

End of Project Reports

Project 4014

**ALTERNATIVE ENTERPRISES : ECONOMIC
PERFORMANCE AND VIABILITY**



Research Centre, Athenry, Co. Galway

**ALTERNATIVE ENTERPRISES : ECONOMIC
PERFORMANCE AND VIABILITY**

by

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SUMMARY

The economic environment for Irish farming has changed dramatically over the last two decades. The reform of the Common Agricultural Policy with the introduction of quotas on the main farm enterprises in the 1980's, forced farmers to consider diversifying into new or "alternative" uses for their land, buildings and other resources.

The main objectives of this study were to identify the factors affecting the profitability and expansion in the main alternative livestock enterprises and also in rural tourism. Investment costs, returns on investment and market prospects for these new enterprises were investigated. The main livestock enterprises considered were deer, sport horses, dairy goats and free range poultry.

Rural tourism is the most important of the rural development enterprises accounting for over 50% of all farm diversification initiatives. A survey of tourists to rural areas was carried out in Co. Galway and found that walking, viewing the scenery, landscape and historical sites were the main activities undertaken by the visitors. The average spend per tourist per day was IR£61 compared to IR£46 per person for all tourists visiting Galway county and city. Overall tourists expressed satisfaction with their rural holiday. Returns to providing accommodation depend on successful marketing to ensure high occupancy rates.

In 1996 there were approximately 500 deer farms in the country with 20,000 deer but numbers have declined since due to declining profit margins and difficulties in marketing livestock. A survey of deer farms carried out in 1995/96 showed that the average size of deer unit was 5.7 ha and yielded gross and net margins of IR£650 and IR£425 per ha respectively. The gross

investment cost per ha was IR£5,778, which with grant aid of IR£1,828 resulted in a net cost of IR£3,950 per ha. Financial returns from deer farming, which is not subsidised, are similar to drystock but labour requirements are lower making it attractive to farmers with off-farm employment.

A survey of sport horse breeders in the southeast of Ireland was carried out in 1997 to establish the size of the enterprise, management and breeding practices and also to determine the costs involved in sport horse production. Horses were found to be a subsidiary enterprise on 79% of farms with the remaining 21% having horses only. The average number of horses per farm was 11.1 with an average of 2.7 brood mares. Breeders felt that size, conformation and pedigree were the most important criteria in selecting a mare, whilst pedigree, performance and size were perceived to be the most important criteria in selecting a sire. The average weaning rate was 0.60 foals per mare per annum compared to national average of 0.55. Horse producers estimated production costs at IR£5,688 per sport horse unit or IR£512 per horse on the farm with feed, veterinary and stud fees being the main cost items. Sport horse production is therefore a high cost enterprise and to be financially attractive producers need to increase mare fertility, improve progeny quality and add value through training and schooling prior to sale.

There are no reliable data on the total number of goats or goat farmers in Ireland. Teagasc estimates from their 1992 Integrated Rural Development Database that there were approximately 200 farmers with milking goats with 30 producers involved in goat cheese and yoghurt production. The average cost of establishing a 50-goat unit, including the milking goats, is IR£17,150. However a milk pasteurising unit and a cartoning machine would add a further IR£15,000. Output, costs and margins vary with milk

yield. A herd with an average annual yield of 455 litres results in a gross margin of IR£425 per ha compared to IR£1,215 from an average yield of 910 litres. The above margins are based on a selling price of IR£0.33 per litre. Producers need to identify the market to be supplied before commencing as there are no organised markets.

Over 90% of eggs are intensively produced. However there is a limited market for free range eggs, which depends on customers being prepared to pay a premium price to compensate producers for higher production costs. The capital costs of establishing a 1,000 layer unit in 1997 was IR£13,200 based on refurbishing existing farm buildings for poultry house and egg store. Free range poultry require one hectare of land per 1000 birds. The gross margin per 1,000 layers is approximately IR£7,300, which is based on a 56-week laying cycle with an average of 288 eggs per hen housed.

INTRODUCTION

The reforms of the Common Agricultural Policy, with the introduction of quotas on the main farm enterprises in the 1980s, forced farmers to consider new or “alternative” uses for their land, buildings and other resources. Secondly, the General Agreement on Trade and Tariffs has given impetus to the process of liberalising trade in agricultural products, which will eventually lead to more competition and a movement towards world prices. The effects of these measures have been offset for the immediate future by premia, area aid and set-aside payments. In addition there are also policy changes in relation to land use and management of the environment, affecting and restricting land for agricultural purposes.

