## Rabobank Report: Big Data has the potential to add $10 billion a year to value of global crop farming

**Data-intensive farming is coming, according to Rabobank’s latest report *From Intuitive to Fact-Based Farming*. Rabobank predicts “smart farming” practises could easily add USD $10 billion a year to the value of field crop farming on a global scale, with the real value likely to be higher. However, the successful implementation of data-led farming will also require fundamental changes to existing farming practices, as well as the relationships between farmers, suppliers and customers.**

“Also known as smart farming, data-intensive farming utilises new sensor technology to collect and process data for many variables relevant to monitoring and optimising crop growth,” explained Rabobank Analyst Harry Smit. “This allows farmers to tailor inputs and fine-tune application rates and cultivation activities down to the square metre. Over time, aggregation of data from many farmers will drive the development of even better agronomic decisions that can be customised and automated.”

Nevertheless, the report warns that the industry will have to adapt to help manage the costs of investment. This will be easiest for the type of large corporate farms, most common to the US, South America and Australia.

Medium and small sized farms will need to develop a means to access the required technology, and will face considerable competitive pressures to do so. This will necessitate scaling up by either increasing their own operations or by becoming part of a bigger franchise, sharing data, technology and expertise. Options include developing relationships via their suppliers to leverage investments across farms, or through direct cooperation with other farmers.

Indeed, the report singles out farming co-operatives as having both the opportunity and a responsibility to take the initiative in helping their members’ participate in data-intensive farming. Cooperatives provide an obvious framework to help aggregate data, and share costs and expertise. A cooperative database could also be used to develop new ancillary products, such as peer-to-peer analysis.

Rabobank’s estimate of $10 billion annual increase in global field crop value is based on an estimated 5 percent yield increase on 80 percent of the area for the top seven crops produced in the world (corn, soybeans, wheat, cotton, rapeseed, barley and sunflower). The real value is anticipated to be higher, considering similar benefits to smaller high-value crops, such as sugarcane, potatoes, sugar beets, as well as fruits and vegetables. The livestock industry is also expected to see similar benefits.

The report also anticipates a second phase of change, during which the human factor in decision-making will be increasingly supplemented and partly replaced by algorithms. For example, machines equipped with sensors will execute real-time, automated, fact-based decisions to address variable needs within the field.

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