LANDTECHNIK
AGRICULTURAL ENGINEERING

Spotlight

Rational answers to emotional questions:
Digital Animal Farming

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Photo: DLG

For the search word "Tierwohl", Google delivers more than half a million hits, and a solid 25 million results for the English translation: "Animal Welfare". Although how the number of answers relate to the quality of the information therein, is another matter. One thing is certain however, the subject animal welfare nowadays permeates agriculture as well as public discussion. Also undeniable is the close association of animal welfare and animal health. Without good health there's no welfare – for the individual animal and for the entire herd. Livestock producers must be aware of animal health standards and be able to record and assess them. A clear advantage in this respect lies with the digital farm.

Animal, herd and housing

Thus, in dairy farms, sensors continuously record cattle feeding and movement behaviour. Whenever farm livestock is involved, the dictum "The farmer's eye feeds the beasts" must never be forgotten. However, 24/7, i.e. round the clock and every day of the week, this is a difficult demand for analogue observation. Sensors, on the other hand, have no "bad days", don't allow themselves to be distracted, and are always on the spot. Via the resultant data the livestock keeper quickly recognises if something is not in order, for instance when an animal remains lying for too long. Rapid tests help when there's a suspicion of metabolic disorder such as ketosis. Digital kits allow rapid and reliable diagnoses. And sensors giving early warning, via SMS, of a possible difficult calving are real life savers.

Literally fundamental to animal health and welfare on dairy cattle farms are healthy hooves. Digital applications, i.e. apps, are ideal for this. They identify problems and document all treatments applied: for the individual animal and for the herd. Optimally, such data are combined with recorded feeding behaviour, fertility, performance and genetics. For all types of animals, sensors ensure a top climate in the barn. Cattle, pigs, small ruminants and poultry all have different demands regarding respective environment, for comfort and therefore wellbeing. Sensor systems can check if every contributing factor is right, and sound alarms when this is not the case. Temperature, air humidity and airflow can be kept at optimum levels, and possible pollutant emissions identified early.

Digitization: an aid as well as a challenge for farmers

Animal welfare is a great responsibility undertaken by commercial farming and one that can only be ensured through appropriate controls. Digital applications substantially ease such monitoring. There's much to be said for agricultural sector customers, the complete food industry and retail sector,

becoming much more interested in this aspect. There are clear advantages here, although contractual agreements for all participants would be necessary regarding data access and application.

But all such digital instruments do not replace the farmer. On the contrary, they require all his, or her, know-how. But when all the inputs are integrated this then offers an informative overview of welfare for every animal involved.

Digitization is not to be seen as simply a status level to be aimed for. Instead, it must be regarded as a permanent process within agriculture. This is exactly what the DLG wishes to achieve with its key theme "Digital Animal Farming" at EuroTier 2018 (November 13 to 16). The core message of Digital Animal Farming is nothing less than fundamental transformation within livestock production. This applies to individual farms just as much as to cooperation programs at producer level as well as in the added value chains of the agricultural and food industries. Digitization along the lines of "trial and error" would be too cost-intensive for farmers. Therefore they should lose no time in taking full advantage of the specialist competence of advisory services. In future, digital agricultural know-how must become one of the core competences in training and study.

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