Wheel traffic from tractors and harvesting equipment reduces alfalfa productivity by crushing regrowth shoots and compacting soil; Wisconsin data demonstrated up to 20% yield loss. Data from Fargo, ND, indicates an average of about 10% reduced yield where alfalfa was driven over by a medium-sized tractor five days after cuttings.

The Fargo seedings were made in 2004, 2005, and 2006 and harvested 4 times/production year through 2007. In each seeding, replicated plots of 8-12 varieties were subjected to traffic (one pass with a medium-sized tractor) 5 days after each of the first 3 cuttings, or no traffic.

In 2005, a wet year, the study shows traffic reduced the total season alfalfa yield by 1.0 ton/ac or 12%. In 2006, a dry year, traffic reduced the yield of both the 2004 and 2005 seedings by 0.4 ton/ac or 9%. In 2007, traffic reduced yields of all three seedings by about 9%. For the 2004 seeding, total forage yield reduction over 3 years of traffic was 2.0 ton/ac, or about 9%. All varieties responded similarly to traffic in all seedings and in all years.

Traffic treatments were harvested on the same dates even though trafficked alfalfa was slightly less mature. Had they been harvested at similar maturity, yield reductions due to traffic may have been less. In addition, producer fields are usually not trafficked over the entire field. However, more compactable soils than the shrink/swell Fargo clay could suffer greater yield reductions with traffic.