

Introduction and Purpose

Adaptive management is a systematic process to collect, monitor, analyze, and learn from results of evaluations of practices conducted on growers' fields. The goal of the adaptive management approach is to test and evaluate how a practice can best be applied on a given farming operation or site condition.

The purpose of this fact sheet is to provide guidance to plan and implement adaptive management of the Delaware NRCS conservation practice standard for Residue and Tillage Management, No-Till (329).

Guidelines for Adaptive Management Application for No-Till

1. Follow the guidance in the NRCS Agronomy Technical Note 190-AGR-10, *Adaptive Management for Conservation Practices*;
2. The evaluation should be carried out for at least 3 years and preferably on the same area each year. There may be cases where this is not practical;
3. The application and hypothesis of at least one variable must address and meet the criteria and specifications of Residue and Tillage Management, No-Till (329) for at least one of the purposes, and be approved by the State Resource Conservationist. Example trials/evaluations may include:
 - a. Evaluate no-till vs. conventional till or reduced till;
 - b. Compare no-till with a cover crop to no-till without a cover crop;
 - c. Compare different no-till or reduced till planter types or configurations (e.g., cross slot planter vs. a hoe drill);
 - d. Evaluate different coulter or residue clearing devices;
 - e. Evaluate strip-till vs. no-till.
4. The evaluation should include the services of a private consultant or representative of Delaware Cooperative Extension with knowledge of no-till farming to help plan the evaluation, lay out the four replicated plots, monitor the plots during the season, assist in gathering the required data (e.g., yield, soil tests, residue counts, soil health measurements, etc.), and analyze the data that will support the purpose of the evaluation;
5. The evaluation can focus on one or more results. For example, data may be collected not only to address yield but also changes in soil health parameters such as aggregate stability, infiltration, organic matter, etc.;
6. The evaluation should include data analysis each year and at the end of the trial period (usually 3 years);
7. The annual and final results and analysis should be jointly reviewed with NRCS, the grower, and consultant involved. Final results will be presented at an on-farm field day hosted by the grower.



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