

**Agro-Ecological  
Investment Management**

**Farmland Investment Handbook**

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## INTRODUCTION

Farmland is an asset class that has seen increased interest, discussion and activity in recent times. Large private equity firms in London, and pension funds in the United States, have been among those making significant investments in farmland around the world. It has been covered extensively in the financial press including the Financial Times and the Wall Street Journal.

But how much is really understood about farmland as an asset class?

Is it possible to become an expert in agronomic and agro-ecological science and management sitting in an office in London or New York?

What are the ecological and investment consequences of clearing so called scrubland for cropping?

Do those evaluating and managing the investment process know?

In this handbook we attempt to strip away some of the mystery around farmland and outline the key aspects of it as an asset class; its management, the key considerations for investors and perhaps most importantly of all the vital questions any good farmland investment advisor must be able to answer satisfactorily.

**"I believe fundamentally that unless we work with nature in a myriad of ways...we will fail to restore the equilibrium we need in order to survive on this planet."**

**HRH The Prince of Wales, Daily Telegraph, October 2008**

# ASSET CLASS

## Why farmland?

Farmland is a relevant, well performed and poorly understood asset class. An asset class you may have been increasingly hearing about.

Farmland investments represent a secure and long-term component of a well-designed portfolio. It is entirely consistent with a multi-generational, considered and legacy focussed investment philosophy.

Farmland provides a physical asset, an historically proven hedge against inflation, uncorrelated returns, which make it an important ingredient in generating genuine and effective diversification in an investment portfolio, and attractive, consistent performance.

The performance of farmland over 5 and 10 years has been superior to the major equity markets while at the same time delivering greater security and materially less volatility; which in our view makes it an essential component of any competently managed investment portfolio.

Farmland is, particularly in a developed country such as the United States or New Zealand, a long-term, stable and well performed asset class.

Farmland is increasingly viewed as a critical strategic resource. The reports of countries such as China, South Korea and Saudi Arabia

actively seeking out fertile land across the globe, only emphasises this point.

Farmland asset class benefits:

- capital preservation;
- lack of correlation with global equities;
- risk minimisation;
- inflation hedge;
- portfolio diversification;
- stability, i.e. low volatility; and
- attractive investment performance.

Investing in farmland in addition to providing benefits in terms of portfolio diversification, also delivers exposure to the following investment themes:

- agriculture;
- sustainability; and
- global climate change.

## But how do you access this asset class?

Investment firms in general have very little if any knowledge, experience, insight or understanding of farmland, so therefore it generally isn't an asset class they are able to offer to their clients.

Farmland is also a quite unique and highly specialised asset class. In turn it requires an equally unique and highly specialised asset manager with appropriate levels of experience, knowledge and expertise.

**"If I'm right agriculture is going to be one of the greatest industries in the next 20 years, 30 years".**

**Jim Rogers, March 2009**

## ASSET MANAGEMENT

The farmland asset manager is responsible for the selection and analysis of prospective farmland assets, the purchase of the asset, and the overview of the management strategy for that asset.

Few family office or institutional investors possess the knowledge and experience to successfully manage farmland operations directly themselves on a long term basis. This is why specialist farmland asset management firms are so important.

The price paid for an asset is extremely important in successful farmland investment. The optimisation of performance however is dependent on the quality of the management.

Good farmland asset management focuses on enhancing the property's agronomic performance, ecological health and productivity, which in turn enhances the income generated and the capital appreciation of the asset.

Soil, climate, infrastructure and management are the critical elements that determine annual farm income, long term profitability, and the value of the asset.

Farm management is critical once the property is acquired, particularly in organic systems; but firstly it is important to make good decisions in the farmland selection process.

It is therefore vital that a thorough due diligence process is undertaken in selecting quality farmland assets. This is covered in more detail in the Farm Appraisal section.

In evaluating a property for investment purposes the primary determinants of quality are: soil, location, water and versatility.

### Soil

Soil is the building block of production and the fundamental basis of organic production. The management of soil and the view of its role in

agricultural production is a key defining point of difference for organic agriculture. The soil is a medium of life and not just a means to pass mineral A to plant B. It is a resource, an eco-system in its own right, to be managed in an organised, deliberate and holistic way. If done well it will reward the farmer and investor with robust health of plant, animal and financial performance.

The better the condition of a property's soil, i.e. quality/health, the better placed the asset is to achieve agronomic and investment performance.

To go into a description of soil and soil quality in any detail would require a book (tome) in itself but suffice to say it is the first thing discussed and considered when land is being evaluated for investment.

