Ploughing with less fuel consumption

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Kongskilde – best in test

The fuel consumption and the use of the tractor are highly important for farmers to achieve a low cost cultivation. The Swedish University of Agriculture (SLU) has presented interesting findings on this subject.

Kongskilde AX plough body has the lowest draft requirement among the competitors

A comparison of the three most common plough brands was done by JTI, The Swedish institute for agricultural technique, in Uppsala. A 100 hp tractor was used to measure the draft requirement of the four furrow reversible ploughs. The furrow width of the ploughs was adjusted to 40 cm and the working depth was 20 cm. As you can see in the diagram, the Kongskilde plough with the AX-body was the one among the competitors which had the lowest draft requirement. This result means remarkably less slippage and higher efficiency which gives a lower fuel consumption and tillage cost.



Low draft requirement

With a 135 hp tractor, equipped with advanced measuring systems the energy consumption has been compared to the amount of loosened soil for different soil preparation equipment. The draft requirement and the amount of loose soil have been registered for the plough, the tine cultivator and the disc cultivator at different depth adjustments. As you can see in the diagram, ploughing is the most efficient method for soil tillage.



Measuring of fuel consumption with a front mounted plough

There have been discussions around the economical benefits of driving with a fully mounted front plough instead of having a regular front weight on the tractor. SLU has come up with an answer after comparing these two options. They had a 135 hp tractor and compared a four furrow plough together with a front weight and a four furrow plough together with a two furrow front mounted plough. On the test area (heavy clay

Litre/hectare

soil) the fuel consumption decreased from 18.4 liters/ha to 16.5 liters/ha. That is to say 10 % in decreased fuel consumption with a front mounted plough instead of a front weight. Practical measuring on lighter soil has shown a decrease down to 8 liters/ha. The front mounted plough is a good way to increase tractor efficiency.



Kongskilde Agriculture Tel. +45 61 80 50 00 office@kongskilde.com

www.kongskilde.com

