

Agri-Food Strategy Group

Some Strategic Initiatives Towards:

'Getter Better As Well As Bigger'

Section I: CONTEXT

A number of recent strategy/foresight reports have detailed the formidable array of challenges and uncertainties confronting the agri-food industry and indeed society in general, including globalization of food markets, food security, climate change, environmental sustainability and the future economic viability of rural regions. Responding to these and other emerging international developments will require radically new approaches in agriculture and food production. This is emphatically underlined in a seminal article entitled '*Solutions for a Cultivated Planet*' produced by a panel of 21 leading international scientists and published in the journal *Nature*¹. This states that '*the challenges facing agriculture today are unlike anything we experienced before and they require revolutionary approaches to solving food production and sustainability problems*'. Within this context, Ireland's strategy must be to develop agricultural systems that are both economically competitive and sustainable.

The abolition of the EU milk quota system, presents an unprecedented opportunity to improve farm incomes and that of the National Exchequer. However, this requires that substantial investment be undertaken at a time of marked uncertainties, not least of which is price volatility. An additional significant challenge is how to realise the opportunities provided, whilst recognizing that significant changes in global agri-food policy are likely with respect to the environmental sustainability of food production systems, and the public health consequences of human diet. There is an urgent need for the development of more naturally efficient food production systems that can be validated as having lower environmental costs and improved benefits for the consumer compared with those of international competitors.

The *Agri-food Food Strategy Group* was formed with the objective of developing a strategic perspective on Ireland's agri-food industry in the radically changing circumstances in which the sector will need to operate in the immediate years ahead. This Group comprises knowledgeable participants with long experiences in the sector, or in more broadly based policy analysis (Appendix 1).

¹ Nature (2011) Foley, J.A. *et al.*, vol. 478, 337-342 (DOI: 10.1038/nature,10452)

The main design criteria for a successful future agri-food sector are outlined below:

Design Criteria²

- Profitability at farm level
- Market required products
- Animal health and welfare needs
- Environmental sustainability
- Resilience to climate change
- Energy efficiency.

Principles

There needs to be an overall 'organising' theme to any strategic thinking or planning. In the case of the Irish agri-food sector, we propose the concept of '**Sustainable Competitiveness**', which demands both economic and environmental resilience in the face of increasing globalisation of markets, price and climatic volatility and changing global policies.

The concept of sustainably-competitive agriculture is essentially a value-adding approach that seeks to apply the large body of existing knowledge across the disciplines of agriculture, food & environmental sciences, and a targeted acquisition of new knowledge, to achieve sustainable competitiveness. It also provides a useful framework for thinking about the reforms needed to mobilise and apply available knowledge in the development and uptake of systems that confer real advantages for the producer, including enhanced food quality, improved animal health and reduced environmental impacts.

The Agri-Food Strategy Group have focused on defining a number of core overarching strategic initiatives that might be undertaken in embarking upon planned expansion of milk production. Initial priority was given by the Group to the six initiatives outlined in the Executive Summary (section II). These are further elaborated in Briefing Documents (section III) prepared by individual members of the Group.

In addition to further development of these proposed initiatives, the Group will continue in the coming months to give particular attention to the following *key strategic issues* that must also be recognized for their major relevance:

² Purvis G, *et al.*, 2012. Development of a sustainably-competitive agriculture. In *Agroecology and Strategies for Climate Change, Sustainable Agriculture Reviews* **8**; pp. 35-65. Ed E. Lichtfouse. Dordrecht-Heidelberg-London-New York: Springer/Science+Business Media B.V.

- *Reducing Greenhouse Gas Emissions* from farming systems
- *The Role of Women in the Agri-food Industry*
- *National Food Branding Strategy.*

Careful consideration also needs to be given to *Raising the Technological Absorptive Capacity* of farmers, agriculturists and others engaged in Ireland's agriculture and food production sector. This is of fundamental importance in supporting the further development of Educational and Advisory Support Services.

The ultimate policy question that the Strategy Group will continue to consider and seek to inform in the months ahead, is '*what fundamental over-arching strategic initiatives are needed to ensure the continued development of an agri-food industry that is both internationally competitive and resilient?*'

Section II: EXECUTIVE SUMMARY

RECOMMENDED OVERARCHING STRATEGIC INITIATIVES

1. Dairy Expansion - A National Opportunity
2. Improved Financial Planning
3. Managing Volatility and Risk
4. Animal Health & Nutrition
5. Farm Production Targets
6. Advisory, Education, Research and Policy Initiatives

1. Dairy Expansion - A National Opportunity

National Actions

Dairy expansion post-quota provides a unique opportunity for significant growth in farm incomes, and also the national exchequer. This once-in-a-lifetime opportunity needs to be fully embraced. The establishment of an **Agri-food Action Board** should be considered. This would operate as a public-private partnership under the aegis of the Department of Agriculture, Food and the Marine, with a CEO to drive towards nationally agreed targets and ensure the coordinated commitment of existing staff and physical resources to the delivery of agreed actions. Such a board would include representatives from all aspects of industry acting as one in the national interest. Funding for nationally agreed strategic actions could be provided, for example, through the Department's FIRM and STIMULUS programmes, and/or the Dairy Research Levy.

