



ANNUAL REPORT 2004 and financial statements



AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

TEASASC ANNUAL REPORT 2004 & FINANCIAL STATEMENTS

To the Minister for Agriculture and Food pursuant to Section 13 of the Agriculture (Research, Training and Advice) Act, 1988. The Teagasc Authority presents its reports for the period 1 January 2004 to 31 December 2004.

An Irish language version of this report is also available.

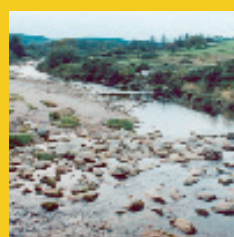
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About Teagasc

Teagasc – the Agriculture and Food Development Authority – is the national body providing integrated research, advisory and training services to the agriculture and food industry and rural communities. It was established in September 1988 under the Agriculture (Research, Training and Advice) Act, 1988.

Teagasc is governed by an eleven-member Authority. The Chairman and five ordinary members are appointed by the Minister for Agriculture and Food and remaining members are appointed by the Minister following nominations from designated organisations.

In 2004, research services were delivered at eight dedicated centres covering food, dairying, beef, sheep, arable crops, horticulture, environment, economics and rural development.

Independent advice to farmers and rural dwellers was provided by local advisers and regional specialists from a network of regional, county and local centres.

Training for young entrants, adult farmers, rural dwellers and the food industry was

provided by teachers and technicians at eight colleges as well as local training and research centres. In 2004, Teagasc employed 1,591 staff, including permanent and contract. This comprised 757 professional staff, 255 technical staff, 248 administrative/clerical staff and 331 farm/domestic staff.



Mission Statement

The Teagasc Mission is:

To provide an independent and authoritative research knowledge base, technology transfer and training services for the sustainable development of agriculture and the food processing industry to enable it to respond profitably to consumer demands and requirements and contribute to a vibrant rural economy and society.

In pursuing this Mission, we focused on:

- Developing competitiveness and innovation in sustainable agricultural production and the food processing sector.
- Analysing and projecting the impact of policies for the agri-food sector.
- Developing and maintaining a strong human resource capacity across the agri-food sector.
- Providing a sound scientific basis for decision-makers in protecting the integrity of the foodchain, protecting the rural environment and addressing the concerns of the consumer.
- Developing a capacity in molecular biology and gaining an increased understanding of living organisms with a view to increasing its application in the agri-food industry.
- Ongoing investment in our staff and organisational systems to achieve the highest standards of service delivery, corporate governance and accountability.



Dr. Tom O'Dwyer
Chairman

Held a number of key positions in the EU Commission in Brussels, including Director of Livestock Products, Director General of Education, Training and Youth and Chef de Cabinet to two EU Commissioners.

Members of Teagasc Authority



Mr. James Beecher

Assistant Secretary with the Department of Agriculture and Food.



Mr. James Brett

Managing Director, Brett Group, Callan, Co. Kilkenny.



Mr. Ruaidhri Deasy

Farmer and Deputy President of the Irish Farmers Association



Mr. Joe Fitzgerald

Farmer and member of the Administrative Committee and National Council of the Irish Creamery Milk Suppliers Association.



Mr. Stephen Flynn

Technical Officer with Teagasc at Ashtown Food Research Centre, Ashtown, Dublin 15 representing Teagasc staff.



Prof. Patrick Fottrell

Former President of National University of Ireland, Galway. Chairman, Science Foundation Ireland.



Mr. Jerry Henchy

Chief Executive, Dairygold Co-operative Society Ltd.



Mr. Patrick J. Kelly

Farmer and former National Chairperson of Macra na Feirme.



Ms. Anna May McHugh

Managing Director, National Ploughing Association.



Mr. Michael O'Dwyer

Farmer and former President of the Irish Co-Operative Organisation Society.

Current Membership of Teagasc Authority Committees

Remuneration Committee

Dr. Tom O'Dwyer (Chairperson)
Mr. James Beecher
Mr. James Brett
Ms. Anna May McHugh

Advisory and Training Committee

Mr. Joe Fitzgerald (Chairperson)
Mr. Ruaidhri Deasy
Mr. Stephen Flynn
Mr. Patrick J. Kelly
Ms. Anna May McHugh
Mr. Michael O'Dwyer

Research Committee

Professor Patrick Fottrell (Chairperson)
Mr. James Beecher
Mr. Ruaidhri Deasy
Mr. Stephen Flynn
Mr. Jerry Henchy
Mr. Patrick J. Kelly

Audit Committee

Mr. Michael O'Dwyer (Chairperson)
Mr. James Beecher
Mr. Jerry Henchy
Dr. Tom O'Dwyer
Mr. Ronan Tierney (Advisor to Committee)

Personnel and Finance Committee

Dr. Tom O'Dwyer (Chairperson)
Mr. James Beecher
Mr. James Brett
Professor Patrick Fottrell



Mr. Jim Flanagan, Director

Teagasc Senior Management



Mr. Pat Boyle,
Head of Advisory Services
Directorate



Mr. Donal Carey,
Head of Training and
Development Directorate



Dr. Seamus Crosse,
Head of Agriculture
Research Directorate



Dr. Liam Donnelly,
Head of Food Research
Directorate



Mr. Tom Kirley,
Head of Administration
Directorate



Mr. Peter Seery,
Head of Management
Services Directorate



Chairman's Statement

The year 2004 was an eventful year in the agri-food sector. The Common Agricultural Policy of the EU was further reformed, resulting in the decoupling from production of the EU support payments to farming and the introduction of the single farm payment. This will allow "freedom to farm" and the opportunity for farmers to generate returns from the marketplace. This, in turn, will give renewed focus to economics and efficiency of production and to quality produce.

The year was also eventful for Teagasc. We progressed the implementation of our rationalisation and reorganisation plans in an orderly and phased way. This included the relocation of our head office from Sandymount Avenue in Dublin to Oak Park House in Carlow. I am delighted to say that this change went very smoothly and we now have re-established a vibrant new head office in Carlow.

These changes will position Teagasc to meet the new challenges for development of the agri-food industry. We contributed to the policy decisions on how best Ireland should implement CAP reform and the Nitrates Directive and Action Plan. Teagasc also made a significant contribution to the work of the Agri Vision 2015 Committee, whose report was published in 2004.

The agri-food and drink sector continues to be important in the Irish economy with an estimated gross output value of €16.6 billion. It accounts for 8.6% of GDP, 8.4% of exports and 9.0% of total employment. Teagasc plays an important role in this valuable indigenous industry, as it is central to the development and dissemination of vital technologies for farmers and food processors. We plan to deliver quality services to stakeholders and customers of our research, advisory and training services.

To effectively deliver its programmes to its stakeholders and clients, Teagasc relies on the support of many individuals and organisations in the public sector and the agri-food industry.

We acknowledge the contribution of the outgoing Minister for Agriculture and Food, Joe Walsh, and Ministers of State, Noel Treacy and Liam Aylward. We are grateful for their invaluable support over the last number of years. We look forward to a continued excellent working relationship with our new Minister, Mary Coughlan, along with Ministers of State Brendan Smith and John Browne.

We thank the newly appointed Secretary General of the Department of Agriculture and Food, Tom Moran, and his officials for their continued commitment and assistance. We



also record our appreciation to the outgoing Secretary General, John Malone, and wish him well in the future.

We extend our thanks to our colleagues in universities and research institutes, at home and abroad, and also to the many public bodies in the educational, environmental, heritage, farm safety and food safety areas. We look forward to continued co-operation in 2005.

We also thank all of the co-operatives and companies who operated joint programmes with us. These linkages have added value to our activities and ensure that our programmes are firmly focused on local needs.

We value our close relationships with the farming and rural organisations and the bodies representing the inputs, processing and marketing sectors, and thank them for their continued support during 2004.

Teagasc's key resource is its staff. I wish to record my appreciation to the Director, Jim Flanagan, his management team and all our staff for their commitment and loyalty during 2004. In particular, I would like to acknowledge the excellent co-operation and goodwill of staff who have been affected by the restructuring programme. I would also like to extend every best wish to staff who

retired during the last 12 months, many of whom have given a lifetime of committed service to the organisation.

Finally, I wish to record my appreciation of my colleagues on the Teagasc Authority for their continuing commitment and support.

Tom O'Dwyer
Chairman



Director's Review

This Annual Report adopts a new format based on the goals and objectives of the organisation, as set out in the Teagasc Statement of Strategy 2003-2005. The strategies adopted to achieve the objectives for each of the six goals are clearly outlined, together with performance indicators and progress achieved by the organisation during 2004.

Agriculture has undergone a period of change, and it was recognised that Teagasc needed to reorganise in order to support the industry into the future. In 2004, Teagasc planned and implemented a reorganisation of its management structure to provide an overall improved service to its stakeholders.

Head Office was moved from Sandymount Avenue in Dublin to Oak Park House in Carlow in September 2004. A significant number of staff opted for Voluntary Early Retirement and the main task after the move was to establish an improved structure for the main administration functions (Finance, Human Resources and IT) through an extensive recruitment process.

Research

Food research was restructured in 2004 into a single directorate with Dr Liam Donnelly as

head. Substantial development of the facilities at our two food centres at Ashtown, Dublin and Moorepark in Cork were undertaken to equip them to service the research and training needs of the food industry.

In 2004, our research programme continued its focus on the development and dissemination of critical technologies for the development of an internationally competitive agri-food sector. The organisation also started a process of reorganising agriculture research, under the direction of Dr Seamus Crosse, into four programme areas - Animal Science, Crop Science, Environment and Land Use and Rural Research. The aim is to establish centres of excellence based around research teams of critical mass.

Advisory Service

The rapidly changing environment facing the agri-food industry prompted Teagasc to re-examine its advisory service in order to better meet the needs of its farmer clients and the agri-food industry in general. The service has been re-organised into a national structure, with Mr Pat Boyle as head. It was decided to reduce the 28 county units to 18 management units to facilitate the creation of critical mass for the delivery of the service, to promote



specialisation and improve office facilities. A new Programme Management structure was established with the appointment of programme leaders in Dairying, Drystock, Tillage, Rural Development, Farm Management and Technology, and Environment.

Training and Development

The Training and Development Directorate, set-up under Mr Donal Carey, began a process of change which is required if Teagasc is to meet the needs of a rapidly changing sector. A review of our Education and Training Programmes was commissioned from the Education and Training Forum under the Chairmanship of Prof. John Coolahan.

Its recommendations will be published by mid-2005. The Training and Development Directorate includes development units on Curriculum and Quality Assurance and three new integrated units for horticulture, forestry and pigs, in which the research, advisory and training activities are managed.

Capital Investment

Teagasc continued a programme of capital investment to support some of its key future objectives. The main projects were the refurbishment of Oak Park House and facilities at Kinsealy, the completion of the Animal and Food Bio-Sciences Centre at Moorepark and IT investment throughout the organisation.

Outlook

With the new structures now largely in place, development in the next couple of years will focus on implementing programmes to meet the development needs of the rapidly changing agriculture and food industries.

Research

We initiated a new research strategy, the principal aim of which is to invest in centres of excellence that will equip those involved in the business of agriculture and food with the knowledge to improve efficiency, competitiveness and responsiveness to the market and to develop policies that respect the physical environment, promote biodiversity and guarantee the maintenance of a healthy population and health-giving countryside.

Teagasc aims to underpin applied research with basic research and continually seeks to upgrade its knowledge base in new areas of science. In animal science, this will mean concentrating basic science in one centre with a major focus on genetics and animal breeding and new areas such as genomics, which have the potential to identify genes with specific traits. Nutrition and the development and refinement of production systems will continue to form a large part of the research programme. The organisation also plans to strengthen its rural research centre and broaden its focus to include research on the



wider rural population. The food research programme will place increased emphasis on foods for health.

Advice

Based on a review of our advisory services, it has been decided to strengthen the level of specialisation in the technology and business service to service a smaller number of more commercially orientated, specialised farmers. Significant resources will be required to service part-time farmers, some of whom will be very commercial, while others will farm in an extensive, environmentally-friendly manner. The environmental services will be improved with e-REPS and on-line REPS planning systems being launched and developed further to facilitate nutrient management planning for non-REPS clients. The Options Analysis Programme will focus on giving advice to those who need to integrate farming and non-farming activities to generate a viable level of income.

I am confident that the re-organised advisory service will achieve critical mass in terms of numbers of staff and back-up support in the new Management Units. It will ensure enhanced clerical and IT support for advisers, which will give the organisation greater efficiency and efficacy, thus providing an improved service overall for farmers and rural dwellers.

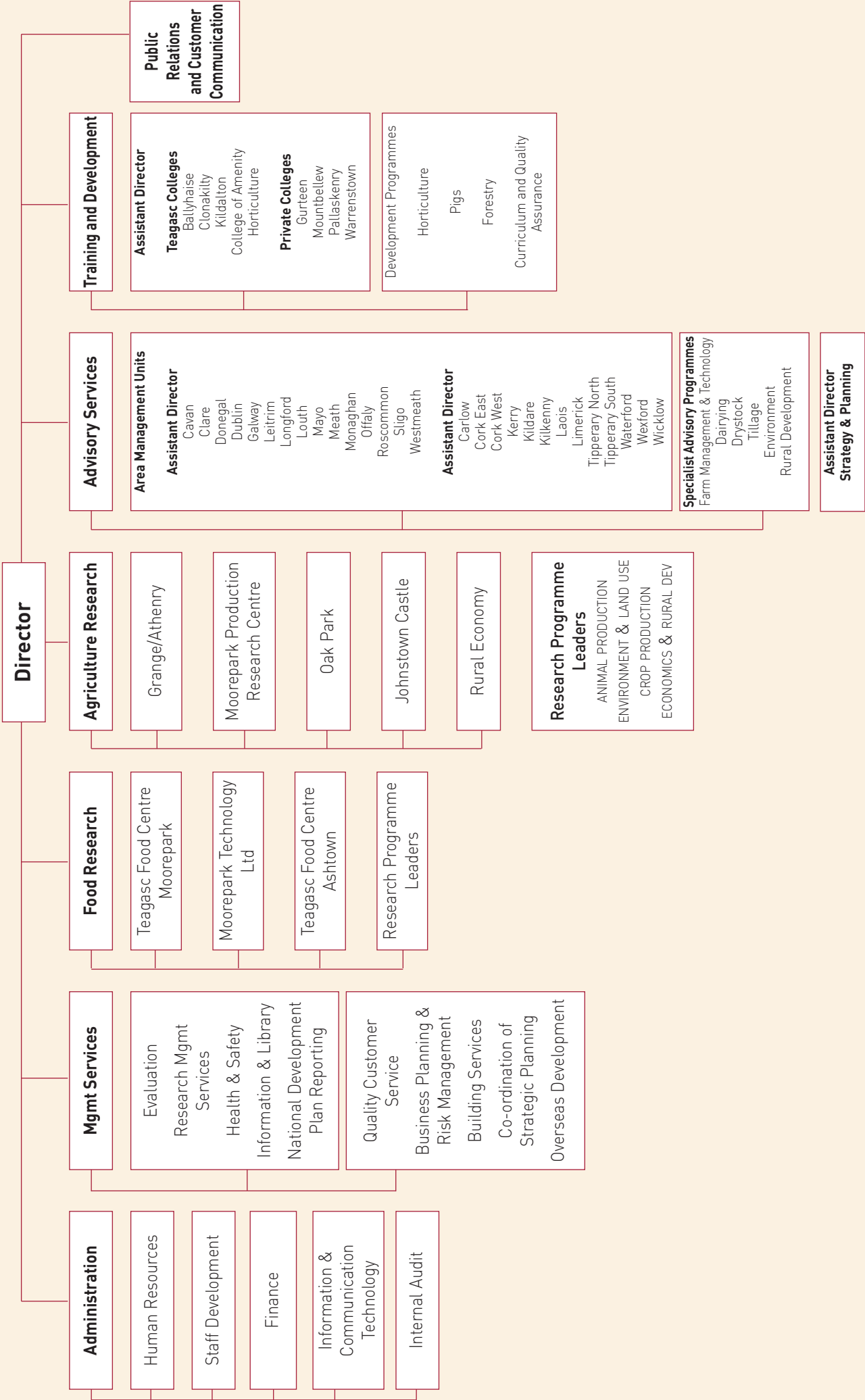
Education and Training

There will be a strong focus on the implementation of the key recommendations of the Forum Review. The agricultural colleges of the future, while still meeting the needs of young entrants, will also need to integrate more with the provision of training for adults and part-time farmers and with research programmes. Teagasc will continue to provide third-level training, accredited by HETAC, up to ordinary degree level in conjunction with the Institutes of Technology. Colleges will also provide the Vocational Certificate in Agriculture for part-time farmers in their own catchment area in conjunction with the Advisory Service. To meet the education and training needs of the growing number of part-time farmers, the Vocational Certificate in Agriculture will be provided at local level at night and weekends in all Management Units. Following the completion of a pilot 180 hour e-learning programme, an e-college has been established and it is planned to expand the range and scope of e-learning programmes. We are committed to an expansion of life-long learning programmes, which currently provide training to over 8,000 adult farmers each year.