### Location

Location refers particularly to infrastructure, access to market(s) and climate. It is essential to be undertaking a farming enterprise in an area where that particular enterprise is strong. This should mean there is good infrastructure and market access availability. This must be evaluated and understood prior to making any decision to purchase. For instance in our core regions we are engaged in the primary or one of the primary farming activities in those regions with all the attendant infrastructure that implies. Access to market in the form of buyers, processors and transporters etc. is well established, sophisticated and easily accessible.

Climate will dictate what type of farming system and enterprise is appropriate to a particular region and a specific location. Even within a region climate will vary and sometimes quite dramatically. Climate is a key factor in determining the production performance of any farming system. It also links directly into the next determinant of quality, water.

## Water

Water, whether in the form of irrigation or rainfall is essential to agricultural production. From a farmland investment perspective regions/properties must have an excellent rainfall profile and/or irrigation resource. In some markets high profile investors have made much of their water rights. These however don't count for much when the allocation is 7%, 7% and 36% of total annual water rights over each of the last three years respectively. Farmland systems must have access to clean, real, and useable water in sufficient quantity.

All plants and animals require a steady and stable supply of water for growth, health and optimal production performance.

Where there is no irrigation the amount of rain and the spread of its fall, i.e. how much and when over the course of a year it falls, are vitally important determinants in assessing a property.

## Versatility

Versatility refers to the ability of a property to operate more than one enterprise. It is determined by all of the above factors. Versatility is an overlooked but extremely valuable asset in land. It enables diversification, shifts to alternative production systems and provides a number of different avenues to support capital appreciation.

A good example is the high-quality land of the Canterbury plains in New Zealand which has traditionally been focussed on cropping and lamb production but has in recent times seen a significant shift to irrigated dairy production.

The beauty of an organic system is that a wide range of enterprise options can potentially be conducted on one property.

## Overall Quality

Above all the focus is on the overall quality of the land. Marginal land is marginal for a reason and there is very little (if anything) that can be done to change that despite what some may be suggesting.

So called 'scrubland' in Latin America for instance is not always the irrelevant, worthless system waiting to be cleared for cropping as it has been presented.

It is often a valuable, indeed critical ecosystem and acts to maintain health and cleanliness of water ways, soil and nutrient retention and provides a diverse grazing system, not to mention the natural biodiversity and increasingly vital carbon sink function it provides. Furthermore from an agronomic point of view this is generally marginal cropping land with soils less than ideal for successful cropping farm systems.



## FARM APPRAISAL

The science of agro-ecology drives farmland agronomic, and by definition, financial performance and it is agro-ecology that will increasingly be the prevailing science of success in farmland management.

Among the sustainability focussed investment community there is some debate over how to define, measure and understand sustainability from an investment point of view. A number of participants have even gone so far as to create their own mechanism for measuring how sustainable or otherwise an investment is. Such inventions are even being applied to farmland.

These actions, in our view, merely reflect the lack of understanding around sustainability, particularly as it applies to farmland and its management.

The science of ecology and particularly agro-ecology underpin and provide the basis for conducting and measuring farmland investment sustainability. It is this scientific approach that delivers rigour, discipline and perhaps most importantly of all from an investor's perspective, on-going independent evaluation.

It is with this background that we evaluate farmland investments.

### **Due Diligence**

The purpose of the due diligence analysis is to provide a detailed, comprehensive and structured evaluation of a potential farmland investment to ensure that as many aspects

relevant to farm productivity and land appreciation are considered in sufficient detail.

Property appraisal is done using a three stage approach, starting with a simple analysis of the property, based mainly on market literature, on the ground connections and by questioning the agent/vendor. If this initial analysis indicates that the property is of interest then a more thorough second stage analysis is undertaken, including a site visit and more detailed and structured evaluation. If the second stage analysis indicates the property has investment merit then the full due diligence analysis will be undertaken.

The existing Agro-Ecological due diligence document covers over five pages of material to be considered, noted, evaluated and covered in the report provided to the Investment Committee with whom the decision to purchase resides.

The range of topics covered include geography, soils, climate, ecology, productivity, communications, markets, neighbouring farms and environment, infrastructure, existing land management, enterprises and performance. This list is in no way exhaustive. It does however provide an insight into the level of detail and topic coverage required in any effective farmland due diligence process. It also goes some way to illustrating the complexity and level of specialist understanding required of this asset class.

**“I am easily satisfied with the very best.”**

**Winston Churchill**

# ASSET ALLOCATION

Diversification is the key when establishing good sized farmland investment portfolios for family office and institutional investors.

