Initiative for MANUFUTURE:

Activating User-Centered research on sustainable agricultural innovations

Agricultural Engineering innovations have a great potential to enhance sustainable development when fulfilling the needs of the growing World population. Better efficiency and accuracy in using inputs such as fertilizers and agricultural chemicals reduce the environmental impact per produced amount of food, feed, fiber and fuel.

The innovation chain needs to be unbroken and operational in both directions: research needs to be converted efficiently into acceptable products, and the needs of customers need to be effectively heard.

Background: a research funded by the OECD Co-operative Research Programme was conducted with the topic: 'Speeding up innovation in agricultural engineering' (Haapala 2012). The results from expert interviews and a global questionnaire show that the innovation chain is not as effective as it could be. The experts think that acceptability of new technologies is not as high as their technological level. R&D process need more knowledge of the end-users' needs and preferences. The experts agree that User-Centered Design (UCD) has the potential to speed up the process of sustainable innovations. Co-operation of agricultural engineers, industrial designers, marketers and end-users is the key for better products. If users are more involved in the design process, the products are easier to use and fit better to their use. The R&D phase is shorter because less iteration is needed to design an acceptable product. Users also adopt the usable products easier.

It is concluded that User-Centered topics should be emphasized among the European research priorities in Agricultural Engineering. The research should be more directed towards the acceptability of new technologies. The innovation process itself should be an important topic.

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