



Yara N-Sensor[®] ALS

Variable rate nitrogen application around the clock

The N-Sensor[®] ALS (*ActiveLightSource*) is an active sensor with an own light source. The system is capable of detecting N-status and plant biomass of cropstands by measurements of light reflectance. The innovative, patented measuring technology of the N-Sensor[®] ALS enables variable rate fertilizer application on-the-go irrespective of ambient light conditions, i.e. 24 hours a day.



Innovative technology

Due to its unique technology, the N-Sensor[®] ALS is capable of active measurements over a comparatively long distance, scanning an appreciable part of the cropstand to be treated. This is why a compact system construction mounted on the tractor cabin became possible and large booms, hampering farm operations, could be avoided. The light source of the N-Sensor[®] ALS is a Xenon-flashlamp, providing multispectral light of high intensity. The share of light reflected by the cropstand is measured by a detector using four spectral channels that are most suitable for deriving plant information on N-status and biomass.

Agronomic know-how

The system's software includes algorithms for optimised site-specific N fertilization of various crops, all of them developed and verified in long-term fieldtrials. The combination of advanced technology (measurements conducted within a large scanning area, with oblique view, and with optimised spectral channels) and agronomic knowledge ensures reliable detection of in-field variability and determination of optimum fertilizer rates for every spot in the field.

Proven system set-up

The well-proven set-up of the passive N-Sensor[®] has been kept. This means:

- userfriendliness
- easy data transfer
- compatibility with spreaders and sprayers

Added value by independence of ambient light

- extended time frame for operation (daily and seasonally)
- increased working capacity (acreage per season)

Successful on-farm operation

The N-Sensor[®] ALS has been successfully used by farmers in Sweden and Germany during the 2005 fertilizing season.

