

# SHELTERBELTS

Shelterbelts have been used for hundreds of years to protect livestock and crops from wind and rain, providing a range of benefits. These benefits can vary depending on shelterbelt size, location, species choice and orientation, and can be tailored to fit your farm's specific needs.



During extreme hot weather events, livestock are vulnerable to heat stress, leading to lower live weight gains, reduced milk yields and affecting fertility rates. Shade offered by shelterbelts help to reduce this stress. Without proper shelter from cold winds and rain, animals need a lot more feed to keep warm, leading to inefficient resource use and poor welfare. Shelterbelts create a microclimate that can extend up to 20 times the height of the trees. For example, a 10m tall shelterbelt can provide shelter for 200m on either side. Shelterbelts can also reduce surface water run-off, improve the soil's ability to hold and store water and reduce soil erosion. Strategically placed shelterbelts can contribute to natural flood management, provide wood products like chip or fuel, offer beneficial alternative browse to livestock and support biodiversity through pollen and berries.



## SPECIFICATIONS

Here's one example of how you might approach shelterbelt planting. The outer two rows (Row 1 and 2) facing the prevailing wind should be composed of shrub and intermediate species, which are spaced at 1m apart and 1.5m between rows. The remaining two rows (Row 3 and 4) should be planted with taller tree species, spaced at 2m apart and 1.5m between rows. You can also plant the rows of taller trees next to an existing hedge, which will replace rows 1 and 2.



J Davis.

A shelterbelt with a sloping profile.

## FASTEST AIRSTREAM WILL BE THE COLDEST

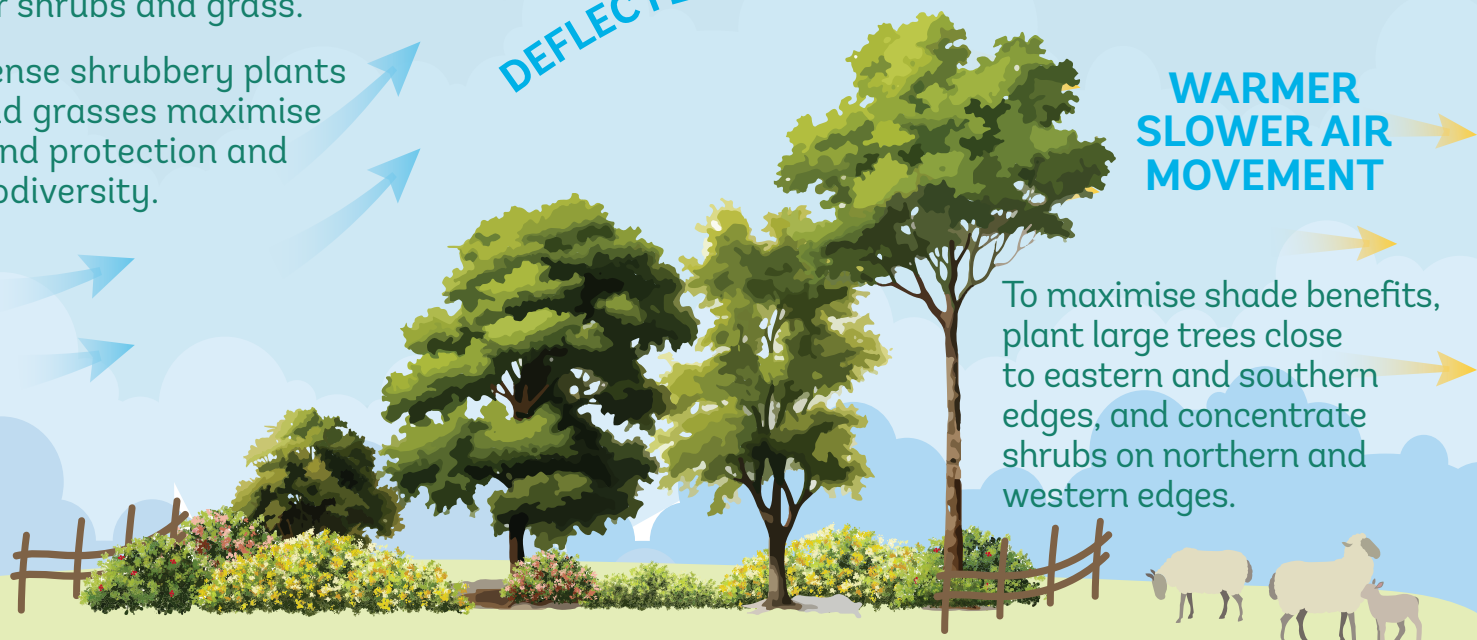
Position larger trees in the centre of a shelterbelt to allow space around the edges for shrubs and grass.

Dense shrubbery plants and grasses maximise wind protection and biodiversity.

DEFLECTED WIND FLOW

WARMER SLOWER AIR MOVEMENT

To maximise shade benefits, plant large trees close to eastern and southern edges, and concentrate shrubs on northern and western edges.



**Shrubs in rows 1 and 2:**  
Hawthorn

**Other examples:**  
Hazel, blackthorn, elder, goat willow.

**Intermediate trees in row 3:**  
Rowan

**Other examples:**  
Downy birch, bird cherry, holly, crab apple.

**Large trees in row 4:**  
Scots pine

**Other examples:**  
Alder, aspen, black poplar.

If you are interested in planting trees on farms and other opportunities to find out more visit [woodlandtrust.org.uk/plant](http://woodlandtrust.org.uk/plant) or contact [plant@woodlandtrust.org.uk](mailto:plant@woodlandtrust.org.uk)

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