

## **A Measure of the Dependency and Scale of the Use Made by Beef Cow-Calf (Beef Suckler) Farmers on Custom-Hire in Ireland**

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### **Abstract**

*Research work on agricultural contractors (farm custom-hire) appears not to have kept pace with other research areas within the field of farm management. Time sheet data were collected from 115 spring calving beef suckler (cow-calf) farms (75% full time, 25% part-time) over a 12 month period. Five systems involving beef sucklers were present namely: beef sucklers only, beef sucklers and sheep, beef sucklers with sheep and arable and beef sucklers and dairy. Major contractor-based activities (with hours expended for the study) were conservation (5948), organic manure-handling (1,752), land maintenance (1151), building maintenance (1018), with hedge-cutting (450), husbandry (423), fencing (367) and fertiliser spreading (105) as less-demanded services from contractors. The most frequent visits made by contractors to farms were for organic manure handling and husbandry of between 2.3 and 6 visits per annum. Forage conservation involved the longest contractor engagement periods of duration between 19.9 and 34.5 hours per visit. Contractor visits of the shortest time occurred on farms with arable enterprises. Profit monitor analysis of suckler beef farms showed that variable costs per ha were €870 or 18% of these variable cost were expended on contractors.*

**Key words:** Farm contractors, farm custom hire, suckler beef farmers, farm tasks

### Introduction

There has long been a known dependency on external contracting (farm custom-hire) by farmers generally, but the scale of agricultural contractor-use has been infrequently measured. While dependency upon the services provided by agricultural contractors is well known to extension agents and farmers, the sector has received relatively little research attention.

The continued growth in the Irish economy and changes in the rules governing agriculture within the European Common Agricultural Policy (CAP) has given rise to fundamental changes in the components of the agricultural sector in Ireland. While there are drivers of change arising from policy adjustments for Agriculture, other drivers of change impacting the sector include alternative and higher returns for off-farm investments of available farm capital, lack of capital in many cases and shortages of farm labour and certain skills. These cause farmers to seek specialist assistance from outside the farm for the completion of certain essential tasks. While family labour was been the dominant source of supplied labour on farms in Ireland (Department of Agriculture and Food, Ireland, 2004) there has been an increasing outflow of family labour from farms which continues in a buoyant Irish economy. Farm-derived income as a contributor to farm household income has declined substantially between 1973 and 2000 (Phelan, 2005). National farm statistics further demonstrate that the number of spouses, family members, farmers and farm workers within the Irish economy has declined between 1991 and 2002 (Department of Agriculture and Food, 2004). Further there has been a decline in the number of viable full-time farms that are expected to number about 20,000 by 2010, representing a decline of 53% since 1998 (Department of Agriculture and Food, 2006).

The reliance of farmers upon contractors has been examined in a limited number of studies (Ruane et al. (2007), Ruane and Phelan, (2001) and Ryan and McNamara, 2000) in Ireland and by Ball (1987) and Cunstance (1987) in the UK. Ball (loc. cit.) reported that contractors were used by 70% of farmers for at least one major task in the UK Midlands and North Wales region, while Cunstance (loc. cit.) reported an 83% usage in the UK. Ruane et al. (2007) and Ruane and Phelan (2001) found a dependency rate of 97% and 96% respectively by farmers on contractor services in two separate studies. When farmer uses a contractor to complete major tasks on their farms, the farmers becomes an employer, and in most cases is a non-participator in the work on his farm. Among these changes is the surrendering of a degree of "in-house" flexibility and independence, as his dependency upon external services increases (Ball, 1987). Farmers and managers now assume a more administrative and supervisory role with a potential need for additional management training as opposed to carrying out the physical work itself. This change in role is likely to impact importantly upon farmers who move to part-time farming, which in Ireland is expected to increase by 36% (AgriFood 2010 Report, DAFRD, 2000). In Ireland the average labour input per farm was 1.2 Annual Work Units (AWU) per year in 2003, of which 90% was supplied by family labour (farm holder, spouse and other family members). On Irish suckler (cow-calf) and beef farms in recent years, farmers have adapted to having their labour and capital needs met by using farm contractors and in some circumstances by using contractors in labour-only situations to meet their varying specialist labour requirements. While use of contractors with specialist skills and equipment to undertake non-repetitive tasks on farms is likely to continue, Murphy (Personal Communication, 2007) indicated that the number of farm contractors in Ireland has declined by 500 since 2000 to about 1500 in the Republic of Ireland.

