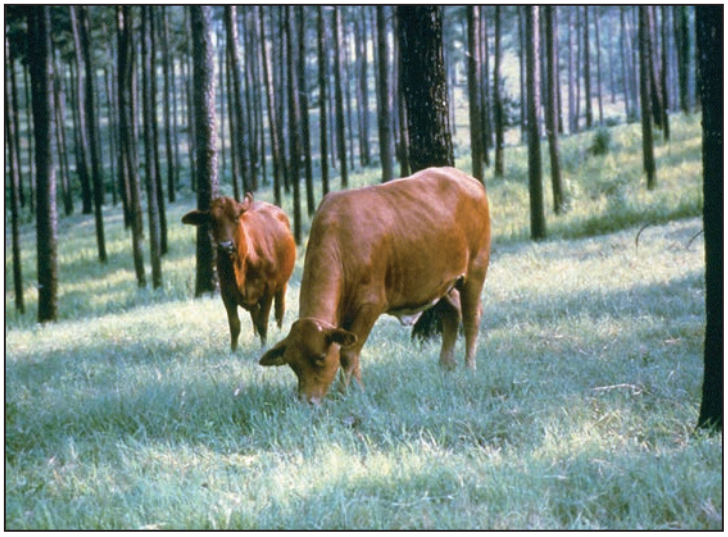
Agroforestry

Working Trees for Livestock

Working Trees protect livestock from the stressful effects of winter and offer relief in the summer. They can also create diversified income opportunities.



Conventional wisdom in the past has been that livestock and trees can't co-exist. Yet modern agricultural practice is showing that livestock and trees not only can co-exist, but, if properly managed, can provide additional income from land formerly used for a single crop.

Trees can provide livestock with protection from cold wind and blowing snow in winter, as well as from the hot sun and drying winds of summer. And, if commercially desirable timber or nut trees are planted, landowners can enjoy significant additional income from this diverse use of their land.

This publication will acquaint you with some of the specific ways you and your land can benefit by putting trees to work for your livestock.

Diversify with tree/forage systems

Utilizing the same acreage for both forage and trees can produce many benefits. By planting the right kinds of crop trees, the air space over existing forage lands can provide income beyond that produced by livestock alone. With proper management to insure adequate sunlight for forage, a pasture with trees can produce substantial beef gains and tree crop returns.

Farm 3-dimensionally — increase your usable acreage

Ⓐ Benefits from adding trees

On pastures or grasslands without existing trees, plant rows of pines or nut-producing trees, spaced to allow adequate sunlight penetration for forage growth. If needed, spaces between rows can be planted in shade-tolerant grasses suitable for your area and climate. When livestock are used to graze the forage, a planned grazing system will be needed to assure proper management of the forage, trees and wildlife habitat.

Wood products

Timber harvesting for lumber, furniture or pulpwood can be an ongoing source of income as trees are thinned, selectively cut or harvested at maturity.

Nuts & fruit

Nuts in commercial demand include walnuts, almonds, pecans and hazelnuts. A wide variety of orchard fruits and berries may also be produced.

Wildlife

Many songbirds, game birds and animal species are attracted by the food, nesting sites and protection provided by trees that are added to existing forage land.

Ⓑ Benefits from adding forage

Many coniferous woodlands and a few select hardwood plantations can be transformed into tree/forage systems. By selectively removing/harvesting the correct number of trees, enough light will reach the soil to allow growth of forage under the tree canopy. Remaining trees should grow faster and have increased value. Proper livestock grazing or haying of the forages provide annual returns. Desirable wildlife are often attracted to the extra food and cover.

