THE WHAT AND WHY

Why offer animals access to trees?

The benefits of silvopasture to domestic animals include access to shelter in the winter and shade in the summer, as well as providing scratching posts to maintain coat condition. The behaviour of domestic animals can be grouped into the categories of locomotion, maternal, nutritional, reproductive, social and resting behaviours and access to trees can be of some benefit to them all. Much of an animal’s daily behaviour is involved in maintaining balance, or homeostasis, for example, when an animal is hungry it will seek and eat food. Similarly, when hot or cold, it seeks shade or shelter and trees, shrubs and shelterbelts can offer effective protection. Coat condition is important in maintaining animal health and tree trunks and branches are readily used as scratching posts. The newborn offspring of farm animals are either hiders (e.g., cattle) or followers (e.g., sheep) but mothers of all species, seek out available shelter when giving birth.

Placing and managing trees for the benefit of animals

Trees can be included in an animal’s grazing environment in many ways. Trees offer a canopy that provides shade in the summer and, globally, this is their most important role. A canopy also provides shelter from rain and cold, acting as a buffer for temperature fluctuations, and minimum grass temperatures can be raised by 6 °C. Trees with an alternative primary function can offer good shade and shelter, including biofuel plantations for pigs and commercial pine for living barns. The latter also offers protection against insects, since pine species have insect repellant properties. The positioning of trees is important in their effectiveness as protection against the weather. Shelterbelts offer good protection when perpendicular to the prevailing wind and porous shelterbelts slow down wind, offering better shelter than dense barriers that cause high levels of turbulence. Access to tree trunks and low branches enable animals to use them as scratching posts.
HIGHLIGHTS

- Shade and shelter are important for good animal welfare.
- In hot weather, normal animal behaviour patterns are less disrupted in silvopasture than on open pasture.
- Good shelter promotes the bonding of mother and offspring and increases the survival rate of newborn animals.
- Coat condition is improved and risk of disease from external parasites is reduced with access to trees as rubbing posts.

ADVANTAGES AND DISADVANTAGES

Understanding animal behaviour and tree management

Grooming helps to maintain coat condition and trees make good scratching posts. Moultng hair and fleece can be removed by rubbing against trees, along with seeds that can penetrate the skin and external parasites (e.g., ticks) can be dislodged, reducing risks of associated diseases. Additionally, excessive rubbing can alert carers to flystrike or mite infestations. Good access to different heights and angles including low-hanging branches allows animals to access most body parts however, appropriate positioning of such trees is important since they can make pasture more difficult to manage.

Shade from a well designed silvopasture can reduce solar radiation by 58% compared to open pasture and skin temperature of cattle can be 4 °C lower. Along with higher welfare, animal productivity is better maintained when they have access to shade in hot weather and the landscape is utilised more evenly than open pasture. With too little shade there is a risk of overcrowding and disease, parasite contamination, death of vegetation and soil compaction. Cold winds negatively affect air temperature. For example, with a windspeed of 24 kph, and an air temperature of 2 °C, the effective temperature becomes -7 °C. Trees act as a buffer against temperature fluctuations reducing the need to feed animals extra energy for heat production. Shelterbelts, perpendicular to the prevailing wind, offer good shelter if well designed. Planted too densely, they can increase wind turbulence and if they are open at ground level, they can cause driving cold winds at animal resting level.

FURTHER INFORMATION


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