### **Purpose and Objectives**

The main objective was to assess the involvement of agricultural contractors in farm tasks on Irish suckler beef farms. The specific objectives were to 1) to identify the tasks and measure the input of agricultural contractors into these tasks on farms and 2) to measure the time allocated to the main farm tasks as carried out by agricultural contractors.

### **Methodology**

Labour data were collected from 115 predominantly spring-calving beef suckler farms with an average herd size of 54 cows (range 21 to 195 cows) distributed evenly across the east and west of the Republic of Ireland in the period March 2002 to February 2003. The farmers were predominantly members of suckler-beef discussion groups working with Teagasc (The Irish Agriculture and Food Development Authority). Approximately 0.25 (30) of farmers were part-time, while the remaining 0.75 (85) farmed full-time. Each farmer was randomly assigned to 1 of 4 groups for data collection. Each group was allocated a week each month during which they recorded time spent undertaking predefined tasks on the farm using the timesheet method (Abeyasekera and Lawson-McDowall, 2001), adjusted in layout appropriate to the seasonal tasks. Seven on-farm tasks were identified for capturing labour-input data from on-farm personnel as recorded previously (Ruane et al., 2007). Each farmer recorded also all activities undertaken by an agricultural contractor on their farm for each month of the year within the structure of tasks completed. Eight major tasks were identified as carried out on farms by farm contractors namely: conservation, organic manure handling, land maintenance, building maintenance, hedge-cutting, husbandry, fencing, and fertiliser spreading. In addition the performance (profit monitor) data of 147 suckler beef farms in 2006 was used to indicate the measure of the dependency of suckler beef farms on external contractor use.

### **Results**

Five farm enterprise systems involving suckler beef herds were identified, namely: sucklers only, or with sheep, or with arable, or with sheep and arable, or with dairy (mean farmland areas were 51, 68, 110, 96 and 77 ha respectively). The majority of the 115 farms in the study had a suckler-beef or a suckler-beef/sheep enterprise and these farms were also smaller in size (Table 1). The farms with suckler-beef/arable and suckler-beef/sheep/arable farm enterprises were the larger farms and fewer in number in this study (Table 1). All farm enterprises had a similar average number of suckler-beef cows though in the case of farms with the suckler-only enterprise, almost 50% of the farms were part-time. Labour hours/LU/yr were 38 for the suckler beef-only farms and 45 for the suckler-beef/sheep enterprises. As almost 50% suckler beef-only farms were part-time, the results demonstrated that full-time farmers were spending more time with the suckler-beef cows on the suckler beef-only and suckler-beef/sheep enterprises.

In Table 2, the outcomes of use of contractors made by suckler-beef farmers who were full time and part-time are reported. Contractor activity survey results showed agricultural contractors were used by all of the part-time farmers and by 96% of the full-time farmers demonstrating a high dependency on contractors for the completion of specialist farm tasks. All full-time suckler-beef farmers with sheep, and with sheep and arable crops, used contractors for farm work across all farm sizes.

The highest use (100%) of contractors was made by suckler beef-beef farmers who had sheep as another enterprise on the farm, while suckler beef farmers who had dairy as another

enterprise on the farm, and suckler beef farmers who had a mix of other enterprises on the farm used contractors' services to a slightly lesser extent. But it is clear that contractor use was high across all farm size categories on full-time farms.

Table 1

*Number of Farms, Number of Cattle, Farm Size, and Labour Efficiency for the Various Suckler-Beef Cow Enterprises, 115 Farms, Ireland, March 2002 – February 2003*

Enterprise	Beef suckler	Beef suckler/sheep	Beef suckler/sheep/arable	Beef suckler/arable	Beef suckler/dairy
No of farms (all)	42	38	17	14	4
Part-time farms	20	5	3	2	0
Number of beef suckler cows (LU)	53	52	60	62	30
Number of other cattle (LU)	30	32	60	60	38
Size (ha)	51	68	96	110	77
Labour hrs /LU /yr (beef cattle only)	38	45	32	31	28

The major contractor-based activities identified in this study were conservation, organic manure-handling, land maintenance, building maintenance (Table 3) with hedge-cutting, husbandry, fencing and fertiliser spreading (Table 4) as less-demanded services from contractors. Due to lack of grass growth in the winter months in Ireland, successful management of beef suckler herds depends upon farmers having a sufficient supply of quality silage (mainly grass) or hay for animal feeding during the winter. The growth production curve of grass in this temperate climate, in most years, allows cattle to graze grass *in-situ* from mid-March to early-April on certain parts of the farm in individual years.

