Options for farmers in forestry

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Abstract

The current private forest estate in Ireland is described and assessed, and the challenges facing farm forest owners are defined. Potential strategies are identified by which the private growing sector can meet these challenges. Services and organisational structures required for the future are identified. Important conclusions can be drawn from this analysis and from the experiences of the Irish Timber Growers Association.

Farm forestry owners must be well informed and well organised in the future in order to successfully meet the challenges outlined. It is vital that they have access to ongoing support services and that timber growers have a strong representative voice in the development of future forestry strategy, regulations and legislation. Experience in Scandinavia suggests that an effective way to achieve these objectives is to develop strong timber-growing organisations. These not only provide information and back-up services to their members but are also involved in the marketing, harvesting, haulage and even the processing of members' forest produce.

Introduction

In order to address the options for farmers in forestry it is important to assess the current private forest estate in Ireland. From such an assessment we can then define the specific challenges which lie ahead for farm forest owners. The ways in which the private growing sector can meet these challenges can be defined from this assessment. The services and organisational structures required for future challenges can also be identified. Important conclusions can be drawn from this analysis and from the experiences of the Irish Timber Growers Association (ITGA). This assessment is most important for timber growers, but it is also valuable for the timber industry, and those supplying services to growers (for example members of the Society of Irish Foresters).

The private forest estate

The total area under forest in Ireland currently is ca 665,000 ha or just over 9% of the country. The area of private woodlands is about 270,000 ha or 41% of the total forest area. The majority of private planting has been by farmers – they accounted for over 91% of the land area planted in 2001 (Table 1).

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Table 1. *Annual area of public (now Coillte) and private sector afforestation from 1985– 2001.*

Year	*Public*	*Private*	*Total*
		ha	
1985	4,625	617	5,242
1986	4,688	2,280	6,968
1987	5,395	2,954	8,349
1988	7,111	4,596	11,707
1989	6,629	8,497	15,126
1990	6,670	9,147	15,817
1991	7,855	11,292	19,147
1992	7,565	9,134	16,699
1993	6,827	9,171	15,998
1994	6,622	12,837	19,459
1995	6,367	17,343	23,710
1996	4,426	16,555	20,981
1997	851	10,583	11,434
1998	2,926	10,002	12,928
1999	891	11,776	12,667
2000	1,465	14,231	15,696
2001	316	15,147	15,463
		Total	**247,391**

Overall the development of the private forestry sector over the past 13 years has been dramatic. Farmers and others have responded to the attractive government (supported by the EU) grants and premiums. These supports emerged from a radical restructuring of the common agricultural policy (CAP) and the general downturn in the fortunes of the agricultural sector.

In order to address issues outlined at a later stage in the paper it is useful to examine the profile of a typical private forest owner. He or she is most likely to be:

- a full or part-time farmer;
- one who possesses little or no forestry tradition or expertise;
- one who is generally motivated by grant and premiums.

Farm-forestry plantations are characterised by:

- small average size;
- fragmented nature;
- predominantly planted in the past 14 years;
- diversity of species;
- poor access to public roads.

Based on data obtained from the 8,667 planting grants approved in Ireland from 1990-1996 (Gallagher and O'Carroll 2001), the average size of a plantation was 9.89 ha, but ranged from less than 2 to over 100 ha. A large proportion were between 10-50 ha, but fewer than 20% were greater than 50 ha.

