



ROTAVATORS IN A NO-TILL FARMING SYSTEM

Let's Talk

Farmers have used Rotavators to remedy problems that occasionally occur in No-Till farming. They are usually not used every year on all the ground. Rotavators are used on an as-needed basis, to remedy some of the following problems that may occur: *TO REMOVE COMBINE AND GRAIN WAGON RUTS MADE IN A WET FALL. TO MULCH HEAVY CROP RESIDUE IN THE FALL, WINTER, OR SPRING ON HEAVY DARK SOILS: TO IMPROVE DRAINAGE, PROMOTE FASTER SPRING WARM-UP, RESULTING IN IMPROVED GERMINATION. TO CHOP UP AND KILL SMALL TREES AND BRUSHY VEGETATION. TO INCORPORATE MANURE, LIME, FERTILIZER, COVER CROPS AND HERBICIDES.*

REMOVE RUTS

A HOWARD Rotavator equipped with either four or six 'C' blades per flange will work with most any amount of crop residue, weeds, or grass, and will level in one pass better than any other tillage tool. The rear soil/residue shield in a raised position will leave the most residue on the surface (50-60%) and will leave the ground with a course texture. The shield down will mix the soil and residue more thoroughly. Rut removal can be done in the fall, winter (with 1" to 3" of frost, and 8" of snow), or spring, or in wet soil conditions regardless of the amount or type of residue or grass. The forward thrust of the Rotavator blades push the tractor, preventing any need for fluid, wheel weights, duals, or four wheel drive. The "PUSH" from the Rotavator is what allows it to work in a broader range of conditions better than any other tillage tool. The Rotavator is an active tillage tool, and "Pushes" soil and residue through it.

BETTER GERMINATION

Rotavators are used in the fall, early winter, or spring on heavy dark soils to open ground and mulch some of the residue to improve drainage, and make for faster spring warm-up of soil temperature and better germination. Continuous No-Till corn may need this type of "help" given the problems of heavy soils as well as the alleleopathic question associated with continuous corn.

A Rotavator used in the fall (with four "C" blades per flange and the rear soil/residue shield up) will handle wetter soils, higher residue, weeds, grass and sod than any other tillage tool, and will do that job in one pass, and do it better than any other tillage tool. The Rotavator can be set up to leave up to 50-60% of residue cover for "Conservation Compliance" needs. The Rotavator will leave the ground level and in a condition where it can be No-Tilled the following spring.

A disk will not work as successfully in wet soils as a Rotavator, and may have problems with residue, weeds, grass and sod. A disk may make "problem" piles of soil and residue that present a very real problem in the spring. If the "problems" are big enough, a separate tillage operation to level the field may be necessary. Rotavators do the necessary tillage in one pass and avoid creating "problems".

Fall Rotavated ground warms up earlier than unworked or disked ground because it is not compact, and the water infiltration rate is better than most other surface tillage tools. The soil is in a condition where it has plenty of air and can "breathe". The soil condition after fall Rotavation is the best possible for fast, even germination, and allows for faster root development and better nutrient utilization than straight No-Till.

Speed is in the 5-6 MPH range; 4" to 5" deep, with absolutely no wheel slippage. All the soil is cut; everything is moved. When the rear soil/residue shield is all the way up or removed, the Rotavator will leave more residue on the surface than most other tillage tools.

CHOP AND KILL SMALL TREES AND BRUSHY VEGETATION

Unwanted trees and vegetation may creep into a continuous No-Till system. Herbicides may control or kill the problem, but the problem remains standing and may grow back. Mowing leaves a hazard for tires, and the stump and roots may survive to grow again.

One pass with a Rotavator will grind up the above ground problem, mix it in and destroy the root structure. The best chopping job is done with firm ground to act as a chopping block for the blades to cut against. If the ground isn't dry and hard, it can be done with 1" to 3" of frost (depending on the model) in late fall, winter, or early spring. Frost is an excellent chopping block and helps move vegetation, residue and wet soil through the Rotavator. The problem vegetation is removed entirely, allowing normal spring No-Till planting or drilling.

INCORPORATE

A Rotavator when properly set up for the objective, will incorporate in one pass manure, lime fertilizer, cover crops, grass, weeds and sod better than any other tillage tool.

Mold board plowing buries residue and, does not mix soil and materials thoroughly. A chisel plow with twisted points will mix soil and residue but may bury too much residue for "Conservation Compliance" needs. Heavy stalks may have to be shredded in order for residue and soil to "flow through" a chisel plow. A disk might work better in heavy residue than a plow or chisel plow, but a disk is a soil compacting tool and also requires considerable pulling effort.

CONCLUSION

A Rotavator will **PUSH** a tractor through the field and mix or incorporate most anything, better, and in one pass than any other tillage tool. The more unnecessary (dead) weight removed from the tractor, the less compaction created. A lighter tractor will also free up power to go forward faster, increase output per hour and reduce fuel consumption.

A Rotavator will operate in a broader range of moisture and residue conditions than other tillage tools because the PTO-driven forward-rotating blades force the materials into and out of the Rotavator. Most tillage tools rely on hope; hope that the residue and soil will make it through the tillage tool. Heavy residue is not given any choice, any opportunity to "hang up" or "get stuck" in a Rotavator the soil and residue is forced through it. There is no need to ever shred crop residue ahead of a Rotavator.

A HOWARD Rotavator is the most versatile surface tillage tool on the farm, because it is the most adjustable. The adjustability of the Rotavator allows for controlled tillage. The best tillage is the least tillage; just enough tillage to meet the needs of the crop that will follow. Define the tillage objective, then adjust the Rotavator for optimum one-pass performance.

FOR ADDITIONAL INFORMATION ON HOW TO GET THE BEST PERFORMANCE FROM YOUR ROTAVATOR, OR HOW ROTARY TILLAGE CAN BEST FIT YOUR NEEDS, CONTACT GUY MACHINERY.

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