Other grassland areas are fertilised and closed for conservation through April and May. Cutting of grass for conservation and the simultaneous filling of silage-pits usually located in farm-yards commences in May-June with the first silage cut. A second cut may be taken in July-August following the appropriate management actions. In certain more intensive systems, a third and fourth cut may be taken. Most Irish farms are not adequately capitalised for the silage operation as the conservation process usually requires specialist equipment in a team operation. The data showed that contractors made between 1.8 and 3.2 visits per annum for conservation and spent between 19.9 and 34.5 hours on each visit expending 5,948 hours of time (Table 3). Beef suckler-only, beef suckler/sheep and beef suckler/dairy enterprises expended 34.4, 32.9 and 32.6 hours per visit while farms with beef suckler/sheep/ arable or beef suckler/arable systems expended 24.2 and 19.9 hours per visit. Of the contractor time expended, beef suckler-only farms utilised 34.4% and beef suckler/sheep farms utilised 38.7% (amounting to 73.1%) of total time in conservation activities. Arable farms are often more capitalised with machinery than livestock-only farms and some of these may be operating as contractors themselves in certain instances.

Table 2

*Effect of Farm Size, Farmer Status and Beef-Suckler Enterprise by Use of Contractors on Full-Time, Part-Time, and All Farms, 115 Farms, Ireland, March 2002 – February 2003*

Enterprise type	n	Farm size (ha)			% of total
		< 40	40 to 80	> 80	
Full time					
Beef suckler	19	4 (4)	10 (12)	3 (3)	89
Beef suckler/sheep	34	10 (10)	17 (17)	7 (7)	100
Beef suckler/sheep/arable	15	0 (0)	5 (5)	10 (10)	100
Beef suckler /arable	12	1 (1)	5 (5)	7 (8)	92
Beef suckler/dairy	5	1 (1)	3 (3)	1 (1)	100
Part time					
Beef suckler	21	13 (13)	8 (8)	0 (0)	100
Beef suckler/sheep	5	10 (10)	17 (17)	5 (5)	100
Beef suckler/ sheep/arable	2	0 (0)	1 (1)	1 (1)	100
Beef suckler /arable	2	0 (0)	0 (0)	1 (1)	100
Beef suckler/dairy	0	0 (0)	0 (0)	0 (0)	
All farms					
Beef suckler	40	17 (17)	18 (20)	3 (3)	95
Beef suckler/sheep	39	12 (12)	19 (19)	8 (8)	100
Beef suckler/ sheep/arable	17	0 (0)	6 (6)	11 (11)	100
Beef suckler /arable	14	1 (1)	5 (5)	7 (8)	92
Beef suckler/dairy	5	1 (1)	3 (3)	1 (1)	100

In organic manure handling, the time expended by contractors was 1752 hours with 43.3% and 28.1% of farms with beef suckler-only and beef suckler/sheep enterprises requiring 2.3 and 2.5 visits per annum to handle and spread manure respectively. These were short visits lasting between 12.7 and 8.2 hours per visit. There was a higher frequency of visits for the remaining systems in this study.

In land maintenance, the data showed that contractors visited farms where these services were required from contractors between once and twice per annum. The majority of farms requiring contractor services had the beef sucklers only, beef suckler /sheep and sheep/arable systems. In the beef suckler/sheep system the expended time amounted to over 1151 hours (986 hours of which was accounted for by 3 farms) or 71.4% of the total time expended by all farms on all systems in the study requiring these services. The demands of fencing repairs and maintenance to land appeared considerable on beef suckler/sheep farms and much of the contractors' time was expended in this activity, however, 130 hours fencing was accounted for by 1 farm.

Building maintenance on the farms requiring these tasks to be completed by contractors amounted to 1018 hours in a 12-month period. The requirements for contractors for building maintenance were low, but when they occurred they were substantial in terms of hours per visit. Again, the beef suckler/sheep enterprises had the highest requirement with 2.4 visits and 644 hours expended on these farms (63.3% of the total).