Jim Flanagan
Director

Teagasc Organisational Chart

Teagasc Management Structure





Introduction to the Annual Report

Organisation Chart

The Teagasc organisational structure is shown on previous page. Heads of Directorate are responsible for the implementation of the organisation's goals relevant to their directorates.

Annual Report

The Annual Report is structured to clearly outline the achievements of the six high level goals of the organisation as described in the Statement of Strategy 2003 – 2005.

The following chapters present the progress in achieving these goals. The performance indicators and progress together with the most significant outcomes for each strategy, are outlined.

Teagasc Goals

Goal 1: Competitiveness and Innovation in Agricultural Production

Goal 2: Competitiveness and Innovation in Food Processing

Goal 3: Rural Viability

Goal 4: Sustainable Systems of Agriculture

Goal 5: Integrity of the Food Chain

Goal 6: A More Capable, Efficient and Effective Organisation



GOAL 1: Competitiveness and Innovation in Agricultural Production

To achieve an internationally competitive and innovative agricultural production sector consistent with high standards of sustainability.

- In order to achieve this goal, Teagasc is implementing a range of strategies to
- Generate the knowledge and technologies necessary to underpin internationally competitive and innovative agricultural production and inform policy
 - Transfer the technology and best practice to farms and rural areas

1.1	Strategy	Performance Indicators	Progress
	Conduct research that underpins competitiveness and innovation in the agriculture sector and rural areas	<ul style="list-style-type: none">• Proportion of research projects successfully completed• Quality and quantity of scientific publications and reports• Economic data on costs of production• New blueprints of production	<p>25 projects ongoing, 100% of projects due for completion were completed, 13 peer reviewed papers, one national report</p> <p>80 technical and popular publications</p> <p>One major change in blueprint for efficient milk production</p>

Research was carried out at our six agriculture research centres at Moorepark, Oak Park, Athenry, Johnstown Castle, Kinsealy and Grange. The appointment of Research Programme Leaders allows for greater co-ordination of the programme.



1.2 Strategy

Develop grassland management systems and nutritional regimes for the efficient production of consistent quality milk, beef, sheep and pigmeat

Performance Indicators

- Proportion of research projects successfully completed
- Quality and quantity of scientific publications and reports
- Improvement in biological efficiency
- New blueprints of production

Progress

10 projects, 100% of projects due for completion were completed
eight peer reviewed papers

25 technical papers

nine workshops
one symposium

The main thrust of the dairy research programme is to increase grazed grass in the diet of dairy cows. Work in Moorepark shows that cows grazed outdoors from mid-February to April receiving 80% diet from grass produced similar milk yield to cows indoors on silage and 60% concentrate. Work is ongoing on achieving more than 70% grazed grass in the diet of spring calving dairy cows nationally, with a corresponding reduction in expensive silage and concentrate feeds.

Milking and labour efficiency research show improved labour efficiency must accompany the growth of the farm business to ensure future viability. Moorepark evaluated the sustainability of once-a-day milking compared with twice daily in terms of labour input and other performances, including milk production and quality. The research indicates that while milk production is reduced by 25%, milk fat and protein content increased by 0.41% and 0.21%, respectively. Pregnancy rate also increased and dry matter intake was reduced by up to 4%. The results indicate that, in certain circumstances, once daily milking may provide a viable management option.

Beef research at Grange shows that increased milk production of suckler cows increased the carcass gain per day of progeny. Grange compared five suckler cow genotypes – Limousin x Friesian and Simmental x Limousin x Friesian produced better carcass gain in progeny, due mainly to better milk production.

Research on feed ingredients for pigs showed that entire males, in the weight range 80 – 100 kgs live weight, responded to higher levels of lysine in the diet than females. The result indicates the advantages in the use of separate diets for heavier hogs and gilts. The number of pigs per sow per year was 21.5 for clients as against 20.0 for non-clients.

An improved understanding of the factors which influence the performance of silage stretch-film on baled silage is emerging from collaborative work with Queen's University Belfast. Studies show that stretching of film can improve gas barrier properties by up to 30%. This work will lead to the development of more efficient and effective wrapping methods.

1.3 Strategy

Develop technologies and systems to underpin the competitiveness of tillage crops

Performance Indicators

- Proportion of research projects successfully completed
- Quantity and quality of scientific publications and reports
- Improvement in biological efficiency
- New blueprints of production

Progress

24 projects, 100% of projects due for completion were completed

Five peer reviewed papers
Three national reports
69 technical publications

Tillage crops research continued at Oak Park and included work on winter barley, wheat and spring barley. The results to date indicate that while plant establishment can be reduced on minimum tillage in the early years, this did not impact greatly on grain yields and shows that minimum tillage systems can provide substantial costs savings while allowing for greater scale. Similarly, research on reduced cultivation for sugar beet production resulted in less weed beet, increased crop yield per hectare and higher sugar yield.

Research is ongoing on the improvement in the genetic quality of ash and birch. Teagasc's involvement in the RAP (Realising Ash Potential) programme has resulted in the development of methods to propagate improved ash to cuttings and by micropropagation. Results are currently being evaluated in field trials at Johnstown Castle and Ballyhaise.

Two research projects on vegetable and soft fruit growing began and eight on-going projects continue. These projects will provide technical information that can be applied to increase output, reduce inputs, improve quality and maintain competitiveness for Irish producers of mushrooms, soft fruit and vegetables.

1.4 Strategy

Exploit developments in the biosciences to drive competitiveness and innovation in the agriculture sector

Performance Indicators

- Proportion of research projects successfully completed
- Quality and quantity of scientific publications and reports
- Improvement in biological efficiency
- Patents and breeders rights

Progress

21 projects, 67% of projects due for completion were completed on time

10 refereed papers
18 technical reports
Five workshops

14 potato breeders rights

The programme on the risk assessment of Genetically Modified (GM) crops focused on calculating the potential impact of GM technology on both the agricultural sector and the environment.

Research at Oak Park is seeking to develop DNA-based genetic markers that will enable breeders to select breeding lines containing genes which confer natural resistance to pests and diseases.

1.5	Strategy	Performance Indicators	Progress
	Conduct research that will allow the analysis and projection of the effects of actual and proposed changes in markets and policies at the national, sectoral, farm and household levels and develop new policy options	<ul style="list-style-type: none"> • Proportion of research projects successfully completed • Quality and quantity of scientific publications and reports • Policy options developed and transferred to policy makers • Briefing to business leaders and policy makers 	<p>22 projects, 50% of projects due for completion were completed on time</p> <p>21 national scientific reports</p> <p>Two industry-commissioned research projects</p> <p>45 technical reports</p>

Despite a recovery in dairy margins in 2004, changes in EU milk policy are projected to reduce the price paid for milk by an estimated 4% in 2005, although market developments are positive.

Gross margins for cattle declined in 2004 despite an excellent grazing season and a recovery in beef prices. These positives were not sufficient to offset a reduction in the value of direct payments. Farmers in 2005 are projected to benefit from the overlap due to the change from direct payments to the Single Farm Payment. This overlap in payments is projected to result in a revenue injection of €550m in 2005.

Cereal yields in 2004 were exceptional, with winter wheat and spring barley yields up 18% on 2003. Gross margins in sugar beet were higher than 2003, mainly due to increased yields.

Sheep numbers declined further in 2004; ewe numbers showed a slight increase. Sow numbers are predicted to fall in 2005 due to animal welfare requirements, extra costs as a result of the proposed Nitrates Directive, licensing requirements and insufficient young people entering the sector.

A study undertaken on farmers' intentions revealed that they will adopt a "wait and see" approach to developments in the industry. In general, intentions were to decrease activities in sheep and cereals and increase in forestry. Farmers planned to invest 22% more in their enterprises than they had done in 2003.

In 2004, a National Farm Facilities Survey was carried out on behalf of the Department of Agriculture and Food. This will provide policy makers with a more precise estimate of the cost implications of upgrading farm facilities. A major research study on the competitiveness of Irish agriculture was concluded in 2004. This showed that, while the major enterprises were competitive when cash costs alone were considered, when land and labour costs were included, Ireland's competitiveness was unfavourable compared with other countries in the study.

1.6	Strategy	Performance Indicators	Progress
	Generate physical and financial information on monitor farms to evaluate and develop the blueprints for technology transfer	<ul style="list-style-type: none"> • Number of monitor farms • Improvement in technical and financial performance on monitor farms • Reports generated • Cost benefit of technology transfer on monitor farms 	Dairy – 112 Beef – 28 Tillage – 13 Forestry – 29 Sheep – 14 10% increase in profitability Evaluation of Monitor Farms carried out 10% increase in profitability

Teagasc has established 196 monitor farms across the country. These farms were extensively used in 2004 for farm walks, discussion group meetings and evaluation of technical and financial performance, especially within joint programmes with industry. An evaluation of dairy monitor farms showed that, in general, these farms achieved the technical efficiency targets set out in their farm plans.

1.7	Strategy	Performance Indicators	Progress
	Carry out a pro-active programme of technology transfer from research to the advisory service and to the industry	<ul style="list-style-type: none"> • Training courses for advisors • Open days, workshops and symposia for industry • Popular publications • End of project reports • Technical digests 	Nine courses Four open days 114 popular publications 17 end-of-project reports

Teagasc research centres were involved in a comprehensive programme of technology and information transfer to the advisory service and industry during 2004. Very successful open days were held at Oak Park, Grange, Moorepark and Solohead.

1.8	Strategy Develop and deliver advisory programmes that are relevant to industry	Performance Indicators <ul style="list-style-type: none"> • The extent to which enhanced commodity teams of research, advisory and training personnel are in place • Improvement in production efficiency at farm level • Number of enterprise programmes addressing cost efficient production • Number of technical and business programme clients • Number of discussion groups • Number of cost control planners/profit monitors 	Progress Composition of enhanced commodity teams currently being finalised Technical efficiency targets achieved on majority of Monitor Farms Discussion Groups Dairy 230 Cattle 55 Sheep 17 Tillage 22 Profit Monitors Dairying 900 Cattle 200 Sheep 41 Tillage 33 Horticulture 13
1.9	Strategy Maximise industry involvement in Teagasc programmes	Performance Indicators <ul style="list-style-type: none"> • Number of joint Teagasc/industry programmes • Funding received from industry • Representation of industry on programme commodity teams 	Progress Number of Joint Programmes – Dairy 12 Cattle 7 Tillage 1

The Advisory Services Directorate, through its own programme of work, its joint programmes with agri-industry and its training activities provided direct services to 35,000 contracted farmer clients in 2004.

Advisers carried out more than 51,000 individual farm visits and close on 44,000 office consultations in 2004. These individual farm visits and consultations were used to underpin the ongoing development of the farm business for each individual farmer.

Four thousand farmers attended regular group meetings of 324 discussion groups. These discussion groups, facilitated by advisers and specialists, focused on technical efficiency and the improvement of profit.

Significant changes in dairy farming took place during the year. Profits of 20c/litre were achieved by the top clients who attended discussion group activities. Many achieved increased profits of between 10% to 18%.

The organisation was involved in twelve joint programmes with the dairy industry in 2004. These programmes were with Arrabawn, Centenary, Carberry, Connacht Gold, Dairygold, Glanbia, Kerry, Lakeland/Town of Monaghan, Tipperary/Thurles Co-Op and Wexford.

Reports from the programmes indicate that the farmer participants achieved lower costs of inputs, increased milk production per cow, lower levels of meal feeding per cow, lower levels of nitrogen, increased profits per litre and overall increased farm profits.

Drystock monitor farms were involved in a comprehensive programme of cattle weighing and recording of financial and management information with the objectives of reducing costs and improving breeding.

Financial returns from the monitor farms indicate that they are in the top 25% of cattle farms nationally when compared with farms in the National Farm Survey.

The financial output on the top drystock farms was due largely to increased premium receipts of €190 per hectare. The top farms retained all their premia and a little more as profit.

The results from the monitor farms and from profit monitors for beef showed that the top suckler farms tended to be more heavily stocked and produced 302kg of beef per hectare. This higher output also allowed these farmers to capture an extra €75/hectare more premia. The top non-breeding farms had profits of €600/hectare. However, compared with suckler farms, these farms had a lower stocking rate and consequently most were claiming the higher rate of extensification. In general, better overall technical efficiency on farms reflected greater overall profits.

Cereal production in 2004 was 2.53m tonnes, which is an increase of 385,000 tonnes in comparison with 2003. The excellent autumn of 2003 resulted in an increase in the area of winter wheat sown from 60,600 hectares to 73,500 hectares. Cereal area increased by 7%, to 309,900 hectares.

Sugar beet yield was estimated at a record 55 tonne/hectare, compared to 45 tonne/hectare in 2003, and sugar content exceeded 16.75%, which is satisfactory.

