

Spotlight

Ambitious emissions targets require a consistent process perspective

**Richard Markwell**

Photo: private

For many years, it was a topic mainly reserved for experts – complex, inaccessible and difficult to penetrate. Those who discussed CO₂ and nitrogen oxides were specialists in the fields of combustion processes and exhaust gas purification – in short, they dealt with issues that were restricted to engine technology. Since then, the perspective has changed significantly and the horizon has expanded. We are no longer focusing on the single engine when it comes to reducing agricultural emissions in the future. A holistic process concept and awareness of the problem are increasingly coming to the fore, promising “more output with less input”. The focus is thus on investigating the efficiency of processes instead of measuring isolated fuel consumption and exhaust emissions. Every element of a machine and every link in the process chain is of relevance.

More output with less input

This is an undoubtedly enlightened and far-sighted approach that deserves to be pursued on a scientific basis. Since October, this has been systematically implemented as part of an application-oriented CO₂ research project chiefly initiated by VDMA. The “EKOtech” project, which focuses on the efficient use of fuel in agricultural machinery, is currently being pushed ahead by top-class specialists from industry and science and receives generous funding from the German Federal Ministry of Food and Agriculture. The ambitious project already has EUR 5 million available in funding, of which more than 60 percent comes from public sources.

Sustainable reduction in CO₂ emissions

The central goal of the project is to sustainably reduce CO₂ emissions produced by agricultural machinery along the entire production chain in grain farming. Our first step to achieving this goal is to collect comprehensive empirical operational data. Following this, we will identify measurable optimization potential on the basis of model farms and innovative process technology and derive practical recommendations for farmers. This goes to show that this dedicated interdisciplinary project has clearly been focusing on practical and application-related issues from the outset. In the end, the “EKOtech” project can only be a success for everyone – the environment, agriculture and society – when we succeed in developing truly market-ready solutions.

A completely new way of thinking is needed

When it comes to climate protection, however, a real increase in efficiency is required even more. A new way of thinking which ends at the door of the tractor or combine harvester will not suffice. Rather we need to take the whole agribusiness to task – in a proactive and solution-oriented manner, of course. After all, all the players along the agricultural process chain are required to shoulder the environmental responsibility for their actions – without any exceptions. Innovative process and networking approaches are thus required at every stage of the value chain.

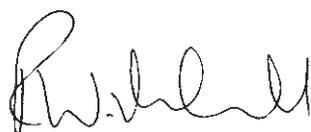
In this situation, agricultural technicians are setting a good example by contributing an important solution for the agriculture of the future with our ambitious self-commitment. Most importantly, this can be achieved by tapping the enormous efficiency potential that is inherent in the process. In this respect, the idea of self-commitment, which goes far beyond mere exhaust gas analyses, is proof of our veritable pioneering role and underlines our high innovation standards.

Process intelligence as the aim

Instead of continuing to focus on combustion gases and their mechanical, catalytic or chemical purification, we have decided to concentrate on process intelligence. The fuel consumption of agricultural machines and tractors is consistently assessed in relation to their process-related performance. For example, synchronizing all machines and systems used in harvesting logistics through intelligent control engineering technology can save enormous quantities of fuel. Experts estimate that fuel consumption can be reduced by up to 20 percent.

Considerably curbing greenhouse gases using process intelligence is a task which promises great success. However, if we are to achieve long-lasting results, we also need to be prepared to reconsider old habits. After all, we will only be successful in the future if we succeed in implementing a Europe-wide solution in the sense of a focused representation of interests at CEMA level.

Yours,



Richard Markwell

CEMA President