Farmers, aware of these developments and concerned about their future survival, have been seeking new enterprises to maintain or increase their income.

The EU and the Government have also been encouraging farmers to diversify. The Operational Programme for Rural Development (OPRD) 1989 to 1993 and 1994 to 1999 introduced by the Department of Agriculture, Food and Forestry and partly funded by the EU, grant aided investments in a range of alternative enterprises, rural tourism and horticultural enterprises. Teagasc were involved in the promotion of these enterprises and provided training for new entrants.

There is also a small but growing demand for the produce of these new enterprises in contrast to conventional food products. Health conscious consumers are becoming more aware of what they eat, how it is produced and what it contains. This is resulting in a growing demand for a host of new products e.g. venison, free range eggs and poultry meat, goat’s milk,

organic meat and vegetables and many more. Farmers have become aware of this demand, and as it is market-led are switching some of their resources to supply it.

Farm diversification therefore involves switching some of a farm's resources to supply a new, unconventional or alternative product. This may involve switching land already being grazed by cattle or sheep to deer or sport horses, or it may mean developing under-utilised resources, e.g. old unused stone buildings may be converted to self-catering tourist accommodation or wet marginal land used for forestry. Some diversification projects are developed to create additional employment on the farm, by adding value to primary produce being produced on the farm e.g. manufacturing ice-cream, yoghurts or pasteurising and cartoning milk.

For one or more of the above reasons farmers are establishing alternative enterprises. Diversification as a development option is not confined to Irish farmers. This process has been ongoing in most developed agricultural economies over the last two decades, e.g. deer farming in New Zealand, visitor ranches in the United States, camping barns and farm-house accommodation in Britain. Surveys in Ireland show that 12% of farmers have developed an alternative enterprise.

Table 1: Inventory (no. of enterprises) of farm diversification and rural development projects 1994

	Teagasc Region				Total
	Athenry	Grange	Kildalton	Moorepark	
Alternative livestock	841	658	327	1,232	3,058
Alternative crops	237	106	112	301	756
Mushrooms	166	323	34	8	531
Rural crafts/industry	460	99	87	173	819
Aquaculture enterprise	33	13	4	14	64
Agri-tourism products	591	151	170	352	1,274
Community groups	30	7	15	12	64
Total	2,358	1,357	749	2,102	6,566

The Integrated Rural Development Database established by Teagasc in 1994 to monitor rural development activities and diversification, showed that over 6,500 farmers were involved in new enterprises ranging from dairy goat farming and horse production to providing self-catering accommodation and pony trekking (Table 1).

Livestock production was the most common form of diversification and included sport horses, deer, dairy goats, free range poultry, rabbits and many other minor enterprises. The provision of accommodation and services for rural tourists was the second most popular form of diversification.

What are the alternatives?

There are a wide range of income generating alternatives available to farmers and rural dwellers. These can be on-farm alternatives or off-farm diversification. Off-farm diversification encompasses such activities as agricultural contracting, providing farm relief services as well as off-farm employment. Studies have shown that off-farm employment makes a considerable contribution to farm household incomes.

The alternatives can be divided into three main groups :

1. **Tourism and recreation activities**, e.g. bed and breakfast, self-catering farm houses, caravan parks as well as equestrian centres, golf and pitch and putt courses, visitor farms and centres, fishing, pony trekking.
2. **Unconventional livestock and crop enterprises**, e.g. deer, dairy goats, free range poultry, sport horses, organic livestock and crops, flax, farm forestry, foliage plants, linseed and many others.

3. **Value-added and processed products** e.g. ice-cream, yoghurt, home-made butter, farmhouse cheese, wool and knitwear products, processed and cooked meats, smoked fish and meats etc.

These are only a sample of the opportunities open to farmers. However, it is essential that the farmer selects the alternative best suited to the individual's location, skills and managerial ability.