Potato yield estimates for main crop from the Board Bia/Teagasc sample potato digs indicate that yields in 2004 are the highest on record. The saleable yields for Rooster and Kerr's Pink in 2004 were estimated at 48.2 and 40.8 tonne/hectare, compared to 35.8 tonne and 28.5 tonne/hectare in 2003.

Some 1,100 visits by advisory staff were made to farm forestry sites during the year. Five regional demonstrations were held and 82 farm forestry walks were conducted. Other activities included office consultations, workshops and clinics.

The Horticultural Advisory Programme, which includes nursery stock, involved 1,500 site visits. In addition, 13 discussion groups were facilitated by Teagasc during the year. Other activities included conferences, open days, short courses and publications.

Pig meat prices were 9% higher than in 2003. The Advisory Service dealt with 217 clients, involving 440 visits, workshops, conferences and newsletters.

1.10

Strategy

Develop and deliver vocational and third-level education and training programmes for adults and new entrants to agriculture and horticulture

Performance Indicators

- Number participating

Progress

3,466 attended vocational courses
671 participated in third-level courses
900 completed 100 and 80 hour courses
9,299 participated in short adult courses

Training for young entrants is mainly provided at Teagasc colleges. To meet the needs of the growing numbers of part-time farmers, courses were provided at local level at night and at weekends. The Training and Development Directorate works closely with the Advisory Directorate to co-ordinate the training of part-time and adult farmers.

There is an ongoing review and development of existing vocational and third-level programmes. During 2004, a pilot course leading to the Certificate in Agricultural Skills was developed for early school leavers and for people with learning disabilities. This course is run jointly by Kildalton College and Mooncoin Vocational School, Co. Kilkenny.

During 2004, the pilot e-College project was further tested and is now ready for roll-out. A new course leading to an Advanced Certificate in Agriculture – Drystock Management, commenced in Gurteen Agricultural College.

The accreditation of education and training programmes by the National Qualifications Authority of Ireland (NQAI), incorporating HETAC and FETAC, has raised the standing of the qualifications both nationally and internationally. All courses delivered by Teagasc are placed on the National Qualifications Framework, which will further facilitate national and international recognition of these awards.

During 2004, almost 3,500 participated in vocational courses, while 671 participated in third-level courses. Adult courses were attended by over 9,000 people including 1,300 women.

1.11	Strategy	Performance Indicators	Progress
	Provide technological, analytical and related services to the agri-food industry and other users	<ul style="list-style-type: none"> • Range of services provided • Cost recovery from services 	Soil analysis Water analysis Grass sugar analysis Cost recovery is now approaching 100%

Teagasc provided a comprehensive soil analysis service from the soil laboratory in Johnstown Castle. Nitrogen (N), phosphorous (P) and potassium (K), trace elements and heavy metals, as well as lime requirements are provided for the growing of a complete range of crop types. The water analysis service was discontinued in 2004.

1.12	Strategy	Performance Indicators	Progress
	Provide financial and farm business planning services	<ul style="list-style-type: none"> • Number of clients using profit monitors 	1,490 profit monitors analysed

A total of 260 farmers enrolled in business and technology courses in 2004. These courses, geared specifically to adult farmers, dealt with specific areas of technology transfer and farm business management. Farmers were encouraged to complete a profit monitor analysis for their respective enterprises.

The process of improving the competency of our farm technology and business service advisers continued, with 32 advisers, teachers and specialists taking the Graduate Diploma in Farm Financial Management at the Waterford Institute of Technology.



GOAL 2: Competitiveness and Innovation in Food Processing

To have a market oriented, internationally competitive and innovative food processing sector.

To support the achievement of this goal, Teagasc is

- Generating the knowledge and technologies necessary for competitiveness and innovation in the Irish food processing industry
- Transferring technology to food companies and increasing the skills in the food sector

The year 2004 was a transition year for food research, as it saw the completion of a four year funding cycle in the Food Institutional Research Measure (FIRM) programme and the preparation of proposals for a new cycle.

The food research programme embraced the following research areas: Food Safety, Food Ingredients, Meats, Prepared Consumer Foods, Cheese and Fermented Dairy Products and Functional Foods. Extension activities included food training, technology transfer, dissemination and technical and pilot plant services. A total of 101 research projects were undertaken.

2.1 Strategy

Conduct research that underpins product quality and innovation in the Irish food industry

Performance Indicators

- Number of research projects successfully completed
- Quality and quantity of scientific publications and reports

Progress

31 projects completed

32 refereed publications
194 other publications



Substantial research projects were carried out in the following areas:

Cheese Research

A major project investigating factors affecting Cheddar cheese making efficiency was ongoing during the year and involved considerable interaction with the dairy industry. The project consists of two primary lines of investigation, pilot plant trials to determine the impact of various processing parameters such as pasteurisation conditions, rennet type and milk composition on cheese making efficiency and a survey of all Cheddar cheese manufacturing plants in Ireland with a view to establishing cheese making practices and efficiency.

Providing important information on process efficiency measures that can reduce the cost of commodity cheese processing is a key target for the dairy industry facing declining market prices.

Top selling Cheddar cheese brands were selected from the Irish market and tested for composition and key chemical indices with a view to establishing the degree of inter- and intra- brand variation. The study is ongoing, but preliminary results indicate large inter-brand variation in key quality compositional parameters.

Experimental studies in low fat cheeses in 2004 identified process aids that are very effective in enhancing the quality of reduced fat Mozzarella, as reflected by an increase in cheese softness and enhanced cooking properties. Overall, the results indicate that process interventions can be a very effective approach to the development of reduced-fat Mozzarella with customised functionality.

There have been major advances on cheese flavours in recent years in our understanding of the key chemical processes that drive flavour development. However, a complete understanding of these pathways and the final range and balance of flavour active compounds remain elusive. Research continues on the key chemical processes that drive flavour development in cheese and the impact of lipolysis (fat breakdown) on flavour.

Considerable expertise in the area of Enzyme Modified Cheese (EMC), an important flavour ingredient for snack-foods has been developed. A project is under way with the objective of developing more natural flavours using a combination of biological processes. Various commercial starter cultures were screened for their ability to create cheese flavour in combination with exogenous enzymes. Progress during the current year demonstrated that it is possible to create a very diverse EMC product range using this approach. The EMCs produced are the primary source of cheese flavour in wet and dry cheese sauce products.

NIR spectroscopy was demonstrated to predict cheese maturity and several sensory attributes ("crumbly", "rubbery", "chewy", "mouthcoating" and "massforming") with sufficient accuracy to be useful in industry. Prediction of cheese maturity to within one month is now possible using this technique.

Meat Research

In meat research, the development of new products and technologies to help build an internationally competitive meat industry continued. Our focus on nutritionally enhanced beef and beef products resulted in the production of fresh meat having a more beneficial fatty acid profile and the processing of beef products with enhanced levels of the health promoting fatty acid CLA (conjugated linoleic acid).

Specifically, we found that supplementing pasture grazing cattle with plant oil-enriched concentrates resulted in a further beneficial effect on the fatty acid composition of muscle and fat compared to grazing or silage / concentrates alone. Sunflower oil was more effective in increasing the concentration of CLA.

"Tenderbound" meat is the process of hot-boning beef muscles (about two hours after slaughter) and the subsequent prevention of their contraction. It overcomes one of the most persistent problems of the beef industry - inconsistent eating quality. Consumer trials showed that nearly 80% found the "Tenderbound" steak to be more tender. There is now strong industrial interest in this technique.

A novel active packaging system for beef cuts was developed and demonstrated to the industry. Centralised packing of retail cuts of fresh meat is now common, especially in the UK, so that very little in-store butchery and packaging takes place. At present, Irish meat processors supply primal cuts in vac-packs to packing plants abroad where they are retail prepared and repacked. A system for packaging retail cuts with a storage life that is sufficiently long to allow distribution from Ireland throughout Europe would remove the vac-pack stage and hence reduce the amount of packaging material used. It would also allow the Irish processor to retain control over the product up to the point of sale. The Active Packaging System may meet these requirements.

A range of value-added beef products was developed and taken up by the industry. The beef forequarter offers considerable potential for added value products, as it constitutes 50% of the weight of a beef carcass, but only 25% of its value. Whole muscles have been separated from the forequarter and their suitability for producing added-value meat products has been determined. These products include steaks and roasting joints made by reforming individual de-sinewed muscles. A tenderisation process is necessary for most muscles.

A novel processing method, vacuum pulsing, has been shown to improve texture. It may be further enhanced by adding brine and, in some cases, beef flavouring. These products have good eating quality and offer commercial potential. One small-to-medium-sized enterprise (SME) processor has become involved in developing these added-value beef products under an Enterprise Ireland grant, with the Teagasc Food Centre at Ashtown as the research contractor.

Fish Research

Supplies of conventional fish species are dwindling and underutilised species are becoming more important. These species present a challenge in terms of consumer acceptance and also in adding value.

Highly successful marinating trials on raw fillets of selected species showed that albacore tuna in salt-based marinades (cajun, arrabbiata or tandoori) received good taste panel acceptability ratings as did blue ling portions in the sugar-based marinades (piri piri, chilli and coriander, lemon and pepper or Chinese mix). These trials are currently being extended to a number of other underutilised fish species. The taste panel data are underpinned by extensive chemical, physical and microbiological tests on the samples.

The results were presented to 24 personnel from 17 seafood companies at a seafood workshop at the Teagasc Food Research Centre, Ashtown, in July 2004. This generated significant technology transfer and follow-up consultancy with the industry.

2.2	Strategy	Performance Indicators	Progress
	Exploit developments in the biosciences to drive innovation in the food industry	<ul style="list-style-type: none"> • Number of patents • Applications, trials completed 	<p>Two</p> <p>11</p>

In the food bioscience area, the generation of the complete genetic sequence of *Lactobacillus helveticus* DPC 4571, a lactic culture known to positively impact on cheese flavour, is the objective of a project that is now near completion. To date, candidate genes for several flavour pathways in cheese ripening have been identified.

This was the first year of operation of the Science Foundation Ireland funded Alimentary Pharmabiotic Centre (APC), which is a virtual centre between the Teagasc Food Centre at Moorepark and University College Cork and which is devoted to investigating the role of gut flora in human health.

As part of the APC Moorepark programme, a number of cultures were identified with the ability to inhibit *Clostridium difficile*, the organism responsible for vomiting sickness in hospitals, and it is hoped that these will form the basis of future probiotic cultures and novel antimicrobials to combat this debilitating disease.

New bioactive ingredients are being identified from food sources. Researchers have identified a new antimicrobial peptide from bovine casein with the ability to kill *Enterobacter sakazakii*, the contaminant in baby formula which can cause childhood meningitis.

A probiotic cheese, previously developed at Moorepark, is currently being prepared to go through the Joint Health Claims Initiative legislation in the UK. In addition, research has shown that both fermentable sugars and certain fatty acids can protect probiotic viability during gastric transit.

In animal research, the new scientific orientation towards transcriptome and proteome analysis has opened up possibilities for discovering molecular predictors (highly regulated genes or molecular polymorphisms) that control muscle growth and meat quality traits.

Gene expression profiling of bovine muscle tissue is a powerful technique which can be used to identify genes and gene families associated with meat quality traits.

2.3	Strategy	Performance Indicators	Progress
	Provide an understanding of consumer demands and customer requirements to guide innovation and competitiveness	<ul style="list-style-type: none"> • Competitive funding obtained • Level of industry funding 	<p>€0.134m</p>

Food Related Lifestyle

The Food Related Lifestyle (FRL) model is a sophisticated tool that is used to segment food markets on the basis of consumers' attitudes and demands towards the purchase, preparation and consumption of food products. The instrument was applied to the Irish and British food markets to segment them into groups of consumers with distinct food-related lifestyles.

Following data analysis, six food-related lifestyle (FRL) segments were identified in both markets. In Ireland, they were named the hedonistic, the extremely uninvolved, the adventurous, the conservative, the enthusiastic and the moderate. In Britain, they were named the snackers, the careless, the uninvolved, the rational, the adventurous and the conservative.

The aim of this study was threefold: to analyse the consumption behaviour of food consumers, to examine the consumption behaviour of the six consumer segments; and to determine if reported behaviour was indicative of actual behaviour.

This project has been successfully completed with seven scientific publications, two industry workshops, participation in two other national workshops and participation at three important international conferences. In addition, there has been uptake of the results by three food companies and Bord Bia is currently using the instrument on a study of fruit and vegetable consumption.

Gluten Replacements

Worldwide, the number of sufferers from coeliac disease is predicted to increase by a factor of 10 over the next number of years, resulting in a growing market for gluten-free cereal-based products. Market research has shown that many of the products currently on sale are of inferior quality. Teagasc research investigated a range of starch sources (rice, potato), protein and fibre sources (dairy proteins, fish protein, insulin), and gums (xanthan, konjac) as gluten replacers in gluten-free yeast bread formulations. Mathematical modelling/statistical techniques were used to select the optimum blend of ingredients and a high quality gluten-free bread formulation is now available for bakery companies.

A focus group tasting session with members of the Coeliac Society of Ireland gave highly positive outcomes in terms of the gluten-free bread quality and acceptability and the data were also presented at their annual general meeting in November 2004.

Food Adulteration

Food adulteration is a significant problem for the food industry and companies need rapid, cost-effective and environmentally friendly methods to monitor and validate the authenticity of raw materials and foodstuffs entering the retail chain on a continual basis. This validation must also be done in real time. Spectroscopic techniques, sensitive separation methods and multivariate mathematical procedures are being used to develop protocols for the routine screening of a number of foods including honey, fruit purées (raspberry and strawberry), fruit juices (orange and apple) and extra virgin olive oil.

Two hypothetical second-generation genetically modified (GM) products, yoghurt and a dairy spread, were evaluated by consumers. Second generation genetically modified food products offer specific consumer benefits, and, in the case of this study, health benefits. The results for both products suggest that genetically modified foods are not widely accepted by Irish yoghurt and dairy spread consumers. However, the results of the segmentation analysis also imply that clearly labelled second-generation genetically modified dairy products with proven health benefits could attain a significant share of the Irish food market.

2.4	Strategy	Performance Indicators	Progress
	Carry out a pro-active programme of technology transfer and advice to Irish food companies	<ul style="list-style-type: none"> • Number of product /processes innovations tendered to industry • Amount of industry commissioned research invoiced • Number of open days, workshops and symposia for industry • Uptake of research as measured by follow-on commercial activity • Number of products in market test by industry • Number of SME food customers assisted 	<p>25</p> <p>€1.6m</p> <p>Seven</p> <p>85</p> <p>25</p> <p>10</p>

Customised workshops and training courses in processed cheese, cheese manufacturing efficiency and evaporation and drying were held for multinational corporate clients. The Moorepark Centre is now the choice of several multinationals for process development and training. It was the joint organiser with INRA (France) of the second International Symposium on Spraydrying held in Cork in October 2004.

