



# Agricultural Journals

*Research in*

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## Subscription

# Res. Agr. Eng.

Novák P., Šmerda T.,

Čupera J.:

**Impact of semitrailer  
tyre pressure upon**

# passive resistance and tractor unit operation economy

Res. Agr. Eng., 55 (2009): 129-135

The aim of the measurement was to establish and prove the effect of the semitrailer tyre pressure on the magnitude of power losses and energy intensity in a tractor unit operation. The measured and calculated values were interlaid with the corresponding functions by means of regression analysis considering the magnitude of the determination coefficient (determination index). The values of the determination index ranged from 0.95 to 0.99 for regression functions; all the regression function were highly reliable at 0.01 relevance level. The difference of the lost power was recorded at the speed of 35 km/h, 1.82 kN between 170 kPa and 300 kPa pressures. The energy intensity of the tractor unit operated on the testing route changed as a result of increasing the semitrailer tyre pressure from 170 kPa to 240 kPa while its hourly consumption

## Keywords:

lost power; speed; rolling; tyre pressure;  
fuel consumption

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