



Inspect Farm Tires Before Spring

Checking tires on farm equipment for wear and inflation can improve your farm's efficiency this coming season.

March 5, 2010

Photo courtesy John Deere

In the spring, check the tire inflation on your tractors and other equipment to make your farm operation more efficient. Proper tire maintenance on farm equipment and implements is important for improving efficiency. Now, at the cusp of spring, is the perfect time for farmers to look at maintaining or replacing tires.

"Flat tires can cause a lot of downtime, so it's important to do plenty of walk-arounds to check for wear and cracking—both on tractors and implements," says Dennis Buckmaster, a Purdue University agricultural engineer. "Properly maintaining tires improves equipment efficiency and can mean less labor, fuel and tire wear."

To ensure higher efficiency with their equipment, farmers need to keep tires properly inflated, Buckmaster says. Properly inflating tires doesn't necessarily mean adhering to the inflation pressure measurement on the tire wall.

"Proper inflation is a function of the load on the tire. There are manuals and tables available on the Internet to help farmers calculate the best possible inflation based on tractor weight, what's being pulled and the speed traveled," Buckmaster says. "They also can help determine the amount of weight to add or subtract from the tractor."

If farmers closely inspect tires and find it's time for tire replacements, Buckmaster says farmers should keep several factors in mind, including price, warranty, performance and dimensions.

"The most important thing is that tires be rated to carry the load," he says. "That doesn't mean farmers should necessarily replace the current tire with a new one of the same dimensions. Most equipment has several compatible tires, so the original dimensions may not be optimal for certain operations."

Even the stock tires that come with new farm equipment may not be optimal for a particular farm operation. In that case, farmers often can trade the new tires for a set that will have better performance.

Buckmaster says determining the correct weight, size and inflation pressure of the tires can improve traction by 50 percent.

"Tractor power efficiency hovers around 60 to 80 percent, on average, but proper tire maintenance could improve efficiency by up to 10 percentage units," he says. "That big of a shift in efficiencies translates into fuel savings, so doing it correctly does pay off."

In addition to improved efficiencies, proper tire inflation can prevent premature tire failure.

"Underinflated tires run the risk of slipping off the rims or other failures," Buckmaster says.

While overinflated tires also risk failure, they have a smaller footprint, or weight distribution. This leads to field compaction. A tire wall can say to inflate to 25 psi, but the tire may only need to be inflated to 14 or 15 psi, Buckmaster says. He also stresses that the decades-old debate between radial or bias tires is no longer an issue.

"For vehicles primarily used for road travel as transport or utility vehicles, bias might be a suitable tire, but for any tractive functions radials are the way to go," he says.