

CLAAS crop sensor is first to receive AEF ISOBUS certification

21 December 2015 by CLAAS

The CLAAS ISARIA CROP SENSOR optical crop sensor is not only the first ISOBUS-compatible online sensor on the market, but it has now also received official certification from the independent organisation AEF (Agricultural Industry Electronics Foundation) for its ISOBUS compatibility.

For customers, the AEF certificate means they can be confident of operational reliability when combining tractors, implements and terminals. Technically speaking, this means that other ISOBUS terminals already on the market can be used to operate the CROP SENSOR.

The capabilities of modern farming technology depend today on compatibility between the various components such as tractors, terminals and implements. Interfaces defined according to the ISOBUS standard handle communication between the components. The ISOBUS conformity test and the AEF certification provide users and manufacturers with precise information on which components are interoperable.

AEF has defined the ISOBUS functionalities that serve as a basis for certification. The CROP SENSOR from CLAAS has been certified for the ISOBUS UT 1.0 functional class and is therefore also listed in AEF's ISOBUS database. Farmers or contractors planning to invest in new technology can access the database to check the ISOBUS-compatibility status of their current and planned new technology.

About the CLAAS CROP SENSOR ISARIA

The new CLAAS ISARIA CROP SENSOR makes an online, plot-specific calculation of the crop's optimum nitrogen uptake. It can be used for any crop, does not depend on daylight, and is compatible with any method of production. It requires just one operation to perform automatic measurements, calculations and adjustments while travelling. This means that the optimum fertiliser quantity and its application rate are calculated almost at the same time.

The ISARIA CROP SENSOR is an optical sensor with two sensor heads, fitted on the right and left hand side of a carrier frame, which is mounted on the tractor's front linkage at a defined height above the crop. The system is fitted with active lighting (LED) so that the ISARIA CROP SENSOR can be used both during the day and at night. The measuring frequency automatically adjusts to the environmental conditions such as the intensity of ambient light.

Usage

A measurement is taken of the light reflected by the crop under the sensor head. This is used to calculate the IRMI vegetation index, which states the current nitrogen supply to the crop. The ISARIA CROP SENSOR measures the quantity of nitrogen which has already been absorbed by the crop until then, compares this measurement with the target value of the current EC stage, and then calculates the nutrient shortfall that needs to be compensated.

In addition, crop density is measured using the IBI biomass index. If the IBI falls below a particular threshold value, for instance due to drought or frost damage in the field, the spread rate in these subplots reverts to the value defined by the farmer. This combination of the two indices prevents errors.

Automatic calibration – also coming soon

If the sensor needs to be calibrated on-site, CLAAS allows single-point calibration in addition to tried-and-tested two-point calibration. This is equivalent to common farming practice: A representative supply status for the crop is calculated based on selected points. The ISARIA CROP SENSOR responds to deviations by increasing or decreasing the applied quantity correspondingly.

Furthermore, while travelling the tried-and-tested ISARIA fertiliser system measures the nutritional status of the crops without prior calibration, therefore ensuring that the crop receives the optimum nitrogen supply.

Starting next year, CLAAS will also offer automatic calibration: The user simply adjusts the average quantity of the chosen fertiliser, and the sensor distributes this amount each time.

Map Overlay Process

As experience has shown that the yield over the total area can fluctuate greatly, there is a risk of over- or under-fertilisation. This is where the ISARIA CROP SENSOR utilises the map-overlay process. In addition to the actual and calculated N supply, this process considers the yield potential to ensure application of the optimum plot-specific spread rate in kg/ha or l/ha. Among others, the valuable CLAAS yield mapping data can be used to help calculate the yield potential. EASY Service (Efficient Agriculture Systems) also provides a service to lend suitable consideration to the necessary soil parameters.

Source: CLAAS