

NO-TILL PLUS
PLUS IN-ROW SUBSOILING

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No-till plus is a new concept which combines two proven practices, no-till and in-row subsoiling in a "once over" operation. No-till plus is more than no-till farming, more than subsoiling, more than "once over" farming, more than multi-cropping. It is, in effect, all of these. No-till plus can be defined as a cropping system that includes the following elements in order to be successful.

1. The planting of a winter cover crop such as small grains or legumes for use as forage or grain, and for use as a mulch for spring-planted crops.
2. No-till seeding of corn, soybean, or other crops into the cover crop.
3. The application of herbicides, fertilizers, and insecticides may be applied in one trip over the field along with seeding.
4. The use of a no-till planter that allows growers to subsoil under the row at the same time they plant.

We have found out that the benefits of no-till farming in a good cover-crop are soil conservation, improving water quality, and better weed control. No-till in a good mulch slows the movement of water across the field thereby allowing more water absorption. We also have a savings in energy, time and labor because of less trips over the field. No-till is a tool to successful double cropping, giving us better land utilization. We have noticed less cornstalk borer damage in no-till double cropped soybeans. No-till also adds organic matter to the soil. When no-tilling in a good mulch, we have observed more and healthier roots and less drying out of the top 4 inches of soil. Soil temperatures under a mulch may be 20° cooler than soil without mulch. Our farm is located in a highly compacted soil in the Coastal Plains area of Alabama. It has been our experience that in-row subsoiling stands alone on its own merits. It reduces soil erosion and allows less run off, due to the fact that the subsoil slot acts as a funnel channeling more water into the subsoil for future crop use. There, we can apply heavy rates of irrigation water at longer intervals. The shattering of the hard pan allows deeper root penetration, up to 7 feet; into the subsoil area which we consider a second reservoir of moisture.

It is our opinion that by subsoiling we can reclaim nitrogen, potash, sulfur, and magnesium that has leached out of the top soil. Our no-till plus acreage exceeds 1,000 acres each year. We follow a crop rotation of

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rye, forage legumes, corn, soybean, and peanuts. No-till plus makes it possible for us to carry on a multi-cropping program. We keep enough rye seed for the following year's cover crop. Planting a cover crop is a minimal expense as compared to the dollar returns we get each year from this cover crop. No-till plus is made possible by a piece of equipment with a no-till coulter to cut the mulch followed by a subsoiler capable of shattering the existing hardpan. A patented slot filler wheel rotates in the slot behind the subsoiler closing it. Circular spider wheels bring any excess soil back into the slot. A double disc opener then places the seed directly over the slit at the proper depth. Finally, a packer wheel firms the soil to insure good soil seed contact.

To us this new concept, no-till plus, has meant at the end of the year higher yields with less investment, and at the same time it is improving our soil.