

Landowner \_\_\_\_\_

## **Windbreaks for Livestock**



### **WHAT ARE WINDBREAKS FOR LIVESTOCK?**

Windbreaks for livestock are plantings of single and/or multiple rows of trees and shrubs designed to benefit livestock. A well designed and maintained windbreak protects livestock from the cold winter wind and hot summer sun and provides economic benefits to the landowner over the long term. Properly placed windbreaks can provide benefits to feedlots, pastures, and calving areas.

### **WHAT ARE THE BENEFITS TO LIVESTOCK?**

All classes of livestock must maintain their body temperature within a relative narrow range or comfort zone. A properly designed windbreak can protect livestock from cold winter winds and still reduce heat

stress to animals in the summer by providing shade and allowing wind circulation. These benefits will minimize the energy livestock must expend to maintain their body temperature. Livestock producers will accrue significant benefits through reduced feed requirements, increased weight gains, improved birthing rates, and improved animal health.

### **WHERE THE PRACTICE APPLIES:**

Windbreaks apply to any area where livestock concentrate such as feedlot, feeding and watering facilities, and birthing (calving) areas.

## WHERE TO GET HELP

For assistance in planning and establishing windbreaks for livestock, contact your local Natural Resources Conservation Service (NRCS) and Conservation District.

## REQUIREMENTS OF WINDBREAKS FOR LIVESTOCK

In Oklahoma, Northerly winds are predominant during the winter and early spring. Windbreaks should be designed to be located on the north and west sides of livestock operations. This provides a protected area for livestock on the south and east sides of the windbreak. Windbreaks on the south should be avoided as they can block summer breezes, increasing health stress.

The windbreak design shall meet the planned objectives within a 20 year period. It should provide protection from at least two or possibly three directions.

Windbreaks reduce wind speeds to the downwind side 10 times the height of the tallest windbreak row. The amount of wind reduction depends on the density of the windbreak. The inclusion of one or more rows of coniferous (evergreen) trees and also the addition of shrub rows will increase density thus reducing wind speed.

The windbreaks should be of such size and design that livestock will comfortably fit into the protected area. Listed are some estimated space requirements for cattle:

Type of Animal		Minimum Square Feet per Head
<b>Beef</b>	Feeders	250
	Cows	300
	Calves	200
<b>Dairy</b>	Cows	400
	Calves	200

For windbreak plan and design, see Oklahoma Job Sheets 380 02 and 380 03.

## APPLYING THE PRACTICE

The practice is considered applied when the windbreak is established according to the above recommendations and the objectives are met.

## OTHER CONSIDERATIONS

Below are some things to consider when planting a windbreak:

- Avoid planting windbreaks where they will interfere with structures or utilities.
- The planting will need to be protected from adverse impacts such as livestock damage and fire.
- Windbreaks will be located so that snow deposition will not adversely impact the area to be protected.
- Wildlife needs should be considered when selecting tree and shrub species.
- Use of windbreaks as screens (visual, noise, smell, dust, etc.)
- Aesthetics
- Spacing of rows to accommodate width of equipment needed for maintenance.

## MAINTAINING THE PRACTICE

Refer to Oklahoma job sheet JS 660 01 Tree/Shrub Pruning for individual tree maintenance. Replace trees that die so the function of the windbreak will be maintained. Livestock must be excluded for the life of the windbreak.

Table 1. Critical temperatures for beef cattle are determined in part by the condition of the coat. Below the critical temperature, livestock must expend more energy in order to keep warm.

Coat Description	Critical Temperature
Summer coat or wet	59°F
Fall coat	45°F
Winter coat	32°F
Heavy winter coat	18°F

Adapted from D.R. Ames, Kansas State University

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