

Agroforestry for Beef and Sheep farmers

Practical Guide



Livestock integration with trees is a form of Agroforestry. The application of agroforestry is diverse; grazing livestock in existing woodlands, growing shelter belts and rows of trees in grazing fields are all forms of agroforestry. The direct benefits of on farm forestry are livestock shelter, improved soil health and additional enterprise(s). In addition, our country benefits from improved biodiversity, high carbon sequestration potential and flood prevention.

Establishing trees in areas grazed by livestock requires careful planning, protection of the trees and maintenance. This factsheet gives an introduction for beef and sheep farmers, but we advise you gain further advice to ensure your agroforestry plan is a success.

This Practical Guide outlines some considerations for beef and sheep farmers considering agroforestry.

Our Practical Guides cover five useful topics:

1. Use energy and fuels efficiently
2. Renewable energy
3. Lock carbon into soils and vegetation
4. Making the best use of nutrients
5. Optimise livestock management

visit
www.farmingforabetterclimate.org for more information

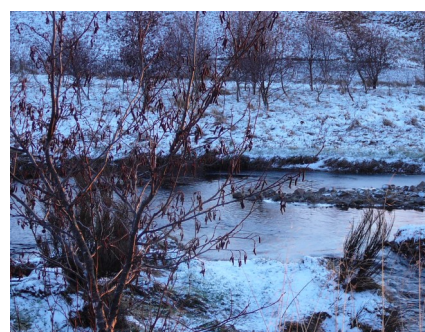
Which Trees?

Trees must be well matched to the site in term of soil fertility, soil moisture availability and exposure. Take note of which tree species grow well in your local area but be aware that soil conditions can vary over a short distance and so do check the soils and existing vegetation of the area you are planting. In general,

- Fertile, deeper soils of the lowlands favour the large trees, such as oak and beech
- Thinner, rockier soils and more exposed sites suit smaller trees such as birch and rowan
- Wetter sites will favour species such as alder, willow and aspen.

There are quick guides matching tree species to site on Scotland's Farm Advisory Service (FAS) website for [conifer](#) and [broadleaved trees](#).

Intended use of the trees or woodland should determine the selected species. For instance, if the main purpose is to ameliorate the local climate providing some shelter while allowing pasture to continue to grow below the tree canopy then light crowned species would be preferred such as oak, gean, birch and rowan. If the aim is to create a sheltered environment for outdoor lambing a dense canopy evergreen canopy may be preferred and can be provided by spruce with side shelter from either a hedge or well-maintained dyke. Fruit and nut trees can help diversify income but individual tree protection may needed until the trees are fully mature.



This practical guide is part of a series looking at steps you can consider to reduce emissions whilst maintaining a profitable farm business. For more information, tips and ideas and to read what other farmers have done, visit www.farmingforabetterclimate.org. Find us on [Facebook](#) and follow us on [Twitter](#) @SACFarm4Climate.



Agroforestry for Beef and Sheep

Protection

Livestock like to eat and rub against trees. These are natural behaviours and help keep your livestock healthy and relaxed, but trees need protection until they are well established. The level of protection comes down to whether it is feasible to exclude livestock while the trees get established or not.

If exclusion is not an option...

...then protection of individual trees, small groups of trees or alleys will be required. Electric fencing is ideal for alleys or rows of trees. Weld mesh guards supported by two stobs has been shown to be necessary to protect an individual tree from sheep browsing. Even this is not enough for cattle, so group planting with post and rail roundels may be necessary.

Where exclusion is possible...

...planting areas of at least a couple of hectares and using traditional stock or deer fencing is likely to be more economic. Sheep will have to be kept out until the trees' leaders are well out of their browse height. This is likely to be about 5 years and even then, the sheep will have to be carefully monitored and removed if they cause damage. Cattle should be kept out of the woodland area for at least 10 years and then, as with sheep, their access will have to be carefully controlled initially.

Electric fencing and mesh guards for protection

(photos: Nikki Yoxall and John Holland)



Design considerations

1. Choice. Choice is very important for healthy livestock so they can access shade, shelter or browse when they want to. A suitable silvopastoral system should therefore provide your livestock with choice. If there are only small areas of mature trees providing shade, the livestock will often congregate and compact the soil when sheltering from bad weather.

2. Planting density. The current Agroforestry grant allows for 200 or 400 trees/ha spread evenly over the area. With individual protection it can be designed with open pasture between and silvopastoral areas allowing the sheep to access the areas they prefer. 100 stems per ha are a good option for silvopastoral designs where production from the understorey is important long term, this could be combined with a more traditional shelterbelt of mixed species planted at 2,500 stems per ha.

3. Open space. If you are establishing a woodland pasture system using larger areas of planting and deer fencing then it is a good idea to plan lots of open spaces within the woodland to increase the 'edge' and provide sheltered spaces for the livestock to graze. The spacing of trees can also be varied to allow areas of wider spaced trees where the existing pasture can be maintained, with other areas of closely spaced trees where side shelter, timber production or shelter during lambing may be the main benefits.

Do:

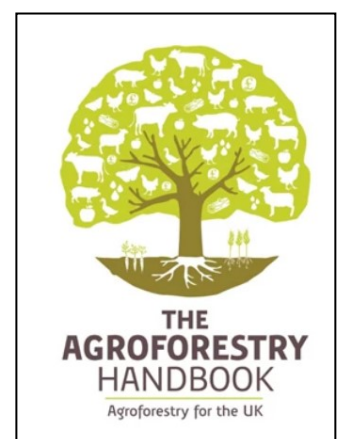
- ✓ Consider your objectives
- ✓ Observe successful tree species in the area
- ✓ Invest in protection and factor in maintenance
- ✓ Join the Scottish Agroforestry group on Facebook

Do not:

- ✗ Allow animal access prematurely
- ✗ Plant trees on peat land or land designated for other conservation purposes
- ✗ Forget to monitor tree development and browsing.



For more ideas, see the Agroforestry Handbook!



Available free to download at www.soilassociation.org