The strength of the Teagasc Food Research Centre's biosciences programme is also acknowledged by new collaborative linkages with two foreign-based multinational food companies and a multinational biotechnology company. The Moorepark Centre was also the principal centre involved in three RELAY workshops dealing with cheese manufacturing efficiency, cheese texture and chocolate ingredients. Moorepark continues to be the host site for the RELAY project, a trans-institutional initiative for dissemination of information on the Food Industry Research Measure (FIRM) to food companies. The Centre continued to provide support to farmhouse cheese-makers for quality maintenance, in a programme jointly funded by the FSAI (Food Safety Authority of Ireland) and Enterprise Ireland.

The pilot plant subsidiary company, Moorepark Technology Ltd (MTL), further expanded its business and customer base in 2004. Rental income advanced by 15% on the previous year, with the largest increase coming from multinationals and the general Irish food sector. A new strategic plan is being formulated, included in which will be an investment programme to provide facilities for customers who wish to locate on a long-term basis on the MTL campus. MTL is increasingly attracting attention as a model for linking public research to industry.

Our Innovation Programme raises the innovative capacity of the major food companies and supports the development of small and medium-sized enterprises by providing innovation and technology transfer services. This is achieved by delivering training and offering contract research and consultancy services on product development, sensory analysis and process validation.

A total of four international food science conferences, including a conference with the theme "Thinking Beyond Tomorrow", and 11 workshops were organised in 2004.

2.5	Strategy	Performance Indicators	Progress
	Develop and provide nationally accredited education and training courses to the food sector	<ul style="list-style-type: none"> • Number of new training courses accredited (FETAC) • Total number of courses run • Number of attendees at courses • Feedback from customers 	<p>Five</p> <p>110</p> <p>1,500</p> <p>Positive</p>

In line with our strategy to develop and provide nationally accredited training courses to the food sector, a number of new initiatives were undertaken. It is widely recognised that training and human resource development is a key requirement in developing the food sector. Teagasc has developed and certified a range of new training curricula under the National Qualifications Authority of Ireland.

Four new training curricula were developed and certified during 2004. These courses filled gaps in training availability in Ireland. Research was completed with UCD and Teagasc Food Safety Department, Ashtown, on the interpretation of the EC Fresh Meat and Poultry Checks on General Hygiene Regulations 2003. This generated a new certified course and guidance note for poultry, delivered to the Department of Agriculture and Food and industry personnel. This technique is now assimilated by the industry and accepted by the regulatory body as complying with the new legislation. Working in consultation with, and supported by FÁS, a beef de-boning course was developed and piloted by FÁS in the meat sector.

A total of 22 courses were delivered to 1,500 participants under the Food Fast Track Training Programme.

A programme of pro-active advice and consultancy was also delivered. Our work in this area continues to increase the capability of the food sector to ensure the safety of its processes and products.





GOAL 3: Rural Viability

To build the capacity of farm households to achieve viability and contribute to a vibrant rural economy and society.

To achieve this goal, Teagasc is implementing a range of strategies to

- Generate the technologies and knowledge required to develop the human resource capacity of farm families.

3.1	Strategy	Performance Indicators	Progress
	Conduct research that will provide the strategic knowledge base to support the continued viability of rural areas and support the establishment of supplementary enterprises and employment opportunities in rural areas	<ul style="list-style-type: none">• Proportion of research projects successfully completed• Quality and quantity of scientific publications and reports• Competitive funding obtained• Extent of knowledge transfer to industry• Policy options developed and transferred to policy makers	<p>75% already completed Three EU Framework contracts approved</p> <p>€0.120m Stimulus Funds obtained</p> <p>Two national conferences held and study launched</p>

A study conducted in five rural areas in Galway has shown pronounced differences in population trends between remote rural areas and those nearer major urban centres. Population in areas near urban centres, increased by up to 50% between 1996 and 2002. In contrast, the population of more remote rural areas remained static or declined during the same period.



In the near-urban areas, only one-sixth of heads of households are farmers compared to over half in the more remote areas. In the remote areas, a high proportion of the population is retired or unemployed. Less than 29% of households are solely dependent on farming for their income.

For those at work, commuting up to 100 miles a day is normal. Lack of access to jobs and lack of public transport were identified by householders in the more remote areas as major impediments. Householders identified a sense of security and safety as one of the positive features of living in rural areas. This study, the findings of which apply across Ireland, has huge implications for strategies to be adopted to create employment in rural areas.

The Teagasc National Farm Survey for 2003 showed that on 50% of all farms, the farmer and/or spouse, had off-farm employment compared with 48% in 2002. The highest incidence of off-farm employment was on beef and sheep farms.

3.2 Strategy

Deliver an options analysis and farm planning programme to farm families

Performance Indicators

- Number of participants
- Number of farmers taking up training for supplementary enterprises with income earning potential
- Number of farmers improving their viability status

Progress

5,700 farm families participated in Options Analysis Programme

One quarter of participants undertook training/developed supplementary enterprises

3,300 farmers committed to developing an action plan to improve viability

The Rural Viability Service activity in 2004 was the Options Analysis Programme. The programme provided an Options Analysis and Farm Planning Assessment as well as a Way Forward Action Plan to farm families. Almost 5,700 farm families took part in the Options Analysis programme in 2004 and approximately 3,300 Way Forward Action Plans were prepared.

Of 200 participants of the Options Analysis Programme, a quarter of the farm families surveyed stated that the programme helped them to identify ways of improving family farm income. The majority of participants considered the programme worthwhile in that the plan addressed their concerns with regard to finances, workload and CAP Reform.

3.3

Strategy

Promote and support diversification opportunities for farmers including farm forestry, organic farming and other supplementary enterprises

Performance Indicators

- Number attending training courses or mentoring
- Uptake of supplementary enterprises

Progress

- 651 farmers attended adult training courses on alternative enterprises
- 7 dedicated organic demonstration farms established

The Advisory Directorate delivered 25-hour modules on a range of alternative enterprises, developed to FETAC standards. Many of these courses were attended by part-time farmers.

Forestry advisory staff have been very active in the promotion of forestry as an alternative land use, producing a number of publications and media articles, providing part-time training courses and participating in open days and agricultural events.

The FETAC 'Introduction to Farm Forestry' module was delivered on eight occasions throughout the country, with an attendance of 68 participants. Eleven other forestry courses were run. Forestry staff provided input into eleven FETAC 100 hour courses, two FETAC 80 hour courses and modules in Certificate in Farming courses.

The Sport Horse Programme concentrated on improving the skills of breeder producers in the selection of mares and stallions, the husbandry of mares and young horses and the presentation of horses for sale. Two hundred and ninety-four participants attended 14 courses on developing a horse enterprise and 36 farmers attended three skills courses to which they brought their own horses to improve skills of both horses and owners. Twelve seminars were held nationally, attended by 117 equine producers.

The objective of the Poultry Programme was to further develop free range egg production and to engage all poultry producers in a quality assurance scheme. Fifty potential producers attended three courses on setting up a new business and the Quality Assurance Scheme, delivered in conjunction with An Bord Bia, was provided to all producers who supply processing outlets.

The major focus of the Organic Farming Programme was to deliver information on organic farming production through seven dedicated demonstration farms throughout the country. Open days were held on each farm. Over 1,000 people attended events on the seven farms. Two organic farming courses were held with an attendance of 30.

Teagasc staff work closely with ADM and LEADER companies, particularly to promote and guide the market-

ing of rural tourism products. Two courses in rural tourism were provided to 30 participants and workshops took place with three LEADER companies during the year.

The number of deer units in the country is approximately 300. The objectives of the Deer Advisory Programme are to further improve the profitability and viability of deer farmers and to promote expansion in numbers. The advisory programme in 2004 was conducted through nine Discussion Groups, which met twice and were attended by 70% of the producers. One hundred and ten farmers are now participating in the Venison Quality Assurance Scheme.

There are 200 farmers with a dairy goat enterprise in Ireland. The objective of the programme is to improve the productivity and quality of milk produced. A 25-hour dairy husbandry course was held in Ballyhaise College and attended by 22 participants.

3.4 Strategy

Deliver a flexible education and Training programme to facilitate part-time farmers

Performance Indicators

- Number of courses
- Number participating

Progress

50 REPS courses delivered outside normal work hours

Average attendance of 20 participants per course

During 2004, the pilot eCollege project was further tested and is now ready for roll-out. Amendments were made to the Vocational Certificate in Agriculture programme to further facilitate delivery to part-time farmers.

Over 900 people completed 100 and 80 hour courses.

3.5 Strategy

Promote agricultural education and training and provide appropriate career planning

Performance Indicators

- Updated promotional documentation
- Number of career events
- Number attending careers events
- Number successfully completing courses and career planning modules

Progress

Updated brochure prepared for career events

3,000 attended 15 career events

570 participants completed courses which included career planning modules

Career events and open days were held at all colleges; Education Officers and college staff visited second level schools throughout the country to promote the various agricultural education courses.

During 2004, all major vocational and third-level awards were placed on NQAI's National Framework of Qualifications. The course prospectus was also updated in line with NQAI Framework of Qualifications.

3.6	Strategy	Performance Indicators	Progress
	Assist farm families to avail of entitlements under the various support and development schemes	<ul style="list-style-type: none">• Number of farmers assisted• Number of applications processed	28,000 farmers received assistance under the rural viability service 150 SIA applications 80 FRS applications 300 Dairy Hygiene applications 17 AES applications

The Teagasc Advisory Service Area Aid campaign assisted up to 50,000 farmers in the completion of their application forms during March and April 2004.





GOAL 4: Sustainable Systems of Agriculture

To achieve systems of agriculture and food production that are sustainable in terms of the environment, animal welfare, occupational safety and the work environment.

To achieve this goal Teagasc programmes will:

- Generate the knowledge and technology to underpin the sustainability of Irish agriculture
- Transfer technology and best practise to farms

The following strategies were implemented during 2004:

4.1	Strategy	Performance Indicators	Progress
	Conduct research to provide the environmental strategies and technologies required for sustainable farming	<ul style="list-style-type: none"> • Proportion of research projects successfully completed • Quality and quantity of scientific publications and reports • Policy options developed and transferred to policy makers 	24 projects 50% of projects due for completion were completed on time 15 refereed papers Four national reports 61 technical reports 27 popular publications
4.2	Strategy	Performance Indicators	Progress
	Develop the scientific basis for improved nutrient and carbon efficiency to enhance and conserve bio-diversity in Irish agriculture	<ul style="list-style-type: none"> • Proportion of research projects successfully completed • Quality and quantity of scientific publications and reports • Policy options developed and transferred to policy makers 	Four projects 100% of projects due for completion were completed on time One refereed paper Two national reports Two technical reports



4.3 Strategy

Develop strategies to plan and manage landscapes

Performance

- Proportion of research projects successfully completed
- Quality and quantity of scientific publications and reports
- Policy options developed and transferred to policy makers

Progress

Two projects ongoing

Six technical reports

One workshop

4.4 Strategy

Carry out a pro-active programme of technology transfer from research to the advisory service and to the industry

Performance

- Number of training courses for advisors
- Number of open days, workshops and symposia for industry
- Feedback from industry
- Number of popular publications
- Number of end of project reports
- Number of technical digests

Progress

Farm events for advisors

One Open Day

Positive

58

Two

Results from a large scale trial on eight soil series showed that grass yield response to fertilizer Phosphorous (P) on cut swards did not show any benefit from building up soil P levels by fertiliser inputs when the soil P Index was two or above.

Experiments at Johnstown Castle showed the presence of grazing cattle altered the drainage characteristics of the soil and did lead to increases in particulate N and P and dissolved potassium (K) in the drainage water.

With legislative pressure mounting to reduce nitrate losses to surface and ground water, defining the relationship between stock carrying capacity and nitrogen level for dairy production systems in Ireland will allow the recommendation of appropriate fertiliser N application which best meets the needs of grass supply, while minimising potential environmental impact.

Research at the Solohead research farm demonstrated how low stocking rates and low fertiliser inputs combined with a white clover/grass based system, at a stocking rate of two cows per hectare, and with nitrogen input of 90kg N/ha has produced 6,445 litres milk per cow and minimised potential environmental impact.

Studies were undertaken at different scales to determine the contribution of the greenhouse gas, nitrous oxide (N_2O), from agriculture. Agriculture currently accounts for 28% of total greenhouse gas emissions in Ireland. Nitrous oxide emissions from soils account for 35% of this total. This is the second largest source of greenhouse gases from agriculture, after enteric fermentation in cattle.

Work is under-way to investigate carbon dynamics in different soil types under a range of management practices. An instrumented tower has been used to measure continuously the CO_2 flux over an area of approximately 0.1km² in grassland at Johnstown Castle. Preliminary estimates show that the annual CO_2 sequestration is 1.2 tonne/hectare of elemental carbon (C). These results indicate that the Johnstown Castle site is a sink for carbon.

A survey was conducted to estimate the quantities of flexible plastic film used on Irish farms and their destinations post primary use. It found that nationally estimated mean plastic use was 4.7 kg/hectare for new pit-silage sheets, 21 kg/hectare for baled silage stretch-film, 2.5 kg/hectare for baled silage twine/netting, 56 kg/hectare for maize mulch and 1.1 kg/hectare for fertiliser bags.

A grass growth model was developed to predict patterns of soil moisture deficit during a three-year time period on well-drained and poorly-drained soils.

A new grassland soil moisture model was developed to assess the spatio-temporal risks of nutrient loss to water. The new hybrid model was found to accurately predict moisture dynamics of Irish grasslands. It is a useful tool in assessing the impact of agro-meteorological conditions on the risks of nutrient loss to water.

A five-year biodiversity project was undertaken in collaboration with University College Dublin and Limerick University. The project, Ag-Biota, is concerned with the impacts of intensive agriculture on biodiversity, with particular emphasis on the biodiversity of intensive grasslands.

The project is investigating management strategies to improve plant diversity in agricultural swards using small-scale plot experiments with different mixtures of species. The relative growth rates of different species in the mixtures has been measured in 2004, and the final measurements in 2005 will assist in identifying mixtures of species that would be predicted to co-exist in field-scale trials.

4.5 Strategy

Develop and deliver advisory programmes which enhance the agri-environment and enable farmers to meet the standards as determined by the Department of Agriculture and Food and other regulatory authorities

Performance Indicators

- Number of Teagasc clients participating in the REPS programme
- Number of farm waste management plans, commonage framework and nutrient management plans
- Improvement in water quality due to improved farm practice
- Collaborations with public bodies and other agencies
- Number of public good activities aimed at increasing awareness and enhancing the agri-environment especially in relation to the EU environmental directives

Progress

3,300 REPS plans prepared by Teagasc in 2004
4,800 attended REPS courses

900 Farm Waste Management Plans completed

270 Nutrient Management Plans completed

EPA Report indicates an improvement in water quality

Trials carried out at Kinsealy on sport compost and green waste for Bord na Mona

Recent water quality monitoring data suggests that the decline in water quality has halted.