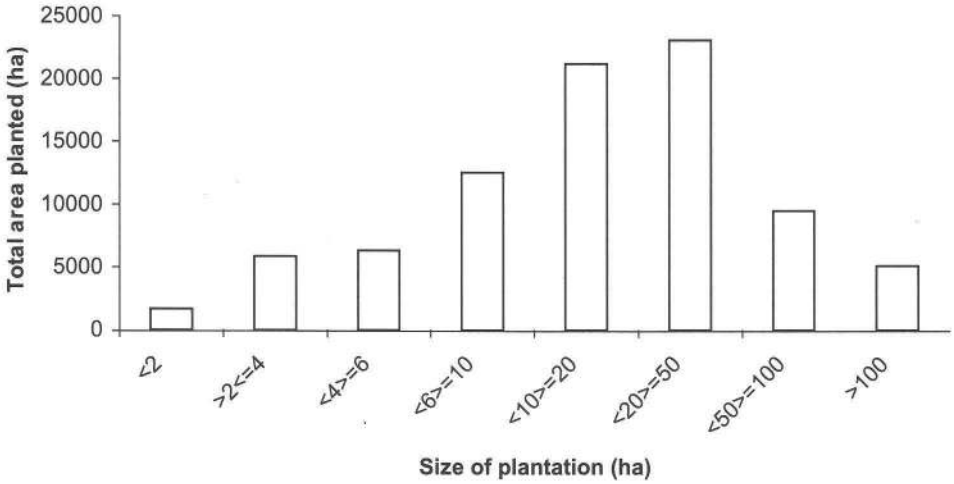


Figure 1. *Size distribution of plantations established between 1990-1996* (from *Gallagher and O'Carroll 2001*).

Challenges facing timber growers and their needs into the future

Forest owners face a number of major challenges including:

- lack of timber-growing culture in the farming community;
- ensuring a high standard of forest management;
- developing the most economic systems for the harvesting, marketing and haulage of timber from small fragmented farm plantations;
- developing future markets for the forecasted timber from private forests;
- potential over-regulation of Irish forestry;
- potential future certification requirements;
- developing appropriate private forest inventory and information technology systems.

Lack of timber growing culture

The first challenge to be addressed is the lack of a forestry tradition and timber-growing culture among those afforesting lands. Understandably, most timber growers and farm forest owners have little or no experience of forestry or forestry operations. The results of one survey conducted in Ireland (Wall and Ní Dhubháin 1998) support this view; 80% of woodland owners indicated that they would like to learn more about growing trees. While the availability of forestry training courses through Coillte and Teagasc has increased in recent years, new training and education courses in forestry need to be developed. These courses should focus on developing practical knowledge and skills training, such as those concerning planting, herbicide application and formative shaping. If a sufficient level of interest is aroused early enough it may be maintained into the crucial post establishment phase and beyond. This approach would help develop a forestry culture, bridging the gap between farming and forestry. Because a forestry culture is lacking, the level of owner participation in the establishment and management of private forestry plantations is low. Participation levels must be increased to help to ensure that private forests are well managed into the future.

It is important that all timber growers have access to professional advisory and support services. Farm forest owners must be informed of the various sources of professional forestry advice and information available to them. The Society of Irish Foresters must play a central role in providing this information and raising the profile of the profession among both the agricultural community and the general public.

Management and the harvesting, marketing and haulage of timber from farm plantations

The production of commercial timber is the primary objective of most woodland owners. However, because of the poor economies of scale in these plantations, it may be difficult to entice timber buyers to purchase wood (especially thinnings) from certain private woodlands. The difficulties include:

- small average size;
- fragmented nature;
- site access.

It can be concluded that, without the establishment and implementation of the appropriate structural and support services for farm forestry owners, the timber that is produced by the farm-forestry sector probably will not be fully exploited.

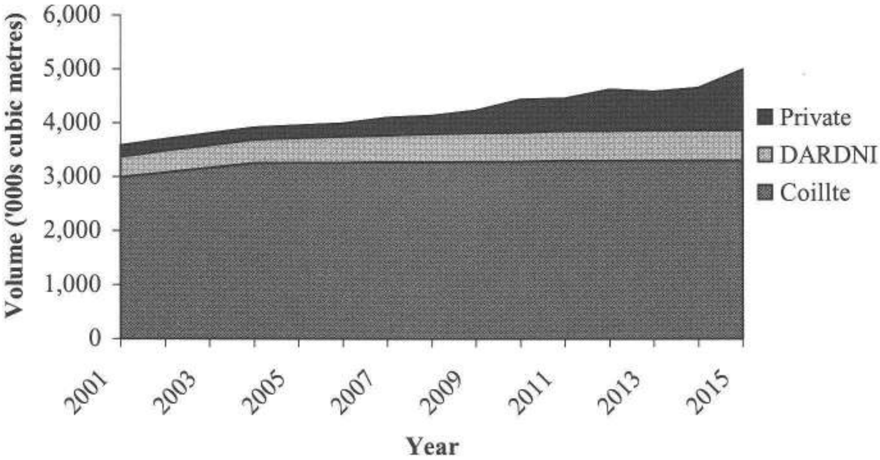
Development of future markets for forecasted output from private forests

