

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE INSTALLATION GUIDELINES

## CROSS WIND RIDGES

(ac.)  
CODE 589A

### PLANNING GUIDELINES:

Cross wind ridges normally will be implemented in conjunction with other conservation measures such as seasonal residue management, or some forms of conservation tillage.

Tillage should be performed in a direction as close to perpendicular to the prevailing wind direction, during the critical erosion period, as practical.

Acceptable combinations of ridge height, spacing, and direction are those having ridge roughness  $K_{rd}$  values equal to 0.8 or less during those periods when wind erosion is expected to occur. Transport of wind-borne sediment and sediment-borne contaminants offsite can be reduced by this practice when used in a resource management system.

Reworking may become necessary if rains result in the break down of clods, or blowing soil fills the trap area between the ridges.

During conditions of extended drought or low moisture periods, ridges will not effectively form and established ridges may rapidly dry out and disintegrate. During these periods, reestablishment of ridges may not be possible.

### TILLAGE CONSIDERATIONS:

The most effective ridges are formed by proper speed and depth of tillage, the equipment type and attachments, as well as the working tool spacing.

Use tillage implements which produce a high percentage of cloddiness and ridging of soil surface. Ordinary field cultivators, chisel plows, and listers are examples of implements which can be satisfactorily used.

### TILLAGE TOOLS:

The duck-foot cultivator is best for lifting clods on medium textured soils. Duck-foot cultivators make higher ridges than chisels. Wider spacing of duck-foot shovels is feasible if the soil is sufficiently cloddy. Narrow chisels, preferably heavy-duty type, are best on compact soils of substantial clay content. In extremely loose or sandy soils, the lister or shovel type attachments are most effective.

### SPEED:

Use speeds in excess of 3.5 mph for greater effectiveness. Use low speed when the compact soil horizon is relatively unstable and close to the surface.

### SPACING:

Optimum ridges are two to eight inches in height, have a ridge to height ratio (h/s) of one to four (example: two inch ridges at eight inches apart), and have surface clods of one to four inches in diameter.

### DEPTH:

Tillage should be deep enough to contact compact soil horizons to bring clods to the surface. Depth shall not be less than two inches and not more than eight inches for the application of this practice.