RURAL TOURISM

Total tourism revenue in Ireland has increased from IR£1,152M in 1988 to IR£3,024M in 1998 with the number of out-of-state tourists increasing from 3M to 5.6M over the same period. Rural communities are seeking alternatives to traditional farming enterprises and tourism is seen as an important growth industry in rural areas. Rural tourism covers a very wide range of activities, such as agri-tourism, heritage and culture, nature and ecology as well as special interest travel, fishing, horse riding, cycling and trekking, all of which can be enjoyed in a quiet relaxed environment. There are virtually no published statistics on rural tourists and the main objectives of this study were (i) to establish a profile of visitors to rural areas, (ii) their sources of information on the product, (iii) duration of holiday and expenditure pattern, (iv) activities undertaken and (v) level of satisfaction with their holiday. The survey was carried out in rural areas of County Galway in the summer of 1997. A sample of approved accommodation providers was selected from the Bord Fáilte list of farm guest-houses in the areas to be surveyed. Guesthouse owners were briefed on the questionnaire, which visitors were asked to complete at the end of their stay. Surveying took place from July to mid-September. Britain accounted for 35% of visitors, 37% were from mainland Europe and 14% from the US. The main source of information for visitors was the tourist trade (48%) with friends accounting for a further 33%. A rural holiday was the first choice of 90% of respondents and 53% had been on holidays in rural areas on previous occasions. Plane and ferry accounted for 43% and 38%, respectively, of transport of visitors to Ireland with car and coach making up the remainder. Package holidays accounted for only 2% of visitors compared to 37% for all tourists to Ireland. Visitors stayed an average of 3.5 days and this was made up of two peaks, a 2-day and a 7-day stay.

Table 2: Activities (% first choice) undertaken during holiday in rural area

View scenery	39
Walking	22
Historical sites	12
Sports	9
Shopping	6
Other	13

The main activities undertaken whilst on holiday were viewing the scenery, and walking (Table 2). The average spend per rural tourist per day was IR£61 compared to IR£46 per person for all tourists visiting Galway county and city. The largest single item of expenditure was accommodation, which when combined with food and drink accounted for 53% of total expenditure (Table 3).

Table 3: Per capita spending pattern (IR£/day) of tourists in rural area

Accommodation	14
Transport	9
Food	9
Gifts	7
Snacks	5
Pub	4
Other	13
Total	61

Visitors were asked how their experience of a rural holiday compared with their expectations and their responses are shown in Table 4. The rural landscape, peaceful scenery and friendliness of local people accounted for 90% of satisfaction sources whilst the weather, road conditions and poor sign-posting were responsible for 75% of dissatisfaction amongst visitors. In conclusion, visitors to rural areas in Galway came mainly from mainland Europe, and obtained their holiday information from the tourist trade and friends. The main attractions were the scenery, the friendliness of local

people and the peace and quiet of the countryside. Accommodation and food were the largest items of expenditure with transport being more expensive than for tourists to urban areas. Overall the majority of tourists were satisfied with their rural holiday.

Table 4: Expectations versus experience of rural tourists (%) respondents

	Overall service	Value for money	Rural environment	Activities
Better	65	45	55	23
Same	31	44	39	74
Worse	4	11	5	3

The provision of tourism accommodation has always been regarded as one of the main income generating activities for rural tourism entrants. Bed & Breakfast together with self-catering are the two main forms of accommodation provided. The returns to those are shown in Tables 5 and 6.

Bed & breakfast

Capital investment varies depending on the existing state of the dwelling house. A new house with some rooms already en-suite will require little additional investment. However, renovating and converting an existing house can be expensive. Building costs can range from IR£400 to IR£500 per square metre. Decoration, furniture, bedding, crockery and fittings should also be included in capital costs. Signs, brochures and advertising cards are also becoming increasingly important to attract business. The returns, costs and margins from Bed & Breakfast are shown in Table 5.

Table 5: Annual returns, costs and margins from bed and breakfast (IR£)

Income (IR£15 per person per night)	5,400
Costs	
Food	400
Marketing, insurance, heating	
ESB, repairs and maintenance	1,242
Total costs	1,782
Margin	3,618

Assumptions: 3 en-suite rooms - 6 persons; Season: May to September (150 days = 900 bednights); Occupancy rate 40%
(= 360 bednights)

The above costs do not include hired labour or interest charges. The profit margin will be directly affected by the occupancy rate; the rate assumed is based on Bord Fáilte figures for approved farmhouse accommodation. Providing an evening meal can enhance occupancy rate and margin but also increases labour costs.

