

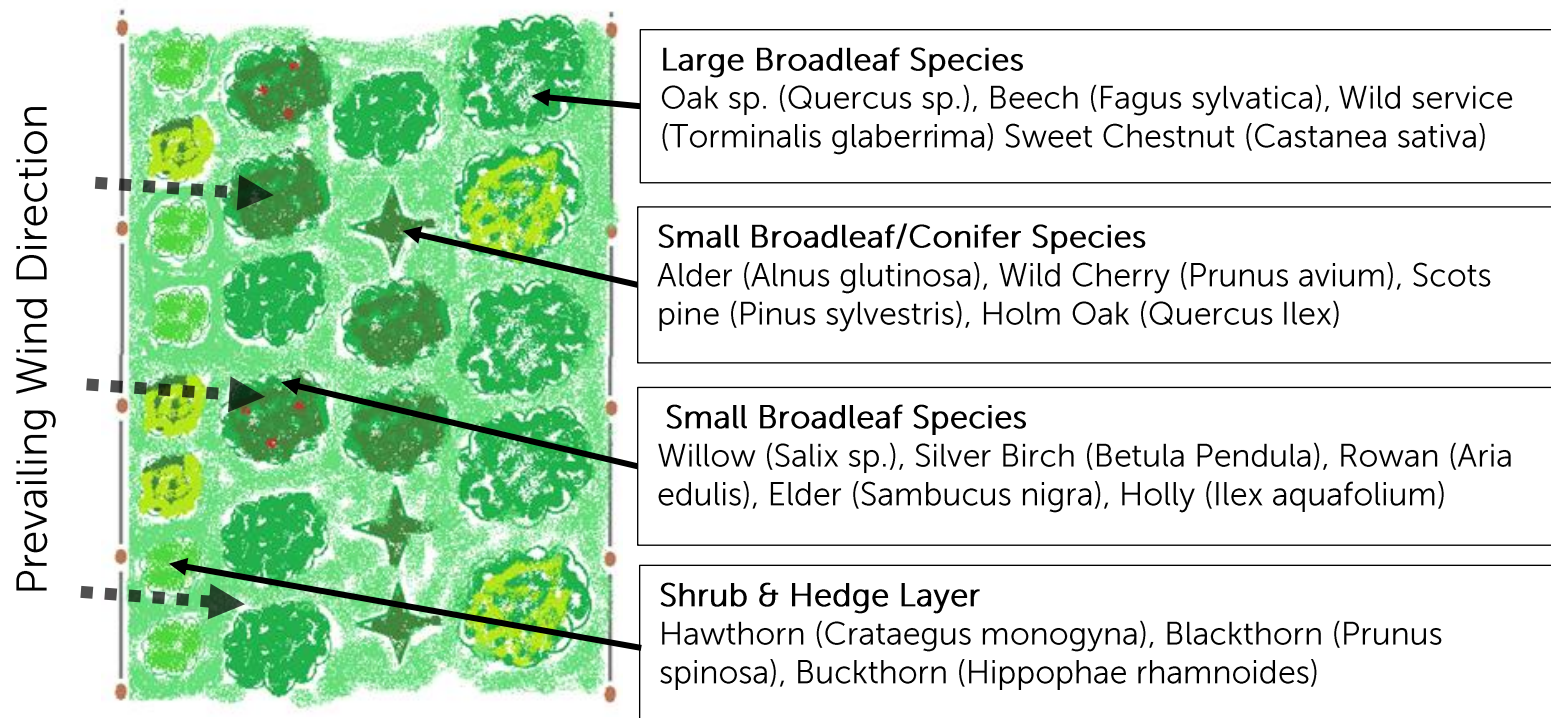
Agroforestry Design Template

Shelter Belt Planting Design

With design credit to John Davis .- Creating a Shelterbelt [Link here](#)

This design focuses on providing protection from the wind for crops, livestock, and soil to the leeward side of the planting. Careful consideration needs to be given to shelterbelt design, as poorly designed shelterbelts run the risk of generating more turbulent air to the leeward side. The aim of the design is to push cold fast winds upwards, whilst allowing slower warmer air to permeate through the belt. If effective a shelterbelt can create two separate plates of wind, reducing wind chill to the fields it is protecting.

Design Applications: Livestock Shelter, Crop shelter, Watercourse protection, habitat connectivity.



What to consider when placing this design in landscape



Ideally the minimum length of shelterbelt would be at least 25 times the height of the tallest mature trees.

The key to creating a turbulent free shelter belt is to plant it sparsely, aiming for a 50% permeability. (See planting space recommendations below)

To limit the edge of the design producing turbulent air downstream, the planting density can be reduced further, and the ends rounded with a small leg added.

Examples species composition table

Design Layer	Example Species	Planting distance
Large Tree Layer	Oak sp. (<i>Quercus sp.</i>), Beech (<i>Fagus sylvatica</i>), Small-leaved Lime (<i>Tilia cordata</i>), Wild service (Torminalis glaberrima), Sweet Chestnut (<i>Castanea sativa</i>)	Planted randomly at 2.1 m distance
Small Broadleaf/Conifer Mixed Row	Alder (<i>Alnus glutinosa</i>), Wild Cherry (<i>Prunus avium</i>), Scots pine (<i>Pinus sylvestris</i>), Holm Oak (<i>Quercus Ilex</i>)	Planted randomly at 2 m distances
Small Broadleaf Row	Willow (<i>Salix sp.</i>), Silver Birch (<i>Betula Pendula</i>), Rowan (<i>Aria edulis</i>), Elder (<i>Sambucus nigra</i>), Holly (<i>Ilex aquafolium</i>),	Planted randomly at 1m distances
Shrub	Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>), Buckthorn (<i>Hippophae rhamnoides</i>)	Planted as hedge at 50cm distances