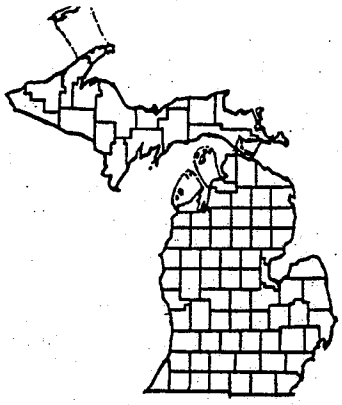

TECHNICAL NOTES

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MICHIGAN

Agronomy #21
SUBJECT: Ridge Till Planting
DATE: June 1983

TO: All Offices

FROM: Robert R. Ditson
State Resource Conservationist

Robert R. Ditson

Purpose: To provide information on Ridge Till Planting.

Ridge Till Planting

The ridge till planting concept has been in existence for many years. Ridge till planting as a form of conservation tillage is a recent innovation. Ridge till planting as a form of conservation tillage must have adequate crop residue on the soil surface after planting to provide the needed wind and water erosion protection.

Ridge Till Planting has been a component of the Michigan Standard and Specification for Conservation Tillage for several years.

Ridge till planting appeals to some farmers who want to reduce time, fuel, labor, machinery and soil erosion. It has potential in Michigan and should be one of our alternatives when working with landowners in developing resource management systems.

Ridge Till Planting is an acceptable practice on medium and fine textured, poorly and somewhat poorly drained soils. There are many acres of this type of soil in certain parts of Michigan. No-till should be considered on slopes over 4 percent.

Soil Conservation Service criteria for Conservation Tillage requires at least 1,000 lbs of corn equivalent residue or 30% of ground cover on the soil surface after the crop has been planted. If more residue or companion conservation practices are needed to reduce soil loss to tolerance, the conservation plan must include these to meet requirements for a satisfactory resource management system.

Some other important considerations for Ridge Till Planting are:

1. Can be used on sloping land over 4 percent with contouring.

2. Build the ridges during crop cultivation. This means that the farmer must have the cultivator the first year and the planter the second year. Ridges can be built after row crop harvest if a cover crop is established for planting into the following season. However, more problems may occur at planting time in keeping the planter on the ridge.

3. Field observations indicate that small grain cover crops can be established after harvesting the crop and then building the ridges. However, cover crops must be established early enough to allow sufficient plant growth to produce the needed residue on the surface for after planting protection.

4. Ridges can be built after small grain harvest but a cover crop must be established to provide the needed residue on the surface after planting the proposed crop. When building ridges after small grain, the bulk of the straw should be removed or disked before building the ridges. The cover crop will need to be established to control erosion.

5. Make ridges 8-9" high.

6. At planting time set the sweep or furrow openers only deep enough to remove residue from the ridge. It is very important to maintain a ridge after planting for erosion control and to provide a warm dry seedling environment.

It appears that it is difficult or maybe impossible to maintain ridges on Wind Erodibility Group soils of I & II. This may be the reason that the practice is better suited to medium and fine textured soils. This is an area that we will continue to evaluate.

Many people have been looking to this practice for its potential to provide a dryer and warmer seedbed on the ridge. Where the ridge is reduced at planting time, some of this positive benefit may be negated. We will evaluate the height of the ridge after planting and its effect on the seed environment.

One of the advantages of this practice is that it allows farmers to control traffic patterns, especially on continous corn where the ridge would be in the same place year after year. If the farmer contains his tire size and does not drive on top of the ridge during field operations, soil compaction in the crop row will be reduced and there will be a more favorable crop production environment. Water percolation should improve in the row area, soil compaction is reduced, and root penetration should become easier.

If a farmer wants to reduce his tillage but still cultivate for weed control, this practice should be a good option for him.

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