To market successfully, Bord Fáilte approval is necessary. The difficulties of marketing on an individual basis have given rise to a number of groups which market the B&B product on behalf of their members, e.g., Town and Country Homes, Irish Farmhouse Association, Irish Country Holidays. Groups facilitate co-ordinated development and spread the cost of promotion and marketing. Community tourism groups allow members to pool resources and also to provide a range of activities in addition to accommodation for their guests.

Self-catering accommodation

The self-catering cottage or farmhouse in the correct location can be marketed and provide additional income in rural areas. Old dwellings can be renovated, out-offices not in use can be converted or purpose-built chalets can be erected as self-catering accommodation. Considerable capital is

required for new buildings or conversions. Visitors are becoming more discerning and most self-catering accommodation must now provide all the amenities found in a modern home. This is a seasonal enterprise with receipts varying within the season. The usual season is from May to September with an average occupancy of 60% resulting in 12 weeks rent. Capital costs of a new self-catering and fully fitted unit could range from IR£400 per square metre to IR£500 per square metre. Conversion of old stone buildings/stables to three-roomed bedroom unit could range from IR£30,000 to IR£40,000. The margin shown (Table 6) does not allow for own labour input, interest charges or depreciation. The revenue shown would be for a good-quality unit in a prime letting area, furnished to a high

Table 6: Annual return, costs, margins for a 3-bedroom self-catering unit (IR£)

Revenue		
Summer	(8 weeks @ IR£350/week)	2,800
	(4 weeks @ IR£230/week)	920
	Christmas/New Year/Easter (4 weeks @ IR£300/week)	1,200
Total revenue		4,920
Costs (advertising, repairs, insurance, etc.)		1,840
Margin over running costs		3,080

standard. Revenue from an average unit in a less well-known area would be approximately IR£3,500 per annum. There is demand for good self-catering accommodation in pleasant surroundings. However, it is difficult and expensive to market on an individual basis, so it is preferable to link to Bord Fáilte or other private companies for group marketing of self-catering properties. This results in more professional marketing and achieves a wider coverage. These companies also act as letting agencies and arrange bookings, collect deposits, rent, etc. on a commission basis. The owner can then concentrate on preparing, cleaning and maintaining the unit, as well as meeting and welcoming the guests.

The provision of accommodation is only one of many rural tourism enterprises that can be developed. Additional activities include provision of pitch and putt courses, golf courses, equestrian centres, open farms, caravan/camping sites and many more. It is critical for the development of rural areas that services other than accommodation be provided for visitors. This has led to the concept of community tourism, whereby local groups cooperate in the organised provision and joint marketing of rural tourism products in a specific area. This development has been encouraged by Teagasc, Bord Fáilte and the farming organisations.

DEER PRODUCTION

Deer farming began in Ireland in the early 1980's but it was in the early 1990's that rapid expansion took place following the introduction of the Alternative Enterprise Scheme by the Department of Agriculture, Forestry and Food, which grant aided capital investment. In 1996 there was an estimated 500 deer farms in the country farming approximately 20,000 breeding deer but the number of deer farms and breeding stock has declined since then due mainly to declining profit margins and difficulties in marketing livestock. The objectives of this study were to investigate the cost of establishing a deer farm and also the financial and technical performance being achieved on deer farms. A survey was carried out on a random sample of 85 deer farms in the 1994/95 and 1995/96 production years. Farms were visited on a number of occasions throughout the year to establish (i) the costs of setting up the deer farms, (ii) the output, costs and income arising from the enterprise and (iii) data on technical performance was also recorded to establish stocking rate, calving rate, mortality and weaning percentages. The average area fenced for deer production was 5.7 ha, with a further 0.65 ha outside the fence being used for forage conservation, resulting in a total unit size of 6.35 ha. The costs of setting up the deer unit are shown in Table 7.

Table 7: Gross and net investment cost of establishing 5.7 ha deer unit (IR£/unit)

Fencing and gates	8,925
Breeding stock	19,867
Winter housing and handling	4,143
Total investment costs	32,935
<i>Grant aid and VAT refund</i>	10,420
Net establishment cost	22,515

The gross cost per ha was IR£5,778, which with grant aid of IR£1,828 per ha resulted in net cost of IR£3,950 per ha. Aspects of technical and financial performance of deer production are shown in Table 7 for the 1995. The gross margin of IR£650/ha is similar to that generated from single suckling and approximately IR£150/ha higher than that arising from lowland sheep production. However, suckling and sheep are highly subsidised, whilst there are no direct payments to deer farmers.