4.6 Strategy

Promote sustainable farming practices through education and training programmes

Performance Indicators

- Improvement in water quality
- Level of compliance with good farm practice
- Number participating on courses

Progress

EPA Report indicates an improvement in water quality

Good farming practice and cross compliance explained at over 60 advisory service events

Nitrates Directive implications explained at over 50 public meetings

4.7 Strategy

Develop and deliver advisory and training programmes which incorporate statutory requirements and best practice in relation to occupational safety and disability

Performance Indicators

- Number of farm accidents
- Number of awareness creating activities held
- Number of participants in health & safety courses

Progress

The most recent statistics show that farm accidents reduced from 3,600 in 1999 to 3,100 in 2001 and the number of fatalities reduced to 12 in 2004 compared to 19 in 2003

60
Almost 7,000 farmers received training from Teagasc on H&S in 2004

1,339 adults and 1,450 young farmers

4.8	Strategy	Performance Indicators	Progress
	Develop and deliver advisory and training programmes which incorporate statutory requirements and best practice in relation to animal welfare	<ul style="list-style-type: none"> • Provide appropriate courses • Number of people participating in courses • Number of awareness creating activities held 	<p>All Teagasc courses promote best practice in relation to animal welfare. Tests have to be retaken if a student fails to observe best practice</p> <p>1,450 young farmers completed modules on animal welfare</p> <p>65</p>

The 2004 Environment Advisory programme focused on improving the cost effectiveness and efficiency of services to REPS clients and maximising the number of scheme participants. Particular attention was given to promoting efficient fertiliser and manure management, water quality protection and the maintenance of bio-diversity.

Teagasc also provided scientific information on the implementation of the Nitrates Directive and led an informed debate on the impact of the directive on farming. More than 20,000 clients availed of intensive environmental services in 2004. Approximately 16,500 were REPS participants. A further 3,500 received specific services relating to nutrient and manure management and the protection of natural heritage.

While services were focused primarily on clients, the range of activities provided information on 'good farming practice' and raised environmental awareness among farmers generally.

REPS planning is labour intensive. The development of a new integrated on-line mapping and planning system is the basis of a joint project between Teagasc, the Department of Agriculture and Food and the Agricultural Consultants' Association, which will be rolled out in 2005.

The introduction of REPS 3 with higher payment rates in mid-2004 provided the impetus for an increase in the level of participation. This is expected to exceed a national total of 55,000 over the next two years. It is a Teagasc objective to maintain its market share of about 40% and contribute 23,000 REPS participants to this target.

The impact of REPS, together with general better management of manures and fertiliser nutrients on farms, have made a major contribution to the improvement in water quality. Almost 900 Farm Waste Management plans were processed, involving advice on farmyard and building design, manure management and planning control. In addition, 270 nutrient management plans were prepared for clients to meet the requirements of agricultural bye-laws, planning conditions and the Pollution Control Tax Break Scheme.

In 2004, a National Farm Facilities Survey was carried out on behalf of the Department of Agriculture and Food. This will provide policy makers with a more precise estimate of the cost implications of upgrading farm facilities.

Countryside management activities undertaken in 2004 programme included:

- The Shannon Callows Task Force report on losses arising from the management prescriptions.
- Burren scrub encroachment project
- Hedgerow management courses for contractors were held at Kildalton, Gurteen and Ballyhaise colleges.

Health and Safety Training provided in 2004 included:

- Provision of 24 training courses on Farm Safety Statements to farmers.
- Completion of a Health and Safety module by more than 600 students attending Teagasc young farmer training courses.
- Delivery of Health and Safety module in 217 REPS courses to more than 6,000 farmers.
- The findings of a national study of disability among farm families were presented at the Irish Agricultural Research Forum and at a national conference on men's health. The results were also widely published in the media.
- A Walsh Fellowship in the area of disability.

All vocational and third level courses promote sustainable farming practices and include a mandatory module on farming and the environment. They also incorporate statutory requirements and best practice in relation to occupational safety. All agricultural courses promote best practice in animal welfare.

4.9	Strategy	Performance Indicators	Progress
	Provide technological and analytical services related to sustainable farming	<ul style="list-style-type: none"> • Range of services provided • Cost recovery from service users 	<p>Soils, grassland, water analysis</p> <p>Now approaching full cost recovery</p>

Analytical Services and Consultancy

The Analytical Services laboratory analysed 50,000 soil samples, 3,000 crop samples and 10,000 water samples. Maps and tables of the fertility status of soils were prepared for publication on the Teagasc web site.

A Fertiliser Use Survey for 2003 was produced. This, together with the Central Statistics Office (CSO) Agricultural Statistics and survey tables from soil analysis results, were used to produce maps and tables of N and P loading and slurry production from cattle, sheep, pigs and poultry and the chemical loading from fertilisers on soils.



GOAL 5: Integrity of the Food Chain

To support the production of Irish food that meets consumers' expectations of quality, safety and wholesomeness.

In order to achieve this Goal, Teagasc is implementing a range of strategies to

- Generate the knowledge and technologies necessary to underpin food safety
- Transfer food safety technologies and skills to the food sector and farmers

The following strategies were implemented:

5.1	Strategy	Performance Indicators	Progress
	Conduct research on the microbiological and chemical safety of Irish food products	<ul style="list-style-type: none"> • Number of research projects successfully completed • Quality and quantity of scientific publications • Number of patents • Number of applications trials/pilot plant validations successfully completed 	<p>18</p> <p>17 refereed publications 64 other publications</p> <p>Two</p> <p>Six</p>
5.2	Strategy	Performance Indicators	Progress
	Provide an understanding of consumer needs and customer requirements in relation to food safety, to guide competitiveness and technical innovation	<ul style="list-style-type: none"> • Competitive funding obtained • Level of industry funding 	<p>€0.819m</p> <p>€0.2m</p>



As part of the Food Industry Research Measure (FIRM) programme a project on *Salmonella* reduction in pigs has isolated a mix of five probiotic cultures which together protect pigs against deliberate *Salmonella* infection. A patent application has now been filed and a licence arrangement with an Irish company is being investigated.

Two new licences on the mastitis applications of lacticin, an antimicrobial agent discovered at Moorepark, were negotiated during the year based on the successful outcome of trials that show that the culture which produces lacticin could be used as a probiotic to treat animals infected with mastitis.

A major scientific achievement included the sequencing of a bacterial virus (phage) which kills the hospital superbug MRSA. In addition, a phage which kills the pathogens *E.coli* 0157 and *Salmonella* DT104, has been characterised by the Moorepark team.

In the area of microbial pathogen detection, a rapid test for *Salmonella* species has been highlighted as an immediate need for the food industry. Impending changes in EU microbiological criteria will require fresh meat carcasses (cattle, sheep, goats, pigs and poultry) to be tested for the presence of *Salmonella*. An automated molecular method, based on real-time PCR, which uses florescence to detect the presence/absence of a particular gene is being developed as a rapid and specific diagnostic technique for *Salmonella*.

Campylobacter spp. are the most common cause of bacterial foodborne illness in Ireland. In 2004, Teagasc developed the first reported cultural and molecular methods for the detection of all *Campylobacter* (known and emergent) from fresh meat. In 2005, these methods will be applied to assess the prevalence of emergent *Campylobacter* in pork, poultry and beef.

A series of studies on animal transport had been conducted to evaluate the effects of transport by land and sea journeys (roll-on roll-off) and stocking density on the welfare of cattle transported within Ireland, from Ireland to Spain and from Ireland to Italy under conditions outlined in Directive 91/628/EEC.

A further study (November 2003) examined the effects of transport on the welfare of weanling heifers transported from Ireland to Spain. It is concluded that, within the conditions of the transport studies, transport had no adverse effect on animal welfare.

The results of these transport studies made a significant scientific contribution to the debate at national and EU level in the first half of 2004.

5.3 Strategy Performance Indicators Progress

Carry out a pro-active programme of technology transfer and advice to food companies and regulatory bodies

- Amount of industry-commissioned research invoiced
- Number of open days, workshops and symposia for industry
- Take-up of research as measured by follow-on commercial activity
- Number of SME food companies assisted

Two

Two

Three

20

5.4 Strategy Performance Indicators Progress

Develop and provide nationally accredited education and training courses to food companies and regulatory personnel

- Feedback from customers
- Number of training courses nationally accredited
- Number of courses run
- Attendees at courses

Five nationally accredited modules developed

10

FETAC accredited modules were delivered for the food industry, BASIS and Bord Bia.

5.5 Strategy Performance Indicators Progress

Provide specialist analytical and consultancy services to underpin food safety

- Number of companies assisted
- Number of industry guidance documents published
- Number of analytical reports issued
- Level of fee income

10

255

2,000

€0.96m

These services were provided from the research centres at Ashtown, Moorepark and Raheen.

5.6 Strategy

Provide information and advice to farmers on the food safety, animal welfare and biosecurity standards necessary for EU scheme cross compliance, regulatory requirements and market quality assurance needs

Performance Indicators

- Usage of Teagasc food assurance online database
- Teagasc food assurance publications and activities
- Teagasc National Farm Survey five-yearly survey of producer awareness/attitudes

Progress

Food assurance web site completed and information maintained up-to-date Web site officially launched

5.7 Strategy

Provide accredited training programmes to young farmers and adult farmers to enhance food assurance competencies and skills

Performance Indicators

- Number of students completing accredited food assurance modules
- Number of adult farmers completing food assurance type courses

Progress

On-line training modules developed and available – all training modules reviewed and up-to-date in relation to competencies and skills

1,450 attended 75 courses

In order to support the proactive transfer of information to food companies, regulatory bodies and the general public, a new Teagasc website on food assurance was developed and unveiled in 2004. This website carried articles covering such issues as:

- Crop and livestock best practice
- Animal welfare and biosecurity
- Assurance schemes and farm checklists
- Food hazards and food quality
- Food chain controls and the food industry
- Consumer focus, environment issues and health and safety.

A section of the website covers on-line learning containing modules on such topics as:

- Best farm assurance practice
- Farm food safety hazard analysis
- Cattle welfare guidelines.

The website address is **www.foodassurance.teagasc.ie**



GOAL 6: A more Capable, Efficient and Effective Organisation

To become a more efficient and effective organisation with the capacity to change and develop so that we can deliver on our mission and goals.

In order to achieve this goal Teagasc is implementing a range of strategies:-

To attain greater integration of research and technology transfer within the organisation, better collaboration and integration of the research programme across research areas the following strategies were implemented:

6.1	Strategy	Performance Indicators	Progress
	Further develop commodity teams, to include advisory, research and training staff, that will plan Teagasc programmes on an integrated basis	<ul style="list-style-type: none">Enhanced commodity teams established and fully operational	New integrated commodity teams are being established

A key strength of Teagasc is the existence of research, training and advisory services for the agriculture and food sectors in a single organisation. The benefits from this integration can only be realised by ensuring that relevant staff from across the organisation input into the programme development process. The new enhanced commodity teams are providing this input.



6.2 Strategy

Develop and implement a management structure to ensure a fully integrated approach to the management of programmes

Performance Indicators

- Integrated structure for the delivery of horticulture, forestry and pig programmes
- Matrix management structure between the Advisory and Training Directorates for the effective delivery of a comprehensive adult farmer training programme

Progress

Integrated structures are being developed

Key appointments within the new structures were made

Three integrated units were put in place in horticulture, forestry and pigs. A matrix management structure was also put in place in the advisory service and in research centres.

To ensure that the staff resources of Teagasc are managed, developed and supported so that they can fully contribute to the achievement of the objectives set out in their Business Plans the following strategies were implemented:

6.3 Strategy

Complete the development of the HR Strategy

Performance Indicators

- HR Strategy completed by the end of 2003
- Working Groups established in 2004 and report at the end of 2004
- HR IT System in place early in 2005
- Fully implement PMDS for all staff in 2004

Progress

HR Strategy launched and communicated to staff

HR Action Plan agreed by Working Groups

Decision to delay the development of a HRIT System for one year due to the restructuring of the HR Department

PMDS implemented

Following the launch of the HR Strategy at the end of 2003, a review of the old Personnel Department was carried out by an external consultant with the view to converting it into a modern HR Department with the capacity to implement the HR Strategy.

This review was completed in 2004 and a new structure and staffing level was agreed and implemented. A number of the senior staff in the Department retired and a major recruitment campaign was carried out to fill a number of positions in the new Department.

6.4 Strategy

Ensure that gender equality is achieved in the recruitment of staff and in promotional procedures

Performance Indicators

- All recruitment and promotional boards will be gender balanced
- Establish female participation targets by June 2004
- Monitor the position in relation to promotion and recruitment

Progress

All interview boards were gender balanced

Given the specialist nature of most Teagasc posts, it has proved difficult to set participation rates

From the monitoring of both applications received and the outcome of competitions, the position is improving rapidly

6.5 Strategy

Ensure that people with disabilities are accommodated to the fullest extent in Teagasc

Performance Indicators

- Audit of all Teagasc facilities to ensure access by people with disability to be completed by 2005
- Increased awareness programme amongst staff of the specific needs and issues of people with disabilities

Progress

Accessibility and suitability of Teagasc advisory offices for people with disabilities was included in a survey of offices carried out in 2004

Programme to improve access, where deficient, is under way

To ensure the highest standards of financial management, accountability and corporate governance, the following strategies were implemented:

6.6	Strategy	Performance Indicators	Progress
	Ensure that the corporate governance standards are maintained in accordance with the guidelines	<ul style="list-style-type: none"> Fully implement the selected modules of the Teagasc finance system Enhance the efficiency and effectiveness of accounting and management information systems by integrating the advisory client management system to the billing and other modules of the main finance system New Client Information Management system fully tested by the end of 2003, implemented in all counties by mid-2004 Electronic diary in use in the advisory services by mid-2004 and in the remainder of the organisation by mid- 2005 Percentage of suppliers and staff paid electronically Electronic requisitioning and stock control system in place in all major centres by the end of 2004 Satisfactory review on a quarterly basis by the Audit Committee of the Authority Implementation of programme of internal audits agreed annually 	<p>Roll out of CIMS integration completed and work under way to improve performance</p> <p>Electronic diaries in use in the advisory service</p> <p>Very high proportion of suppliers and staff now being paid electronically</p> <p>All research centres using electronic requisitioning and stock control</p> <p>Four Audit Committee meetings held as planned and audit programme carried out</p>

Improved systems, procedures and processes are critical to good corporate governance. Staff training on key systems, processes and standards expected is being carried out and will need to be expanded due to the very substantial changes that occurred in staffing during 2004.

6.7	Strategy	Performance Indicators	Progress
	Incorporate a risk management programme into the business planning process	<ul style="list-style-type: none"> Carry out four one-day risk management workshops by the end of 2003 Develop list of risks to which Teagasc is exposed and generate action plans by the end of 2004 	Risk Management Programme implemented in 2004. Staff member appointed to co-ordinate the programme

Teagasc incorporated a formal Risk Management Programme in its business planning process in 2004. The programme involved each Business Unit in the identification of risks which could affect the achievement of its business objectives, assessment of their possible impact and likelihood of occurrence. A report on the process was considered by both the Management Committee and the Teagasc Authority. A corporate risk analysis was carried out to identify the most serious risks facing the organisation in achieving its corporate goals. Measures were put in place to mitigate these risks.

