Latest Technical Developments create possibilities for sustainable use of fieldsprayers

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Introduction.

Within the area of crop care the use of less pesticide becomes more and more important, due to world wide growing importance of sustainable farming and due to the fact of healthcare. In this field, agricultural engineers are focused on intelligent machine systems that, partly, take over the decisions farmers have to make nowadays. What technologies are already available and which latest technologies could be used in the research areas to develop new methods of handling information and reduce the use of pesticides?

Problem.

To save our planet from environmental damage, the use of pesticides will be limited. Focussing on the area of pesticides is part of the solution. The use of intelligent systems in crop care should be taken into consideration more and more. Also the registration is a problem. How to handle all the information from the different fields, different blends and different years? How to save costs and the use of pesticides with the help of GPS by using track systems within precision farming? How can the new developed ISO-bus system be of use in this regard? Are the machines in the field working as the farmers think they do? A lot of questions arise around this subject and may be part of the solution.

Approach.

In this paper, we give an overview of practical possible solutions within the framework of Agricultural engineering and precision farming that are available nowadays to use on field sprayers. Also the use of latest information technology could be an interesting approach to think about in new research areas. Last but not least are the skills of the end-user. Modern electronics help the end-user to prevent making mistakes in the use of spraying machines. Combining knowledge systems will help us to find a way to more sustainable methods in the near future for crop care, both for us and the future generation.

Focus

Due to the worldwide growing demand of food and later on, the rising labour costs, use of pesticides became more and more common in the 20th century. In the years 1990-2000 the focus on sustainable farming was forced by the “green” lobby to reduce the use and quantity of pesticides. In this respect, producers of spraying machines and their suppliers became aware that also they had to change their approach. Their focus on the technical solutions to use pesticides more efficient has brought several new possibilities. The spraying computer first was developed helping the driver to handle the machine. Now it is an intelligent tool, possible combined with GPS and camera technology for advanced farming systems. The several developments will be shown and the latest technology is explained
Important is also the registration system. This is not only for the large scale farm, as handheld PDA computers with a GPS connection will work for a wide range of users.

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