

MFD tractors increase ag options

RACINE, Wisc. — The earliest tractors, just like the first cars, had traditional two-wheel-drive, with power transmitted through the rear wheels. Gradually, it became common for large farm tractors to come equipped with four-wheel-drive capability. Like their counterparts who drive 4WD cars and pick-up trucks on the roadways, farmers have learned to appreciate the go-anywhere performance on versatility of all-wheel-drive.

Today the popularity of 4WD power has been extended to smaller tractors in the 40- to 90-horsepower range equipped with mechanical front-wheel-drive (MFD). Using smaller, maneuverable MFD-equipped tractors, farmers can enjoy better performance in soft and wet fields, snow or sand, with a mechanical front-wheel-drive which can be operated in two-wheel or four-wheel-drive modes.

Today's MFD tractors are more efficient and productive than traditional two-wheel-drive models, according to researchers at the University of Nebraska, who tested a 70 PTO horsepower J I Case tractor equipped with MFD.

For years, MFD tractors dominated the market in Europe, where small farms often use only one or two tractors for all chores. In North America, standard two-wheel-drive tractors have been popular for basic farm and utility work. As American farm sizes

increased, big four-wheel-drive tractors became increasingly important so farmers could reduce labor costs and process more acres with more power and traction while using larger implements.

Now the MFD tractor is also increasing in popularity on both big and small farms in the U.S. and Canada. North American operators are enjoying the best of both worlds — the maneuverability of two-wheel-drive and the tractive efficiency of four-wheel-drive.

A mechanical front-wheel-drive tractor has greater traction than an ordinary two-wheel-drive tractor, especially in mud, soft soil, uneven ground and other poor operating conditions that are common during some planting and harvesting seasons, according to the University of Nebraska researchers.

Not only can an MFD tractor go where conventional two-wheel-drive tractors often cannot, but its compact size also allows an operator to maneuver in tight areas such as storage sheds and barns. An MFD-equipped tractor moves in the direction it is pointed, with the powered front wheels pulling instead of bulldozing. The reduced rolling resistance of the front tires gives more complete steering control for turns, braking and power-take-off.

Another advantage of MFD is in tractor/loader applications. When a front-end loader is attached to the tractor and a loader bucket is

raised, the weight of the load is transferred to the front drive wheels for added traction. When using materials buckets, manure forks, pallet forks, or grapple-over-buckets, the drive power stays on all four wheels for loading and unloading in forward and reverse.

Typical applications for engaging front-wheel drive on an MFD tractor include operating on rolling slopes for better climbing ability and increased stability; where dual wheels of big tractors would damage crops or compact soil; when good turning power is needed in soft or wet fields; when increased travel speed for cultivating is needed; in narrow-row applications; and in snow and mud for winter livestock feeding.

Although MFD offers many benefits for a variety of applications, the Nebraska research findings suggest that proper ballasting of an MFD tractor is the key to its overall effectiveness. When pulling mounted or towed implements using MFD, weight should be placed on the front axle for the best traction. The ideal recommended ballast situation is



Popularity and maneuverability of all-wheel-drive has been extended to smaller ag tractors through mechanical front-wheel-drive.

40 to 45 percent weight on the front wheels and 55 to 60 percent on the rear wheels. The user can count on an extra seven percent of tractive efficiency with a properly ballasted MFD tractor.

Increased productivity, greater traction and better maneuverability make the MFD tractor a wise economic choice for farmers who need to make efficient and effective use of their

new-equipment dollars. The initial cost of an MFD tractor is slightly higher than a standard two-wheel-drive model. However, the weather-beating productivity of the mechanical front-wheel-drive mode, plus the added maneuverability for basic farm utility chores can offset the additional cost when the farmer effectively uses the MFD tractor's versatility.

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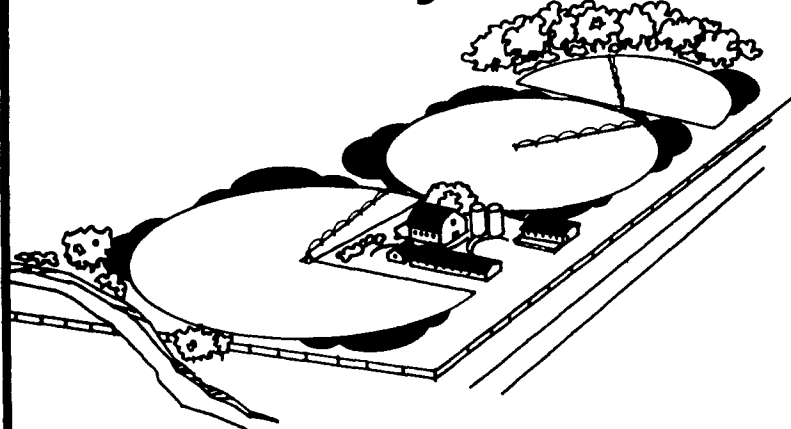
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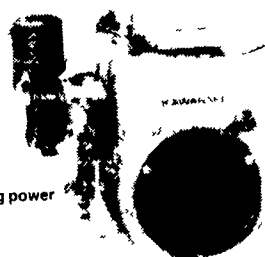
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