

UNIVERSITY OF PRISHTINA “HASAN PRISHTINA”

Faculty of Agriculture and Veterinary Medicine

Department: Plant Protection

in cooperation with:

Justus Liebig University Giessen

**Faculty of Agricultural Sciences, Nutritional Sciences, and
Environmental Management**

Institute for Landscape Ecology and Resources Management



Master Thesis

**Evaluating the efficacy of a new harvest technology on the amount of
weed seeds in cropped fields of Marburg-Biedenkopf Country
(Germany)**

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Abstract

In this Master's Thesis, an innovative harvesting technology that collects weed seeds in a combine-mounted tank was investigated with regard of its efficacy. The background of the development of the innovative harvesting technology within a four-year research project at Justus Liebig University Giessen (Germany) is the search for a sustainable method aiming at a reduction of weed pressure on arable land and at the same time at the use of weed seeds collected in a tank for conservation purposes.

The efficacy of the developed technology was investigated and evaluated in the Master's Thesis using a germination and a lab experiment. For these experiments, chaff material from four fields located in two regions of the Marburg-Biedenkopf county (Hesse, Germany) was used. Two plots were conventionally farmed and two were organically farmed. The analysis of the collected data was performed with the help of a Detrended Correspondence Analysis, an Indicator Species Analysis and additional analysis considering weed species traits.

The results of the experiments show that the species composition of the four fields was very different from another and more species occurred on the organically managed plots than on the conventional plots. Overall, however, the species diversity was quite low, with 43 species recorded. Moreover, the results show that the technology developed is basically suitable for reducing weed pressure on arable land during the mowing season. The efficacy of the technology does not differ depending on the size of the weed seeds or whether they are herbs or grasses. Also, “problematic” weeds and “target” weeds are equally collected with the innovative technology. Finally, the technology can be used on conventionally and organically managed fields in the same way.

However, the tested technology is not yet fully developed and suggestions for improvement are outlined at the end of the Master's Thesis.