Local Action

A complimentary structure involving the establishment of **Local Activation Groups** may be required at Regional-, but preferably County-level, to ensure ownership of the actions necessary to support the local expansion of dairying.

2. Improved Financial Planning

Investment in farm expansion needs to be undertaken during a period characterized by severe price volatility and reduced farm profitability, combined with the overhang of '*on and off-farm*' debt. In these circumstances, soundly based financial planning is an imperative both for farmers and lending institutions.

Business Skills

Immediate priority needs to be given to raising the requisite skillset of farmers to manage an expanding farm enterprise. Teagasc, agricultural consultants and accountants all have crucial roles to play in ensuring that farmers have the capacity to effectively plan and implement expansion. Support in creation of a *Farm Family Plan* would make an important contribution to ensuring ownership and success of the undertaking.

Unleashing the potential of women

Despite being *de facto* joint owners of the assets, few women are involved in real decision making at farm level, but there is evidence from farm diversification schemes that women have the capacity to contribute significantly to strategic thinking and management. Their contributions to accounting, record keeping, etc. could be significantly upgraded and discussion group dynamics would almost certainly change with more women involved.

Pro-Forma Farm Financial Plans

Lending institutions can make an important contribution by providing clients with a *Pro-Forma Farm Financial Plan* designed to enable farmers and their professional advisors to show that the farm enterprise has the sustainable repayment capacity to meet the '*reality-check*' required by all parties.

3. Managing Volatility and Risks

Contracted Production

Price volatility is a growing concern with respect to the scale of investment required for farm expansion. Alternative production-purchasing arrangements need to be evaluated. Contracted production can be mutually beneficial to farmers, processors and financial institutions. In dairying, the Glanbia fixed-milk pricing contractual system provides producers with price stability, processors with security of supply and creditors with greater confidence in funding expansion.

Brokerage Arrangements

Notwithstanding the reluctance of producers and processors to engage in such arrangements, similar contractual arrangements would do much to reduce price volatility and financial risk in beef production. An honest brokerage system supported by publicly-supported mediation and market monitoring specialists may be required to ensure a clear and transparent system operating to the mutual benefit of contracting parties. While DAFM would not be directly involved, there is potential for Department oversight of a market monitoring and mediation service, comprising specialists appointed to ensure that such a clear and transparent brokerage system operates to the benefit of all concerned.

Producer Groups

Producer marketing groups developed under forthcoming EU legislation can also make an important contribution. A centralized administration would be required to arrange customers and negotiate prices and sale date. The livestock marts could potentially provide such a service on a commercial basis. Initially small-scale beef-marketing groups comprising perhaps 5-6 producers collectively offering their animals for sale, may serve as a starting point for the progressive development of larger arrangements.

4. Animal Health & Nutrition

Production-related Diseases

Mismanagement of animal nutrition is a serious impediment to farm profitability. As dairy farmers seek to exploit the lifting of quotas, the risk of significant production-related herd health problems is increasingly likely. Realising the potential of work done on animal genetic improvement requires appropriate animal husbandry, which focuses on nutrition and disease.

Achievements made in dairy cow genetics in recent decades, need to be matched by the necessary commitment of resources to development and on-farm application of nutritional practice designed to prevent production related disease and improve net farm profitability. To achieve this end, there is a need for a nationally co-ordinated strategy that integrates:

- i) A national research programme on ruminant nutrition
- ii) Enhanced veterinary advisory services in dairy cow nutrition
- iii) Education at all levels, including Continued Professional Development (CPD), to provide greater understanding and appreciation of the crucial links between cow nutrition, health and performance.

Infectious Disease Risk

For many farmers, dairy expansion will involve the purchase of additional animals. The introduction of diseases, such as Johne's, Salmonellosis, Leptospirosis, Mycoplasmosis, Infectious Bovine Rhinotracheitis, Bovine Viral Diarrhoea and tuberculosis into naive herds can have devastating consequences.

A parallel set of risks apply in contract-rearing situations, especially where calves from a variety of owners are reared together and returned to their herds of origin in late pregnancy.

Comprehensive strategies devised at individual farm level are required to manage these risks and should be addressed at the point where herd expansion is first considered.

5. Farm Production Targets

Food Harvest 2025 should set out unambiguous, but realistically achievable 10-year targets for improvements in farming practice with respect to management of soil fertility, grass production and utilization, and productivity gains in grass-based ruminant livestock systems. These should keep in mind the necessity to ensure the longer-term economic and environmental sustainability, and current value-adding advantages of grass-based Irish farming.

Lifting national grass output to an average of 10 tons per hectare should be a primary target. This will require that the number of dairy and beef farmers who actually measure their grass production and utilization be increased from presently low positions of less than 10% and 5% to 30% and 20%, respectively. Allied to this, deficiencies in grassland management in terms of soil pH, phosphate and potassium status can, and need to be reduced. Less than half of dairy producers engage in milk recording. By 2025, the target must be that records are kept for all dairy cows.

