



## **Summary of German study evaluating the economic output of agricultural crop rotations**

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There is a new German study evaluating the economic output of agricultural crop rotations (with oilseed rape) with special consideration regarding new fertilization laws, the agricultural strategy of the German government, and environmental outputs. The final report can be found here (in German only):

[https://www.ufop.de/files/2516/2376/2580/UFOP\\_Abschlussbericht\\_529\\_151.pdf](https://www.ufop.de/files/2516/2376/2580/UFOP_Abschlussbericht_529_151.pdf)

This study was authored by Prof. Dr. Reimer Mohr and Torben Ehmcke-Kasch and published by the famous private agricultural consulting firm Hanse Agro, under the supervision of the German Union for the Promotion of Oil and Protein crops (UFOP). What follows is a summary of the work that involved oats:

### **New crop rotation index**

Hanse Agro assessed social benefits with the help of a crop rotation index. For this index, points can be collected by alternating between winter and spring crops, as well as between leaf and stalk crops. Other parameters include humus balance, length of the vegetative period, and number of weeks of flowering. If all of these factors are taken into account, crop rotations are clearly differentiated. A three-field crop rotation of winter crops scores low. A high score is achieved with a six-field crop rotation that includes winter cereals and winter oilseed rape (OSR), as well as catch/cover crops, maize, field beans, and oats. The long flowering period and high humus build-up are particularly advantageous with this combination.

### **Here, biodiversity and economic efficiency are in harmony**

The authors point out that crop rotations with a high score are often among the most economical. This correlation comes into play on fertile soils with sufficient water supply. Here the Hanse Agro advisors observe that crop rotations have already become more diverse. On such sites, the farmer has economic alternatives to winter crops with silage or grain maize, sugar beet, or legumes. In northern Germany, oats are added if the marketing opportunities are good, and in the climatically favourable regions of southern Germany, soybeans are added. These extended crop rotations also benefit OSR, which rewards cultivation breaks of three to five years with additional yields of 3 to 5 dt/ha, compared to a two-year break. "Overall, biodiversity and economic efficiency are in harmony here," the study says.