In farmland investment the means to achieving diversification is through geography and enterprise/farming systems. This is the way to achieve good long term performance with low risk. It also enables a balance to be created between income and growth in a portfolio according to an investor's profile and objectives.

The four main enterprise classes we consider when designing a portfolio are mixed cropping, perennial crops, e.g. apples, kiwifruit, grapes, nuts etc. dairy and beef/sheep.

The availability of different farming systems varies from country to country which invariably means access to all four farming systems may not be possible or relevant in all investment destinations.

There are other enterprises which in an ecological context can fit neatly into these in a supportive and complementary way such as poultry, pigs, and trees.

One of the strengths of organic systems is the way in which ecology and diversity are utilised to generate positive agronomic and financial outcomes.

In some locations a wide diversity of farming systems are available such as in New Zealand and the United States, whilst in others there is a more concentrated focus in terms of system, e.g. perennial cropping, but with significant diversity of enterprise within that system, e.g. citrus, avocados, nuts, kiwifruit, apples, grapes, etc.

## Farming System

### *Mixed cropping*

Mixed cropping includes cereal, vegetable, seed, medicinal, fibre and livestock enterprises. In the case of the crops they are annuals (or row crops). This means they are generally sown and harvested within a year (or two for some crops). These crops are rotated around the farm along with the livestock enterprises. The latter generate income and also fertility for subsequent cropping enterprises in the rotation.

In the Canterbury region of New Zealand for instance, with its remarkably versatile soils, it is not uncommon to have over 14 different enterprises on one farm.

This makes for a very low risk, stable and flexible farmland investment. It is considered by professional farmland investors to be a bedrock system. In our view it is a core component of any well balanced farmland portfolio. It offers low asset price volatility, highly diversified income, thus lower risk, and attractive long-term performance.

Mixed cropping land is arguably the safest of a very safe, tangible asset class.

It represents up to 40% of our core 'base portfolio' and an essential component for those investors seeking low risk and long-term growth.

### *Perennial Cropping*

Perennial crops (or permanent crops) are fruit and/or nuts from vines and trees. These are high value, long-term crops, producing quite outstanding incomes per area of land. They are however higher risk than mixed (annual) cropping systems and with more volatile asset values.

It takes a number of years from planting before perennial crops yield a viable harvest. The health of the trees/vines is paramount and under constant stress from climatic, pest and disease impact. In organic systems the health of the entire orchard/vineyard ecosystem is critical to performance.

This places even more emphasis on the quality of management action, experience and knowledge.

Perennial crops are the key income providing farming system and should therefore be represented in any balanced farmland portfolio.

For those investors with a slightly higher risk tolerance the performance of perennial systems will naturally move them towards an overweight position.

Indeed for some investors perennial cropping is their sole focus, such is the overwhelming impact of its income performance.

#### *Dairy*

Specialist dairy can also include 'dairy support' land which is likely to involve beef and sheep operations but essentially it relies on one main product for its income, milk.

Dairy production is a consistently profitable enterprise. It has performed well over an extremely long period, even when other farming systems have been suffering downturns.

The consistency of its long term performance combined with the strong supply opportunities available to organic producers makes dairy a very important component of a well balanced portfolio.

In New Zealand for example dairy production currently offers arguably the strongest organic supply case of any enterprise.

The pastoral based approach, i.e. cows grazing grass, provides dairy production systems with a critical advantage. This advantage will be extended as the costs of cereal based dairy feeding systems increase. It is also a system that can be applied in many other regions of the world including the United States and

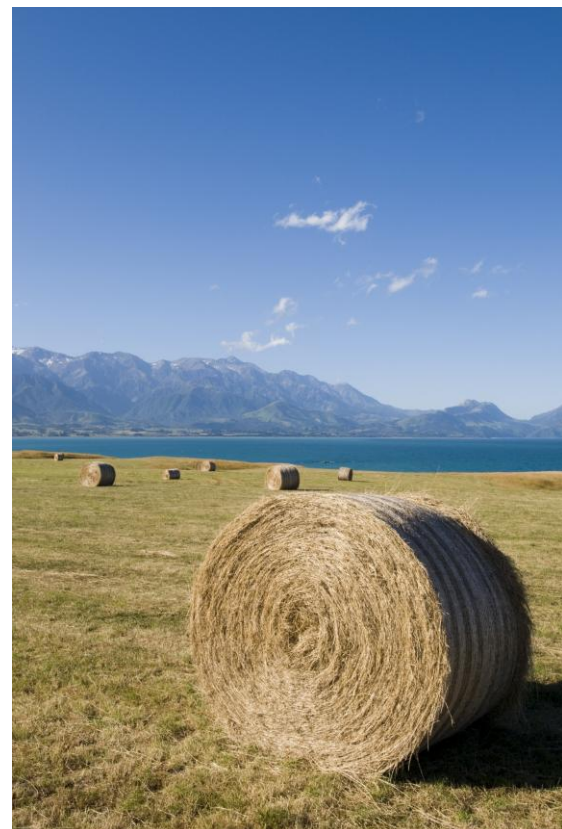
South America, where such systems are less widely utilised.