To improve overall financial planning, the number of farmers completing annual profit monitors and cash flow budgets can, and needs to be doubled.

6. Advisory, Education, Research and Policy Initiatives

To ensure the continued sustainability of an agri-food industry that is profitable at farm level and internationally competitive, priority needs to be given to the following strategic initiatives.

Advisory Services

To drive innovations in agriculture and food, advisory services need to develop new forms of organizational structures involving where appropriate, public-private partnership. New skills and institutional linkages will be needed to enable advisory services to harness, translate, communicate and support the uptake of the large reservoir of accumulated research knowledge now available.

Advisory services have a crucial role to play in supporting farm families in the preparation of soundly based Farm Financial Plans, which are a pre-requisite in undertaking on-farm investment, at a time of increased climatic instability and price volatility.

A sustained commitment of staff and financial resources is required to provide advisory services with the requisite technical and financial capacity to support the agri-food sector in the challenging circumstances now arising.

Education and Training

The development of a strategic perspective of the education and training programmes needed to raise awareness of significant challenges, and the innovative capacity of farmers, agriculturalists and the advisory services to rise to the opportunities presented, is a pressing national requirement.

The incorporation of new knowledge relevant to food quality, production efficiency and environmental sustainability into education and training programmes for the next generation of agriculturists and farmers, requires the active participation of those engaged in knowledge generation in the actual delivery of education systems.

Research

Longer-term, thematic research will be essential in supporting innovation in production systems development.

In grass-based production research, much greater emphasis needs to be given to animal nutrition, both from the prospect of reducing production related disorders and mitigating gaseous emissions. This will require an integrated focus to establish a greater understanding of the inherent advantages of grass-based ruminant nutrition, and environmentally optimised grass management systems.

In food research, the influence of the grass-based production system on food quality attributes, and the potential of emerging technologies to enhance food processes and products need to be systematically accessed and the resulting knowledge incorporated into farmer understanding and practice.

Knowledge Exchange & Mobilisation

The key considerations in achieving success, relate to connecting the source of research knowledge with the Knowledge Exchange (KE) mechanism. The barriers to effective knowledge mobilisation often result from economic, institutional and/or cultural factors, and most frequently arise at the points of interface between the originators of new possibilities through research, and the KE specialists who translate and communicate new insights and understanding for application by the end-user.

Careful consideration needs to be given to creation of innovative funding mechanisms that will support longer-term, system-focused development of a *National Agri-Food Strategy*, by directly addressing Knowledge Exchange as the key determinant of success.

Funding

The sustained commitment of staff and financial resources to the further development of existing advisory and educational support services in Agri-food is a prerequisite. Core public funding is *essential* in respect of the public good value of the services needed. Private companies cannot readily capture the wider '*people-focused*' benefits of a successful national strategy that meets the challenges faced, but never the less, they may play a key collaborative role in their achievement. This will require a radical rethinking and development of organizational structures and processes within the sector, potentially supported by recent developments at European level (European Innovation Partnership for *Agricultural Productivity & Sustainability*).

APPENDIX 1:

Agri-Food Strategy – Group Composition

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Section III: Briefing Documents

Prepared by members of the Agri-Food Strategy Group.

A. Dairy Growth

Better first – then bigger

Some general points

- Expansion will occur in the Irish Dairy Industry.
- The pace of expansion will be decided by price.
- First wave of growth will be from current restricted output. **10-12%**
- Second wave of expansion will be growth from existing Dairy Farmers. **20%**
- Third wave will be growth over time from existing and new producers. **20%**

Ireland has the potential to double milk output in the next fifteen years or so to 10 billion litres. For this to occur, some policy changes (e.g Land use and finance) may have to be considered. The beneficiaries of growth are: The farmer (slow benefit), processing industry (more immediate) manufacturing industry (immediate) and the state (permanent benefit). The risk/cost for all of this is borne by the farmer. Whether he is profitable or not, others benefit, but the farmer carries the risk. He needs to look out for the following:

- Know the cost of production, only 10% of farmers do a profit monitor.
- Grass measurement and budgeting, less than 10% practice this.
- Milk recording, 30% participation by farmers, 50% of cows.
- Herd Health programmes, poor and varied use of vaccines and parasite control.
- Calf Health, sub-optimal calf survivability and growth rates in heifers.
- Silage making, inconsistent and poor DMD silage.

Milk price will be volatile, starting next year with < 30 cent per litre. This is below the cost of production on many Irish farms. Top performing farms have 10 – 12 cent fixed costs and 10 -12 cent variable costs. These are the exceptions: With a minimum of €3,000 expansion cost per cow, it is vital that there is a clear understanding of where the cost of production lies. 2013 Teagasc profit monitor data shows a 5c range in both variable and fixed costs on the farms that completed profit monitors. It is safe to presume that the “better” farmers did so! This 10c represents 35 thousand euro profit to the average Irish farm. The 5 controllable headings are, feed, fertiliser, labour, machinery, vet/ai.

Grass

Irish farms grow an average of 7 tonnes grass dry matter per hectare, Each extra 1% in grass efficiency is worth € 27m nationally. 10 tonnes is a realistic target. An hour spent on grass measurement each week is worth a minimum of €500. We need a national focus on grass!

