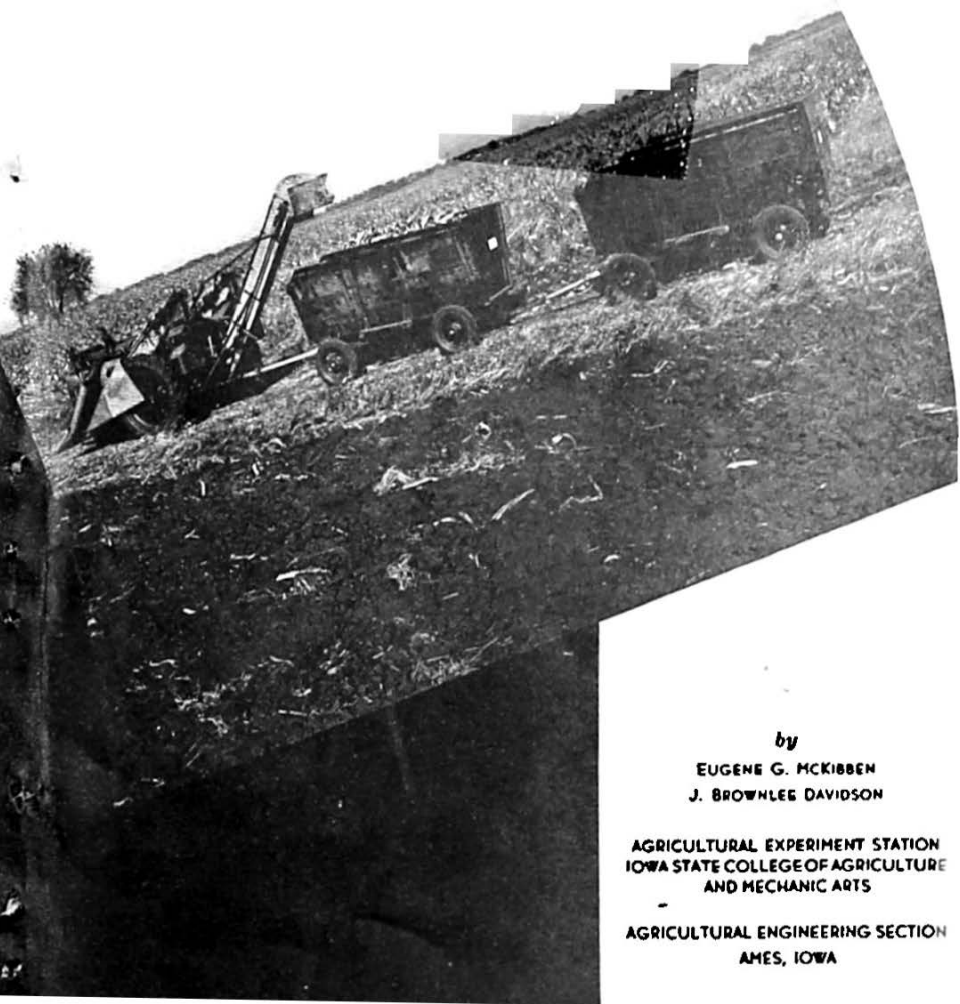


-Life Service and Cost of
Service of Pneumatic Tractor Tires

Life, Service and Cost of Service of Pneumatic Tractor Tires



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SUMMARY

The experience of Iowa farm users of 199 sets of pneumatic tractor tires indicates satisfactory durability and field performance. These users, selected as a representative sample, were located in 73 counties and represent the equivalent of 381 years of individual observation.

The use per year reported ranged from 240 to 3000 hours with an average of 984. Hauling constituted, on the average, only about 4 percent of the use of rubber tired tractors. The extent of this type of use varied widely, 0 to 75 percent, and there appeared to be a tendency for it to increase as operators became more experienced with pneumatic equipment.

Considerable variation in the rate of tire wear was reported, and the necessity of avoiding excessive slippage was frequently emphasized. Annual maintenance costs were found to be very low, averaging only 28 cents per set per year, although in individual cases annual costs averaged as high as \$5. The estimated useful life in years varied from 3 to 15 with an average of 7, and the estimated useful hours of use averaged 6,765.

Estimated fuel savings for the same work ranged from 0 to 50 percent with an average of 22 percent. A nearly similar average saving in labor, 23 percent, was reported also, with the range from 5 to 50 percent.

The use of a higher gear for most field operations was reported by 54 percent, and 93 percent used a higher gear for at least one important implement. The use of machines of greater operating width was reported by 40 percent.

The new high lug treads were reported as being generally more satisfactory, particularly for adverse traction conditions. All but three of the 40 users who had tried water as a substitute for cast iron wheel weights were satisfied with the plan.

The cooperators reported the following advantages for pneumatic tractor tires: Reduced fuel and labor requirements; higher speeds; easier operation on hard surface roads; less damage to farm roads, lanes, meadows and pastures; decreased tractor breakage and wear and greater comfort.

The disadvantages experienced were higher first cost, possibility of delay and expense from accidental damage, the expense of also equipping at least part of the drawn equipment with rubber tires, lower maximum drawbar pull under many conditions, excessive bouncing under certain conditions, more objectionable tracks in loose tilled soil and decreased stability for belt work.

The most effective use of a rubber tired tractor requires the highest practicable speed, the widest implement which can be pulled satisfactorily by the engine and tires at this speed and enough wheel weight to provide effective traction.

Pneumatic tires for a two-plow, all-purpose tractor add about \$200 to its cost and represent on the average about one-fifth of the total cost, which is somewhat less than the average increase in capacity reported by users. The probable annual cost of use for such a set of tires is about \$40. This expenditure appears to be well justified, at least where a tractor is used 500 hours or more per year and where the proper adjustments between speed, wheel weight and load can be made.

Over 98 percent, all but three users, were satisfied with the performance of pneumatic tractor tires.