HOWARD®

Primary Tillage Fall / Winter Cornstalks

Let's Talk

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PRIMARY TILLAGE

Most farmers and corn growers are under the impression that Rotavators are only good for Spring tillage, WRONG" Rotavators are extremely versatile tillage tools that can be used in the Fall, even in high moisture, heavy soils and heavy crop residues. The Howard Rotavator, when properly set up for primary tillage, will keep the farmer within Conservation Compliance Requirements and at the same time, reduce expenses and provide the farmer many tillage and non tillage options the following planting season.

A Rotavator, when properly set up, will chop and incorporate more residue (standing cornstalks) and distribute it more evenly into the the soil under a broader range of moisture conditions than any other tillage tool. Under no circumstances is crop shredding required ahead of Rotavating.

SETTING UP THE ROTAVATOR FOR COARSE TILLAGE

For coarse tillage in cornstalks, the Rotavator should be set up with depth control wheels with soil scrapers and four 'C' blades per rotor flange. Select a medium blade speed and place the rear soil shield all the way up, or completely remove it.

A poly liner is recommended to line the underneath of the frame to prevent soil build up, reduce horsepower requirement and blade wear; resulting in faster forward travel speeds.

Tillage depth is usually 3" to 5", the objective being to till deep enough to loosen all the soil as deep as seedbed depth, tear out all the corn root wads, chop and blend the residue and leave enough loosened soil to allow even as simple a tool as a field cultivator to prepare a perfect seedbed in one pass prior to planting.

OPERATING THE ROTAVATOR

Operating the Rotavator at a slight angle to the row (5 to10 degrees) will distribute the residue evenly throughout the field and leave the ground and residue level. The Rotavator will not plug or wrap and therefore not make a mess of the field. The residue that remains on the surface brings the operator well within residue compliance requirements.

The forward rotating blades of the Rotavator will push the tractor up hills, across contours, through low ground, peat, muck, wet spots, fresh manure and wet surface conditions, A Rotavator pushing rather than a tractor pulling means no wheel slippage and no tire wear. The power driven, forward rotating blades will allow primary tillage in snow covered ground or with up to 2 1/2" of frost depending on the organic matter or sand and the Rotavator model used.

REDUCE COMPACTION

Dead weight consumes horsepower and causes unwanted soil compaction. Rotavation eliminates wheel slippage and the need for fluid, wheel weights, duals and fourwheel drive and accomplishes in one pass what might require multiple passes with other equipment. Removing unnecessary dead weight allows faster forward travel speeds, reduces compaction and saves time and fuel. One trip and minimum weight means less compaction.

CORN STALKS

Fall primary tillage in corn stalks leaves the ground more level than most any other Fall tillage tool. The Rotavator mixes the residue thoroughly and leaves just enough soil on top of the residue to prevent it from moving. Primary Rotavation will do in one pass what a shredder, disc and disc-chisel, or plow can't do in one pass; that is guarantee that no leveling operation will be required in the Spring.

Primary Rotavation of corn stalks in the Fall or Winter, rather than burying residue, as happens with a plow or chisel with twisted points, helps accelerate residue decomposition including corn root wads by incorporating the residue and oxygen with the top soil. This is the first step in helping the residue become your ally in the development of next seasons crop, rather than a problem that is diffcult to manage.

FINAL SEEDBED OPTIONS

FIELD CULTIVATOR

Primary Rotavation of corn stalks allows the farmer to to prepare a perfect seedbed in a single pass with a standard field cultivator; rolling baskets may be desired to help firm the seedbed and seal in moisture. A single pass in the Spring is all that is required to prepare a perfect seedbed thereby conserving moisture, tractor hours and valuable time in the planting season and retain enough residue to remain within compliance.

A farmer has, with great satisfaction, used a 45' folding field cultivator ahead of a 16 row planter on Fall Rotavated corn stalks, all because the Rotavator left the groung level and in a condition where one high speed pass produced a perfect seedbed for soybeans. No stalk shredding was reqired ahead of the Rotavator in 180 bushel corn residue. Additional benifits included faster forward speeds with the cultivator, no residue plugging problems, a better seedbed and better planter performance than on ground that had been shredded, disced or disc-chiselled.

NO TILL

Primary Rotavation of corn stalks leaves the ground sufficiently level so that a No-Till planter, or No-Till drill can be used one pass in the Spring. No separate leveling operation is required ahead of the planting or drilling as is most often required when other Fall primary tillage tools are used. No-Till farmers can effectively blend dry fertilizer and lime into the top 4"to 5" of soil and at the same time chop up any brushy or unwanted vegetation that may creep in from the edges of the field.

ROTAVATOR

Primary Rotavation of corn stalks, or other high residue crops, allows a properly set up Rotavator to prepare a perfect seedbed in one pass at high speeds.

Rotavators set up for seedbed preparation may have four or six blades per flange and often have a depth control roller to level and firm the seedbed, seal in moisture, eliminate wheel marks and provide for more precise depth of seedbed than any other draft tillage tools.

Rotavation in the spring makes for a perfect seedbed and better incorporation of herbicides, residue, manure and green crops than any other tillage tools.

See Let's Talk Spring Rotavation information guide for more details.