Milk recording is underused. A lot of useful management aids can flow from more and better milk recording. Is there a case for it to be a condition of supply?

Herd health is an area of management often overlooked. A herd that successfully goes in calf a keeps calves thriving will make more money. With up to 10 different parasites to deal with and the same number of conditions to vaccinate for not to mention lameness and scc its vital to put structure on this topic.

The skill sets needed to be a top farmer in an expanding industry are wide and varied. Expansion is not for the faint hearted. Time to plan and think is important but not enough do this. It takes the profit from 47 cows to pay for a labour unit. There is no point in being a busy fool!

I have offered the points above to prompt discussion. There is much more to say on each topic but not in this piece.

If I could have one “wish” it would be to have ALL farmers to be in a discussion group. Whatever it takes, “carrot or stick”, should be considered. All necessary skills can be addressed through this structure. Peer learning, peer support and competition are mighty motivators. The information industry is disjointed and there would be much to gain from a meeting of minds on how to address this.

Mike Magan

B. Better Farm Financial Planning

Food Harvest 2020 sets out an ambitious target of 50% increase in milk output over the next five years. This will require a significant increase in investment at farm level, requiring additional borrowings to fund expansion, with dairying the most profitable farm enterprise.

Banks are aggressively competing for this new business fuelled by the enthusiastic support of government and the wider agribusiness sector. The main catalyst is undoubtedly the abolition of milk quotas in 2015. This encouraging prospect, however, is occurring at a time of severe price volatility and reduced profitability, thereby raising serious questions around the sustainable repayment capacity of the farm enterprise. This highlights the importance of proper *Farm Financial Planning*, and the necessity for realistic farm business planning, as dairying is a capital-intensive operation. Most dairy farmers planning expansion, either by increasing cow numbers or enhancing productivity, will need to borrow to fund the development.

Some 90% of dairy farmers can increase profitability through greater efficiency, or improved productivity. However, many do not have the business management skills (either financial or technical) to grow their business. In addition, the lack of ongoing stable profits, along with the overhang of '*on and off-farm debit*' will add further turbulence to the investment climate and the likelihood of unsustainable repayment capacity.

Recommendations

Getting Better Before Getting Bigger

Farmers face many key issues/challenges, which are outlined in Box 1. Teagasc, agricultural consultants and accounts should endeavour to ensure that those farmers planning to expand milk production have the requisite skillset to manage the expanded business. In addition, it is vital that the farmer understands the plan and is capable of implementing the proposal. A signed '*buy-in*' by the Farm Family (spouse, partner or family member), is critical in taking ownership of the plan.

Pro Forma Farm Financial Plan

The banks should take a leadership role in providing clients with a '*Pro Forma Farm Financial Plan*' – this will enable farmers and their professional advisors to readily document the required information for '*a realistic and viable farm plan*', in a structured way. Projected income and expenditure will demonstrate that the farm has a sustainable repayment capacity, meeting the '*reality-check*' required of lending institutions. A '*Bank Evaluation Checklist*' is set out in Box 2.

Farmer Training in Financial Planning

The banks, in conjunction with Teagasc & agricultural consultants, should arrange and conduct workshops/intensive training courses on '*Farm Financial Planning*'. This should equip them with the skills and best practice to prepare and present their Farm Business Plan to financial institutions. This would lead to a reduction in the rate of plan rejection and enable farmers to realistically realize their ambitions for profitable farm growth and development.

Derry O'Donovan

Box 1: Dairy Farming Challenges

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|--------------------------|---|
| 1. Business Performance | <ul style="list-style-type: none"> • Ongoing Profitability • Level of Borrowings • Repayment Capacity • Level of Living Expenses |
| 2. Investment/Volatility | <ul style="list-style-type: none"> • Expansion (productivity or herd numbers) • Price Volatility & Safety Nets • Succession Planning |
| 3. Animal Health | <ul style="list-style-type: none"> • Improve Body Condition • Reduce Production-related Disorders • Feed Cost Management |
| 4. Manpower | <ul style="list-style-type: none"> • Management Capacity • Labour Cost & Deployment • Technology Application |
| 5. Feed Efficiency | <ul style="list-style-type: none"> • Grassland Management Optimisation • Improve Winter Feeding • Raise Feed Conversion Efficiency • Milk Composition/Seasonality |
| 6. Environment/Climate | <ul style="list-style-type: none"> • Cross-compliance & Public Good Requirement • Reduce GHG Emissions • Management Natural Resources |
| 7. Animal Breeding | <ul style="list-style-type: none"> • Genetics – creates potential • EBI Targets • Lactation Length |

Box 2: Farm Business Plan – Bank Evaluation Checklist

1. Farmer Competence	<ul style="list-style-type: none"> • Financial & Technical • Family Engagement/Involvement • Living Expenses/Education Costs • Succession Planning
2. Business Track Record	<ul style="list-style-type: none"> • Up-to-date Accounts (past 3-years) • Level of Retained Profits • Repayment Record
3. Current Financial Status	<ul style="list-style-type: none"> • On and Off-farm Debt • Merchant Credit/Leasing • Current Repayments • Tax Position
4. Proposed Borrowing Need	<ul style="list-style-type: none"> • Is it necessary/ adds value? • Level of Personal Equity/Borrowing • Is project costing realistic?
5. Repayment Capacity	<ul style="list-style-type: none"> • Can business carry increased debt level? • Likely impact of price volatility? • Income & expenditure/cash flow projection
6. Compliance	<ul style="list-style-type: none"> • Tax/Planning/Environmental/Health & Safety
7. Scale of Proposal	<ul style="list-style-type: none"> • Will additional labour be required? • Management needs of scaled-up business?
8. Security Provided	<ul style="list-style-type: none"> • How is this to be realized?

