



## PRODUCING TREE FODDER

### PRODUCTIVE “WORKING TREES” TO FEED LIVESTOCK

#### BEST PRACTICE OBJECTIVE



The branches and leaves of trees can be cut and stored to become a type of fodder for livestock or can be used directly as fresh fodder. Tree fodder provides many benefits to both the farmer and their livestock. It is a nutritious feed for livestock with tree roots reaching deeper and finding the rich nutrients and minerals which are then present in their leaves. For farmers, tree fodder can provide a source of feed in the winter when dried and stored. It also acts as an insurance against failure due to poor growth of grass and insufficient harvests of hay in the summer. Trees with deeper root systems and mycorrhizal fungal associations can access moisture and nutrients which enable them to produce green leaves when other plants have dried up.

#### THE ESSENCE OF THE PRACTICE



Tree fodder is produced by the cutting or breaking of limbs and twigs of deciduous trees and shrubs in full leaf. Ideal trees would be over the browse height of over 2.3m to 3.5m where the main stem is never more than 19cms and preferably all sapwood. If the trunk is all sapwood then usually the exposed tissue will callus over completely with new growth from all sides around its circumference, thus making a fist shape which is called a ‘bolling’. These bollings are extremely strong with any subsequent growth being very secure and not liable to break off.

The methods of cutting and drying tree fodder vary across Europe but the basic principles are subject to the most common lengths of branches varying between 60cm and 2m. A common method would involve stacking these branches and packing them into a very tight bundle tied with twisted ropes of willow or hazel.



Cut tree fodder being hung and stored in a barn (Left). Cattle feeding on tree fodder (right).



Through the incorporation of trees on grasslands, 'silvopastoralism' has become a system where branches and leaves are naturally browsed by livestock. This agroforestry system provides a wide range of benefits through the planting of trees in pasture such as carbon sequestration, soil erosion mitigation and biodiversity conservation. The trees also provide digestive and nutrient advantages to rumen and other livestock and improve microclimate and animal welfare.

Producing tree fodder for storage does not necessarily require specific or unique systems as such. Rather, the production depends on the species of tree present, the basic skill to cut the branches and the storage facilities available. Preferred species for fodder include Hazel, Hornbeam, Alder, Ash, Linden, Mulberry, Poplar, Willow, Beech and Birch, however it often depends on the region.

### TOOLS AND MACHINERY



As ideal fodder branches are relatively thin, mechanical equipment is usually unnecessary. Manual pruning saws and shears work perfectly for cutting appropriate individual branches. A billhook or a Japanese handsaw could also be used for lower branches, whereas extended handle tools or a ladder may be required for higher branches. These tools are all easily available in most garden centers or DIY stores, and relatively cheap with a pair of secateurs available for around 10 euros and more advanced pruning tools priced between 30 to 50 euros.

The necessary tools and machinery depend on what is available in the production area. For example, if hedgerows are present then a mower attached to a tractor could be used to trim the hedge between November and February with the trimmings kept as fodder. Of course, this method would require outsourced services or the purchase of a tractor and the hedge trimmer attachment.



Three stages of producing tree fodder. From left to right – Cutting branches with extended pruning shears, storing cut branches as bundles in a dry barn and finally feeding livestock.

### PERIOD OF TIME AND PERIODICITY



Like meadow hay, tree fodder should be cut through June/July when the tree is in full leaf. To dry the fresh bundles, they would usually be stored horizontally or hung up under shelter where leaves may remain green even after 24 months depending on the tree. Managed properly, tree's should produce fodder annually.

### ECONOMIC DATA



The investment in money and time will depend on what is readily available when you decide to start producing tree fodder. If planting new trees is required, then the cost of the seedlings or even tree transplants would be taken into account. Time too would become a factor with most tree fodder species taking between 2 and 4 years to start producing appropriate branch sizes for cutting (from seedlings). The yields would be small for several years before the tree starts to mature.



Ideally, existing adult trees or hedgerows would be harvested whilst the younger trees are not producing substantial yields. In which case, investment in the appropriate tools, such as manual pruning saws or secateurs would be a small but necessary financial cost. With the right tools and with a labour force, not much time is needed to cut the branches, however this depends entirely on how much tree fodder you wish to produce and how much is available. Allocating time in the summer months when the leaves are green and full of nutrients is important in terms of fodder quality.

After cutting the branches, time is required to assemble the branches in bundles and stored in a dry sheltered space like a barn. Cost again becomes a factor if this sort of shelter doesn't exist, and you decide to build a suitable storing facility or even rent the necessary space from a neighbour.

Tree fodder is rarely bought or sold as a commodity with the practice usually being a source of fodder to sustain one's own livestock.

#### PRACTICAL EXAMPLE



At Knepp estate in Sussex, south England, tree fodder is cut in June and July when the nutrients are most abundant in the soil. The branches are between 150cm and 250cm in length and cut with a billhook. They are then stored as 'faggots' or tight bundles in a barn and dried over Autumn and winter and fed to Exmoor ponies and English Longhorn cattle from February.

The different species of tree used for the fodder at Knepp include cherry, Oak, hazel, crab apple, with ash and elm being the two key species. February until early Spring is the leanest time for animals which is when the fodder is used as feed. Branches are stripped off all the leaves and leaf stems within minutes and the bark, buds and twigs are eaten in the following days.

As the bundles were well stored from fresh, the green leaves lasted for over 24 months.



Exmoor Ponies feeding on tree fodder at Knepp Estate in February.



Tree Hay - Ted Green Talk - A Knepp Safari | [https://youtu.be/\\_GAR1FN-qwc](https://youtu.be/_GAR1FN-qwc)



Mr Bert Evans-Bevan  
European Landowners Organisation  
67 rue de Trèves  
B - 1040 Bruxelles  
Belgium  
[robert.evans-bevan@elo.org](mailto:robert.evans-bevan@elo.org)

# agroforestrysystems.eu



Co-funded by the  
Erasmus+ Programme  
of the European Union