In our view in a world of increasing commodity prices and negative climate change impacts, organic pastoral dairy production systems will be strongly positioned to generate superior returns in comparison to the industry standard.

The investment nature of dairy systems also fits well with the other farming systems (mixed cropping, perennial and beef/sheep), with its generally higher income performance than mixed cropping, lower volatility and risk than perennial, combined with good growth.

Dairy and beef/sheep systems are also able to operate in a connected and complementary way, which further strengthens the operation of the individual components and of a portfolio as a whole.

Dairy fits a balanced portfolio but also suits a more income focussed investment platform. This is particularly the case in pastoral dairy development situations such as in the United States and South America.



These types of farming systems are traditionally managed as purely livestock properties with the mix of livestock classes being determined largely by climate and geography.

These systems can include additional and/or alternative enterprises of deer, merinos (specialist fine wool sheep) and trees (nuts, timber, fuel).

These types of farm are enormously underrated assets with great potential for long term investors.

They offer significant scope for utilising innovative management practice, and developing sophisticated blends of integrated enterprises providing diverse income and time horizon profiles. This also makes them extremely well suited to climate change adaptation.

The introduction of trees as an enterprise class offers long-term income benefits from fuel, nuts and/or timber. Trees also combine with livestock for mutual agronomic advantage and offer prospective income streams from new environmental markets such as biodiversity and carbon.

Protein production from grass (pastoral production) does not rely on cereals for feeding livestock. The organic/ecological management of a farm system significantly reduces the levels of fertiliser and chemical inputs and therefore cost.

It is therefore another system that is naturally less exposed to, and more robust in the face of rising input (feed, fertiliser and chemical) costs.

These low cost systems are capable of generating at or close to conventional production levels but with superior prices received.

A number of structural changes have occurred which have materially impacted on supply from these systems, particularly of lamb.

New Zealand, which represents 75% of globally traded lamb, has undergone a

significant and structural reduction in the national sheep flock as a result of large scale conversions of sheep properties to specialist dairy farming systems.



This trend has been further compounded by drought and recent poor returns for sheep, creating a lack of on-farm investment. Prices for lamb have already responded positively to the reduced supply but the ability of production to respond is extremely limited in the short to medium term.

These systems provide a differentiated, low risk and valuable component of a diversified and well balanced farmland portfolio.

In New Zealand these types of system are being actively invested in by family offices.

As an asset class, integrated livestock and tree systems offer investment characteristics relevant to and appropriate for genuinely long term investors, e.g. multi-generational family offices, charities, pension funds and endowment funds, and those with a climate change understanding and/or investment mandate.

## Geography

The remarkably diverse climate ('a continent in an Island') and versatile soils of New Zealand provide for a broad range of agricultural production systems, including horticulture, viticulture, arable and intensive pastoral production.

This provides an ideal environment for the establishment of secure, long-term (multi-generational), well balanced farmland portfolios.

It is this balance of enterprise and geography that is sought in all investment locations.

The asset allocation balance inevitably varies according to location. In Southern Africa for instance there is a focus on the wide range of perennial cropping systems, e.g. nuts, grapes, citrus and avocados etc. as the portfolio core, supported by mixed cropping.

In South America the potential to upgrade low productivity grassland systems to efficient organic pastoral and mixed cropping systems is at the core of any portfolio, supported by perennial cropping systems.

In the United States there is an incredible diversity of enterprise, climate and geography over a large geographical area. It provides enormous scope for creating well balanced and diversified farmland portfolios.

To some extent when geographical diversity is discussed it also means enterprise diversity.

Particular regions tend to specialise in certain farming systems/enterprises.

When we seek to diversify a farmland investment portfolio beyond the core model, we look at different enterprises within our existing investment regions but also other regions and enterprises with a good agronomic and market profile supported by different climatic and geographical features.

For family office and institutional investors we recommend a portfolio diversified by region and enterprise. In our opinion a stable, well balanced portfolio includes a range of cropping and livestock enterprises, specialist pastoral dairy and perennial crops, e.g. apples and kiwifruit, in targeted regions.

