

TILLAGE: CONSERVATION OR CONVENTIONAL?

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Abstract

Numerous advantages make the no-till method of cotton production the tool of choice for me. These advantages have a direct positive effect on the overall health of the land I farm and ultimately lead to a lower cost of production.

Introduction

I farm in the middle of north Alabama in Lawrence County located in the Tennessee Valley. In 1997, I had 1900 acres of cotton, 800 acres of corn, 600 acres soybeans, as well as a joint venture on 1500 acres of wheat and rye double cropped with soybeans. I started no-till with 20% in 1991 and have been 100% no-till since then.

Discussion

Why No-Till?

The main reasons that I started no-till were to reduce erosion, build organic matter, and stop sand blasting. We have a lot of rolling land that is vulnerable to erosion so reducing erosion means reducing topsoil loss resulting in the preservation of productivity. An increase in organic matter results in better drought tolerance and reduces herbicide damage as it acts as a mulch and ties up chemicals. The residue that is left on the ground in a no-till system also keeps sand from blowing during storms protecting the young cotton plants from sand blasting. Another major advantage that I have found with no-till is cost reduction as I use less labor, equipment, fuel, and have fewer repairs, primarily due to fewer trips across the fields. I can also hire and keep more qualified employees since I can pay more and my employees have more time for family and recreation. Other advantages include being able to pick one to two days sooner after rain, more uniform emergence in dry years, and reduced pesticide runoff. No-till also makes it easy to be in compliance with the Farm Bill. In addition, I am able to work all the land on a farm including steep slopes which makes landlords happy. Also, our soil testing indicates that fertility increases as the tests come back higher in P & K as reductions in soil loss mean reductions in P & K loss as well. Finally, a very important benefit of no-till is the presence of cover and feed that is available year round for wildlife.

Methods to Make No-Till Successful

No-Till requires different management techniques than conventional farming. I recommend planting rye cover crops, 75 pounds per acre, in addition to setting up a rotation with corn which is very beneficial for the soil and seems to be the best choice. You also need to have motivated employees who believe in the no-till system. Having the proper equipment is also extremely important. I use row cleaners, seed firmers, proper coulters (I use 13 wave), as well as spoked closing wheels to reduce sidewall compaction. Other techniques include being timely with herbicides, planting no more than 5 MPH and using 10% more seed, being patient (wait until soil is dry and warm), and using ammonia nitrate instead of urea. In addition, it is in the farmer's best interest to take advantage of available technology. I use Round-Up Ready varieties if available as they will lower herbicide costs.

Summary

No-till cotton production will help you produce a healthier crop in addition to being more efficient and economical. The system requires different management techniques to make it successful but perhaps the most important method for success is being committed. Stay with it and the benefits will increase with time.