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Rotary Tiller Cuts Farming Costs

By ED PERDUE, Associate Editor

"Cuts operating costs 60 per cent or more." That's the calculation of Gene Kagele, Rt. 1, Ritzville, in evaluating his 12-foot Northwest rotary tiller during his first season's experience this spring with the machine in preparing fallow in the Big Bend dryland country.



Close-up showing the size and density of stubble and the resulting mulch.

Kagele believes the equipment's performance in once-over tillage operations on 115-bushel-per-acre irrigated Gaines wheat stubble really tested its efficiency. He averaged about 2¼ acres per hour in heavy stubble with the 12-foot rotary tiller, pulling it with a 115-horsepower John Deere model 5010 wheel tractor in low gear at a ground speed of about 1½ miles per hour. At this rate he estimated 44 hours and 24 minutes as approximate tillage time per 100 acres.

This represents a saving of slightly more than 68 hours per 100 acres compared with 112 hours and 36 minutes calculated as about normal in the area for a minimum of six conventional tillage operations on 80-bushel wheat stubble.

Conventional tillage time elements considered are: Over the field first in the fall with a tandem hitched 12-foot disc plow at 3 m.p.h. averaging 4½ acres per hour for a total of 22 hours and 12 minutes (per 100 acres); then skew threaded twice with 20-foot equipment at 3 m.p.h., averaging 7 acres per hour for a total of 28

hours and 36 minutes; and spiked with a 16-foot chisel tooth harrow at 3 m.p.h., averaging 5¼ acres per hour for a total of 17 hours and 24 minutes; plus another 44 hours or more in the spring for one disc plowing and one double disc plowing before weeding.

SIXTY-EIGHT HOURS shaved off 112 hours amounts to the 60 per cent cut in operating costs, including time, labor, equipment usage and fuel; plus the advantage of requiring only one machine instead of four or five or more. Furthermore, because of the increasingly short supply, labor is far from the least important item on the list, Kagele says.

In addition, he believes the rotary tiller did a much better over-all job on the heavy stubble than would have been possible with conventional fall tillage methods.

Setting the blades for normal 5-inch tillage depth in the once-over operation on the 115-bushel stubble the equipment produced a smooth field with a well aggregated topsoil condition, which Kagele believes has an excellent moisture holding potential. Tests have shown stubble standing over winter will conserve up to two times as much moisture as fall plowed fields.

WORKING DEPTHS of tiller blades are controlled by settings on the gauge wheels. Temporary minor depth adjustments may be made through a standard agricultural 8-inch stroke hydraulic cylinder installed on a special draw hitch used for tillers with the six V-belt heavy-duty bevel gear assembly "C" drive.

However, the hydraulic cylinder's main purpose is to allow the tiller to be tilted back on the gauge wheels for transport on hard surface roads and highways. It is not installed when an integral hitch allows the tiller to be attached directly to and carried by the tractor.

Kagele's RB-144 "C" drive rotary tiller is one of 11 models, ranging in width from 4 to 14



Heavy stubble from 115-bushel per acre Gaines wheat thoroughly mixed into five inches of top soil, above, in once-over operation of 12-foot Northwest Rotary Tiller produces erosion-resistant, smooth-surfaced field.

feet, manufactured by Northwest Equipment Company, Yakima.

The maker's horsepower recommendations for 2- to 4-inch tilling depths at 1½ to 3 m.p.h. are: 6 to 8 horsepower per foot of tiller width for light to medium soils with average cover; and 8 to 11 horsepower per tiller

width foot for medium to heavy soils and cover.

BELT DRIVES are the simplest and most effective means of protecting the tiller and tractor from the shock loads normal for this type of ground-engaging implement, firm representatives explain. They claim the belts serve as a perfect, never-out-of-adjustment slip-clutch, and because of their elasticity absorb all shocks and vibrations.

Drives are designed now to hold up to 150 horsepower on belts, but the maker recommends 130 horsepower maximum. V-belt sheaves are available in sizes to match tractor P.T.O. speeds of 540 rpm or 1,000 rpm. If necessary, sheave sizes can be changed quickly to increase or decrease the speed of the tiller blades to obtain the best tilling action for any soil or cover condition, company representatives claim.

KAGELE'S APPROVAL of the rotary tiller's performance possibly may have been slightly influenced by the fact the early season properly conditioned 115-bushel stubble field was his; while the 80-bushel field still requiring additional treatments for conditioning belonged to his brother Richard.



Four conventional fall tillage operations on 80-bushel stubble left a rough field with long straw in large piles on the surface (area in right of above photo). Several more disc plowings and weedings would be required to incorporate the straw into the soil and level the field. **MANUFACTURER'S NOTE:** The area to the left shows the complete mulching of the stubble after a single pass of the Northwest Tiller.

The NORTHWEST ROTARY TILLER Manufactured by

Northwest Equipment
COMPANY

See Your Dealer or Write; P. O. Box 73, Yakima, Wash.