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Res. Agr. Eng.

M. Fríd, J. Šabatka, I.
Celjak

The effect of working

selected parameters of duckfoot shares

Res. Agr. Eng., 50 (2004): 66-74

We measured a series of six duckfoot shares in the years 1999– 2000. The purpose of the research project resulted from the Grant EP7111 and the Research project MSM J06/98: 122200002/I. We described forces affecting machine implements and we consequently calculated measuring resistances during the ploughing. The deeper the subterranean the higher the linear growth of forces. If the subterranean rises from eight to ten centimetres, it will appear an increase in forces of 59.61% in the horizontal plane and of 30.84% in the vertical plane. If the driving speed increases from 5.91 km/h to 11.38 km/h, i.e. 1.64 m/s to 3.16 m/s, the forces will intensify to 53.11% in the horizontal plane and to 25.8% in the vertical plane. We deducted an outstanding influence of soil moisture on the resistance of the duckfoot shares at all three stages.

Keywords:

forces; resistivity of loosening; speed of operation; depth; soil moisture

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