

Agriculture in the Midwest has underwent major changes during the post World War II period. Large machinery, synthetic fertilizers and pesticides, and high-yielding hybrids have enabled farmers to specialize in large-scale rowcrop production. There has been a corresponding decrease in the acreage of small grains, hay, and pasture. The major advantage of rowcrops is the increased per-acre yield. However, crop rotation has certain advantages, particularly in regard to resource conservation.

First of all, rowcrops do require large inputs of synthetic fertilizers and pesticides, which are becoming more expensive. Crop rotations, which include legumes, add Nitrogen to the soil and generally reduce the need for pesticides. For example, corn rootworm is effectively controlled by rotations that do not have corn following corn. Reducing Nitrogen and pesticide applications is particularly important on shallow soils where groundwater contamination may occur. Crop rotation also reduces soil erosion - with all else equal, erosion will be about two and a half times greater with a continuous corn rotation than with a corn-corn-oat-hay-hay rotation. Soil tilth and organic matter content are generally improved by rotations including close-grown crops versus continuous rowcrop. Yields of corn following meadow are usually higher than corn following corn. Finally, wildlife benefit from the food and cover provided by hay and small grain fields. Very large rowcrop fields have little wildlife value.

Considering its many benefits, crop rotation may become an increasingly important alternative for resource conservation in the future.

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