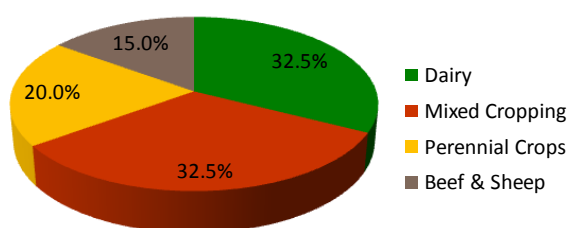
It is important to not limit an investment strategy in terms of region or enterprise and to maintain an outlook for the opportunistic windows that appear in the agriculture sector.

Such opportunistic investment will invariably be identified first and often exclusively by those closest to the action. These types of opportunities tend not to be covered in research reports published by big investment houses or reported in the Financial Times or the Wall Street Journal.

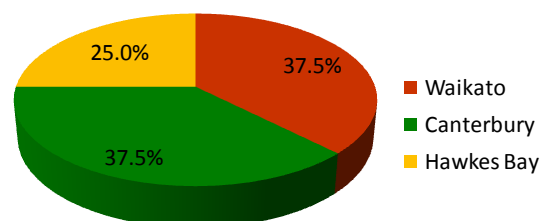
The charts below provide an example portfolio mix for New Zealand by region and enterprise.

### Example Asset Allocation Model - NZ

Farming Systems



Geographical Region



Waikato is located in the centre and west of the North Island (Te Ika-a-Maui)  
Canterbury is located in the east of the South Island (Te Wai Pounamu)  
Hawkes Bay is located in the east of the North Island (Te Ika-a-Maui)

## CLIMATE CHANGE PERFORMANCE

Agriculture will increasingly be required to address and bear the costs of its poor environmental performance. This will necessitate (and financially reward) a new approach. The challenge of adaptation will intimidate and be beyond the scope or ability of many to manage but in our view it is inevitable.

Ecological agriculture is the key source of long-term (multi-generational), sustainable farmland management and food production in a world of increasing resource constraints and damaging global climate change. It is, however, poorly understood and the recognition of its importance and increasing advantage over chemical intensive farming methodologies is negligible. It is in this environment that significant investment opportunities lie.

Research results, backed up by practical experience, are very clear that over the course of a cropping rotation, organic production is more consistent in its yield and therefore in its financial performance. This is primarily because it is more resilient to extreme events, e.g. floods and droughts

Research in the United States has demonstrated that organic cropping systems out-yielded conventional by up to 30% in drought years. This organic advantage in drought years is a result of better soil structure and higher levels of carbon, which improves the ability to retain more water, which in turn is available to the growing crop.

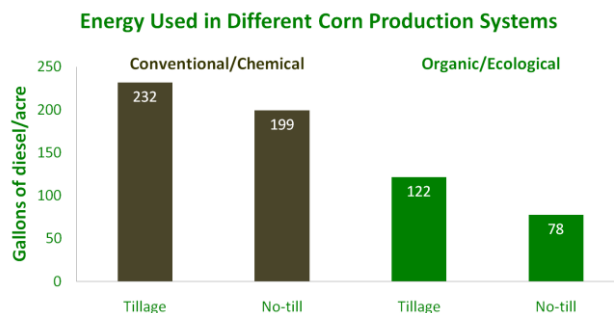
This is a critical point of difference that provides organic/ecological farmland management (and investors) with a material and measurable advantage. It is an advantage that will only become more marked as the negative impacts of global climate change on agricultural production become more damaging and frequent.

A matter of increasing concern to conventional producers is the growing cost of inputs. Organic production however is far less exposed to increasing input costs such as fertiliser and chemicals. As a result the financial performance of conventional farming systems is under far greater and on-going pressure. This pressure potentially leads to farmland business distress which can in turn generate investment opportunities for those farming in a more efficient and successful manner.

Research indicates that organic/ecological management also creates significant reductions in on-farm energy use and carbon emissions.

Energy analysis of different farming systems identified a 33% reduction in fossil-fuel use in organic cropping systems compared with their conventional counterparts.

Furthermore, organic minimal tillage systems reduce fossil fuel use even further than the standard organic approach and far more than either of the two conventional approaches (see below).



Data Source: Rodale Institute

The by-products of farm production, e.g. slurry, which are seen as waste products in, and potentially pollution from, conventional systems are valuable nutrient resources in organic systems. This eliminates the cost of disposal and reduces the need to import (expensive) external nutrient resource.

Organic/ecological management develops soil organic matter, rather than depleting it, with resultant superior carbon sequestration outcomes generated.

In fact research undertaken by the Rodale Institute in the United States has found increases of almost 30% in soil carbon over 27 years, whilst conventional systems showed no significant increase over the same time, and

indeed there was some indication of carbon loss.

