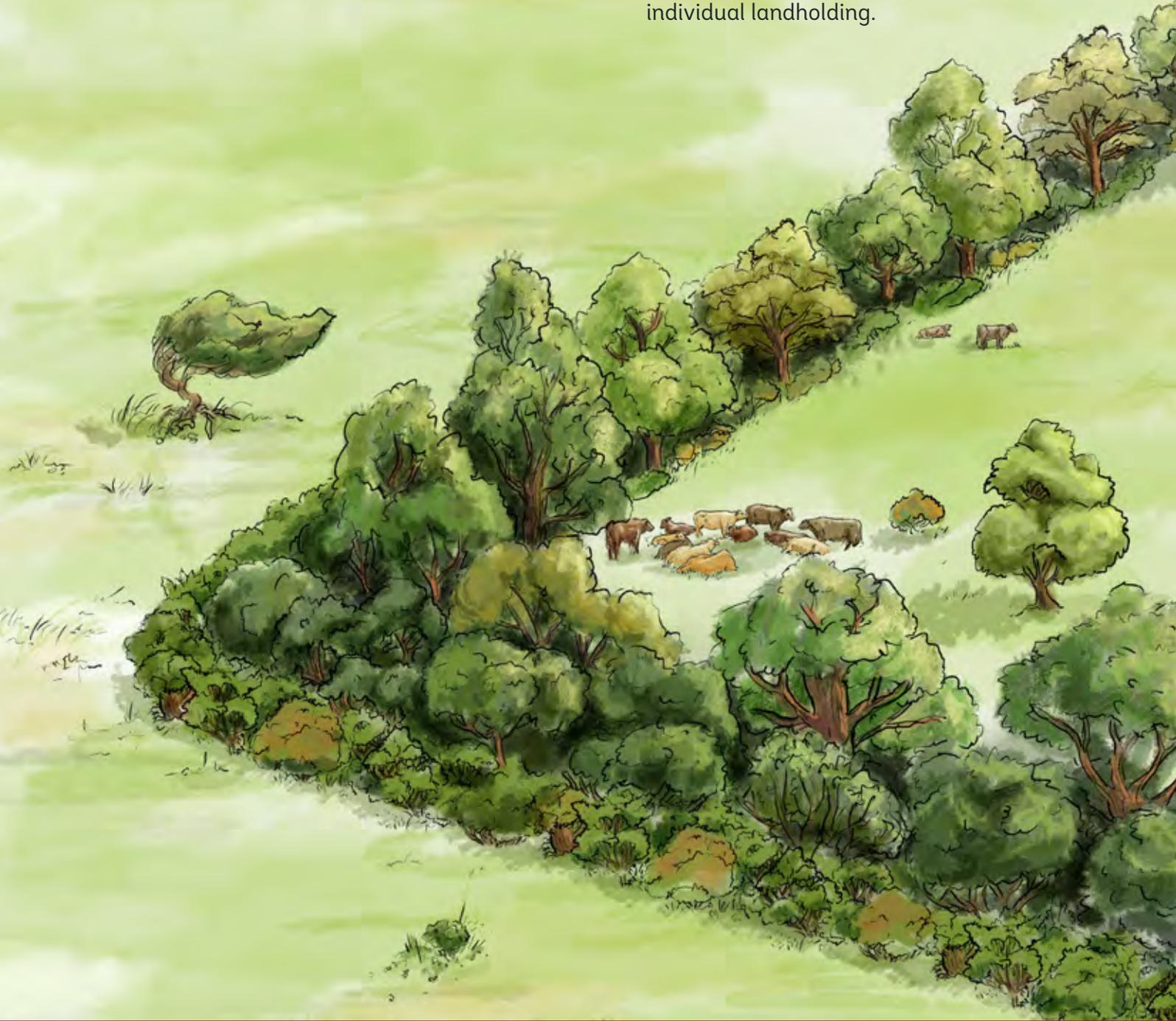


SHELTERBELTS

Shelterbelts have been used for hundreds of years to protect livestock and crops from the wind and rain and are a fantastic way to deliver multiple benefits. The type and extent of benefits shelterbelts can provide varies depending on the size, location, species choice and orientation and can be tailored to each individual landholding.



During extreme hot weather events, livestock are vulnerable to heat stress which can cause reduced milk yields and affect fertility rates. Shade offered by shelterbelts helps to mitigate this. Animals exposed to cold wind and rain without appropriate shelter can require considerably more feed to maintain their core body temperature, resulting in inefficient resource use and poor animal welfare. The microclimate created by the shelterbelt can extend up to 20 times the height of the tall trees. For example, a 10m tall shelterbelt can create acceptable shelter for 200m either side. Shelterbelts can also reduce surface water run-off, improve the ability of the soil to hold and store water and reduce soil erosion. Strategically placed shelterbelts can capture ammonia emissions, provide wood products (wood chip or fuel), offer beneficial alternative browse to livestock and support biodiversity through pollen and berries.



SPECIFICATIONS

Optimised Shelterbelts are one example of how to approach shelterbelt planting. The outer two rows (Row 1 and 2) facing 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 the rows. It can also be applied to bolster existing hedges which replace row 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 shrubby 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:

Buckthorn, alder buckthorn, hazel, spindle, guelder rose.

Intermediate trees in row 3:
Field maple

Other examples:

Silver birch, bird cherry, goat willow, rowan, crab apple.

Large trees in row 4:
Scots pine

Other examples:

Grey alder, common alder, aspen, black poplar, hornbeam.

If you are interested in planting trees on farms and other opportunities to find out more visit woodlandtrust.org.uk/plant or contact plant@woodlandtrust.org.uk