6.8	Strategy	Performance Indicators	Progress
	Full implementation of the Ethics in Public Office Act	<ul style="list-style-type: none"> Returns received from Authority members and relevant staff by the due dates 	Returns received from all Authority members and relevant staff. Report made to the Standards in Public Office Commission

6.9	Strategy	Performance Indicators	Progress
	5-year Rolling Business Plan developed and submitted	<ul style="list-style-type: none"> Revised 5-year Rolling Business Plan produced each year on time 	Achieved for 2004

6.10	Strategy	Performance Indicators	Progress
	Deal effectively with all requests for information under the Freedom of Information Act (FOI)	<ul style="list-style-type: none"> Meet all deadlines for answering FOI requests; regular reports from the FOI Officer 	All requests in 2004 answered on time and reports provided

6.11	Strategy	Performance Indicators	Progress
	Prepare and deliver of Business Plans by all units in Teagasc	<ul style="list-style-type: none"> Well developed Business Plans, involving staff in their preparation, in place in all units during 2004 	Business Plans prepared for 62 of 65 units. A staff member was appointed to lead, support and develop this process throughout the organization

Business Planning has become an important part of the management process in Teagasc. The business planning process was evaluated by Teagasc's Evaluation Officer in 2004 and recommendations made to improve its efficiency and effectiveness.

To apply information and communications technology (ICT) to meet the business and service needs of the organisation the following strategies were implemented:

6.12 Strategy

Develop and implement a robust and secure infrastructure, using industry standard components and ISO standards

Performance Indicators

- All projects managed to the best project management standards
- Projects completed on time
- Completion of VPN connections for voice and data by the end of 2003
- Security policy in place, together with clear technical controls, early 2004
- Implementation of performance management standards and measurement into all aspects of ICT services as they are rolled out
- Help Desk in place by the end of 2003
- Full training plan to accompany each roll out

Progress

The infrastructure design plan was completed and an infrastructure partner selected. Project management training was provided for ICT staff

Security policies developed and in place

Progress was made in the staffing of the ICT Department and a comprehensive ICT plan was prepared and approved. The Teagasc ICT infrastructure was reviewed by an external expert as part of the ICT strategy and a programme to upgrade the infrastructure to industry standards agreed. A number of major organisation-wide projects was begun, including a Laboratory Information Management System (LIMS), the redevelopment of the software for the National Farm Survey and web-based applications that will benefit Teagasc clients.

6.13 Strategy

Progress ICT developments in line with eGovernment Strategy in order to underpin our e-services to clients

Performance Indicators

- Web based e-Profit monitor in spring 2004
- E-learning modules tested by mid-2004 available to clients from late 2004
- Delivery of soil analysis results through the web from mid-2004

Progress

12 new eTutors completed an Introduction to eLearning module in 2004

80 participants completed an on-line 100 hour agriculture course and an on-line 80 hour farm management course
eProfit Monitor being adapted to reflect the single farm payments regime

On-line breeding chart being developed with the support of ICBF

Progress made in putting this in place, but not yet achieved

To implement the Quality Customer Service initiative the following strategies were implemented:

6.14	Strategy	Performance Indicators	Progress
	Consult with staff and customers on the level of satisfaction with Teagasc services	<ul style="list-style-type: none"> Initial surveys completed by end 2003 Identify quality standards for the delivery of customer services and implement actions to achieve these 	<p>A survey of 4,000 farmer clients and 500 students undertaken</p> <p>Draft Customer Service Action Plan prepared and all staff and major stakeholders invited to comment on it</p>

6.15	Strategy	Performance Indicators	Progress
	Ensure a comprehensive Customer Quality Service is in place in Teagasc	<ul style="list-style-type: none"> Completion in 2003 of pilot projects to identify standards Inclusion of actions to improve quality customer services in all Business Plans in 2004 Publish Customer Service Charter and Customer Service Action Plan (CSAP) in 2004 Extent of implementation of the CSAP in 2005 	<p>Actions to include Quality Customer Services included in Business Plans</p> <p>A programme of 8 one-day staff training workshops commenced</p> <p>Draft Customer Service Charter put out for public consultation in autumn 2004 and scheduled for publication at end of 2004</p>

An extensive process of consultation on the Customer Charter was undertaken during the year with staff and major stakeholders and the outcome from the process was incorporated in the Charter.

A survey of a representative sample of advisory clients was completed in 2004. More than 70% considered the service to be either good or excellent value for money. Around 20% of respondents were members of discussion groups and three out of four indicated that they had adopted new farming practices as a direct result of group membership. Satisfaction with our office facilities is lower than what we regard as acceptable and, as a result, we initiated a benchmark survey in order to identify what needs to be done to bring them up to standard.

To evaluate the programme targets/economic benefits of Teagasc services to its customers, identify improvement in the design and delivery of these services and the achievement of improved organisational governance the following strategies were implemented:

6.16	Strategy Develop a performance evaluation capability in 2003 and 2004	Performance Indicators <ul style="list-style-type: none"> • Completion in 2003 of a Performance Evaluation Strategy and Plan • Establishment of an Evaluation Unit in 2003 and the development of its capability in 2003/2004 • Recommendations to align business planning procedures in Teagasc with performance evaluation • Development of a balanced score-card evaluation model for Teagasc 	Progress An Evaluation Unit comprising one full-time Evaluation Officer and an internal steering committee was put in place in 2004 Study on the Business Planning Processes in Teagasc completed
6.17	Strategy Commence in 2004/2005 the implementation of a cyclical plan for evaluation.	Performance Indicators <ul style="list-style-type: none"> • Development of cyclical evaluation plan. • Evaluation projects in hand or completed. 	Progress Two projects were completed in 2004 and a priority programme of evaluations agreed and begun, using both external contractors and internal resources
6.18	Strategy Consult with staff and customers on the level of satisfaction with Teagasc services	Performance Indicators <ul style="list-style-type: none"> • Initial surveys completed by end 2003 • Identify quality standards for the delivery of customer services and implement actions to achieve these 	Progress A survey of 4,000 farmer clients and 500 students undertaken Draft Customer Service Action Plan prepared and all staff and major stakeholders invited to comment on it

6.19

Strategy

Continue to improve efficiency of delivery of services through rationalising county management units to achieve more critical mass and more uniformity in size of units and services provided

Performance Indicators

- Number and size of management business units

Progress

Process to reducing the number of management units in the Advisory Service from 28 to 18 was advanced and outstanding industrial relations issues were referred to the Labour Relations Commission

The two main evaluation projects completed in 2004 were Business Planning in Teagasc and Assessment of Teagasc Dairy Monitor Farm Performance 2001-2003. Specifications were prepared and tenders sought from external contractors for a project on Evaluation of the Teagasc Research Retooling Programme 2000 to 2004. This project to be undertaken in 2005, will provide worthwhile guidance for the modernisation of the Teagasc Research Programme in future years.





Key Linkages

Teagasc is committed to working in partnership with all sectors of the agriculture and food industry at home and abroad in the delivery of its research, advisory and training services. This partnership approach ensures that the organisation's resources are used to best effect. Teagasc has an active PR and Customer Communications Department which ensures the dissemination of scientific information, smooth running of all public events and the provision of information to the media and the general public. The organisation maintains a general website, www.teagasc.ie, along with a client website and an intranet site for communicating with staff. During 2004, linkages continued to be fostered and enhanced with the following organisations and agencies:

Department of Agriculture and Food

Teagasc worked closely with its parent Department to ensure that its programme of activities met the needs of the sector, was consistent with government policy and particularly with the policy of the Department of Agriculture and Food as laid down in its Statement of Strategy.

Other Government Departments

Teagasc's mandate extends across areas covered by several government departments. During 2004, the organisation maintained contact with these departments to ensure consistency and efficiency in approach and to avoid overlap in areas of common interest. Departments concerned include Education and Science, Rural, Community and Gaeltacht Affairs, Enterprise, Trade and Employment, Environment, Heritage and Local Government.

Government Agencies

Various other agencies of government have mandates that touch on the work of Teagasc. These include Bord Bia, FAS, the Higher Education and Training Awards Council (HETAC), the Further Education and Training Awards Council (FETAC), the National Qualifications Authority of Ireland, the Food Safety Authority of Ireland, Enterprise Ireland and the Environmental Protection Agency. The organisation worked co-operatively with these bodies during 2004.

EU Initiatives

Teagasc involvement in EU initiatives was maintained and, where possible, strengthened. In particular, we competed strongly for research contracts under the various EU Framework and other programmes for research and development. EU research policy increasingly aimed to step up co-operation and co-ordination of research activities carried out at national or regional level in the Member States. The Community is committed to making a reality of the concept of a "European Research Area" (ERA) by improving the coherence and co-ordination across Europe of national research programmes. The Sixth Framework Programme has a basic objective to contribute to the creation of the ERA. Member States were asked to develop action plans designed to ensure that a target of 3% of GDP for RTD expenditure was achieved. Teagasc fully participated in these endeavours.

Other International Linkages

Active collaboration with international scientific institutes is a necessary condition for knowledge development. As a small organisation, Teagasc has always realised the value of building and maintaining a portfolio of strong international contacts and networks. We have signed a number of bilateral agreements with institutes around the world and we have sought to be active participants in the wider world of scientific and developmental endeavour. These contacts have been important in ensuring early access for Ireland to relevant developments in science and technology abroad. We strengthened our existing bilateral research agreements and sought to develop new linkages to benefit our work and the industry we serve.

Higher Education Institutions

Teagasc has developed an extensive network of formal and informal collaboration with its university and institute of technology counterparts. The Walsh Fellowship Scheme played an important role in fostering such collaboration. The two food centres worked closely with UCC and UCD and other institutions in implementing food research programmes managed by the Department of Agriculture and Food during 2004.

Teagasc colleges and the Teagasc-funded private colleges were involved with seven institutes of technology in the joint provision of 11 third-level programmes up to ordinary degree level. These linkages facilitated the best use of the core competencies of each of the partner institutions and provide all students with the opportunity to progress up to higher degree level.

The organisation continued to build partnerships with the higher education institutes to help achieve critical mass in important areas, leading to improved efficiency in the delivery of services. We maintained the Walsh Fellowship Scheme at about its existing size, but broadened the scope to include more non-agricultural science disciplines. We entered discussions with Irish universities with a view to forming more formal co-operative networks in jointly delivering research, education/training and developmental services.

Industry Representative Bodies

We maintained ongoing liaison with the various bodies representative of our stakeholders in the agri-food sector. We strengthened the various commodity working groups which are representative of stakeholders and staff and involved them in developing and monitoring overall programmes of research, education/training and technology transfer for their commodity areas.

Joint Programmes with Industry

We worked with all the major agri-businesses in implementing joint development programmes. These programmes focused on improving production efficiency and product quality, consistent with market requirements. The joint programme partnership arrangements ensured an effective deployment of staff resources and provided funding to deploy additional staff in 2004.

Local Development Agencies

We co-operated with and supported regional and local development agencies in the implementation

of new developments in rural areas. Many of those related to the agri-food sector and complement the role of Teagasc. The expertise of our staff was a key support to these agencies. The close working relationship provided Teagasc with opportunities to stimulate development initiatives to support our role and increase the demand for our advisory and training services.

North-South Linkages

We developed and advanced co-operation with the agri-food development agencies in Northern Ireland on matters of mutual interest. In particular, areas for co-operation identified by the North-South Ministerial Council in Agriculture were pursued. Current discussion with the Agricultural Research Institute of Northern Ireland towards developing an agreement on co-operation in research were continued.

Implementation, Monitoring and Reporting

The Statement of Strategy sets out the overall mission, mandate and high level goals and objectives of Teagasc and outlines the broad strategies to be implemented. In preparing this statement, the views and suggestions of staff have been taken into account so as to achieve shared ownership and ensure that the broad strategies can be translated into more detailed actions and activities in the business plans of the various management units.

Business plans, prepared at divisional level and by the associated management units and based on the Statement of Strategy, include a concrete annual programme of actions to achieve our goals. In turn, these Business Plans roll out into individual work programmes of staff members for the Performance Management Development System (PMDS). The objectives and actions specified in the Business Plans were set to meet specific, measurable, achievable, realistic and timebound (SMART) standards of assessment. The annual business plans therefore enable Teagasc to see strategy and planning as an ongoing exercise.

Each division, and associated management units, generated data on its business activities and the achievement of its business objectives.

The inclusion of Risk Management and Quality Customer Service actions/targets in our business plans supported the successful implementation of goals and strategies. The implementation of a cyclical evaluation plan provides key information on the achievement of programme targets and the benefits which our customers gain from our services. Additionally, this evaluation process assists us to identify improvements in the design and delivery of these services to our target audiences and the achievement of improved organisational governance.

Statutory Obligations

Equality

Teagasc is committed to ensuring equality of opportunity and its personnel and staff development programmes are geared towards this objective. We are also committed to the implementation of Government policy on the employment of disabled people in the public sector.

The organisation has developed and implemented policies on bullying, intimidation and sexual harassment to support and protect the dignity of each staff member.

Ethics in Public Office Act, 1995 and Standards in Public Office Act, 2001

In accordance with the Ethics in Public Office Act, 1995, and the Standards in Public Offices Act, 2001, members of the Teagasc Authority have furnished a statement of interest to the Secretary of the Authority and a copy has been provided to the Standards in Public Office Commission. In addition, Teagasc staff members holding designated positions have complied with both Acts.

Safety, Health and Welfare Act, 1989

In accordance with the Safety, Health and Welfare Act, 1989, Teagasc has prepared safety statements that encompass all factors affecting staff and visitor welfare.

Worker Participation (State Enterprises) Act, 1988

Sub-Board consultative structures have been put in place in Teagasc to support the organisation's communications and consultative processes. The National Participation Forum prepared plans to transform itself into a National Partnership Committee.

Freedom of Information Act, 1997

The Freedom of Information Act, 1997 was applied in Teagasc with effect from 1st November, 2002. The Act establishes three new statutory rights

- a legal right for each person to access information held by public bodies
- a legal right for each person to have official information held by a public body relating to him/herself amended where it is incomplete, incorrect or misleading and
- a legal right to obtain reasons for decisions affecting oneself taken by a public body

Code of Practice for the Governance of State Bodies, October 2001

The Code of Practice for the Governance of State Bodies, approved by the Government in October 2001, has been adopted by Teagasc and arrangements have been made to ensure that the organisation complies with the Code in all aspects of its operations.



Prompt Payment of Accounts, 1997

Teagasc is included as a listed purchaser of goods in the schedule to the Prompt Payments of Accounts Act, 1997. Since 2nd January, 1998 the Act has come into operation and Teagasc has complied with the provisions of the Act. In accordance with the Act and guidelines issued by the Department of Enterprise, Trade and Employment, the following information is provided:

Procedures established to ensure compliance with the Act

Teagasc has procedures in place to ensure that all invoices received are paid within the time limits specified on the invoices or the statutory time limit, if no period is specified. While the procedures are designed to ensure compliance with the Act, they can only provide reasonable and not absolute assurance against material non-compliance with the Act. These procedures operated in the financial period under review and in the case of late payments, the relevant suppliers were notified and, interest was paid to them.