OUTPUT

Acres per hour will vary according to P.T.O. horespower, the available forward travel gears, width of Rotavator, depth of cut, soil type, moisture condition, residue. degree of compaction, blade type, number of blades and Selectatith gearbox blade speed.

A Bloomington Il. farmer with heavy moist soil and 185 bushel corn residue recently compared his 80" (5x16") bottom plow with a 120" Rotavator. Using a stock 120 horsepower 4430 tractor with singles, no fluid and no wheelweights, powered the 120" Rotavator 5" deep at 5 miles per hour. This equals 6 acres per hour with no wheel slippage.

The Rotavator is faster and 50% wider than his plow and brought him into residue compliance. No shredder was used ahead of the Rotavator.

A Rotavator gets the job done faster than either a plow or disc-chisel.

(See Let's Talk Output Guide for more information.

CONCLUSION

Primary Rotavation will save you time, soil and money, will get your crops in on time and help you grow a better crop than multiple trip tillage systems.

Primary Rotavation will make conservation compliance easy, profitable and allow you to manage your resources better.

The Howard Rotavator is the most versatile tool available anywhere. Models are manufactured in widths from 30" to 160" for tractors from 10 to 225 P.T.O. horsepower

Please examine the entire LET'S TALK information guides on how a Howard Rotavator might be helpful in your farming operation and meeting Conservation Compliance requirements; or talk to your regional Howard representative.

HOWARD ROTAVATOR

The Principle

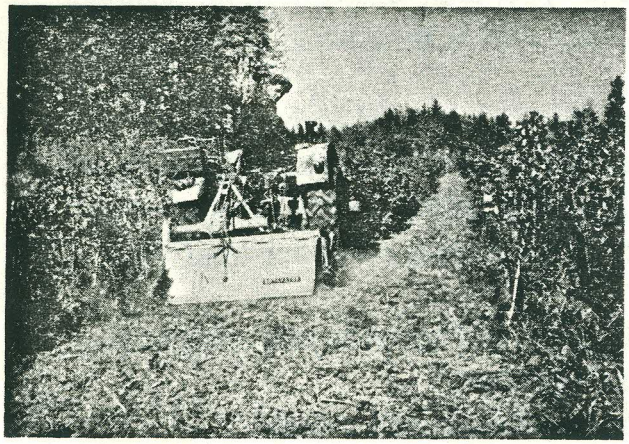
The HOWARD ROTAVATOR is a complete powered tillage implement.

Power is taken from the tractor engine direct to the soil-working blades. These specially shaped blades cut, loosen and lift the soil at controlled speeds, to form controlled tilths.

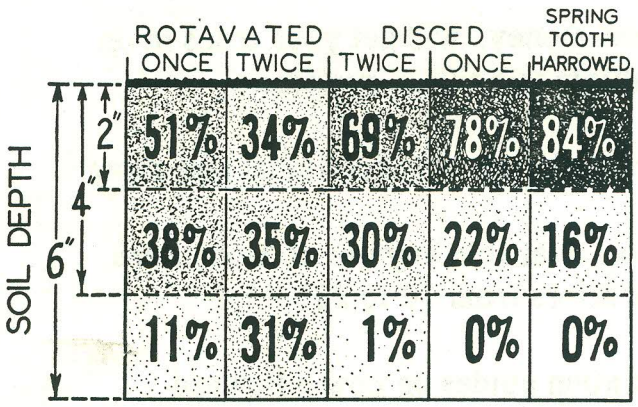
The main difference between the effect of the Howard Rotavator and that of the plough is that while the plough buries plant residues under the inverted furrow slice, the Rotavator mixes them evenly throughout the depth of tillage.

MIXING

The Rotavator blades mix fertiliser, lime, crop residues and surface trash evenly to full tillage depth.



The mixing effect of the Howard Rotavator demonstrated. (Turning in green manure—West Germany).



This chart, compiled from tests carried out at United States Department of Agriculture Machinery Research Station, Beltsville, Maryland, gives conclusive proof of Rotavator's ability to mix down crop residues, weedicides, fertilisers, etc., through the whole depth of cultivation.

TEXTURE

The resultant mixture of soil crumbs, air and organic material produces perfect physical conditions for the decomposition of organic matter, formation of humus and rapid germination of seed.

MICRO-ORGANISMS

The mixing in of plant residues ensures an easily accessible supply of food for the soil micro-organisms.

MOISTURE LOSSES REDUCED

Since the Rotavator can prepare a seedbed in one operation moisture loss from the soil is reduced to a minimum.

MOISTURE RETAINED

The texture of rotavated soil also absorbs and holds the maximum amount of moisture. This is particularly valuable in seasons and areas of low rainfall.

CAPPING

The rapid germination of the seed in a rotavated seedbed and the consequent early cover given to the soil can reduce the danger of capping or crusting in poor structured soils.

STRUCTURE

By breaking pastures with a Rotavator, and by incorporating all organic matter in the top few inches, the soil with the best structure remains on the surface where it is most needed.

Tilth control demonstrated—by using the shield. Greater variation still can be obtained with 'Selectatilth'. ('H' trailing Rotavator on the same field—West Pakistan).