A large increase in the availability of small diameter roundwood (particularly pulpwood) by 2015 is forecasted (Gallagher and O'Carroll 2001). It is vitally important that further markets are developed for this small diameter timber. Furthermore, the marketing and selling of the increasing volumes of Irish sawlog that are likely to become available in the future has been identified as "the single greatest challenge facing Irish forestry" (AIB Capital Markets/Merrill Lynch 2000). According to Gallagher and O'Carroll (2001), the annual production of roundwood from Irish forests will increase from current levels of ca 3.6 million m^3 to about 5 million m^3 by 2015 (Figure 2). The potential supply from the private sector is predicted to increase to over 1 million m^3 by 2015. Interestingly, most of the increase in roundwood production from 2006 to 2015 is forecasted to come from private forests. Private sector production could account for 23% of total timber production by 2015.

The production potential of the private forest sector is forecasted to increase dramatically from 2001 to 2015 (Figure 3), largely due to the fact that many of the forests established in recent years will reach the production stage during that period.

The small dimension of the material is reflected in the quantity of pulpwood in the forecasted increase in volume production. The private sector is predicted to account for more than 80% of the increase in pulpwood and small sawlog production (Figure 4).

The report of the Timber Industry Development Group (Department of Enterprise, Trade and Employment 2001) predicts a surplus over current demand levels of 600,000 m^3 of pulpwood and residues by 2005, and by extrapolation of the figures given in the Gallagher and O'Carroll study this is likely to increase to about 1.3 million m^3 by 2015. Markets must be developed for these predicted surpluses. Given the long lead-in time



DARDNI is the Department of Agriculture and Rural Development, Northern Ireland

Figure 2. *Total annual forecasted roundwood production in Ireland over the period 2001–2015 (from Gallagher and O'Carroll 2001).*

required to attract new industries to use this timber, it is vital that a strategy is developed to address this problem. To this end, COFORD has helped establish a small working group to examine the feasibility of using wood for energy production. One initiative is already underway. Edenderry Power, a peat burning electricity power plant, has begun trials on the use of sawdust and wood chips for cofiring. It is likely that this will pose few problems for the power plant. If this initiative is successful, the proposed peat power plants at Shannonbridge and Lanesboro may be encouraged to burn wood also.

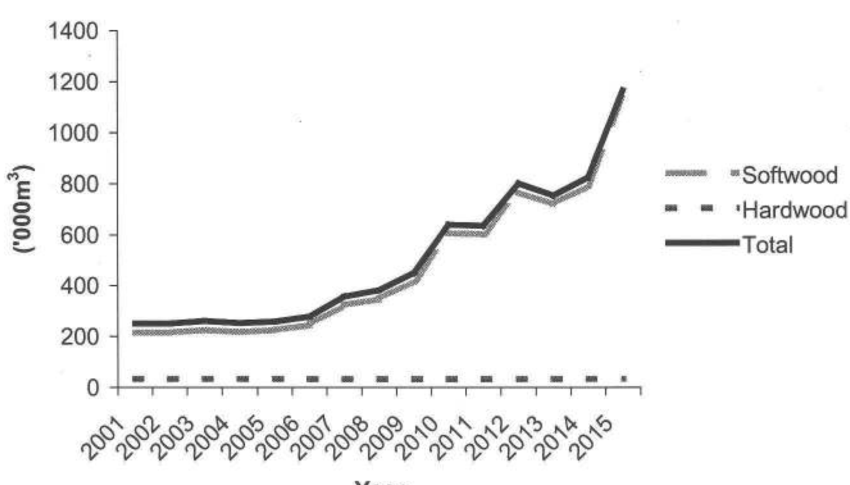


Figure 3. *Private sector forecasted roundwood production over the period 2001–2015 (from Gallagher and O'Carroll 2001).*

