

Management of Young Forests

Early management is essential to get the best returns from your forest in the future





Why is early management so important?

New plantations require several years of active management to become well established.

The payment of the second instalment of the Afforestation Scheme (Maintenance Grant) and forestry premium is subject to the forest successfully achieving certain standards.

If a plantation is not well maintained, future timber revenue is likely to be compromised.



This leaflet aims to provide a guide to forest owners. Forest owners need to take an active role in the management of their forests to maximise future timber revenue.

Forest Owner Check List

Spring time

- Carry out vegetation control
- Apply fertiliser if necessary
- Check for browsing damage

Summer time

- Check for frost damage
- Take broadleaf foliage samples
- Carry out broadleaf shaping

Autumn time

- Check stocking density and replanting requirements
- Check drainage system
- Check fire breaks
- Check fence lines

Winter time

- Replace any dead trees
- Take conifer foliar samples
- Carry out oak shaping
- Review insurance requirements

Vegetation Control

Weed control is crucial on most sites. Lack of weed control in the early years is the most common cause of poor performance and plantation failure.



When: April – June
Why: Light, water and nutrients competition between trees and weeds
Control: Manual or chemical control

Trampling involves stamping on weeds around the trees:

- Suitable for the control of tall weeds such as nettles, bracken, rush and tall grasses
- Prevents weeds smothering young trees
- Trampling is often a short term measure
- Delayed weed control will require trampling before spraying



Chemical control involves the use of an appropriate herbicide:

- The choice of herbicide depends on the type of weeds, the tree species, site type and the time of year
- Broadleaves are more susceptible than conifers to damage from herbicide drift, so careful application is essential
- Chemical control can lead to a boost in tree growth, especially for species such as ash and sycamore

Weed control should be carried out at the start of the growing season

Types of vegetation and herbicides

Vegetation	Herbicide	Timing of application
Grasses	Propyzamide	Jan - Feb
Grasses, rush & bracken	Glyphosate	May - Oct
Gorse	Triclopyr	Aug - Dec
Woody scrub	Triclopyr	Aug - Nov
Rhododendron, laurel	Triclopyr	Jun - Sep

Frost Damage

Severe winter cold rarely damages trees in Irish forests. However, late spring and early summer frost can be detrimental when the buds start to burst. Frost damaged buds will appear brown in colour and can die off.

The best prevention is to plant frost resistant tree species.



Animal Trespass

It is important to check regularly the fence lines to prevent browsing animals such as sheep, cattle, deer, goats, hares or rabbits from entering the forest.

Trees may be killed or severely damaged by bark stripping, eating of shoots, trampling on tree roots, etc. Animals may cause drains to collapse initiating water logging. This will result in an increased windthrow risk.

Read leaflets Farm Forestry Series No. 8 and 9 for more details on the damage that grey squirrels and deer can cause.

Replanting

Replanting or beating up should take place between November and March depending on the tree species and site type.

To receive the Forest Service second instalment grant, at least 90% of the trees should be in free growth.

It is important to replace any failures as early as possible, to ensure the forest develops evenly and to avoid unnecessary maintenance later on.

If the stocking density is too low, the Forest Service may delay or refuse the second instalment grant and premium payments could also be affected.

The number of trees per hectare can be assessed using circular plots. Count the number of trees within an 8 metre-radius circle.



Nutrient Requirements

The nutrient requirements of trees are low in comparison with agricultural crops. Trees planted on certain soil types however can develop nutrient deficiencies resulting in slower growth and reduced timber yields in the future.

Walk your plantation regularly and check for common symptoms of nutrient problems:

- Changes in tree colour
- Reduction in shoot growth
- Reduction in needle length/leaf size
- Die-back of top or side shoots
- General reduction in vigour



Number of live trees required (at 100% tree stocking) *

Species	Number of trees required per hectare	Number of trees required per 8m circular plot
Lodgepole pine (pure)	3100	62
All other Conifers	2500	50
Alder	2500	50
Ash, Sycamore, other broadleaves	3300	66
Oak, beech pure	3300	66
Oak, beech with nurse mix	3300	66

* From January 2011

Remember that other factors can produce symptoms in trees similar to those caused by nutrient deficiencies such as poor drainage, exposure, frost and vermin damage. Always identify the cause of a growth problem before trying to rectifying it!

Further details on identifying nutrient deficiencies, taking of foliage samples and applying fertiliser can be found in the leaflet Teagasc Forestry Series No 14: Nutrient Deficiencies in Forest Crops.

Also read the Forestry and Water Quality Guidelines which contain specific measures regarding to fertiliser application and storage.

Read Farm Forestry Series 14 for more details on nutrient deficiencies

Broadleaf Shaping

Shaping is the process of removing forks and very large competing side branches in order to produce long straight lengths of timber for a high value market.

Shaping is a requirement for the payment of the second instalment grant at year 4 for broadleaf plantations.

The best time to shape broadleaf trees is highlighted below:

Species	Best Period	2nd Best Period
Oak	December	Mid Winter
Ash	June - Aug	Mid Winter
Beech	June - Aug	Mid Winter
Sycamore	June - Aug	Mid Winter
Cherry	June - Aug	None

Management Tasks from Year 4 to Year 10

Once the trees are well established, it is important to continue monitoring the growth and health of your forest:

- Localised vegetation control may still be required
- Top headlands and pathways at least once a year for access
- Monitor trees for nutrition deficiencies, disease and general unthrifty appearance
- Further formative shaping of broadleaved trees will improve stem quality
- Check fence lines preventing trespass
- Monitor for squirrel and deer damage



Read leaflet Farm Forestry Series No. 3 for more details on how to shape young broadleaf trees



Fire Control

Forest fires are a major concern for forest owners.

February to May is a high risk period for forest fires as dead moorland vegetation can dry out very fast and it becomes highly flammable.

Consult regularly Met Éireann's Fire Weather Index on www.teagasc.ie/forestry. This index provides information on the fire risk in different areas throughout Ireland taking into account current and past weather conditions. It also provides a forecast index for five days ahead.



While some fire may be accidental, many have been shown to result from inappropriate and/or illegal burning of scrub (illegal under the Wildlife Act from 1 March to 31 August), malicious intent and carelessness.

Where fire breaks are in place, ensure that they are inspected regularly and kept vegetation free. Firebreaks should be at least six metres wide.

Fire plans are essential management tools and cooperating with neighbours is vital for successful fire prevention. Forest owners and neighbouring landowners should be particularly vigilant during evenings and weekends, when land burning is most likely to take place.

Forest Insurance

The Reconstitution of Woodland Scheme is available to assist in restoring forests following significant damage by natural causes such as frost, diseases, deer, grey squirrel and vole.

However, damage caused by fire is now excluded. Therefore, it is recommended that forest owners insure their forest crops. There are a number of effective insurance policies on offer. Policies may cover loss of timber value, cost of replanting, fire brigade charges, public liability and employer's liability. Shop around for the most suitable and effective policy.

This leaflet can be read in conjunction with:

Teagasc Farm Forestry Series No 3: Shaping young broadleaves for quality timber

Teagasc Farm Forestry Series No 8: Grey squirrel damage of broadleaves

Teagasc Farm Forestry Series No 9: Deer damage in farm forestry

Teagasc Farm Forestry Series No 14: Nutrient deficiencies in forest crops

Forest Service Code of Best Forest Practice

Forest Service Environmental Guidelines

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