Talking with your tenant about:

No-Tillage

Iowa Learning Farms · EST. 2004

No-tillage is a soil conservation practice that leaves the soil undisturbed between harvest and planting except for the injection of nutrients such as anhydrous ammonia or liquid manure.
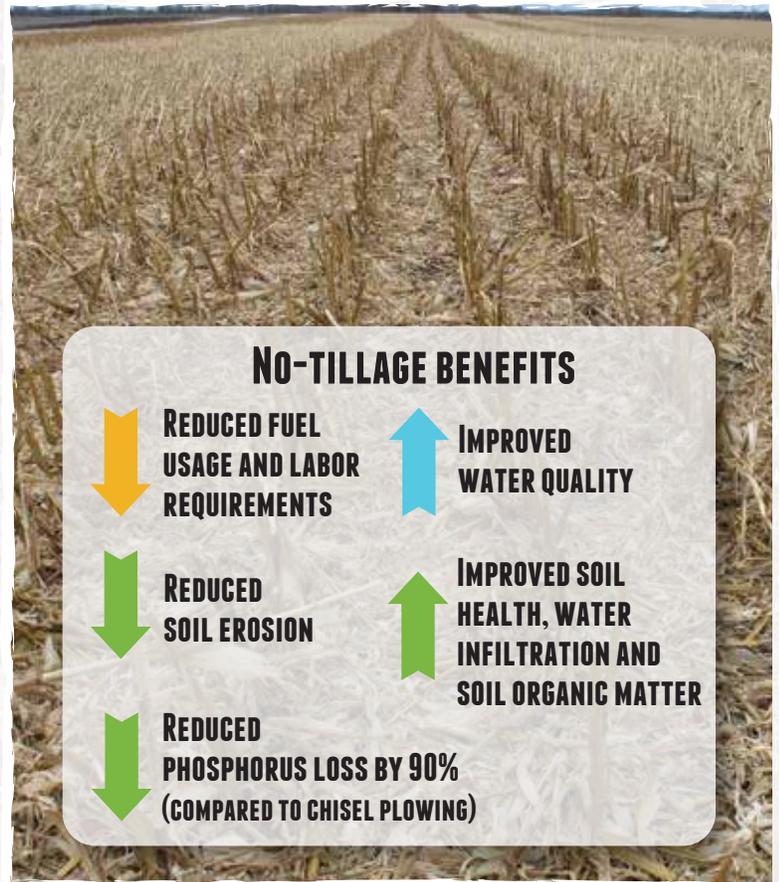
The Dollars and Sense of No-tillage

No additional equipment is needed to make the transition to no-tillage. Every pass across the field with a tillage tool costs money: labor, fuel, and wear-and-tear on equipment. No-tillage reduces the number of passes across the field, reducing operation input costs. Yields in no-tillage systems versus tillage systems are comparable.
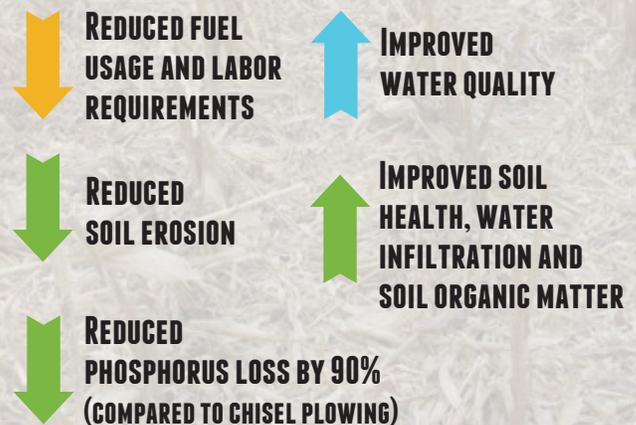
How it works

To prepare the seed bed, a coulter or disk seed-furrow opens narrow strips within the field for planting, creating good seed to soil contact. Residue from the previous year does not interfere with planting, and remains on the soil surface to protect the soil from erosion. When no-tillage planting soybeans after corn, row cleaners are often used to push crop residue out of the way of the seed bed.

No-tillage can be used on any well-drained or tile-drained field. Adjustments to combine and planter settings to account for higher residue levels and modifications in weed control and fertilizer application should be considered. If an area is poorly drained, the land may be a better candidate for strip-tillage.

Your local NRCS staff and Iowa State University Extension field specialists are available to meet with you and your tenants to help answer questions, and to provide resources and technical assistance.

No-tillage benefits

- ⬇ Reduced fuel usage and labor requirements
- ⬆ Improved water quality
- ⬇ Reduced soil erosion
- ⬆ Improved soil health, water infiltration and soil organic matter
- ⬇ Reduced phosphorus loss by 90% (compared to chisel plowing)

Start Small

It is important to recognize that it takes time to learn new management techniques. Consider using the practice on a smaller portion of the land and increasing use each year, or suggest one change per year, so the tenant can learn new management skills to incorporate practices successfully. Working together to gather information about the practice, and addressing any concerns early, will help smooth the transition to using the new practice and minimize conflicts.

STRIP-TILLAGE

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Strip-tillage is a soil conservation practice that tills a narrow strip of soil (6" to 12") to prepare the seed bed and remove crop residue, allowing the soil to warm and dry quickly in the spring. The rest of the field remains undisturbed, protecting the soil.

The Dollars and Sense of Strip-tillage

Every pass across the field with a tillage tool costs money: labor, fuel, and wear-and-tear on equipment. Strip-tillage requires investment in specialized equipment to maximize the benefits. To try the practice on a field before making the full investment in the equipment, work with a custom strip-tiller in your area. Strip-tillage can combine tasks, reducing the number of passes across the field and input costs. Yields in strip-tillage systems versus tillage systems are comparable.
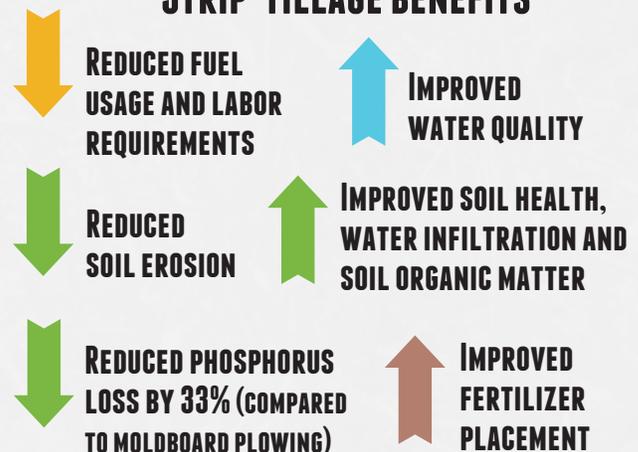
How it works

Strip-tillage occurs following harvest or in the spring. Using GPS technology, the planter is aligned with the tilled strip to provide good seed to soil contact. Fertilizer can also be applied in the strip, making nutrients readily available for young crops. This targeting, combined with variable rate technology, can reduce fertilizer expenses while boosting yields.

Strip-tillage can be used on poorly drained soils and moderately sloping land, where no-tillage may not be well-suited. Strip-tillage cannot be used in place of no-tillage on highly erodible land. The tilled strips are prone to erosion even when placed on the contour.

Strip-tillage benefits

⬇ **Reduced fuel usage and labor requirements**

⬆ **Improved water quality**

⬇ **Reduced soil erosion**

⬆ **Improved soil health, water infiltration and soil organic matter**

⬇ **Reduced phosphorus loss by 33% (compared to moldboard plowing)**

⬆ **Improved fertilizer placement**