C. Managing Volatility and Risk

Price volatility is seen as an inevitable part of food production. Some sectors have lived with it for decades with high attrition rates in terms of producers leaving the sector. Pork production is a prime example. There are now fewer than 400 Irish pig producers. That is primarily a result of those exiting being unable to cope with the severe price shifts in pork production over the years and/or an inability to continue lifting efficiency figures in line with international competition. Those who survive do so because they have developed management systems, production efficiencies and scale to allow them to weather long periods of loss making. They also have, in many instances, agreed terms with their customers so that there is some degree of price certainty, even in a loss-making period.

Can these models be replicated across the other sectors, primarily dairy and beef, to lower price volatility and reduce risk? Certainly there is room for major improvements in production efficiencies in both sectors. There is also a case to be made for larger scale, though this can be a self defeating exercise, with increasing scale often leading to higher borrowings, which in turn can lead to lower profitability and significant pressures on cash flow. There is, therefore, no easy answer. However, there are a few options that can and should be explored to a greater degree.

Contracted production is one such option. Some producers are completely opposed to contracted production. Certainly there is a range of examples where disgruntled producers found it a costly exercise in the past. In recent years grain producers got burnt when their forward selling did not add up for a variety of reasons. That is not, however, a good reason to rule out the benefits of locking in price at a level that delivers a profit from production. It may result in missing out on the price highs but it also allows the producers to avoid the very lowest point on the price cycle.

Fixed Milk Pricing

In the Irish dairy sector Glanbia has been to the fore in introducing a fixed milk pricing system based on a contractual arrangement with several of its customers. This price is then, in turn, agreed with Glanbia's milk suppliers for a time period. There are various built-in adjustments to take account of very large market price fluctuations. The response has been positive from milk producers and the intention is to expand the scheme over the coming years, provided, of course, that both customers and milk suppliers are willing to agree terms. That is the key. The scheme must be mutually beneficial to all parties. It is a blueprint for price stability for milk producers. They can assess the price on offer, based on the profit margin it will deliver and the degree of certainty it offers both for their own businesses and for their creditors. The processors have the

security of supply and price that is so important for business stability. The customer is guaranteed a stable supply of high quality dairy product at an agreed price. The Glanbia fixed milk price scheme must be included as a blueprint for the 2025 Agri-Food Strategy Committee to develop for the Irish dairy Industry to lower the risks of exposure to price volatility.

Rebalancing Beef Selling

The Irish beef sector has been riven by distrust and suspicion between producers and processors for generations, heightening the financial risks and exacerbating the impact of price volatility for all concerned. Unless there is a fundamental shift in the way business is done this will continue to be the case. There are two options. The first is the development of widespread beef contracting arrangements. Neither the producers nor the processors have been enthusiastic about accepting the need for, or benefits of contracts on a widespread basis. The argument from the producers is that it locks them into an arrangement whereby they have no opportunity to benefit from the positive price volatility that is often seen in the sector. There is a reluctance to weigh up the benefits of avoiding the negative price volatility that is also an inevitable part of the beef cycle. Again, it is mostly down to distrust between the parties involved. The processors for their part seem reluctant to engage in contracting, as they too are fearful that international markets may not return the contracted price when they eventually purchase the cattle. The processors need to reduce their market exposure by agreeing terms with their customers in turn for longer periods. Such arrangements should reduce volatility and financial risk for all concerned while improving the prospects of profitability for the most vulnerable link in the beef chain – the primary producer. Some form of honest brokerage system should sort out the difficulties, though with the degree of distrust between the parties that may be a big challenge. While DAFM may not wish to be directly involved, there is potential for Department-appointed mediation and market monitoring specialists to given a role in ensuring that a clear and transparent system operates to the benefit of all concerned.

Organised Marketing

Another option is to develop the marketing group model among beef farmers. EU legislation is set to allow this type of bulk selling option. The Irish Competition Commission has, apparently, set itself against the concept of collective bargaining, citing potential price fixing as the reason. The subtle differences between collectively agreeing a price increase for produce among a group of producers and processors and engaging in collective price bargaining to agree a minimum price increase would probably keep a gang of lawyers in business for a long time.