Table 8: Financial and technical performance on deer farms 1994/95

Financial (IR£/ha)	
Gross output	1,022
Direct costs	372
Gross margin	650
Overhead costs	225
Net margin	425
Technical	
Weaning percentage (%)	77
Stocking rate (LU/ha)	2.1
Calf mortality (%)	8.3
Breeding stock mortality (%)	3.3

The value of output shown in Table 8 includes live deer sold for breeding as well as progeny for slaughter. Premium prices are no longer available for breeding stock and venison prices have also declined resulting in a decline in value of output and an estimated gross margin of approximately IR£280/ha in 1998. The weaning percentage achieved was lower than expected, but many of the deer units were in operation for a short period and so would not be in a position to achieve the expected 90% rate. Stocking rate at 2.1 LU/ha was similar to that being achieved on efficient drystock farms.

In conclusion deer farming has become established as a reliable grass-based alternative enterprise. Financial returns are similar to other drystock enterprises. Labour requirements are lower than other drystock enterprises, which makes it an attractive alternative to farmers with off-farm employment.

SPORT HORSE PRODUCTION

Ireland has a good tradition in producing excellent quality sport horses. The traditional sport horse was a cross between an Irish draught mare and a thoroughbred stallion. However, the present sport horse is produced by crossing the first cross back to a thoroughbred stallion. The production of non-thoroughbred and National Hunt horses is the most important and popular alternative livestock enterprise on Irish farms.

Data on the economic and technical aspects of the enterprise are very limited. This survey was carried out to provide factual information on which to base planning decisions and formulate measures to improve the breeding and marketing of sport horses in the future. The main objectives of the study were to (i) establish the current situation in relation to size of the enterprise, management and breeding practices, (ii) obtain breeders views in relation to quality of the product and market outlets, (iii) determine the costs involved in sport horse production and (iv) identify obstacles to improving quality of the progeny and the steps to be taken to overcome these obstacles.

The survey was carried out in counties Kilkenny, Waterford and Wexford. A random sample of 142 breeders was selected from the Irish Horse Register for the 3 counties. Selected breeders were visited and questionnaires completed in the autumn of 1997. The results for the above counties were compared to results from a similar study carried out in the northwest counties of Sligo and Tyrone in 1993 (O'Beirne, J. et al.).

Average farm size for sport horse farms was 41.6 ha compared to 34.5 ha in the north west. Horses were a subsidiary enterprise on 79% of farms with 21% having horses only. Drystock was the predominant farming system accounting for 65% of farms visited. Forty per cent of farmers interviewed

were under 40 years of age, 42% were over 50 years and 77% were married. Twenty seven per cent of farmers had received special training in agriculture whilst 19% had attended specialist horse courses. Sixty eight per cent had off-farm employment. The main activities engaged in were hunting and showjumping (Table 9).

Table 9: Involvement in sport-horse activities (%)

Hunting	39
Showjumping	34
Point-to-Point	7
Other	8
None	12

The average number of horses was 11.1 with an average of 2.7 brood mares in 1997, which was very similar to that found on farms in the northwest. Sixty eight per cent of mares were sport horse type, 21% thoroughbred, 9% Irish Draught and 2% other. Average age of brood mares was 9 years.

The level of experience of respondents with horses, especially with breaking/training and riding was higher than anticipated and was similar to that found in the previous survey in the northwest (Table 10). Forty nine per cent of respondents bred mares at 3 years old with 39% breeding over 3 years old and only 6% at 2 years old.

Table 10: Experience with horses (years)

	Breeding	Breaking/Training	Riding
South-east breeders	23	16	17
North-west breeders	19	15	15

Factors taken into account in the selection of mares and sires for breeding are shown in Table 11. Size, conformation and pedigree were the most

important criteria in selecting a mare, whilst pedigree, performance and size were perceived to be the most important criteria in selecting a sire.

Table 11: Primary criteria for selecting mare and sires for breeding (% of respondents)

	Mare	Sire
Conformation	21	11
Pedigree	16	20
Size	25	15
Performance	7	18
Temperament	8	6
Other	23	30

Respondents felt that there is major scope to improve the quality of foals being produced. Many of the foals produced are of inferior quality and are not what the market demands. Much greater effort needs to be placed on breeding quality mares to the best sires available. Fifty eight per cent of breeders in the south-east teased mares before mating compared to 70% in the north-east. The average mare fertility for the south-east was 68%, with 8% perinatal mortality, resulting in 60% of foals living beyond the first week. The low fertility in the breeding sector is a major problem which needs to be addressed.

