

# EXPLORING EQUIPMENT

## Inside Flotation Tires

By Ross M. Fischer

Years ago, walking gingerly was the only way to cross a wet, grassy area without damaging the surface. Today, the human foot can do more damage to a damp sports field than an 8,000-pound tractor equipped with proper flotation tires. These rubber "tools" combat the age-old problems of soil compaction and rutting on sports fields, golf courses, and other turf areas around the country.

Flotation tires were developed during World War II. The United States military continually had problems with transporting vehicles across swamps and marshes. The military turned to the Goodyear Tire and Rubber Company for a solution. Goodyear, in turn, came up with the flotation tire, a large, low-pressure tire that disperses vehicle weight over a greater ground surface, thereby reducing compaction and rutting and enabling a vehicle to virtually "float" across the ground's surface. Since the air pressure in the tire itself is low, the tires are "softer" and don't "slice into" the ground, which further reduces compaction and rutting.

At the time, these tires were developed, available, and used only for military applications. Use and production of the products ended with World War II.

The problem of soil compaction, however, didn't end and was especially evident on sod farms and other areas of agriculture. In Monticello, IN, McCord Terra Tire Sales began offering flotation "Terra Tires" as an after-market option, and within a short period of time their popularity jumped. A variety of equipment now comes standard with some type of high-flotation Terra Tire.

Another option today, which improves the versatility of a piece of equipment, is increasing the size of its flotation tires beyond those supplied by the manufacturer. The most important benefit derived from making this change is increasing tire-to-ground-surface contact inches. This distributes vehicle weight over an even larger area, reducing pounds per square inch to the soil. The result is less compaction, less surface disturbance, and less rutting. Increased ground contact area, flexibility, and low inflation pressure of the tires combine for high-energy absorption and reduced rolling assistance because the tires penetrate the ground less. This translates to

increased fuel efficiency and reduced fatigue on equipment and the operator.

Dual-wheel assemblies have also been used to combat compaction and ground disturbance. However, the weight of a flotation tire and rim is less than that of a

dual-wheel assembly. As for maintenance, flotation tires require nothing out of the ordinary (although they do require special wheels). □

*Editor's Note: Ross M. Fischer is the president of McCord Terra Tire Sales in Monticello, IN.*

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