Contractor tasks that may be described as minor (based on time input) were hedge-cutting, husbandry, fencing, and fertiliser spreading. Many of these tasks are needed for compliance with EU schemes e.g., Rural Environment Protection Scheme (REPS) for which

farmers receive payments from the EU. The average number of contractor visits and hours per visit for the minor contractual tasks are presented in Table 4. While hedge-cutting is a task requiring specialised equipment mounted on a tractor, this equipment is not normally found in on-farm machinery inventories on smaller farms.

A requirement under the EU-REPS scheme is that farmers must keep their hedge rows neat and tidy and the cutting and trimming work is best completed by a contractor in very many cases. In this research between 1 and 1.5 visits per annum were recorded on 30% of the farms in the survey. There are variable demands for hedge-cutting services within Ireland. All farmers are not in the REPS scheme and therefore, there may not be a focus on hedgerow maintenance in all cases. Farm boundaries may be more populated by hedges in certain parts of Ireland, while in other areas, fences and stone walls may be the farm boundaries. Hedges also act as shelter and stock-proofing areas for sheep in certain instances supported by fencing.

In the delivery of husbandry services by contractors, between 13 and 25% of farms used outside contractors for meeting husbandry needs. The number of visits mainly ranged from 2-3.7. The duration of visits varied from 2.9-10.5 hours. These contractors were employed to care for the animals when illness or absence occurred and the assistance was sourced from neighbours or agency sources.

Between 4 and 16% of farmers used contractors for major fencing tasks. Fencing may be a capital activity if new fences are being established, or there may have been significant repairs needed that justified hiring fencing contractors. Many farms have their own fertiliser spreaders in their machinery inventory and therefore a small number of farmers required the services of a contractor for this activity (7-24% of farms) with between 1 and 1.5 visits per annum of duration less than 1 day per visit. EU regulations insure rigid control of the levels of Nitrogen and Phosphorous that may be applied to farms throughout the growing season.

The profit monitor analysis of 147 beef suckler farms (average size 53 ha) in 2006 showed that variable costs per ha was €870 and that 18% of this variable cost was monies paid to contractors. Thus the average annual spend on contractors was €4,675 per suckler beef farm in 2006. This value illustrates the overall importance of the contractor on Irish beef suckler farms and the interdependence between the beef suckler farmer and the contractor.

Table 3

*Percentage of Farms Using Contractor for a Particular Major Task, Number of Visits per Tasks and the Hours per Visit for the Task, 115 Farms, Ireland, March 2002 – February 2003*

Enterprise	Beef suckler	Beef suckler /sheep	Beef Suckler /sheep/arable	Beef suckler /arable	Beef suckler /dairy	Total
<i>Conservation</i>						
number of farms	33	35	16	10	4	
% of farms	79	93	94	71	100	
number of visits	1.8	2	2	2.4	3.2	
hrs per visit	34.5	32.9	24.2	19.9	32.6	
total hrs	2049	2303	774	478	344	5948
<i>Organic manure handling</i>						
number of farms	26	24	9	6	1	
% of farms	62	63	43	43	25	
number of visits	2.3	2.5	3.3	2.5	6	

hrs per visit	12.7	8.2	10.8	11.6	0.9	
total hrs	759	492	321	174	6	1752
<i>Land maintenance</i>						
number of farms	12	14	8	2	2	
% of farms	29	37	47	14	50	
number of visits	1.4	1.5	1.5	1	2	
hrs per visit	12	54.8	9.3	46.5	13.3	
total hrs	202	1151	112	93	53	1610
<i>Building maintenance</i>						
number of farms	7	9	1	1	0	
% of farms	17	24	6	7	0	
number of visits	1.3	2.4	2	1	0	
hrs per visit	29.7	29.8	34	36	0	
total hrs	270	644	68	36	0	1018

### Discussion, Conclusions, and Implications

While the Agricultural contractor is an entrepreneur in the service of farmers in the Republic of Ireland, the number of farm contractors has declined by 25% in the past 10 years (Murphy, 2007). The roles played by contractors in the delivery of services to farmers are still likely to grow as farms develop further with recent improvement in commodity prices, become more specialised and expand and have less family labour while some farms move towards farming as part-time activity. The reliance upon farm contractors has been demonstrated in this paper and previously (Ruane et al., 2007).

