The Can windbreaks do more than slow the wind?



INDBREAKS are barriers made of living trees and shrubs that are used to reduce wind speed. They are the most commonly used type of agroforestry in the United States. Windbreaks can also be used to reduce noise and odors. There are also windbreaks that are not considered agroforestry because there is no tree/crop or tree/livestock interaction, such as those that protect farmstead buildings. In any case, the vast majority of windbreaks are planted for a single purpose, to slow the wind, which results in reduced soil erosion, increased crop yields or protected livestock. Many people think windbreaks take up land that could be producing a cash income, even though windbreaks do increase yields and subsequent income.

Can landowners expect more out of their windbreaks? What if each tree and shrub in the windbreak grew a crop that could be sold for additional income? The answer is, "Yes!" But it will take some planning and management to create a windbreak that yields its own crops.

By selecting tree and shrub species that grow another crop, landowners can gain additional income along with the desired conservation benefits. In some cases a windbreak could produce more income than the alternative use of the land.

Things to think about:

Do you have the desire and time to learn about how to grow, market and sell new tree crops?

How will incorporating tree crops into a windbreak impact your use of conservation assistance programs?

Typical cost share programs assist with the establishment costs based on the cost of conservation-grade seedling, which is likely much less than the cost of improved selections, varieties and hybrids or larger plant stock that will likely be used for growing tree crops.

The Conservation Reserve Program (CRP), restricts the harvesting and income generation from the acres under contract for the length of the contract.

The windbreak, even with crop producing trees and shrubs, must still meet design criteria in order to be eligible for cost share assistance. However, cost share assistance is a less important consideration when the windbreak will be producing additional income within a few years.

Windbreaks, riparian buffers, field borders and other conservation buffer practices have the potential to perform double duty and become a source of additional farm income.

Don't forget the primary purpose of the windbreak is to slow the wind.

Good planning and design principles for location, height, density, width and especially selecting trees and shrubs suited to the soils are important.

Consider how the harvesting of tree crops may affect the density and width of the windbreak and subsequently its ability to provide wind protection.

It will be even more important to minimize drift of broadleaf herbicides when income producing crops are grown in the windbreak.

Selected trees and shrubs must be suited to the site conditions.

Care must be taken not to place taller plants too close to shorter ones because the resulting shade may reduce production of the shorter plants.

Consider how the timing of management activities and harvesting of tree crops matches up with those of the field crops. There are still only 7 days/week and 24 hours/day.

Edibles

black walnut

Tree crops are a very different enterprise

Pest control will be important to protect

the tree crops from wildlife damage

It may make sense to delay planting any fragile productive species into a

windbreak until the windbreak is well

developed and these species can be

Investigate the markets of potential tree

Determine what if any specialized

equipment for harvesting or storage

Consider whether or not you want to be involved in additional processing of

crops before starting your windbreak.

than field crops.

and browsing.

better protected.

are needed.

tree crops.

- hickories
- paw paw
- persimmon
- Cornelian cherry dogwood
- hazelnut
- · chestnut
- gingko
- hardy kiwi
- pecans
- nut pines (Pinyon, Korean)
- chokecherry
- · American plum
- traditional fruits such as apple, cherry, pear, peach, grape, blackberry and blueberry

Botanicals*

- ginseng
- bloodroot
- mushrooms
- ramps
- goldenseal
- *Most of these species can only be established in mature windbreaks that provide significant shade, which inhibits the growth of sod forming grasses like smooth brome.

• curly

· curly willow

Woody Florals

- · flame willow
- · pussy willow
- witchhazel
- red and yellow twig dogwood
- grape vine
- redbud
- bittersweet vine
- winterberry
- · forsythia
- lilac

Types of Trees & Shrubs

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

The USDA National Agroforestry Center (NAC) is a partnership of the Forest Service (Research & Development and State & Private Forestry) and the Natural Resources Conservation Service. NAC's staff is located at the University of Nebraska, Lincoln, NE. NAC's purpose is to accelerate the development and application of agroforestry technologies to attain more economically, environmentally, and socially sustainable land use systems by working with a national network of partners and cooperators to conduct research, develop technologies and tools, establish demonstrations, and provide useful information to natural resource professionals.

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Biomass

willows

black locust

· hybrid poplars

sycamore

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