

CIRCULAR A-377

MARCH 1969

# Wrap your fields in windbreaks



3 0109 00630 9119  
NORTH DAKOTA STATE UNIVERSITY

S  
544.3  
N9  
A8X  
no. 377

COOPERATIVE EXTENSION SERVICE  
NORTH DAKOTA STATE UNIVERSITY  
FARGO, NORTH DAKOTA 58102

## WRAP YOUR FIELDS IN WINDBREAKS

Planting a complete pattern system of windbreaks on your farm is one way of helping to control wind erosion and snow drifting. Plant them only on soils suitable for adequate tree growth.

Windbreaks become more effective as they increase in age and height. Other conservation practices are generally needed along with them.

### WHAT IS A PATTERN SYSTEM OF FIELD WINDBREAKS?

A pattern system is the planting of a series of windbreaks to provide protection for the field. The plantings are usually one row wide and spaced 20 to 40 rods apart. This spacing depends on soil type and tree species used.

On sloping ground where water erosion may be a problem, the trees should be planted on the contour. On level or nearly level ground, they will normally be planted in parallel rows, based on prevailing winds or field length.

Where possible, cross plantings perpendicular to the main rows should be placed at about one-half mile intervals.

### SOME BENEFITS OF A PATTERN PLANTING

1. Reduces soil blowing
2. Keeps drifting snow on the field
3. Reduces soil moisture loss through evaporation
4. Reduces crop damage from hot dry winds
5. May increase crop yield
6. Reduces wind damage to growing crops
7. Provides more areas of food and escape cover for wildlife
8. Provides nesting for insect eating birds
9. Protects newly planted crop against being blown out
10. Eliminates most of the "sand blasting" of the crop
11. Beautifies the countryside.

### THE CONSTRUCTION OF A PATTERN SYSTEM

You can secure the assistance of the County Extension Agent or the Soil Conservation Service technician in laying out an adequate pattern planting system for your farm. In some locations assistance also may be available from state forestry workers.

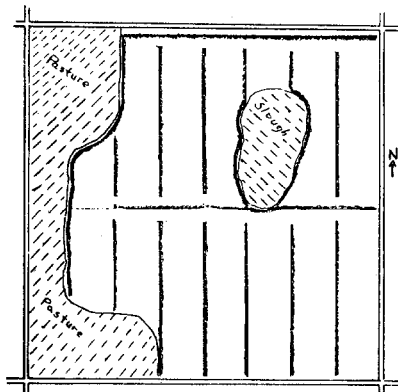
1. On cropland, the fields should be divided into blocks 20 to 40 rods wide. On light, sandy, blow-type soils, the block should be only 20 to 25 rods wide. With heavy clay soils the width should be 25 to 30 rods. On the medium textured soils, the width can be 35 to 40 rods.

2. Where the edge of a field is next to a road, set the planting far enough into the field to prevent snow accumulation on the road. This distance would normally be at least 10 rods from the center of the road, but if they are set back 15 to 20 rods it would give a more workable field between the windbreak and the right-of-way. This also would eliminate blind corners.

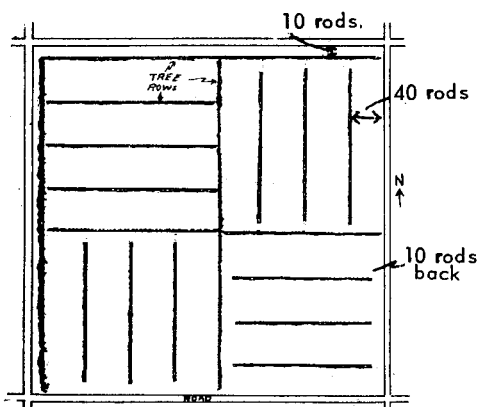


Aerial view of pattern planting concentration. S.C.S. photo.

3. Use as many different species as possible in the pattern system to guard against severe losses in case of heavy tree mortality. An occasional row of evergreens is highly desirable.



A sample one-section farm with single row pattern planting. Rows are 40 Rods apart. Note that turn-around areas are available at the ends of each planting.



Some fields can be checkerboarded with plantings running north and south on part of it and east and west on other parts.

### SPECIES SUITABLE FOR PLANTINGS

Most of our trees and shrubs used in regular farmstead and field plantings are adaptable to pattern plantings.

List of species that can be used:

Deciduous Trees	Conifers or Evergreens	Deciduous Shrubs
American elm	Ponderosa pine	Caragana
Siberian elm	Colorado blue spruce	Honeysuckle
Siberian elm, Dropmore variety	Black Hills spruce	Lilac
Green ash	Eastern redcedar	Chokecherry
Crab apple	Rocky Mountain juniper (Redcedar)	Wild plum
Russian olive		Russian olive
Cottonwood		Buffaloberry
Willow - Golden, White		Crab apple
		Amur maple

### PATTERN SYSTEM MAINTENANCE

1. Keep crop spray drift away from the trees. Be extra careful when aerial spraying.
2. Healthy tree growth requires clean cultivation. This can be accomplished mechanically, chemically or a combination of both.
3. Replanting is most essential in single row windbreaks as openings will make them less effective.

### COST-SHARING

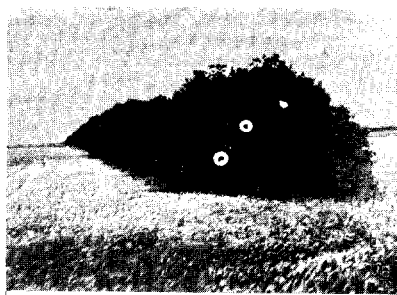
Agricultural Conservation program cost-share assistance is available for tree planting, cultivation and replacements in all counties. Great Plains Conservation program also provides the same type of cost-share assistance in the 30 designated counties. For details contact your ASCS, SCS county office, or County Extension Agent.

### OTHER ASSISTANCE

The Soil Conservation districts in each county are equipped to handle and plant trees. Arrangements can be made with them for ordering and planting your trees.



Single row windbreak holding snow. Foster County, N.Dak. S.C.S. photo.



Single row windbreak in summer. Bottineau County. S.C.S. photo.

prepared by

Robert H. Heintz

Associate Professor of Forestry

Elmer L. Worthington

Woodland Conservationist  
Soil Conservation Service