The national average for live foals produced per mare per annum is 0.55. The target should be at least 0.80 quality foals per mare, which is achievable and would mean an additional 2,200 foals produced each year with a consequential increase in output and profit margins. Pre-weaning mortality of foals was 7% whilst annual mare mortality was 4%. Special horse sales in Kilkenny, Goresbridge, and Dublin were the main market outlet (43%) followed by private sales at home (31%) with 24% selling through a combination of both. Farmers interviewed felt that there was scope for adding value to young horses through increased preparation, schooling and

training prior to sale. Traditionally the market was for unbroken 3-year olds but the market is now demanding horses which are trained and schooled. This would also increase output and profit margins.

Horse producers were asked for estimates of production costs involved in their horse enterprise for the 1996 year and these are shown in Table 12 for small, medium and large units. Average costs were IR£560, IR£448 and IR£518 per horse respectively for large, medium and small units.

The costs shown in Table 12 are producers' best estimates but they clearly illustrate that sport horse production is a high cost enterprise with feed, veterinary and stud fees being the main cost items. Given the low rate of foal production and the large number of inferior quality foals produced, it is not surprising that many producers have negative profit margins. To be financially attractive producers need to increase mare fertility, improve progeny quality and add value through training and schooling prior to sale.

Table 12: Sport horse unit – estimated production costs 1996

	Small	Medium	Large	All
Number of farms	36	70	36	142
Average number of horses	4.2	10.0	26.1	11.1
	IR£/horse unit			
Concentrates	368	457	1,778	766
Pasture & forage	512	970	2,377	1,076
Stud fees	329	507	922	521
Veterinary fees	211	406	1,357	584
Hired labour	104	468	1,984	669
Farrier fees	137	254	1,026	391
Straw & bedding	95	229	815	313
Marketing & transport	56	96	430	162
Regist. & Society Fees	80	174	587	231
Insurance	32	85	463	154
Miscellaneous	252	833	2,886	821
Total	2,176	4,479	14,625	5,688

DAIRY GOAT PRODUCTION

Goats have been domesticated for thousands of years. For various reasons goat production never became a serious farm enterprise in Ireland or the UK and were never farmed in large numbers. However this is changing in the UK where large herds are being established with a tendency to specialise on specific products. Goat production on the other hand has always been popular on the continent and in France goat milk production is an integral part of agriculture and enjoys the same level of government support as other farm enterprises. Spain and Greece also have large populations of goats but production systems are more traditional than either in France or the UK.

Accurate data on the total number of goats or goat farmers are not available. However it was estimated that there were 6,000 holdings with goats in the early 1990's with approximately 17,000 goats. However many of these are small goat herds of 2 to 5 goats producing milk for private consumption and not for sale. Teagasc estimates from their 1992 Integrated Rural Development Database that there were approximately 200 farmers milking goats with approximately 30 producers involved in goat cheese and yoghurt production. Goats qualify for EU headage payments at the rate of IR£10 per female goat up to a maximum of 200 breeding goats per farm in less favoured areas. Diversification into goat production was also encouraged and grant aided under the Department of Agriculture, Food and Forestry's Alternative Enterprise Scheme.

Goats can be used to produce milk, fibre or meat and of the three milk is by far the most important. Products include fresh milk, cheese, yoghurt and ice cream. Demand for milk is expanding due mainly for health reasons. The main constituents of goats and cows milk are shown in Table 13.

Table 13: Composition (%) of goat and cow milk

	Goat milk	Cow milk
Fat	4.2	3.9
Protein	2.9	3.4
Lactose	4.3	4.8

Source: ADAS, UK

Proportions of goats milk constituents are similar to cows milk. However fat and protein type and structure are quite different and this could explain why individuals allergic to cows milk have no such allergies with goat's milk. Goat milk has a higher proportion of small fat globules than cows milk, and this makes fat separation more difficult when making butter or cream. In addition goats milk does not contain any carotenoid pigments and therefore the cream is always white in colour. Goat milk freezes successfully unlike cow's milk, which tends to separate on thawing. This is a useful property, as it means that producers can freeze milk during the summer when it is plentiful to overcome winter shortages. Cheese and yoghurt manufacturers often use frozen goat milk. Goat milk has a tendency to develop an unpleasant taint and this is a disadvantage when it comes to marketing the product. However cooling quickly after milking and also pasteurising limits this taint.