So the alternative is to develop a system, under forthcoming EU regulations, where beef producers can collectively sell their produce to the beef processors. In order to develop the level of marketing clout necessary to negotiate strong prices at sales times this initiative would need to be of significant scale in each grouping. Five thousand cattle per annum would still only amount to one hundred cattle per week if the selling was averaged out over the entire year (unlikely, but a useful scale benchmark nonetheless). The scale, then, would probably need to be at least ten thousand cattle to concentrate the minds of all concerned. Group members would need to ensure that their cattle meet all of the quality and quantity standards required to maximise price leverage. A centralised administration would be needed to arrange customers and negotiate prices as well as sales dates. There should be no reason why a single administrative system could not service a number of groups, making such a service self-financing with a small fee from each animal brokered. The Livestock Marts could offer such a service on a commercial basis if the scale is adequate.

Smaller Scale

Many producers will have a far different perception of a beef-marketing group. They may see a smaller scale grouping consisting of five or six producers collectively offering their animals for sale. That has merit at one level. It is simple to organise, the members know each other well and can agree quantity and quality terms easily. The one flaw is that there will not be the scale necessary to maximise price leveraging. Nevertheless, as a starting point small beef marketing groups offer the opportunity to at least rebalance somewhat the significant advantage the beef buyers have at the moment.

Supply contracting should lower the risk involved in beef production, processing and retailing. It could be developed in tandem with producer selling groups. The total package reduces both price volatility and financial risk, especially for the most vulnerable primary producer.

Matt O'Keefe

D. A Strategic Approach to Dairy Cow Nutrition Post-quota

As dairy farmers seek more milk production post-quota, significant herd health and production problems will arise as farms 'get bigger before they get better'. While infectious diseases are a constant risk to Irish herds, endemic nutritional mismanagement is the most serious risk to present and future dairy cow health and milk production.

This manifests as

- Increased prevalence of production diseases
- Excessive detrimental body condition loss or gain
- Poor rumen function and consequential inefficient utilisation of feed
- Poor rumen health and consequential compromised animal health
- Reduced milk quality and reduced milk solids
- Compromised animal welfare
- Food safety risks

At farm level there has neither been diligence or perceived necessity to employing systems to measure the true feed intakes of cows or for that matter their true requirements under Irish conditions. In reality, systems have not been developed that can be used by the farmer to anticipate nutritional-related problems at farm level unless either disease prevalence increases or there is an unacceptable fall in production. Information stored within current data collection systems is not being regularly turned into useful everyday actions for farmers by advisers/vets to prevent disease and increase milk production. These issues are a serious impediment to farm profitability in a post-quota environment.

It is well documented that nutrition has a critical role in both disease avoidance and realisation of genetic potential. The dairy industry has invested in developing the genetic potential of cows in a seasonal grazing system but clearly has not invested in developing nutritional systems to reduce and prevent production disease, improve rumen function and capitalise on the true production potential of the national herd with regard to the efficient use of all feed resources.

There is a serious deficiency in the knowledge and application of ruminant nutrition in an Irish context and in the intrinsic value of this knowledge to developing sustainable dairy production in Ireland. This situation is also not helped by different interest groups; commercial, educational, research, state, pursuing essentially different objectives, often in isolation.

There is an opportunity right now to develop sustainable and efficient nutrition systems that prevent production disease and improve the overall efficiency of milk production. There is an opportunity to change how the technical capacity of the current and next generation of farmers is both enhanced and nurtured with regard to the nutritional management of their dairy cows.

What is required is a nationally coordinated dairy animal nutrition programme comprising the following strategic initiatives.

- **The advisory services:** There is an immediate need for an integrated agriculture /veterinary dairy animal nutrition advisory service. This advisory service should be trained to deliver evidence-based advice to farmers using common messages in a clear, empathetic and respectful way.
- **Education & training:** There is an immediate need for nationally accredited continuous professional development courses to upgrade the knowledge of farmers, farm advisers, and veterinary practitioners in the nutritional management of dairy cows. There is an opportunity now to inculcate the next generation of farmers, farm advisers, and vets with concepts of feeding the cow for health and performance. This requires a common focused national strategic message on the prevention of production disease, improving feed utilisation and the production of safe and nutritionally beneficial food for the consumer.
- **Research:** there is an immediate need for a nationally coordinated research programme on all aspects of cattle nutrition. The research objectives should also include knowledge transfer and the application and monitoring of nutrition systems at farm level.

Martin Kavanagh MVB Cert DHH

E. Change of Focus for 2025: Farm Production Targets

While much has been made of the success of Harvest 2020 in terms of export growth and adding value at processing level, too little has been achieved in lifting either producer efficiencies or profitability. This must be the focus of concentration in the new 2025 Strategy.

An Inclusive 2025 Strategy

The minister for Agriculture, Food and the Marine, Simon Coveney has signalled the construction of an updated harvest 2020, entitled 2025. The previous focus in FH2020 was on national output. *This time, there must be a refocus towards lifting substantially the benefits of food output and value growth to the primary producer.* Some of this reallocating of benefit can come from reducing the margins to processors and retailers and increasing the percentage to the food producers.