In accordance with the Prompt Payments of Accounts Act, 1997, the following information is provided for the financial period ending 31st December 2004:

a) Payment Practices

Teagasc makes payments to suppliers in accordance with the terms stated on invoices or terms specified in individual contracts if appropriate. The standard terms are 30 days.

b) Late Payments in excess of €300

Number of Invoices	76
Average Period of Delay	50 days

c) Overall percentage of late payments of total payments and total interest paid

The overall percentage of late payments to total payments was 0.76%
The total amount of interest paid with respect to late payments was €2,311.00

Financial Statements 2004

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Teagasc - The Agriculture & Food Development Authority

Report of the Comptroller and Auditor General for presentation to the Houses of the Oireachtas

I have audited the financial statements on pages 3 to 20 under Section 12 of the Agriculture (Research, Training and Advice) Act, 1988.

Respective Responsibilities of the Members of the Authority and the Comptroller and Auditor General

The accounting responsibilities of the Members of the Authority are set out on page 2. It is my responsibility, based on my audit, to form an independent opinion on the financial statements presented to me and to report on them.

I review whether the statement on the system of internal financial control on page 1 reflects the Authority's compliance with applicable guidance on corporate governance and report any material instance where it does not do so, or if the statement is misleading or inconsistent with other information of which I am aware from my audit of the financial statements.

Basis of Audit Opinion

In the exercise of my function as Comptroller and Auditor General, I conducted my audit of the financial statements in accordance with auditing standards issued by the Auditing Practices Board and by reference to the special considerations which attach to State bodies in relation to their management and operation.

An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Authority's circumstances, consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations that I considered necessary to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming my opinion I also evaluate the overall adequacy of the presentation of information in the financial statements.

Opinion

In my opinion, proper books of account have been kept by the Authority and the financial statements, which are in agreement with them, give a true and fair view of the state of affairs of the Authority at 31 December 2004 and of its income and expenditure and cash flow for the year then ended.



John Purcell
Comptroller and Auditor General
30 June 2005

Statement on Internal Financial Control

On behalf of the Authority of Teagasc I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

Any system of internal financial control can provide only reasonable and not absolute assurance against material error, misstatement or loss. In considering the effectiveness of internal financial controls, the Authority and its Audit Committee have regard, among other things, to the requirements of the Code of Practice for the Governance of State Bodies.

The Authority has taken steps to ensure that an appropriate control environment is in place by:

- clearly defining management responsibilities, authority and accountability;
- establishing formal procedures for monitoring the activities and safeguarding the assets of Teagasc;
- developing a culture of accountability across all levels of the organisation.

The Authority is in the process of establishing procedures to identify business risks within Teagasc by:

- identifying the nature, extent and financial implication of risks facing Teagasc including the extent and categories which it regards as acceptable
- assessing the likelihood of identified risks occurring;
- assessing Teagasc's ability to manage and mitigate the risks that do occur;
- assessing the costs of operating particular controls relative to the benefit obtained.

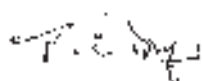
The system of internal financial control is based on a framework of regular management reporting, administration procedure including segregation of duties and a system of delegation and accountability including:

- a comprehensive annual budgeting and financial reporting system which is reviewed and approved by the Authority.
- regular reviews by the Authority of overall strategy, business and financial plans and variances against operating and capital budgets.

Teagasc has an internal audit function, which operates in accordance with the requirements of the Code of Practice for the Governance of State Bodies and with the effectiveness criteria set out in the Teagasc Statement of Strategy published in November 2003. The work of internal audit is informed by analysis of the risks to which Teagasc is exposed and annual internal audit plans are based on this analysis. The internal audit plans are approved by the Audit Committee. In 2004, the Authority decided to appoint an external expert to the Audit Committee and to have a number of internal audits carried out by a consultant accountant.

The Authority's monitoring and review of the effectiveness of the system of internal financial control is informed by the work of the internal auditor, the Audit Committee which oversees the work of the internal auditor, the executive managers within Teagasc responsible for the development and maintenance of the financial control framework and comments made by the Comptroller and Auditor General in his management letter.

I confirm that in the year ended 31 December 2004 the Authority has conducted a review of the effectiveness of the systems of internal financial control.



Dr Tom O'Dwyer
Chairman, 29 June, 2005

Statement of Responsibilities of the Authority

Under Section 12(1) of the Agriculture (research, Training and Advice) Act, 1988, the Authority is required to prepare financial statements in such form as may be approved by the Minister for Agriculture and Food with the concurrence of the Minister for Finance. In preparing those financial statements, the Authority is required to:

- select suitable accounting policies and then apply them consistently
- make judgements and estimates that are reasonable and prudent
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that Teagasc will continue in operation
- disclose and explain any material departures from applicable accounting standards

The Authority is responsible for keeping proper books of account which disclose with reasonable accuracy at any time the financial position of Teagasc and which enable it to ensure that the financial statements comply with statutory requirements. The books of account are kept at the Authority's headquarters at Oak Park, Carlow. The Authority is also responsible for safeguarding the assets of Teagasc and for taking reasonable steps for the prevention and detection of fraud and other irregularities.



Dr Tom O'Dwyer
Chairman
29 June 2005



James Brett
Member of the Authority

Accounting Policies

For the Year Ended 31st December 2004

The accounting policies adopted by Teagasc are as follows:

(a) Basis of Accounting

The Financial Statements have been prepared in accordance with the historical cost convention, subject to certain assets being included at a valuation (see Note 13).

(b) State Funding

State funding for Research in the Food sector and for the Stimulus collaborative research programme is accounted for on an accruals basis. All other State funding is accounted for on a cash receipts basis.

(c) EU Income

Grants from the European Social Fund are taken to income on the basis of the first and second advances of the current year's claim, together with the final instalment of the previous year's claim. All other EU Grants are accounted for on an accruals basis.

(d) Operational Income

Operational income is accounted for on an accruals basis.

(e) Tangible Fixed Assets and Depreciation

(i) Owned Assets

Assets were taken over from An Chomhairle Oiliúna Talmhaíochta and An Foras Talúntais on 8th September 1988 at the closing values in the Balance Sheets of those bodies. Additions are stated at cost.

(ii) Depreciation

Land is not depreciated. The cost or valuation of other owned fixed assets is written off by equal instalments over their expected useful lives as follows:

Farm Buildings	20 years
Other Buildings	50 years
Plant and Vehicles	5 years
Computer Equipment	3 years
Laboratory and Office Equipment	10 years

Assets held under finance leases are depreciated over the lease term, where this is shorter than their expected useful lives.

A half year's depreciation is charged in the years of acquisition and disposal of assets.

(iii) Leased Assets

Fixed assets acquired under finance leases are treated in accordance with the policy noted above under fixed assets. The capital element of related rental obligations is included under liabilities, while the interest element is charged to expenditure over the term of the primary lease period. Rentals on operating leases are charged to expenditure as incurred.

Accounting Policies

For the Year Ended 31st December 2004

(f) Capital Account

The balance on this account represents the unamortised value of funds used to purchase fixed assets.

(g) Stocks

Stocks have been valued by Teagasc officials. Livestock and own farm produce are valued at estimated net realisable value. Net realisable value is determined on the basis that animals are sold for slaughter. Gains and losses, which arise from these valuations, are reflected in full in operational income. All other stocks are valued at the lower of cost and net realisable value.

(h) Debtors

Known bad debts are written off as they arise and specific provision is made where recovery is considered doubtful.

(i) Libraries and Publications

No value is placed on the books in Teagasc libraries or on unsold publications. Expenditure on books and publications is written off in the period in which it is incurred.

(j) Superannuation

The pension entitlements of employees of Teagasc and its predecessors are provided for through defined benefit superannuation schemes.

No provision is made for future pensions, and the costs of these schemes are met from current income as they arise. Staff contributions in respect of pensions are offset against this expenditure (see Note 9).

Income & Expenditure Account


For the Year Ended 31st Decmeber 2004

	Note	2004 €000	2003 €000
Income			
State Funding	2	119,487	123,962
EU Income	3	1,261	1,244
Operational Income	4	24,934	23,867
Surplus on disposal of Fixed Assets		68	16,921
Other Grants, Donations and Voluntary Levies		1,950	2,215
		147,700	168,209
Expenditure	5	152,329	140,911
		(4,629)	27,298
Transfer to Capital Account	12	(4,994)	(2,863)
(Deficit/Surplus for the period)		(9,623)	24,435
Balance forward from previous year		15,935	(8,500)
Accumulated Balance at 31st December		6,312	15,935

The above amounts relate entirely to continuing operations.

There are no recognised gains or losses except as reflected in the above Account.

The Statements of Accounting Policies and notes 1 to 23 form part of these Financial Statements.


Dr Tom O'Dwyer
 Chairman
 29 June 2005



Jim Flanagan
 Director

Balance Sheet

As at 31st December 2004

	Note	2004 €000	2003 €000
Fixed Assets			
Tangible Assets	13	74,520	69,632
Financial Assets	14	2	2
		74,522	69,634
Current Assets			
Stocks	15	5,849	5,739
Debtors and Prepayments	16	4,107	4,918
Bank Balances		12,184	19,132
Short-Term Deposits		449	359
		22,589	30,148
Current Liabilities (amounts falling due within one year)			
Creditors and Accruals	17	13,495	13,337
Deferred Income	18	861	365
Obligations under Finance Leases	19	38	106
Bank Overdraft		1,912	493
Bank Loans		1	1
		16,307	14,302
Net Current Assets		6,282	15,846
Total Assets less Current Liabilities		80,804	85,480
Less			
Non Current Liabilities (amounts falling due after more than one year)			
Obligations under Finance Leases	19	4	42
Bank Loans		2	8
Other long-term Liabilities		16	19
		22	69
Net Assets		80,782	85,411
Presented By:			
Capital Account	12	74,470	69,476
Income and Expenditure Account		6,312	15,935
		80,782	85,411

The Statement of Accounting Policies and notes 1 to 23 form part of these Financial Statements.


Dr Tom O'Dwyer
 Chairman
 29 June 2005


Jim Flanagan
 Director

Cash Flow Statement

For the Year Ended 31st December 2004

Reconciliation of Operating (Deficit)/Surplus To Net Cash Inflow From Operating Activities

	Note	2004 €000	2003 €000
Operating (Deficit)/Surplus		(9,623)	24,435
Depreciation	13	4,554	5,102
Transfer to Capital Account	12	4,994	2,863
Interest paid		7	15
Interest received		(310)	(125)
(Profit) on sale of fixed assets		(68)	(16,921)
(Increase)/Decrease in Stocks		(110)	15
Decrease in Debtors		811	470
Increase / (Decrease) in Creditors/LT Liabilities		156	(238)
Increase in Deferred Income		496	15
Net Cash Inflow from Operating Activities		907	15,632

CASH FLOW STATEMENT

Net Cash Inflow from Operating Activities		907	15,632
Return on Investments and Servicing of Finance			
Interest Paid		(7)	(15)
Interest received		310	125
Net Cash Inflow from Returns on Investments and Servicing of Finance		303	110
Investing Activities			
Payments to acquire tangible fixed assets	13	(9,502)	(8,583)
Receipts from disposal of tangible fixed assets		128	17,743
Net Cash (Outflow)/Inflow from Investment Activities		(9,374)	9,160
Financing			
Property Loan repayments		(7)	(2)
Capital Element of Finance Lease payments	19	(106)	(203)
Net Cash Outflow from financing		(113)	(205)
(Decrease)/Increase in Cash	22	(8,277)	24,697
Reconciliation of net cash flow to movement in net funds/(debt)			
(Decrease)/Increase in cash	22	(8,277)	24,697
Net funds/(debt) at 1st January		18,998	(5,699)
Net funds at 31st December		10,721	18,998

Notes to the Financial Statements

For the Year Ended 31st December 2004

1. Teagasc (the Agriculture and Food Development Authority)

Teagasc (the Agriculture and Food Development Authority) was established under the Agriculture (Research, Training and Advice) Act, 1988. Under Section 21 of the Act, the assets and liabilities of An Chomhairle Oiliúna Talmhaíochta and An Foras Talúntais were transferred to Teagasc upon its establishment.

Section 12 of the Act requires that Accounts shall be kept in such form as may be approved by the Minister for Agriculture and Food with the concurrence of the Minister for Finance. This approval was given on 14th August 1998.

2. STATE FUNDING

The total amount shown under the above heading is made up as follows:

	2004	2003
	€000	€000
Vote 31: Agriculture and Food		
Grant-in-Aid for general expenses	88,597	93,280
Grant-in-Aid for superannuation purposes	16,995	15,999
Grant-in-Aid for human resources purposes	11,238	11,100
Grant-in-Aid for food research	1,873	3,155
Grant for Stimulus collaborative research programme	184	116
Grant for Forestry Publicity and Awareness	480	160
Grant for Forestry Training	120	152
	119,487	123,962

3. EU INCOME

In 2004 EU funding was as follows:

	2004	2003
	€000	€000
Operational Programme for Agriculture, Rural Development and Forestry 1994 -1999	33	(5)
Framework Programme V 1998 – 2002	1,154	1,224
Framework Programme VI	74	25
	1,261	1,244

Notes to the Financial Statements

For the Year Ended 31st December 2004

4. OPERATIONAL INCOME

	Authority, Headquarters & National Receipts €000	Northern Advice & Training Division €000	Southern Advice & Training Division €000	Production Research Division €000	National Food Centre €000	Moorepark Dairy Products Centre €000	TOTAL	TOTAL
							2004	2003
							€000	€000
Advisory Service Fees	1	6,138	6,036	0	0	0	12,175	11,252
Other Fees	150	549	1,247	2,696	1,994	398	7,034	7,116
Livestock Trading (Note 7)	0	313	373	1,663	(3)	0	2,346	2,220
Other Farming Operations	0	143	414	1,645	0	14	2,216	2,226
Canteen Receipts	0	15	107	136	40	91	389	371
Publications and Miscellaneous	449	137	122	61	0	5	774	682
	600	7,295	8,299	6,201	2,031	508	24,934	23,867

5. EXPENDITURE

Pay (see Note 8)	6,489	19,153	22,428	23,585	4,820	3,753	80,228	77,865
Pensions and Superannuation (Note 9)	27,982	0	0	0	0	0	27,982	19,347
Travelling and Subsistence	1,179	1,954	2,074	787	278	145	6,417	6,376
General Operating Expenses (Note 6)	6,083	3,316	4,616	7,995	2,001	2,446	26,457	24,491
Interest and Lease Charges	13	24	29	(3)	0	0	63	169
Depreciation (Note 13)	108	520	812	1,897	625	592	4,554	5,102
Grants to Private Colleges	4,286	0	0	0	0	0	4,286	4,767
Other Grants	325	27	77	1,360	326	227	2,342	2,794
	46,465	24,994	30,036	35,621	8,050	7,163	152,329	140,911

