

Filtrap System—for Mapping Tractor-implement Field Performance



Management decisions related to agricultural machinery can affect plantation profits in many ways. Fuel, interest, labour and timeliness are the pertinent factors that contribute to tractor's productivity and efficiency. To improve productivity and efficiency, it is necessary to have comprehensive information on all aspects of the tractor and implement performance in the plantations.

FILTRAP is an integrated and complete system on-board an agricultural tractor for thorough testing and evaluation of any implements under actual field conditions. The system can measure, display and record in real-time tractor's theoretical travel speed, actual travel speed, fuel consumption rate, drive wheel slippage, drive wheel torque and implement's PTO torque, drawbar force, and three-point hitch forces. With the added DGPS option, the system can be used for spatial mapping of the tractor-implement field performances. Under such configuration, the system can measure, display, and record in real-time tractor-implement's geo-position in the field with respect to its measured performance.



Filtrap system

In addition, the FILTRAP system is capable of providing the following information:

- Geo-position (meter or degree);
- Actual travel speed (km/hr);
- Theoretical travel speed (km/hr)
- Fuel consumption (L/hr)
- Tractive efficiency (%)
- Work rate (hectare/hr)
- Drawbar pull force (kN)
- Vertical and horizontal forces at 3-point hitches (kN)

Filtrap is patent-pending under Malaysian Patent registration number PI 20041435.

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