In tandem with this refocus, *there must be a concerted effort to lift farm profitability by improving production efficiencies at farm level.* The figures speak for themselves. The take-up of best practice at farm level is abysmally low. There is full awareness of the deficiencies in producer best practice. There is enough knowledge produced from our researchers to double the average profitability across drystock production, in particular. Research is not complete until it is adopted and in widespread use on farms. *While it is quite a challenge to change research into common on-farm practice, this must be a central focus of the new 2025 Strategy.*

Proposals For Efficiency And Profitability Gains

The numbers engaged in milk recording is less than 50% of the total engaged in milk production. *The aim must be 100% of all dairy cows recorded by 2025. The numbers of farmers completing profit monitors and cash flow budgets each year must be doubled. A trebling of the numbers of livestock producers who measure grass growth and plan their grazing season accordingly, is required.*

Less than 10% of dairy farmers measuring grass production and utilisation. That figure must be *trebled*. Even that seems modest in the context of it only resulting in 30%, or one in three milk producers measuring grass and acting on that measurement. Less than 5% of beef producers measure grass. *A quadrupling to 20% is essential.* Even this figure would appear to be pathetically low but is at least fully realisable and achievable by 2025, and must be included in the new 2025 Strategy as a clear target. Depending on who you believe, annual grass production per hectare is anywhere between 7 and 9 tonnes of dry matter per hectare. Let's use the lower

figure. If nothing else it leaves any target easier to achieve. The top grass producers are hitting 14 tonnes per hectare. Moorepark says that 16 tonnes is achievable. *Lifting the national average to 10 tonnes per hectare should be a challenging, though achievable target to be pursued by the 2025 Agri-Food Strategy Committee.*

A cursory glance at soil fertility, or rather infertility shows further severe deficits in on farm practice. Over 90% of grassland soils are not fit for purpose in that they are deficient in, P, K or pH. Deficiency of all three requirements reduces grass yield by 3 to 6 tons/ha. Over 60% of Irish grassland soils have low pH. Over 55% of soils are low in P while 52% of soils are low in Potash. All the deficiencies are interlinked. Lifting soil fertility automatically lifts grass production, taken in conjunction with a doubling of reseeded on farms. That in turn should lead to greater measurement of that grass production so as to utilise that production to the greatest extent possible.

Clear improvement targets must be set in the ten-year strategy developed by the 2025 Agri-Food Strategy Committee.

Grassland soil pH deficiency must be reduced from 60% to 30%.

P&K deficiency must be reduced from over 50% to 25% in the same period. The rate of grassland reseeded must be doubled.

The cumulative result is a significant increase in output per hectare, measured in either beef output per hectare, lamb output per hectare or milk output per hectare.

A range of initiatives must be introduced to lift profitability on Irish farms. These will include providing adequate financial, physical and human resources to Teagasc and independent advisory services to intensify research and advice on best practice at farm level.

As has been seen from the last Budget, taxation initiatives have a role to play in encouraging best practice and higher efficiencies on farms.

Further financial and organisational supports to farms and farm groups must include clear targets on efficiency improvements and productivity gains, in terms of soil fertility, grass output and utilisation and end product output and value. All of these proposals have a clear unambiguous objective: To Improve Farm Profitability.

Matt O'Keefe

F. Advisory, Education, Research & Policy Initiatives

A number of overarching strategic initiatives in respect of advisory, education, research and policy needs are outlined below.

Advisory Services

With the abolition of quotas, advisory services are centrally important in the transition to a more market-dependent agri-food sector that can meet critically important public good objectives. In this context, an international conference of European advisory services was held in UCD in 2012. The primary focus of the conference was the role of future advisory services in driving innovation in agriculture and food in Europe. Some of the key outcomes of the conference are set out below:

Organisational Innovation

In developing farm advisory services to meet prospective needs, particular attention is being given at European level to organisational structure within the agri-food sector, which is increasingly seen as being at least as important as technological innovation. New forms of organisational structures, including public-private partnerships, may be required to integrate and raise innovative capacity. A critical question is how might such partnerships best operate to address significant public-good goals relating to food safety, and the socio-economic and environmental sustainability of land management systems? In reforming European support services, the fundamental question relates to the advisory capabilities that will be required to drive innovation in agri-food.

Expertise Required

Up-grading of the skills required by advisory services across Europe in meeting the formidable challenges was seen as a major requirement at the aforementioned conference, notably in respect to both knowledge transfer and the stimulation of innovation at farm level. Soundly based farm business plans are a much-increased pre-requisite in circumstances of substantially greater investment in farm development at a time of marked volatility in farm prices. Advisory services have a key role to play in supporting farm families in preparing such business plans. Some of the particular issues highlighted at the UCD advisory conference relate to:

- Changing technical knowledge requirements. However, it needs to be recognised that it is no longer feasible, or desirable, for advisers to be proficient in all required areas of expertise.

- The need for appropriate measures/structures to integrate appropriate sources of expertise within the wider advisory support service, and it will be important that front-line advisory staff understand how and where to source appropriate expertise.
- The ability to filter and connect farmers with relevant information sources will be a critically important advisory skill.
- The need for a greater emphasis to be placed on providing advisors with “people skills” including, communication, enabling, motivation, and influencing attitudes and behaviour.
- The wide range of approaches and possible forms of communication with farmers that advisers need to be familiar with in different circumstances, e.g. demonstration, peer group learning, individual contacts on and off farm, formal training courses, use of IT methods etc.
- The need to encourage innovative thinking. The best way that advisors can achieve this is by being innovative in their own dealings with clients.
- The need for future advisers to operate as part of a broader team of “*agri-professionals*” that provides an integrated service to the farmer.