Notes to the Financial Statements

For the Year Ended 31st December 2004

6. ANALYSIS OF GENERAL OPERATING EXPENDITURE

	Authority, Headquarters & National Receipts	Northern Advice & Training Division	Southern Advice & Training Division	Production Research Division	National Food Centre	Moorepark Dairy Products Centre	Total	Total
	€000	€000	€000	€000	€000	€000	2004	2003
	€000	€000	€000	€000	€000	€000	€000	€000
Farming supplies/services	601	300	587	2,201	2	71	3,762	3,346
Maintenance/repairs	1,586	627	1,154	1,204	496	589	5,656	4,131
Rents/rates/insurances	508	488	582	1,037	101	317	3,033	2,723
Postage/telephones	448	620	679	259	66	61	2,133	2,077
Power/fuel/petrol	48	289	330	376	137	180	1,360	1,546
Laboratory supplies	1,111		10	798	276	450	2,645	2,226
Printing/stationery/publicity	908	365	315	164	92	101	1,945	1,754
Seminar/classroom/library supplies and services	150	222	289	204	500	29	1,394	1,213
Services of external agencies	0	42	76	356	28	76	578	572
Student and staff canteen supplies	66	128	264	202	50	120	830	847
Data processing supplies/services	78	141	141	179	43	132	714	1,052
Legal/professional fees (Note 10)	544	25	11	389	15	131	1,115	1,390
Miscellaneous Programme Costs	0	32	85	580	189	156	1,042	1,398
Miscellaneous	35	37	93	46	6	33	250	216
	6,083	3,316	4,616	7,995	2,001	2,446	26,457	24,491

Notes to the Financial Statements

For the Year Ended 31st December 2004

7. LIVESTOCK TRADING SURPLUS

	2004 €000	2003 €000
Sales	2,662	2,519
Grants and subsidies	520	562
	3,182	3,081
Opening Stock	3,955	4,021
Purchases	953	795
	4,908	4,816
Less: Closing Stock	(4,072)	(3,955)
	836	861
Surplus to Income and Expenditure Account (Note 4)	2,346	2,220

8. STAFF

The average number of staff employed during the year was as follows:

	2004	2003
Professional	764	796
Technical	232	254
Administrative/clerical	273	268
Farm/domestic	335	310
	1,604	1,628

9. SUPERANNUATION

Section 9 of the Agriculture (Research, Training and Advice) Act, 1988 provides for the establishment of schemes for the granting of superannuation benefits in respect of staff appointed by Teagasc and staff transferred to Teagasc from An Chomhairle Oiliúna Talmhaíochta and from An Foras Talúntais.

Pending the approval of draft superannuation schemes by the Minister for Agriculture and Food, the Minister for Finance and the Oireachtas, Teagasc operates superannuation schemes on an administrative basis.

Teagasc also administers two superannuation schemes (the Agricultural Colleges Staff Superannuation Scheme 1985 and the Agricultural Colleges Spouses' and Children's Contributory Pension Scheme 1985) in respect of certain staff employed by privately-owned Colleges of Agriculture and Horticulture, the cost of whose salaries is borne by the Exchequer through the agency of Teagasc.

Notes to the Financial Statements

For the Year Ended 31st December 2004

The above Schemes are defined benefit superannuation schemes. Superannuation entitlements arising under the schemes are paid out of Teagasc current income and are charged to the Income and Expenditure Account, net of employee superannuation contributions, in the year in which they become payable. No separate fund is maintained, and no assets are held, to finance the payment of pensions and gratuities. No provision is made in the financial statements in respect of any liability accruing in regard to future benefits.

Superannuation Costs

The average number of monthly pensions paid during the year was 1,228 (2003-1,178).

The charge for superannuation in the Financial Statements is made up as follows:

	2004	2003
	€000	€000
Pensions and gratuities paid	28,101	23,241
Payments under Voluntary Early Retirement Scheme	4,147	213
	32,248	23,454
Less: Staff Contributions	(4,266)	(4,107)
	27,982	19,347

Superannuation Benefits

For the purposes of reporting in accordance with Financial Reporting Standard 17, Retirement Benefits (transitional arrangements), Teagasc has been advised by a qualified actuary. A valuation has been prepared by the actuary in order to assess the liabilities of the superannuation schemes at 31 December 2004.

The major financial assumptions used to calculate liabilities under FRS 17 are as follows:

	2004	2003
	% per annum	% per annum
Inflation rate increase (a)	2.25	2.25
Salary rate increase	3.50	3.50
Pension rate increase	3.50	3.50
Scheme liabilities discount rate	4.66	5.25

On the basis of these and other assumptions and applying the projected unit method prescribed in FRS 17, the present value of pension scheme liabilities is as follows:

	2004	2003
	€000	€000
Accumulated liabilities in respect of active Scheme members	390,980	356,008
Liabilities in respect of existing pensioners and deferred pensions	362,584	298,576
Total accrued pension liability	753,564	654,584

Notes to the Financial Statements

For the Year Ended 31st December 2004

Analysis of amount which would be charged to operating profit:

	€000
Current Service Cost	(5,730)
Past Service Cost	(4,147)
Settlements and Curtailments	-

Analysis of the amount which would be credited to other finance income:

	€000
Interest on Scheme liabilities	(33,954)
Expected return on Scheme assets	-

Analysis of the amount which would be recognised in a statement of total recognised gains and losses (STRGL):

	€000
Actual return less expected return on Scheme assets	-
Experience gains and (losses)	(11,017)
Changes in assumptions	(67,967)
Actuarial loss which would be recognised in STRGL:	(78,984)

Analysis of the movement in deficit during the year is as follows:

	€000
Deficit at January 1st , 2004	(654,584)
Current service cost	(5,730)
Contributions	23,835
Past service costs, settlements and curtailments	(4,147)
Other finance income/(loss)	(33,954)
Actuarial gain/(loss)	(78,984)
Deficit at December 31st, 2004	(753,564)

(a) As pension increases under the Teagasc schemes are based on salary increases rather than on price increases, a price inflation assumption is not necessary for the purposes of this valuation. However, since FRS 17 requires reference to an assumed rate of inflation, the above rate would be appropriate for this purpose.

10. AUDIT FEE

A provision of €44,000 has been included in expenditure in respect of auditor's remuneration for 2004 (2003 - €40,150).

11. AUTHORITY FEES AND EMOLUMENTS

The following emoluments were paid to the members of the Authority:

	2004	2003
	€000	€000
Chairman	15	15
Other Authority members	77	91
	92	106

These amounts are included in the total Pay expenditure included under Note 5 above.

Notes to the Financial Statements

For the Year Ended 31st December 2004

12. CAPITAL ACCOUNT

	2004 €000	2003 €000
Balance at 1st January	69,476	66,612
Transfers from Income and Expenditure Account		
Amount capitalised in respect of purchased assets	9,502	8,583
Net amount released on disposals	(60)	(823)
Property loan repayments	7	2
Capital element of payments in respect of leased assets	106	203
	9,555	7,965
Less:		
Amortised in line with asset depreciation	(4,554)	(5,102)
	5,001	2,863
Balance at 31st December	74,477	69,476

13. TANGIBLE FIXED ASSETS

	Land €000	Buildings €000	Plant & Equipment €000	TOTAL €000
Cost or Valuation				
At 1st January 2004	5,810	73,766	42,298	121,874
Additions	0	3,374	6,128	9,502
Disposals	0	(1,395)	(1,210)	(2,605)
At 31st December 2004	5,810	75,745	47,216	128,771
Accumulated Depreciation				
At 1st January 2004	0	24,330	27,912	52,242
Charged during period	0	1,595	2,959	4,554
Disposals during period	0	(1,395)	(1,150)	(2,545)
At 31st December 2004	0	24,530	29,721	54,251
Net Book Value 31st December 2004	5,810	51,215	17,495	74,520
Net Book Value 31st December 2003	5,810	49,436	14,386	69,632

Included in the opening balances is land totalling 612.3 ha (1,513 acres) transferred by the Department of Agriculture and Food at nominal values, and certain other assets which were revalued at 31st December 1975 or 1st July 1980.

Notes to the Financial Statements

For the Year Ended 31st December 2004

Teagasc has the use of 85 ha (210 acres) of land owned by the Department of Agriculture & Food, while the Department has the use of 16.2 ha (40 acres) owned by Teagasc. There is no charge to either party arising from these arrangements.

Certain fixed assets entrusted to Teagasc are protected by statute, and may not be sold.

The net book value of assets includes the following amounts in respect of leased assets:

	Plant and Equipment €000
2004	39
2003	171

The depreciation charge for the year on these assets was as follows:

2004	132
2003	242

14. FINANCIAL ASSETS

(a) Moorepark Technology Limited

Teagasc has a 59% holding in the paid up share capital of Moorepark Technology Limited (5,100 shares at €0.127). The Company, which was incorporated on the 18th January 1991, is a joint venture between Teagasc and various agriculture co-operatives. Separate audited financial statements have been prepared in respect of the Company and its results for the year ended 31st December 2004 were as follows:

	2004 €000	2003 €000
Turnover	1,068	980
Operating Profit before Depreciation, Interest and Tax	221	246
Depreciation (net of grants amortised)	(79)	(242)
Interest (charges)/receipts	5	5
Tax	0	(1)
Profit/(Loss) after Taxation	147	8
Accumulated Losses forward at 31 December	(62)	(209)

The Company's Memorandum of Association provides that shareholders are entitled to avail of the Company's services at preferential rates.

Notes to the Financial Statements

For the Year Ended 31st December 2004

Trading transactions between Teagasc and Moorepark Technology Limited (which consists of consultancy, analyses and use of technical and other facilities) were as follows:

	2004 €000	2003 €000
Moorepark Technology Limited sales to Teagasc (included in Company's turnover)	234	267
Other recoupments from Teagasc (deducted from Company's cost of sales)	30	76
Total	264	343
Balance unpaid at 31 December	81	110
Teagasc sales to Moorepark Technology Limited	122	136
Balance unpaid at 31 December	17	40

Under the terms of the Moorepark Technology Limited Promoters' Agreement, Teagasc has undertaken to provide from its own resources specified staff requirements in Moorepark Technology Limited, as well as underwriting the Company's utility, stores, accounts and effluent overheads. These costs were as follows:

	2004 €000	2003 €000
Staff	170	183
Other	118	109

These totals are included in Teagasc expenditure under the Moorepark Dairy Products Centre (see Notes 5 and 6 above).

Moorepark Technology Limited utilises assets owned by Teagasc as follows:

	2004 €000	2003 €000
Original Costs	1,196	1,196
Net Book Value at 31st December	297	369

These amounts are included under Plant and Equipment (see Note 13 above).

In accordance with the Promoters' Agreement, Teagasc has also leased to Moorepark Technology Limited at a nominal rent of €127 per annum its existing processing hall at Moorepark Dairy Products Centre together with an adjoining site on which the Company has constructed additional facilities.

It was not considered appropriate to consolidate the results of the Company.

Notes to the Financial Statements

For the Year Ended 31st December 2004

(b) Other Investments

Teagasc has three small investments in agricultural co-operatives costing in total €1,243 (2003 - €1,243).

15. STOCKS

	2004	2003
	€000	€000
Livestock	4,073	3,955
Farm produce, fertilisers and feeding stocks	511	596
Laboratory and veterinary supplies	60	187
Building materials	28	31
General supplies	1,177	970
	5,849	5,739

16. DEBTORS AND PREPAYMENTS

	2004	2003
	€000	€000
Trade Debtors	2,550	1,161
EU Income	279	2,131
Other Debtors and Prepayments	1,278	1,626
	4,107	4,918

Included in debtors are amounts receivable from the EU in respect of training grants totalling €278,502 (2003-€2,130,416).

17. CREDITORS AND ACCRUALS

	2004	2003
	€000	€000
Trade Creditors	4,361	2,560
Other Creditors and Accruals	9,134	10,777
	13,495	13,337

Notes to the Financial Statements

For the Year Ended 31st December 2004

The total shown under this heading includes the following amounts due in respect of taxation and pay-related social insurance:

	2004	2003
	€000	€ 000
P.A.Y.E and P.R.S.I	2,460	1,711
Value Added Tax	134	2,195
Construction Industry Tax	88	9
Withholding Tax	33	70
	2,715	3,985

The total for Creditors also includes an amount of €449,508 (2003 - €358,574) which represents euro short-term deposits being held pending distribution to sub-contractors in other EU States in respect of research contract work.

18. DEFERRED INCOME

Public funded research is carried out in accordance with contracts with other State Institutions, principally the Department of Agriculture and Food. Under these contracts advances received at the commencement of projects are not taken into account as income until the projects are completed.

At 31st December 2004 the source and amount of such deferred income was as follows:

	2004	2003
	€000	€ 000
National Development Plan: Productive Sector		
Operational Programme 2000-2006	0	197
Dept of Agriculture & Food - advance for analyses	145	168
European Science Foundation - Food Safety Promotion	716	0
	861	365

19. FINANCE LEASES

(a) Finance charges incurred during the year under finance leases amounted to €8,825 (2003 - € 24,115).

(b) Future obligations under finance leases are due as follows

	€000
Within one year	38
Within two to five years	4
	42

(c) At 31st December 2004 Teagasc had no commitments to enter into further finance leases in respect of plant and equipment (2003 - € Nil).

Notes to the Financial Statements

For the Year Ended 31st December 2004

(d) The movement in finance leasing obligations was as follows:

	2004 €000	2003 €000
Obligations at 1st January	148	331
New finance leases	0	21
Capital element of finance lease payments	(106)	(204)
Obligations at 31st December	42	148

20. CAPITAL COMMITMENTS

Capital commitments outstanding at 31st December 2004 amounted to €3,682,455 (2003 - €1,002,675).

21. OPERATING LEASES

At 31st December 2004 Teagasc had annual commitments under non-cancellable operating leases as set out below:

	Land and Buildings €000	Plant and Machinery €000	Total €000
Leases which expire			
- within one year	0	3	3
- between two and five years	124	58	182
- after five years	119	0	119
	243	61	304

22. ANALYSIS OF CHANGES IN NET FUNDS DURING THE YEAR

	At 1st January 2004 €000	Cashflows €000	At 31st December 2004 €000
Cash at Bank and on hand	19,132	(6,948)	12,184
Bank overdraft	(493)	(1,419)	(1,912)
Short-term deposits	359	90	449
	18,998	(8,277)	10,721

23. AUTHORITY MEMBERS - DISCLOSURE OF TRANSACTIONS

The Authority has adopted procedures in accordance with the guidelines issued by the Department of Finance in relation to the disclosure of interest by Authority members and the Authority has adhered to these procedures. There were no transactions in the year in relation the Authority's activities in which board members had an interest.

Notes

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AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

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