to demand an increased price for their produce. Though this is not exclusive to Organics, they have, because of the nature of their product, been able to command a premium price as the market perceives a benefit from buying it. This strategy is also being exploited by non-organic producers, quite legitimately, by selling their 'story' about the product. A lot of value can be extracted by promoting 'the story' and having the consumer identify with the product, maybe from where it was grown or the way in which it was produced.

Jimmy Wedel and Carl Pepper are both organic cotton growers on the high plains of Texas, near Lubbock. They both recognised an opportunity for producing organic cotton when they had trouble making money from conventional cotton despite receiving subsidies. They did their research and worked out that there existed a largely unmet market for the organic product. They ran trials growing cotton organically and it proved viable to grow on a larger scale. They formed a group of organic growers and established the Texas Organic Cotton Marketing Cooperative (www.texasorganic.com). They are growing crops which are slightly below conventional yields, but are achieving prices of almost double the conventional cotton, so their profitability is much greater with the organic product.

Organic Cotton – Jimmy Wedel, Texas

Their methods of production are different from conventional cotton as they do without the chemical inputs of insecticides, herbicides, fertilisers, growth regulators and defoliants. As a result, they do more mechanical cultivation and hand-hoeing to control weeds, use composts, manures, other organic-approved fertilisers and rotations with peanuts for their nutrients and rely on a 'freeze' to defoliate the plant prior to harvest. They are blessed with having very low insect pressure, so they don't suffer a lot from insect damage to the crop by not using insecticides. Their costs of production are generally lower than their conventional crops.

Organic Cotton – Carl Pepper, Texas

Many farmers who choose to use Farmer's Markets as the outlet for their produce, use this idea to create and develop a relationship with their customers, to foster ongoing business. People who know and, more importantly, like the idea of the way something is produced will pay more for it than the commodity product about which they know nothing. This adds much weight to the argument that farmers are selling their commodities too cheaply, as a proportion of the final cost to the consumer at the supermarket. I believe this is particularly so in bulk commodity markets, where the price the farmer receives for the raw product makes up such a small percentage of the end price.

The Cotton Value Chain Analysis		
Cotton Shirt – "Banana Boat' Brand Made from 0.87lb cotton lint		
Who owns the value in this shirt?		RRP US$78
	% RRP	
Grower/Ginner/Warehouse	0.8%	US$0.62
Spinning and Weaving Mills	12.2%	$9.56
Apparel Manufacturer and Wholesaler	20%	$15.37
Retailer	67%	$52.45

Source: ReWoven Website www.rewoven.com

This is one example of the situation that is quite typical in a lot of agricultural commodity systems producing bulk commodities. With farmers receiving such a small percentage of the end value of the product, the lack of bargaining power in the commercial arrangements made becomes very apparent. It illustrates the minimal impact on the end price of an increase in the price he charges for it.

If the price of that raw product were to rise, even double, it appears to make only a small change proportional to the final price, but would fundamentally transform the farmer's profitability, and hence facilitate the adoption of more sustainable practices at the production level. If consumers were to understand how little many farmers get for their produce, they may be more sympathetic to paying a small percentage more for their food, especially if they understand that by doing so, they are contributing to the sustainability of agriculture in the long term. If they can understand that in some 'rich' countries this is happening by taxpayers paying extra money to farmers in the form of subsidies, just to keep them on their farms, the real cost of their food is actually really cheap in comparison. Eg. US spends 6% of disposable income on food, UK spends 9.1%, Australia spends 10.5%.

See Table 97: Food CPI, Prices and Expenditures: Expenditures on Food, by Selected Countries, 2002)

Conclusions

It's all about getting more value for our money! People who will take a thriving business into the future will be looking more critically at their practices, their physical operations and inputs and identifying the critical changes that can be made to improve their bottom lines. Improving ALL of our bottom lines & terms of trade.

Sustainability is a long-term, 'big-picture' issue, not a short-term 'silver bullet' solution to a short-term problem.

We need to use sustainability as our competitive advantage in export markets for all produce as "The Story".

We need to redesign our production systems to make them broadly complimentary, as well as on-farm synergies. So, we seek synergies on farm & synergies between farms.

The information we need to move forward on sustainability is largely already there, though we need more research to be done into local management issues in the application of these principles, as the Rodale Institute has been doing for 20 years.

We need to have a discussion on sustainability more widely in the farming community, not just in our local or industry groups.

It involves changing whole systems of production, rather than changing a few components of the existing system, though small moves in this direction are better than no move at all.

