

From the Editors

# Precision livestock farming for the global livestock sector

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In the past, farmers had a few cows and pigs and some more broilers or laying hens and they had all the time for audio-visual scoring during the day to follow and monitor his animals. In those days, farmers knew what was going on with their animals and were not stressed by too many animals. Today, however, the situation has completely changed. Many people blame the farmers, but they forget to consider the price they pay to buy animal products compared with the price that their grandparents paid for the same products. The price difference is very small when compared with the price

of other products (e.g., cars). To realize and earn their living, farmers are forced in a situation to always manage bigger groups of animals. Knowing that the worldwide demand for animal products (meat, milk, and eggs) will increase by 70% by 2050, the situation is even getting worse. Every year, there are fewer farmers since it is becoming more difficult to run a profitable business when you always have to herd more animals.

The worldwide increase for animal products will mainly happen in China, India, and South America due to changing diets that have become



affordable, and Africa will follow. This will result in even larger herds of animals, and it has become impossible for the farmer to follow individual animals in such large groups.

A main problem is the need for continuous health monitoring in such big groups, and this also relates to human health by reducing the use of antibiotics and controlling zoonosis. Also, the guarding of animal welfare and productivity is important. Today, we stay too far away from the genetic potential of the existing genetic lines, and worldwide we use too much feeder and produce too much manure to exploit the genetic potential of our animals.

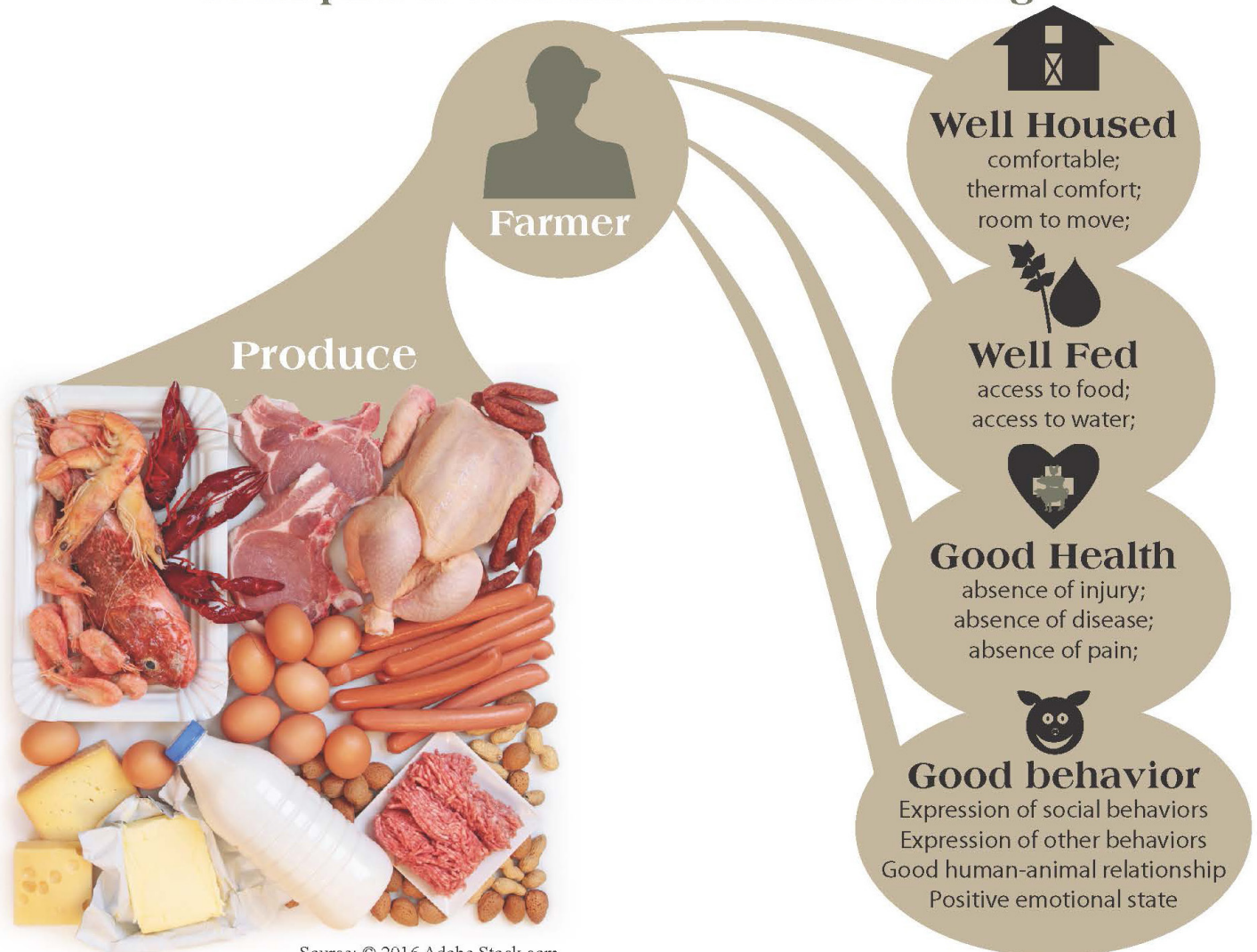
The precision livestock farming (PLF) approach aims to monitor and manage animals in a continuous (24 h/d and 7 d/wk) and fully automated way. The modern PLF technology (cameras, microphones, sensors, and

internet) will bring the farmers' attention to the individual animals that need their help to solve a problem. This will change the life of farmers and their animals. Farmers can take immediate action when an animal has problems and will spend time on solving problems rather than controlling problems. The application of PLF technology for many animals will reduce the cost and make the technology available and affordable for small family farms as well as in developing countries.

This special issue aims to show the vision and potential of this technology as we have experienced and learned from the biggest PLF research project so far worldwide: the EU-PLF project 2012–2016.

Enjoy the reading, and all comments, suggestions, questions, or complaints are very welcome.

## Principles of Precision Livestock Farming



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