Table 4

*Percentage of Farms in Republic of Ireland Using Contractors for a Particular Minor Task, Number of Visits per Task, and the Hours per Visit for the Task*

Enterprise	Enterprise System					Total
	Beef suckler	Beef suckler /sheep	Beef suckler sheep/arable	Beef suckler/ arable	Beef suckler/ dairy	
<i>Hedge cutting</i>						
number of farms	10	13	9	1	1	
% of farms	24	34	53	7	25	
number of visits	1.5	1.2	1.4	1	1	
hrs per visit	7.9	9.5	13.1	9	9	
total hrs	119	148	165	9	9	450
<i>Husbandry</i>						
number of farms	8	5	5	3	1	
% of farms	19	13	29	21	25	
number of visits	3.6	2	3.2	3.7	1	
hrs per visit	3.7	2.9	10.5	10.3	5	
total hrs	107	29	168	114	5	423
<i>Fencing</i>						
number of farms	2	6	2	1	0	
% of farms	5	16	12	7	0	

number of visits	1	2.3	2.5	1	0	
hrs per visit	5.8	20.1	14.4	6	0	
total hrs	12	277	72	6	0	367
Fertilizer spreading						
number of farms	6	6	4	1	0	
% of farms	14	16	24	7	0	
number of visits	1.7	1.2	1.5	1	0	
hrs per visit	4.2	3.9	5.4	1.8	0	
total hrs	43	28	32	2	0	105

The monthly peak fluctuations took place in the Spring months (February- March) and in July and November in the recorded use of agricultural contractors for all tasks on all the beef suckler farms surveyed (Leahy, 2003), but services were required throughout the whole year. Information on the use of the agricultural contractors appears not to have kept pace with their growing importance as an alternative agricultural labour source (Errington and Bennett, 1994). However, in the current study the scale of use of agricultural contractors was approximately 97% of the beef suckler farmers in this study. Ruane and Phelan (2001) showed high dependency on contractors in an earlier study on livestock farms in South Tipperary, in the Republic of Ireland. Ryan and McNamara (2000) noted that more than 80% of contractors they surveyed, reported that they had major problems with labour availability for their contracting business. In addition, Murphy (2007) indicated that 90% of farm contractors also delivered services to Local Authorities and therefore farmers must compete with each other and with outside bodies for contractors' time. This research demonstrates an increasingly important role for agricultural contractors and the dependency of farmers and others on locally-supplied contracting services. Similar findings have been observed in studies by Errington and Gasson (1996) and Ryan and McNamara (2000). The fact that almost all beef suckler farmers were using contractors highlights the reliance upon them in developing working situations whereby the contractor now become more integrated into the rural community and must have the capacity to provide a comprehensive service to beef suckler farmers requiring their services. It appears that contractors will invest in opportunities on or off-the-farm, where it is profitable to so do to meet the demands. These results showed the commitment of contractors to major farm tasks with varied farm activity enumerated by Ruane et al. (2007), throughout the full year.

Contractors were most popularly hired for forage conservation, management of slurry systems, spreading slurry and farmyard manure on to lands, as tasks that require substantial labour and machinery investment. Ball (1987) noted that it was usually more economic for the farmer to hire-in such a service than to make their own substantial capital investment in machinery and equipment. As all part-time farmers in this research used contractors, it is expected that with an increase in the number of part-time farmers in future, demands for contractors' services in the future will increase. Other tasks such as animal husbandry, fencing, fertiliser spreading and hedge-cutting are important services in demand by farmers and delivered by contractors. In addition, demands for contractor services are also connected with compliance with environmental regulations e.g. in the spreading organic wastes and hedge-cutting.

As indicated, relatively little research exists on farm contractors and the dynamic and more global nature of the changes in the farm sector, with the continuous displacement of farm labour from farms in the developed EU countries, supports the view that farm contractors are likely to be in continuing demand into the future. This interdependence means that in farm

business planning, the use of the contractor must be factored into farm development in a more holistic way rather than farm contractors filling the “gap” requirement on farms during the farming year. There is very little evidence in agricultural education programmes that particular focussed courses on farm contractors and their specific relationships with farmer clients exist in generalised or specific agricultural curricula other than in some applied research sources and in sections in farm management textbooks or farm management pamphlets.

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