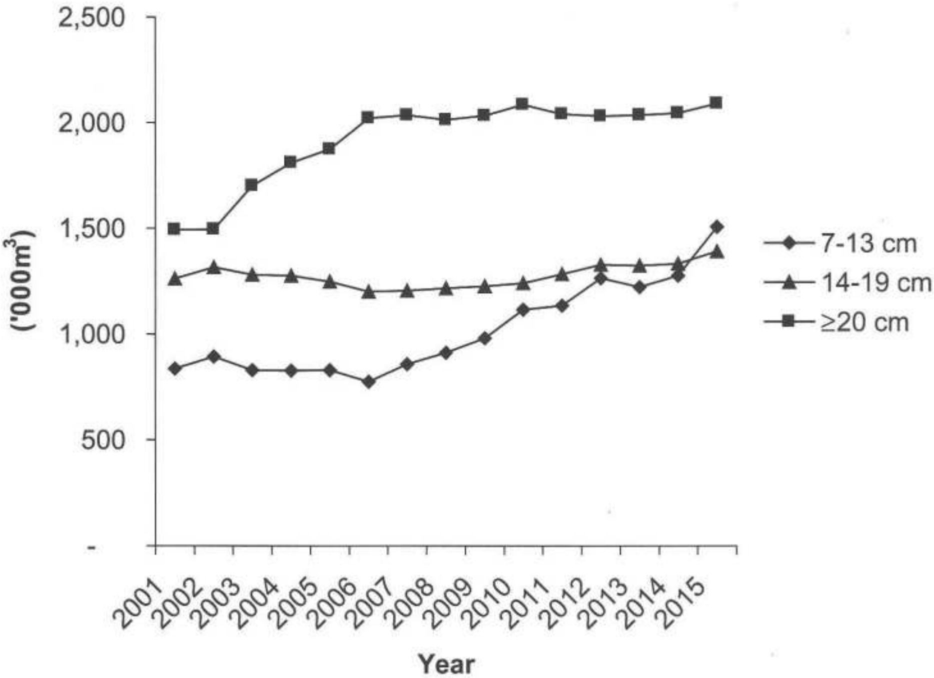


Figure 4. *Total annual softwood production by top diameter assortment class (from Gallagher and O'Carroll 2001).*

The UK timber market has been identified as having the greatest export potential for the increasing supply of sawn timber. It is predicted that the UK market will become increasingly competitive as other timber exporting countries such as Russia and the Baltic States also target this market. Furthermore, as outlined by Cormac O'Carroll (1999) it is expected that roundwood production output in the UK will almost double from 1996 to 2016. UK private woodlands will account for the bulk of this increase. When current market trends are taken into consideration it is likely that there will be a surplus of 2-2.5 million m^3 of unallocated roundwood in the UK by 2016. Unless new markets are found for this timber, it is likely that this surplus will depress UK timber prices.

It is worth noting that the price of roundwood in the UK has decreased by about 50% from 1995-2000. The processing industry in Ireland will have to become more competitive and integrated if it is to maintain the higher prices it pays to growers here than is paid in the UK. For example, the Nordic forest industry has become highly competitive in response to global competition; the Irish timber processing industry might learn from their experience.

The potential to market additional products and by-products from private forests must also be considered. In addition to the possibilities of marketing wood for energy, carbon trading from private forests should be examined as a means of maximising returns to growers. Appropriate structures should be established to promote such initiatives.

Potential over-regulation of Irish forestry
Grant conditions are more demanding, and environmental and other forestry regulations are becoming increasingly more stringent. Public consultation is now required before various forestry operations can commence. The time and costs involved in complying with all of these demands pose a threat to the economic sustainability of forestry. The forestry profession must take a more active role in informing the public of the environmental benefits of forestry and the advantages of expanding the woodland area in Ireland. There is a real risk that Irish forestry will become over-regulated.

Potential future certification requirements
It is important that woodland owners are seen to meet the demands of sustainable forest management (SFM). In order for growers to achieve good prices for their roundwood in the future, certification under an appropriate forest certification scheme may be desirable. Therefore, it is important that the ITGA and other organisations facilitate the process of group certification of private woodlands, should the owners wish to avail of certification.

Forest inventory
It is vital that an accurate inventory is made of the timber resource in private woodlands. The Forest Service and COFORD are making some progress on this matter. The forest inventory must be of practical benefit in the management of private woodlands. The ITGA have proposed that the inventory should include the following information: windthrow hazard risk, forest health, possible environmental constraints, infrastructure details, timber quality and regional roundwood volume forecast data.

