



Moisture Measurement

on Bales of Lucerne, Tobacco and others

Reliable moisture control

The moisture inside the bales is a critical parameter for the quality and durability of the Lucerne. Material which is too moist can start degrading and the risk of self-ignition is even high. A moisture measurement is carried out on the bales before storage to make sure that the moisture content is within the desired range of 8...15%. Furthermore, when Lucerne is used in Bio-Ethanol production or power generation the online measurement of moisture is an important factor for an efficient process.

The MicroPolar series from Berthold uses the highly reliable Microwave transmission technology to scan the bale and to measure the moisture inside the bale - all non-contacting and very accurate. Compared to conventional technologies the Microwaves penetrate the whole bale ensuring an extremely representative measurement of the complete cross-section which creates a reliable picture of the contained moisture.

Measuring System MicroPolar LB 567

One emitting and one receiving horn antenna is installed on the bale conveying system. Microwaves which are generated in the MicroPolar control unit are emitted from the antenna, sent through the bale and attenuated. Considering that the attenuation caused by water is much higher than the attenuation caused by dry matter, the measured attenuation is excellently correlated to the water content in between the antennas.

Seen as the antennas are not in contact with the bale, wear and tear is not an issue and maintenance is not required during the whole lifetime of the instrument. To optimize performance weight compensation can be conducted in the system by connection of a weight sensor.

Achievable accuracy is $\pm 1\%$ moisture

Advantages

- Maintenance-free operation
- Online measurement providing real-time results
- Precise determination of moisture inside the bale
- Measurement of complete cross-section through Microwave transmission technology
- Representative and reliable results



MicroPolar LB 567 system installed in France, measuring the moisture inside Hemp bales