Organic/Ecological agriculture is the gold standard of sustainable food production and environmentally positive farmland management. Its measurably superior environmental performance in terms of soil, water, pollution, biodiversity, and climate mitigation (carbon retention and sequestration), also potentially creates opportunities in new environmental markets.

Ecological farmland production offers the ability to shift agriculture from a global climate change problem to part of the climate change solution, with attendant financial rewards.



## GLOBAL MARKET

The following growing themes in the food retail sector all heavily support the increased consumption of and demand for organic food:

- focus on fresh and natural;
- provenance;
- health/safety (particularly in North America and Asia);
- traditional values and practices; and
- people's interest in the 'story' behind their food.

The organic sector is the fastest growing in the food market and demand for organic products remains robust.

The global organic food and drink market was valued at \$52 billion in 2008. The market is still growing at significant levels with forecast growth of 14-15% for 2009, and in many enterprise classes demand is not being met.

The global recession is currently having limited impact on demand for organic product.

In the United States, the single most important market just ahead of Europe,

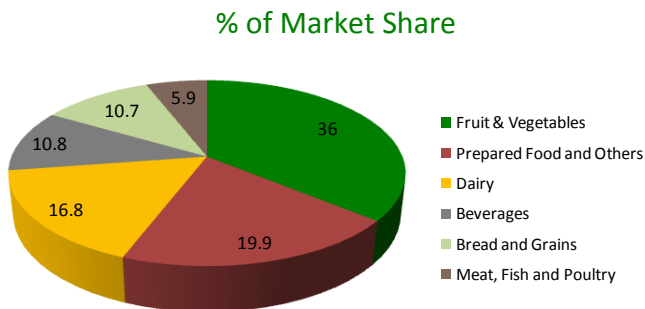
organic food sales have more than quintupled from \$3.6 billion in 1997 to \$21.1 billion in 2008. According to the Organic Trade Association 28% of consumers in the United States buy organic products weekly.

A recent report from the USDA (Emerging Issues in the U.S. Organic Industry) has highlighted issues around the material lack of supply in the United States organic food sector. In addition the study discovered and emphasised the strength of that market.

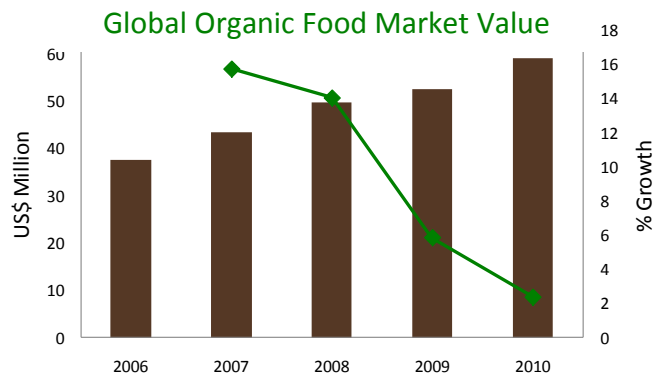
"Surveys suggest that many organic consumers may not be particularly sensitive to the price premium paid for organic products."

<http://www.ers.usda.gov/Publications/EIB55/EIB55.pdf>

Global sales of organic food and beverage are expected to grow to \$85 billion by 2013. Organic dairy sales in 2008 represented 17% of the organic market, while fruit and vegetables remain the dominant sector with 36%.



Data Source: Data Monitor



## INVESTMENT PERFORMANCE

The type of farming enterprise invested in makes a marked difference in terms of risk, performance, and the way in which performance is generated, i.e. income and capital appreciation. In this section we outline the background environments to four core enterprise classes, their historical performance and investment characteristics.

### Dairy

Organic pastoral dairy systems are capable of achieving superior financial performance as a result of markedly reduced animal health costs, good levels of production and a price premium received for the product.

As an example of this financial strength, the top performing organic dairy farm in New Zealand was in the top 3% of financial performance for all dairy farms last season.

Organic milk is chronically under supplied; in fact, according to Fonterra the New Zealand based dairy processor responsible for 40% of the world's cross border dairy trade, demand is currently and in the medium term, 6 times their ability to supply.

Dairy land is priced according to the conventional milk price, which favours organically focussed investors. Furthermore land prices are currently off their highs of 2008 in response to the fall in commodity prices.

Pastoral dairy systems demonstrate consistent, long term (25+ years) performance. It is this good performance which has driven the massive expansion of conventional dairy production in New Zealand.