The majority of Irish goat producers operate as individuals with little co-operation between producers. Many producers market and process their own goat milk whilst some supply larger processors and milk wholesalers. Breeds of goat most suited to Irish conditions are the Saanen type, British Alpine, Toggenbourg and Anglo-Nubian breeds. The first three breeds give similar yields whilst the Anglo-Nubian gives a lower yield but the milk has a higher fat content. Goats are natural browsers with a preference for herbs and shrubs. However, to maximise milk yield good quality grass and hay should be fed. Kids retained are usually artificially reared, as it is not

economical to feed them goat milk. Milk yield varies enormously but commercial producers should aim for between 600 to 900 litres per lactation with a peak yield of 4 litres per day. One person can milk 150 to 180 goats in a parlour, whilst stocking rate should be approximately 10 milking goats per ha including followers.

Capital requirements and financial returns

Goats need more protection from the weather than cows or sheep and must have access to shelter at all times. Dairy goats should be housed at night during the winter and have field shelter during the summer. Milking of small herds can be done by hand but for larger herds a milking machine is required. Milk must be cooled immediately after milking. The cost of establishing a 50-goat unit is shown in Table 14.

Table 14: Capital costs (IR£) of a 50-goat unit

Milking goats (IR£100 each)	5,000
Male Goat	150
Milking Parlour Equipment	5,000
Cooling Equipment	800
Fencing	1,200
Conversion of existing farm building	5,000
Total	IR£17,150

In addition to the above a pasteurising plant and a cartoning machine could cost an additional IR£15,000. The estimated output, direct costs and gross margins from dairy goat production are shown in Table 15 for three levels of performance. The data in Table 15 show that margins for the producers with high yielding goats are almost 3 times greater than those achieving low yields.

Table 15 : Output, costs and gross margin from dairy goat production

	Moderate 2.0 l/day	Good (2.9 l/day)	Very Good (3.9 l/day)
Yield/annum (litre)	455	680	910
Milk at 0.33p/litre	150	224	300
Kid	17	25	30
Replacement cost (IR£)	-25	-25	-30
Gross output (IR£/goat)	142	224	300
Variable costs (IR£)			
Milk replacer	7	7	8
Concentrate	27	45	81
Forage	20	25	25
Miscellaneous	20	22	24
Total variable costs (IR£)	74	99	138
Gross margin/goat (IR£)	68	125	162
Stocking rate (goats/ha)	6.25	7.5	7.5
Gross margin (IR£/ha)	425	937	1,215

The above price of IR£0.33 per litre is based on selling directly to a processor/wholesaler without cartoning or marketing. Higher prices could be obtained by selling directly to retail outlets but this entails higher packaging and processing costs and also the producer must guarantee continuity of supply. Producers need to identify the market to be supplied before commencing, as there are no organised markets.

FARM FRESH POULTRY

Poultry production has become one of the most intensified forms of meat production over the last two decades. In Ireland poultry meat and eggs are produced by a relatively small number of producers. The industry is also very much integrated with contracts between hatcheries, growers and processors. This intensified, concentrated production system has led to extremely efficient production with huge economies of scale resulting in poultry being produced very competitively relative to other meats. It is not surprising therefore that demand for poultry meat has been growing steadily over the years. However, it has also resulted in the enterprise becoming very capital intensive, demanding a high level of skill and management expertise.

However, there has also been a small but growing demand for the traditional type “free range” or “farm fresh” poultry products. These are perceived to be more naturally produced and more attractive from a health point of view than the intensive, force fed products. In addition, traditional forms of production are deemed to be more acceptable on animal welfare grounds. For these reasons consumers are prepared to pay a premium price for “free range” or “farm fresh” products.

There are opportunities for small-scale units in virtually all types of poultry production, with the products being sold through local outlets. These poultry units can offer attractive returns, as complementary enterprises on farms using under-utilised buildings and labour.

Production can be divided into two main areas:

Egg production

Meat production

Free-range egg production

Over 90% of eggs are intensively produced. However there is a limited market for free-range eggs, which depends on customers being prepared to pay a premium price to compensate producers for higher production costs. The essential element therefore is to identify this “niche” market and supply it with a quality product.