Information technology
It is important that private woodland owners should benefit from the use of information technology in forestry. Appropriate structures should be put in place to promote and support new technology initiatives in forestry for the benefit of growers. Timber growers must embrace this new technology. This would also involve developing a forest inventory and planning system to help decide on harvesting and marketing schedules for private woodlands.

Organisation options for private timber growers
Afforestation has been the main focus of activity in private forestry over the past 20 years, which more recently has concentrated on reaching the national planting targets (Anon. 1996). It is essential that the forestry sector maximise financial and other returns from these forests. Structures need to be put in place to help steer the direction of future developments in forestry. These measures might consist of growers' organisations and support services, including structures to facilitate harvesting and marketing.

Organisations needed

Growers' organisations and support services
Farm forestry owners must be well informed and well organised if they are to successfully meet the challenges outlined above. Experience from Scandinavian countries suggests

that an effective way to achieve these objectives is to develop strong timber growers' organisations, which provide information and back-up services to their members and assist in the marketing, harvesting, haulage and processing operations. The growers may help influence the development of forest regulations and legislation through these organisations.

Harvesting, haulage and marketing of timber

Structures that facilitate the group harvesting, marketing and haulage of timber from private plantations need to be provided. There are many small, fragmented holdings, containing small volumes of timber which have relatively long extraction distances, and often have poor access to public roads. Farm forest owners must collaborate to improve the economies of scale of these operations. A group of woodlands may satisfy the demands of a potential timber buyer by offering a substantially greater volume of timber from a number of farm woodlands within close proximity of each other. This can be achieved if growers in a specific locality form co-operatives and then sell their timber as a group. In addition, the infrastructure needs to be improved and the logistics of all operations need to be planned to ensure success. An initiative has already been taken by the ITGA through a joint venture with Glanbia Plc with the establishment of the Forestry Development Association Co-Op. It is intended that the group marketing of timber harvested from farm-forests will be facilitated by this enterprise. The FDA Co-Op has now formed discussion groups. At a local level, the interest of neighbouring farm woodland owners can be channelled into these discussion groups – a format long familiar to farmers. Designed to be informal, holding meetings four times per year, the FDA Co-Op has now established six discussion groups and has had very good results. The need for long-term commitment and active management of farm woodlands is understood at the local level through this experience.

Lobbying, public relations and forest strategies

A strong representative voice for private forest owners in the development of future forestry strategies, regulations and legislation needs to be developed. Forest growers must have access to information and assistance through field days, seminars and workshops. Various organisations can help develop a cohesive, effective and accessible, integrated education and training strategy for private forest owners. Courses would improve their level of knowledge of forestry and related areas and encourage them to become involved in the management of their forests. The Forest Service of the Department of Communications Marine and Natural Resources plays a pivotal role in fostering such a strategy through the work of its forestry inspectorate.

The involvement and support of timber processors and sawmillers is crucial if the marketing of timber from these forests is to be successful. Furthermore, harvesting and haulage costs need to be reduced through increased efficiencies. These costs are the largest component of the cost of pulpwood. More economic means of mechanically harvesting and extracting timber from small farm-forest plantations must be developed. Forest owners, timber processors, harvesting and haulage contractors must work together to maximise overall cost efficiencies in this sector.

Conclusions

The private forestry sector has characteristics that pose unique challenges for the effective management and the marketing of farm forestry produce into the future. Successfully meeting these challenges has fundamental implications for the forest owners, the rural economy and the national forest industry. Education, information and support services are key methods of informing forest growers on how to implement best management practices. This can be achieved through a collaborative approach involving various forestry organisations and enterprises, both at state and private levels. The sale of timber from farm forests using a group marketing approach, through the use of co-operatives, is likely to prove the most appropriate future strategy. Timber grower organisations of the future, which develop such a strategy, will be best placed to serve their members' demands. The ITGA, through its quarterly publications, annual yearbook and industry directory, field days, annual seminars, FDA co-op joint venture with Glanbia and affiliation with the Western Forestry co-op is now ideally placed to further develop initiatives such as those advanced in this paper, enabling its large membership to maximise financial and other returns from their woodlands.

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