- Dairy land in NZ appreciates on average 11.5-12% p.a.<sup>1,2</sup>
- Dairy land tends to have very low volatility. In NZ over the last 5 years it has been less than 5.5%<sup>2</sup>.

- Targeted income returns from dairying are in the region of 6-10% p.a.
- Potential returns are higher (2-3 times) for pastoral dairy development projects in the likes of Uruguay and the United States.

Put simply, organic pastoral dairy systems can produce the same or similar yield to conventional pastoral systems with lower costs and higher prices received.

### Mixed Cropping

The bedrock component in any portfolio with its stable and excellent historical capital appreciation performance, supplemented with consistent income.

The diversity of mixed cropping enterprises and as a result its sources of income, further enhances its low risk nature while also creating good opportunity for incorporating specialist and higher value enterprises.

This diversity of enterprise lends further support to capital appreciation, as the land is not dependant on a single enterprise for its value as with perennial crops.

- The long term average for arable land appreciation in New Zealand is approximately 12.5%<sup>2</sup>.
- In the United States mixed cropping land tends to appreciate at around 8% p.a. while generating income returns of 4-6%.
- Arable land has low volatility, for example in NZ it has been less than 7% over the last 5 years<sup>2</sup>.
- The targeted income returns from mixed cropping production in New Zealand are in the region of 3-5%.

Mixed cropping land offers investors a remarkable combination of low asset price volatility and low operational risk, as a result of its significant enterprise diversity; and solid consistent double figure returns.

1. Based on regional specialists and local agent information.

2. Professor Chris Eves 'Developing a rural land investment performance index for New Zealand'.

## Perennial Cropping

The performance of organic perennial crops over the past ten years has been quite exceptional and comfortably ahead of any of the major equity indexes over the same period.

As a single crop it can be volatile but the organic factor can potentially transform upheaval and poor performance in the conventional sector, into investment opportunity.

Income is the biggest driver of performance but the underlying asset, i.e. the land, contributes a double figure annual return on average. It has a higher level of volatility than the dairy or mixed cropping farmland sectors but the impact of this is significantly reduced through the application of a long term investment strategy.

- The long-term average for land appreciation is in the region of 10% p.a.<sup>1,2</sup>
- Volatility is generally double that of mixed cropping systems.
- Average income returns from fully certified organic perennial systems are in the region of 20-30% p.a.

A high level of income is a characteristic of perennial crops in all the parts of the world we consider for investment, i.e. United States, South America, Southern Africa and New Zealand. Perennial crops provide investors with a source of outstanding income generating performance from a secure long term physical asset.

1. Based on regional specialists and local agent information.

2. Professor Chris Eves 'Developing a rural land investment performance index for New Zealand'.

## Beef/Sheep

Historical income returns from beef/sheep enterprises are generally similar to mixed cropping. The performance of beef/sheep systems in recent years however has been poor. Product prices (notably lamb) have recovered and moved up significantly in the last 12 months.

These types of farming system offer tremendous scope to create more robust and multi-enterprise farming systems. This diversity of enterprise generates a diversity of investment and income profiles/time horizons, which in turn reduces risk, supports low volatility and good long-term capital appreciation

Such a system is created primarily through incorporating trees for biodiversity (natives in less productive areas) nuts, timber and/or fuel, alongside the traditional but adapted livestock enterprises.

This type of tree/livestock system offers agronomic benefits (to both systems), long term income (timber etc.), regular annual income (livestock), capital appreciation and potentially benefits from new environmental markets (biodiversity and carbon).

- The long-term average for land appreciation is in the region of 8-12% p.a.
- Volatility is low and in the same range as mixed cropping systems.
- Targeted income returns are in the 3-8% range.



## FARMLAND INVESTMENT – WHAT YOU NEED TO ASK.

If you are considering investing in farmland there are a number of qualities you must seek and questions you must ask of yourself, your investment advisor and those offering you access to farmland investment. The following cover some of the essential aspects.

Does your primary wealth/investment manager offer farmland as an investment class?

Does your advisor/investment manager understand agriculture and farmland?

Do those purporting to advise you on farmland investment have sufficient 'dirt under the fingernails'?

Is farmland asset management their core activity or is it a fashionable add on?

Are you speaking directly with the person who fundamentally knows and understands the asset class? The person who is involved with its management, who evaluates the investment?

What is the relevant experience of the people advising and involved with the business?

How long have the key people been involved with agriculture/farmland and to what extent?

What proportion of their business does farmland investment represent, i.e. how specialised (knowledgeable) are they?

How do they decide upon their asset allocation?

How thorough is their due diligence and evaluation process?

Can they describe the different types of farming system they invest in and their investment characteristics?

Do they have a strategic view of farming at the enterprise level?