This 'Triple Bottom Line' concept could best be considered as the ultimate 'Best Practice Management' program. This can be seen as a very ambitious set of criteria with which to comply, but it is intentionally so. It is only the managers with the greatest ability and imagination that will be capable of reaching the ultimate state of sustainability, but the very pursuit of these goals by the 'mainstream' of farmers will do much to improve all three bottom lines in their local communities, economies and environments.

There is considerable work to be done in educating consumers about how their requirements are being met and the links that exist between their purchase decisions and farm practices.

References

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Meade, B. 2005. USDA Economic Research Service: Briefing Room: Food CPI, Prices and Expenditures: Expenditures on Food, by Selected Countries, 2002

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Appendices

(Source: USDA Economic Research Service, Briefing Room)

Table 97 Share of household final consumption expenditures spent on food and alcoholic beverages consumed at home, by selected countries, 2002				
Country/Territory	Share of household final consumption expenditures[1]		Household final consumption expenditures	
	Food[2]	Alcoholic beverages	Total	Food
	Percent		*Dollars per person*	
United States[3]				
ERS estimate	6.5	1.5	25,590	1,675
UN estimate	7.3	1.6	25,590	1,874
United Kingdom	9.1	4.0	16,867	1,543
China, Macao SAR	9.6	1.0	5,740	550
Canada	9.9	4.0	12,715	1,264
Australia	10.5	4.1	12,507	1,315
Switzerland	10.9	3.6	22,188	2,427
Netherlands	11.0	3.2	12,788	1,407
Germany	11.9	3.9	13,663	1,624
Sweden	12.5	4.1	12,731	1,591
Denmark	12.6	4.5	14,900	1,871
Austria	12.6	3.0	14,078	1,773
Finland	12.9	5.9	12,381	1,596
Belgium	13.3	3.8	12,613	1,671
China, Hong Kong SAR	13.4	0.8	12,605	1,690
Japan	14.4	3.2	17,456	2,517
Italy	14.7	2.4	12,314	1,812
France	14.8	3.5	13,106	1,939
Republic of Korea	14.9	2.3	13,272	1,980
Puerto Rico	15.7	3.9	9,879	1,546
New Zealand	16.7[4]	NA	8,884	1,488
Spain	17.1	3.3	9,242	1,577
Greece	17.1	5.1	8,389	1,437
Israel	18.6	2.6	9,157	1,706
Czech Republic	18.7	8.7	3,606	676
Iceland	18.8	4.9	15,413	2,903

Poland	19.9	6.5	3,241	646
Slovakia	22.5	5.9	2,556	575
Malta	22.5	4.4	6,225	1,401
Latvia	23.7	7.4	2,463	584
Estonia	23.7	10.2	2,887	685
Mexico	24.5	2.7	4,394	1,075
Thailand	24.9	6.3	1,164	290
South Africa	26.6[4]	NA	1,511	402
Malaysia	28.9	3.8	1,727	498
Lithuania	29.0	7.2	2,595	751
Bulgaria	29.3	3.6	1,347	394
Islamic Republic of Iran	30.5[4]	NA	916	280
Sri Lanka	39.7	10.0	612	243
India	39.7	3.6	313	124
Philippines	47.5	2.0	667	317
Belarus	50.5	5.1	850	430
Azerbaijan	76.8	1.8	471	362

NA= Not available. SAR=Special Administrative Region.

1/ Household final consumption expenditures are the sum of spending on food and nonalcoholic beverages, alcoholic beverages, tobacco and narcotics, clothing and footwear, housing, water, electricity, gas and other fuels, furnishings, household equipment and routine maintenance of the house, health, transport, communication, recreation and culture, education, restaurants and hotels, miscellaneous goods and services, plus direct purchases abroad by residents, minus direct domestic market purchases by nonresidents.

2/ Includes nonalcoholic beverages.

3/ Two sets of estimates are shown for the United States. The first set is based on ERS estimates of U.S. food and beverage expenditures by families and individuals. The second set is based on U.S. Department of Commerce estimates of expenditure for food and beverages, and is used by the United Nations (UN). The ERS estimates are lower partly because they exclude pet food, ice and prepared feed, which are included in the UN provided numbers. The ERS estimates also deduct more from grocery store sales for nonfoods, such as drugs and household supplies, in arriving at the estimate for food purchases for at-home consumption.

4/ Includes alcoholic beverages, tobacco, and narcotics.

Source: Computed by Birgit Meade (202-694-5159), ERS, from data provided by the UN System of National Accounts and ERS expenditure series.

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