Say Yes

to More Efficient Farming and a Healthier Environment

Adopt No-Till

No-till is revolutionizing farming worldwide. In a no-till system, a producer:

- Protects the soil year round with crop residue and cover crops; and
- Plants crops with minimal soil disturbance and without tillage.

In the United States, the number of farms adopting no–till continues to rise steadily. In 2002, more than 60 million acres, or 23 percent of the total, were no-till, compared to 7 million in 1990. In Pennsylvania, no-till farmers can be found in most counties.

Why should I consider no-till?
Adopting no-till can increase your operation's efficiency and profitability, while also improving the soil and protecting water quality.

What are the economic benefits of no-till?
No-till increases operation efficiency and leads to higher profits in the following ways:

- Eliminating tillage saves time and labor, allowing farmers to manage more acres.
- Not using tillage equipment saves on fuel and equipment maintenance costs.
- When practicing continuous no-till, farmers can combine individual contour strips or other small fields, while controlling erosion and reducing yield losses from field edges.
- Over time, soil improves, increasing water filtration and drought tolerance.

What are the water quality benefits of no-till?
No-till is an environmental best management practice that reduces soil erosion and nutrient runoff.

Is my soil conducive to no-till farming?
Soil conditions throughout most of Pennsylvania are conducive to no-till farming with the right preparation and appropriate timing. Cold and wet soils present challenges for no-till production of corn, but these challenges can be overcome with the right strategies.

How does no-till improve the soil?
No-till increases the soil's organic matter and biological activity. Soil structure and water infiltration improve, and compaction is minimized.

How does no-till help conserve soil moisture?
Many long-term, no-till farmers notice improvements in water infiltration or absorption in their fields due to the soil's increased organic content. No-till soil holds more water which is particularly beneficial during drought. In addition, no-till farmers can take advantage of seasonal moisture and plant earlier. Runoff, created during heavy storms, is limited on no-till fields. As a result, more water is available for crop production.

Doesn't no-till increase chemical use, which is bad for the environment?
Not really. No-till systems encourage the use of crop rotations and cover crops. These practices help to reduce pesticide use, overall. During the transition period, no-till systems may require increased pesticide use. After no-till systems are established, pesticide use often is reduced.

With till and no-till systems, herbicides may be applied after planting to control weeds. No-till uses a "burndown" herbicide to control weeds as a substitute for tillage. Also because runoff is reduced in no-till systems, the loss of pesticides and other pollutants from the field to any water body is reduced significantly.

What type of operations should consider no-till?
No-till is practiced by large and small operations of all kinds, including grain, dairy, hog, poultry and vegetable farmers.

How do I begin the transition to no-till?
Successful no-till takes time, so it is best to plan ahead, start small and transition slowly.

What is the best way to approach no-till?
No-till requires a "systems" approach, meaning it involves all aspects of your operation. Considerations include crop rotations, cover crops, soil management, climate evaluation, residue management, variety selection, pest management, fertilization and liming, and equipment.

How long is it before I see the benefits of no-till?
Time and labor savings are immediate. Soil quality benefits may take three or more years to appear.

What should a crop rotation include for successful no-tilling?
A crop rotation should include grasses which may include small grains and/or cover crops, high residue crops, forage crops, crops with different rooting systems, and mixes of grass and legume crops.

What about manure concerns?
Many people believe that all manure must be incorporated. However, if adequate surface residue exists and soil loss is minimized – both of which occur with no-till – incorporation is not always needed to control manure runoff. In fact, many producers have significantly improved their no-till system by using surface applied manure.

To address odor concerns, cultivate good relationships with your neighbors and use good judgment when applying manure close to another property.

Who should I contact for help?
Farmers throughout Pennsylvania practice no-till. So, talk to your neighbors. Information also is available from your county conservation district, local USDA-Natural Resource Conservation Service or Penn State Extension offices.

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