Are they 'plugged in' at the ground level where the best investment opportunities appear?

Do they have a sound understanding of ecological science, the science that underpins successful farmland management?

What are the country specific risks?

What are the ecological risks to the farming system?

What are they doing about those risks?

What are the environmental and social consequences of their farming practices?

How exposed are their targeted and currently managed farming systems to rising input prices, e.g. fertiliser, feed etc. and how are they managing that?

How well positioned are they for benefitting from potential developments in environmental markets, e.g. carbon and biodiversity?

How exposed are they to the imposition of rising environmental costs?

How are they managing the impact of global climate change at the farm and portfolio level?

What is the climate change performance of their farmland investments, i.e. GHG emissions, carbon sequestration etc.?

What has the performance of particular enterprise classes been over the last 5, 10 years and beyond?

What are the current prospects for those enterprise classes/farming systems now?

Do they talk about sustainability or ecology?

If they talk about 'sustainability' what do they mean by that and how is it measured?

Is this 'sustainability' evaluated by independent auditors?

Are the farms invested in, and their management practice, audited by an independent body on an annual basis?

## RECOMMENDED READING LIST

Agriculture at a Crossroads – IAASTD report

<http://www.agassessment.org/>

Organic Agriculture and Food Security in Africa – UNEP Report

[http://www.unctad.org/en/docs/ditcted200715\\_en.pdf](http://www.unctad.org/en/docs/ditcted200715_en.pdf)

The Role of Ecosystems in Climate Mitigation – UNEP Report

[http://www.unep.org/pdf/BioseqRRA\\_scr.pdf](http://www.unep.org/pdf/BioseqRRA_scr.pdf)

The Environmental Food Crisis – UNEP Report

<http://www.grida.no/publications/rr/food-crisis/>

Developing a Rural Land Investment Performance Index for New Zealand.

<http://www.rics.org/NR/rdonlyres/70C5E839-F1B6-4B29-84D6-F7D478C2092D/0/DevelopingarurallandinvestmentperformanceindexforNewZealand.pdf>

Farmland Investing

<http://www.mercer.com/referencecontent.htm?idContent=1324390>

The Financial Gains from Adding Farmland to an International Investment Portfolio

[http://findarticles.com/p/articles/mi\\_qa3759/is\\_200801/ai\\_n25419427](http://findarticles.com/p/articles/mi_qa3759/is_200801/ai_n25419427)

A Comparison of Farmland Returns in Australia, Canada, New Zealand and United States

<http://www.rics.org/NR/rdonlyres/AF0FECE2-AC31-473B-BC26-3E712E572307/0/ChrisEves.pdf>

Farmland Investing an Overview

<http://www.pionline.com/assets/archive/docs/Callan%20Farmland%20Investing%20Paper.pdf>

Portfolio Diversification Using Farmland Investments

<http://ageconsearch.umn.edu/handle/19273>

The Comparison of an Organic and Integrated Apple Orchard in Hawke's Bay

<http://www.agro-ecological.com/papers/comparison-of-an-organic-and-integrated-apple-orchard-in-hawkes-bay.pdf>

Researcher Measures Organic Orchard Sustainability

<http://hdl.handle.net/10179/825>

Rodale Climate Change Report

[http://www.rodaleinstitute.org/files/Rodale\\_Research\\_Paper-07\\_30\\_08.pdf](http://www.rodaleinstitute.org/files/Rodale_Research_Paper-07_30_08.pdf)

Emerging Issues in the US Organic Industry

<http://www.ers.usda.gov/Publications/EIB55/EIB55.pdf>

The Role of US Farmland in Real Estate Portfolios

[http://sbaeweb.fullerton.edu/finance/jrepm/current/pdf/03.317\\_328.pdf](http://sbaeweb.fullerton.edu/finance/jrepm/current/pdf/03.317_328.pdf)

# AGRO-ECOLOGICAL INVESTMENT MANAGEMENT

Agro-Ecological is an independent, specialist asset management boutique.

We invest in farmland on behalf of family offices, institutional and individual investors and manage these assets ecologically/organically.

Agro-Ecological is exclusively focused on profitable, sustainable and ecologically literate farmland asset management.

Our key personnel have been active investors/managers in ecological agriculture for between 12 and 25 years.

For further information please contact us at:

Tel: +44 (0)20 7183 8981

Fax: +44 (0)20 7183 8982

Email: [farmland@agro-ecological.com](mailto:farmland@agro-ecological.com)

Web: [www.agro-ecological.com](http://www.agro-ecological.com)

Investment in sustainable agriculture.....is our raison d'être

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