



## Evaluation Form PhD thesis

Name PhD student: Dobrinka Anastasova Balabanova-Ivanovska

University: Agricultural University of Plovdiv/Hasselt University

Faculty: Faculty of Agronomy/Faculty of Sciences

Title PhD Thesis: Physiological responses of sunflower Clearfield hybrids to the herbicide imazamox

Name evaluator: Ann Cuypers (elected by the Faculty senate of the Faculty of Agronomy, Agricultural University of Plovdiv: Order № RD-16-1010 / 24.10.2016)

**Please indicate in the table below your final score**

Decision	Implication
<input checked="" type="checkbox"/> Accepted without revision or with minor revision	No review of the revised version is necessary. Permission for public defense is granted immediately. The promoter will check if the PhD student has made the requested revisions.
<input type="checkbox"/> Accepted with major revision	The jury must confer. Based on this discussion, two options are possible: a) review of the revised version is necessary before the candidate can be allowed to defend the work in public, b) the procedure is stopped due to major flaws and/or deficiencies in the work.
<input type="checkbox"/> Not accepted	

## Evaluation

### General remarks

Sunflower is a very important oilseed crop for human consumption. Therefore it is important that crop yield and quality is monitored and agricultural management is adapted to optimise sunflower growth. In this regard, herbicides are an important component in agricultural practices to diminish weed growth and hence improve crop production. Nevertheless, as these are chemical compounds, it is essential to analyse their impact on the crop, environment and human health.

The presented PhD thesis is very challenging research work in which applied research (the use of herbicide tolerant sunflower hybrids) is investigated at a fundamental level. In this way better insight in the effect of the herbicide (imazamox) on the crop (sunflower) is obtained and suggestions for improvement on crop production (addition of branched chain amino acids/use of a biostimulant) are investigated.

In general, I appreciate the readability of the manuscript, as the English language used, is outstanding. The presentation of the work is excellent, making use of nice pictures and interesting working models to present the complex amount of data in a very comprehensive and understandable format.

The scientific quality of the thesis is excellent based on 1) the technologies and 2) the experimental set-ups used as well as 3) the integration of the obtained data into useful information that can be exploited into agricultural practices.

The different chapters are written as manuscripts ready for publication in peer-reviewed journals of which 2 are published, 1 is submitted and 1 is in preparation. This is an excellent track record for a PhD student willing to obtain her doctoral degree.

#### *Conclusion*

In conclusion, I fully support acceptance of this PhD thesis for public defence and trust that the different chapters will be published in peer review journals.

*Signature*

A handwritten signature in dark ink, consisting of a stylized 'A' followed by a horizontal line and a vertical line intersecting it.

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Prof. dr. Ann Cuypers