The key considerations in achieving success relate to connecting the research-knowledge source with the research translation/KE mechanism. The barriers to effective progress often result from economic, institutional and/or cultural factors. Often these arise at the points of interface between the originators in research knowledge and the KE specialists whose function is to translate and communicate the knowledge, through systems evaluation and demonstration, for successful application by the end-user.

Funding

To incentivise the attainment of multiple public good dimensions, it will be essential that the core-funding and delivery of reformed advisory agri-food services be provided from public sources. The sustained commitment of staff and financial resources to the further development of State provided advisory services is a prerequisite. Core public funding is essential in respect of the public good function of the service. Private companies cannot readily capture such benefits for themselves, and are consequently not inclined to support them. However, to ensure cost-effective delivery and uptake of new knowledge it will be essential that effective linkages are built between the public and private sector.

Education

The development of a strategic perspective of emerging education and training needs in agri-food to support the development of a sustainably-competitive Irish agri-food sector, is urgently

required. A primary purpose for reconsidering priorities in agri-food education and training would be to raise the technological absorptive capacity of farmers and agri-food professionals, which is essential in bringing about greater innovation in production systems, while at the same time enhancing financial and business skills. Priority needs to be given to the following issues:

- i) *Agriculture, Food and Environment*, tend to be seen as discrete career pathways with largely separate educational provisions. Development of integrated agri-food education that effectively addresses the need for greater inter-disciplinary understanding is required.
- ii) Much of the knowledge required for sustainable competitiveness in agriculture, already exists. The challenge is to harness the accumulating reservoir of relevant knowledge in system development that identifies critical knowledge gaps, and is supported by effective extension services. The incorporation of new knowledge relevant to food quality, production efficiency and environmental sustainability into education and training programmes for the next generation of agriculturists and farmers, requires the active participation of those engaged in knowledge generation in the actual delivery of education systems.
- iii) The development of Continuing Professional Development (CPD) courses, and innovative Masters programmes, is essential in embedding the concept of sustainable competitiveness and the central importance of food quality in agriculture and food.
- iv) Financial planning needs to be prioritized in education and training programmes for prospective agriculturalists, farmers and those embarking on expansion of rural businesses.

Research Priorities

Innovation-driven research programmes need to give priority to the following issues:

- i) Longer-term, thematic, systems-based research. This will be essential in supporting innovation in systems development.
- ii) In grass-based production, improved understanding of the biological processes that underpin both rumen digestion and the carbon sequestration potential of pasture swards. This will require a fuller understanding of the fundamental natural (microbial) synergies involved in rumen function, and potential sward species synergies involved in pasture function, respectively. These interdependent imperatives for sustainably-competitive livestock production should become thematic pillars of future research programmes.
- iii) Raising feed conversion efficiency in ruminant production systems by harnessing the full potential of an improved knowledge of ruminant digestion. This would alleviate gaseous

emissions, while improving animal productivity and provide the potential to develop value-added grass-based production systems with enhanced capacity to mitigate climate change.

- iv) Greater understanding of the links between ruminant nutrition, animal health and relative productivity, with the aim of reducing production-induced livestock disorders. Such animal health and welfare issues including infertility, acidosis and lameness, have become increasingly costly to producers throughout the global dairying industry.
- v) Impact of grass-based production systems on food quality, with the specific aim of reducing seasonal variation in the storage stability of dairy and beef products. This would lead to more consistent product quality, and reduce the scale of new capital investment in processing facilities.
- vi) The impact of production system and emerging technologies to enhance food processing and products, particularly with respect to improved human health benefits.
- vii) Policy analysis involving quantification of the scale of investment in farm enterprises and food processing facilities post quota restrictions, combined with econometric modeling of the potential risks arising from continued price volatility and failure to mitigate the effects of climate change.

Policy/Decision-Making

The barriers to effective knowledge mobilisation often result from economic, institutional and/or cultural factors, and most frequently arise at the points of interface between the originators of new possibilities through research, and the KE specialists who translate and communicate new insights and understanding for application by the end-user. Development of an agri-food industry that is sustainably-competitive will require the following policy initiatives:

- i) The fostering of new organisational structures that better integrate existing knowledge in the disciplines of agronomy, environment and food science, and connect the source of research-knowledge with the Knowledge Exchange (KE) mechanism and ultimate knowledge-user. Likely participants in new, innovative structures include funding agencies, research, education/advisory and business organisations, and crucially, producers, processors, marketing, retailer and consumer interests operating to varying degrees in public-private partnership.
- ii) Sustained commitment of the necessary staff and financial resources for publically funded advisory services and education systems needed to meet public good and wider industry objectives. These need to be operated in a manner designed to ensure cost-effective knowledge management, translation and communication.