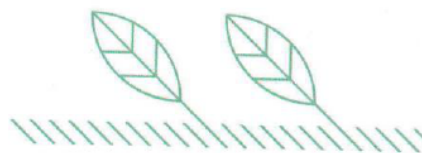




Symposium

**AGROBIODIVERSITY
ALONG THE VALUE CHAIN**

December 4th - December 6th 2023



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Dear participant,

It is our great pleasure to welcome you to Ghent (Belgium) on the occasion of the 1st international CROPDIVA symposium 'Agrobiodiversity along the value chain' (4th to 6th of December 2023). This international symposium aims to stimulate knowledge exchange and interactions between researchers and stakeholders interested in agrobiodiversity. The symposium covers a wide range of topics, organised in the following scientific sessions:

- Genetics: How they shape agrobiodiversity?
- The impact of cropping systems on agrobiodiversity
- Food and feed technology, drivers of change on agrobiodiversity
- Agrobiodiversity: the challenges and opportunities for socio-economic sciences

We are very pleased to welcome Prof Johan Six (ETH-Zürich), Prof Andreas Börner (IPK-Gatersleben) and Prof Carl Lachat (Ghent University) as keynote speakers. They will undoubtedly give inspiring lectures on the various aspects of agrobiodiversity.

We hope that this symposium will be a good opportunity to improve agrobiodiversity in the value chain.

We wish you a pleasant stay in Ghent and hope that you will enjoy not only the scientific program, but also the Belgian hospitality and the social activities we will organise.

Prof. Geert Haesaert

Chairman of the symposium and coordinator of the CROPDIVA project

Potential of yield differential compensation between pure stands and intercrops of hull-less-barley and oat with pea

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Traditional farming practices, focussing on cultivating single crops have detrimental effects such as high input of agrochemicals, soil erosion, and the development of pesticide-resistant pests. Furthermore, the use and production of nitrogen fertilisers in such systems can lead to the release of CO₂, contributing to climate change. Hence, agroecosystems that combine robust crop yields with reduced resource inputs are needed and there is a rising interest in cereal-legume intercropping. However, challenges remain, including the difficulty of managing the variable proportions of each species in the harvested mixture and the limited understanding of how individual crops perform within intercropping systems. The aim of this study was to estimate how intercropping of hull-less barley and oat with pea contribute to better crop performance under climatic conditions of Serbia. The trials were conducted at Rimski šančevi (Vojvodina, North province of Serbia) using a RCBD design with four replicates. Sowing densities were 30% (hull-less barley or oats):70% (pea). On average, the yield of hull-less barley (Golijat) and oats (Dunav) in 2022 and 2023 was notably higher in pure stands compared to intercropping practices. The growing conditions were more unfavourable in 2022 than in 2023. The average yield of hull-less barley and oats cultivated as pure stands in 2022 was 0.34 t/ha and 1.74 t/ha, respectively, and in 2023 3.09 t/ha and 4.96 t/ha, respectively. Yield differential between pure stand and intercropping cultivation was more prominent in 2023 than in 2022, reaching 1.28 t/ha for hull-less barley and 1.63 t/ha for oats. The yield differentials of hull-less barley and oats under two different types of cultivation in 2022 was 0.01 t/ha and 0.63 t/ha, respectively. Consequently, intercropping resulted in the compensation of fresh yield losses of hull-less barley under unfavourable growing conditions, giving a 0.5 t/ha higher total yield than the fresh yield in pure stands in 2022. The total yield of oats and peas (1.65 t/ha) was similar to the fresh yield of oats in pure stands (1.73 t/ha). The lower yield of cereal crops under intercropping aligns with previous studies focussing in wheat intercropping. However, the variability of yield differential between pure stand and intercropping cultivation was less pronounced under unfavourable weather conditions than under favourable ones. This suggests that for certain cultivars, reducing sowing density and incorporating legume intercrops could enhance yield stability ultimately leading to improved total yield performance under unfavourable weather conditions.

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