Table 16: Capital costs (IR£) of free range 1,000-layer unit

Housing and eggstore	8,500
Fencing	900
Nests and slatted floors	3,000
Feeders and drinkers	800
Total	13,200

The capital cost of establishing a 1,000-layer unit is shown in Table 16. Costs for house and egg store are to refurbish existing farm buildings only. Free-range poultry require 1 ha of land per 1,000 birds. Fencing should be secure and 2 m high. A constant supply of water is needed. Housing should be insulated and ventilated. Space per bird depends on system of production. Output, costs and gross margin from a 1,000 layer unit is shown in Table 17.

Table 17: Output, costs and margin per 1,000 layers (IR£)

Output: (23,500 dozen eggs @ 85p/dozen)	19,975
Variable costs:	
1,000 Pullets @ IR£2.85 each	2,850
Feed, 55.6 kg/bird @ IR£165/t	9,174
Electricity	170
Vaccination	150
Miscellaneous	300
Total costs	12,644
Gross margin	7,331

Source: Management Data for Farm Planning 1998

The above results are based on a 56-week laying cycle with an average of 288 eggs per hen housed. The costs shown above are producer costs only and do not include packaging or marketing costs. No labour costs are included but one labour unit would be sufficient for 3,000 layers. It is obvious therefore that the presence of under-utilised buildings and a surplus supply of labour are critical to the final net margin arising from this enterprise. Key production factors include :

- 280 eggs/layer/annum
- 85% in egg sizes 1, 2 and 3 to obtain premium price,
- feed-efficiency: 55.6 kg feed/layer/annum (75% of direct cost)
- 1,000 birds per hectare,
- maintain health status and control hygiene,
- produce quality product, well presented,
- supply reliably on a regular basis.

Farm-fresh turkey production

As in egg production, virtually all poultry meat is intensively produced. However there are consumers willing to pay a premium price for what they perceive to be a healthier product i.e. “farm fresh” poultry meat. Farm fresh

poultry meat can be chicken, turkey, goose or duck. Again market research should be carried out to identify the market to be supplied. Turkey is a more seasonal product than broilers with Christmas and Easter being times of peak demand. The output, costs and margin arising from free range turkey production are shown in Table 18.

Table 18: Output, costs and margins for farm fresh turkey production (IR£/1000 birds)

Output (935 @ 7.25 kg at IR£2.17/kg)	14,710
Variable costs:	
Poults, 1,000 females	2,570
Feed, 22 tonne	5,500
Gas	180
Electricity	30
Litter and medication	130
House repairs and miscellaneous	140
Total costs	8,550
Gross margin	6,160

Source: Management Data for Farm Planning 1998

It is assumed that there are under-utilised buildings, which can be used and no allowance is made for interest, labour or depreciation charges. Key production factors include :

- research the market to be supplied,
- attend training course on poultry production,
- supply a quality product, well presented on a regular basis,
- adhere to EU legislation on marketing the product,
- maintain health status,
- produce and sell turkeys in 16 weeks,
- efficient feed usage.

CONCLUSIONS

With more than 80% of total agricultural output subject to quota restrictions, sustainable rural development is now seen as being essential in ensuring the continued viability of rural areas.

Livestock production is the most common form of farm diversification being adopted by farmers and this includes sport horses, deer, dairy goats, free range poultry and many more minor enterprises. The provision of accommodation and services for tourists was the second most popular form of diversification.

Deer farming has become established as a reliable grass based alternative enterprise. Financial returns are similar to other drystock enterprises but deer farming is not subsidised. Labour requirements are lower than other drystock enterprises.

There is major scope for improving the quality of sport horses through better selection and breeding. Financial output could be increased by adding value to progeny through training and schooling. Average weaning rate of foals is 0.55 which could be increased to 0.80 foals per mare per annum.

The majority of dairy goat units in the country are small and there is no organised market for the milk. However efficient dairy goat farms can provide gross margins in excess of IR£1,000 per hectare. Producers need good quality stock and identify the market to be supplied before commencing.

Of the range of new rural enterprises, rural tourism is making the single largest (51% of total) to rural incomes. The provision of accommodation, either Bed & Breakfast or self catering, is the most profitable sector of the enterprise. The main tourist attractions in rural areas are the scenery, the friendliness of the local people and the peace and quiet of the countryside. In a survey carried out in 1997 the majority of tourists were satisfied with their rural holiday.

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