Hay

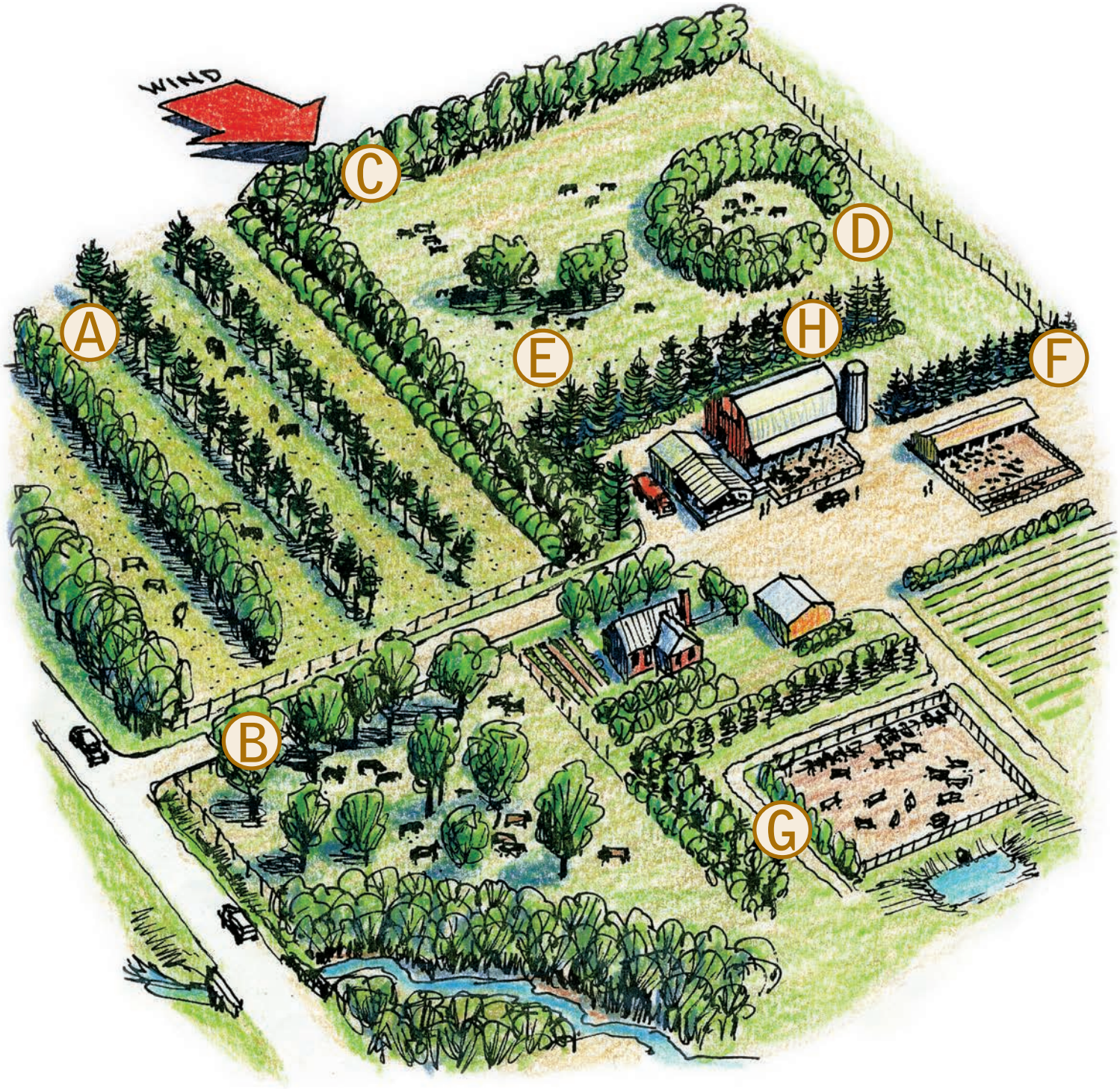
Forage not utilized for your own cattle can be mowed, baled and sold as a source of supplemental income. Or, a pasture may be rented to others for grazing.

Livestock

The shaded and sheltered forest pasture environment provides protected grazing where livestock can grow faster with less environmental stress.

Wildlife

A forested area that also includes forage is often a more attractive habitat for wildlife than an area with trees alone.



Benefits for all

Putting trees to work for livestock produces the following benefits for:

Wildlife — Tree/forage systems and windbreaks provide diversity of habitat and cover for many species of terrestrial wildlife. Fish and other aquatic animals are benefited by the role of trees in reducing erosion and filtering pollutants and agricultural runoff.

Water — Trees break the fall of heavy rain, allowing water to percolate into the ground. Tree roots help filter pollutants from runoff and groundwater.

Air — Trees help reduce offensive odors and reduce airborne dust from concentrated livestock areas.

Soil — Tree foliage breaks the fall of heavy rain, helping to prevent erosion and allowing water to infiltrate into the ground. Tree roots hold soil in place.

Plants — Trees in an agricultural setting provide greater plant diversity, making for a healthier ecosystem.

Humans — Trees create a more aesthetically pleasing landscape, provide a source of income and economic activity and create settings for active and passive outdoor recreation.

Protect your livestock with trees

C Pasture windbreaks
A windbreak at the edge of a pasture provides herds with protection from wind and blowing snow.

D Living barns
The encircling trees of a living barn can be the difference in herd survival in open pastures or range in the winter.

E Shade trees
Shade trees in a pasture provide welcome places where livestock can find relief on hot summer days.

F Hog & poultry facilities
Swine and poultry benefit from protective windbreaks and shade-providing trees.

G Feedlot windbreaks
A feedlot windbreak like this one can reduce wind velocity as much as 70 percent, reducing animal stress.

H Dairy herd protection
Barns, pens and milking parlors that are protected by trees can increase milk yields from dairy herds.

Putting trees to work ...

... to diversify your farm

The planting of income-producing trees or shrubs interspersed with forage species can provide landowners with additional crop income from the same acreage. In addition to extra income from timber, nuts or fruit, trees provide habitat for wildlife and lend natural beauty to the rural landscape.

With modern agroforestry methods, it is possible to balance tree density with sufficient sunlight penetration to insure healthy forage growth.

...to protect your livestock

Windbreaks or living barns can significantly lower stress on animals and, consequently, reduce feed energy requirements. The benefits to farmers and ranchers include better animal health, lower feed costs and greater financial gain.

During the summer months, trees can reduce livestock stress by providing cooling shade and protection from hot winds.

Want more information?

Local assistance

There are technical specialists in your area who can assist you with the planning, design, application and maintenance of your *Working Trees for Livestock* practice. Contact your nearest State Forestry agency, USDA Natural Resources Conservation Service, County Extension Office of Soil and Water Conservation District.

Some working trees practices can be supported by cost share incentives provided by the Federal, State or Local government. Contact your local conservation agencies for information about the various incentives available.

National Assistance

Contact:
The USDA National Agroforestry Center
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Phone 402-437-5178
Fax: 403-437-5712

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USDA National Agroforestry Center

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NRCS Natural Resources Conservation Service

Contact: USDA National Agroforestry Center, 402.437.5178 ext. 4011, fax 402.437.5712, 1945 N. 38th St., Lincoln, Nebraska 68583-0822. http://nac.unl.edu.

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