

PP-Thesis-Guidelines

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Instructions for the preparation of a scientific thesis (MSc/ BSc/ PhD)

Section of Plant Pathology and Crop Protection
Department of Crop Sciences
Georg-August-University
Göttingen

Cover page sample:

First name, family name

Thesis title

2

Bachelor thesis /Master thesis / Dissertation

Study program: (e.g. Crop Protection)

Faculty of Agricultural Sciences

Georg-August-University Göttingen

1st Examiner: Degree, first name family name

2nd Examiner: Degree, first name family name

(Others?)

Be aware to organize an examination commission in time.

Demands for individual graduations:

(i) BSc (1st & 2nd examiner; at least one graduated PhD)

(ii) MSc (1st & 2nd examiner; usually one professor, exceptionally graduated PhD & approved PhD student)

(iii) PhD (1st, 2nd, 3rd examiner; examination board consists of professors and approved graduated PhDs)

Register thesis before submission/defense in time – ask examination office for specific demands

Deadline: Day. Month. Year

Prepared in the

Plant Pathology and Crop Protection Section

Department of Crop Sciences

Georg-August-University Göttingen

Structure of the thesis:

1. Cover page
2. Contents
3. Abbreviations
4. Introduction
5. Material and Methods
6. Results
7. Discussion
8. Summary
9. References
10. Annex
11. Curriculum vitae (only for PhDs)
12. Acknowledgement
13. Statutory declaration

General rules and format guidelines

- Bind your thesis but do not use spiral binding
- Font: Arial 11 pt or Times New Roman 12pt
- Line spacing 1.5
- Single page print
- Margins: left: 3cm, right / top / bottom: 2,5 cm
- Page numbers: place them at the top of the page - in the middle or to the right
- Paragraph format: 6pt gap in front of a new paragraph
- Maximal number of chapter heading levels: 3
- Start a new chapter on a new page
- Do not prepare figure and table indices
- Do not give references in footnotes (separate chapter)

Table of contents

- List chapter headings and subchapter-headings with their respective page reference (page number)

Abbreviations/ Index of abbreviations

- List all used abbreviations in an index
- Use them rarely; only use commonly used abbreviations
- Do not use abbreviations for your own convenience only
- Use the full term first and introduce the commonly used abbreviation in brackets before using it right away
- Use SI-units

Tables / figures

- There is no need to provide a list of tables and figures!
- The caption for a figure appears below the graphic; for a table, above
- Do not use frames for figures
- Do not use titles in your figure (as commonly defined in Excel, -use legends instead!)
- Tables and figures will be abbreviated and separately and consecutively numbered (e.g. Tab. 3, Fig. 5)
- Both figures and tables will be entitled. Titles should be self-explanatory (content must be understood without reading the text of the thesis – very common mistake!!!)
- Title ends without a full stop
- Table must provide dimension units
- Commenting of tables will be done by using superscript characters, (e.g. ^{a)} for ^{a)} – year of isolation);
, **, and * are characters restricted for their use expressing statistical probabilities (95, 99 and 99.9%, respectively).*
- Tables and figures should be placed in the text after they have been mentioned
- In case of citing a table, it must be indicated (e.g.: von Tiedemann 2012), in case it is modified it must also be indicated (e.g.: according to von Tiedemann 2012, abridged)
- In contrast to other standards we abandon table and figure indices

Introduction

- Informs about the study object
- Presents the aim of the work / working hypothesis in a rational fashion
- There should be a golden thread running through the introduction and not an arrangement of different isolated paragraphs.
- Questions to be answered: Which problem should be worked on by using which method? For what reason and what is the aim of this study? – What is already known?

Material and Methods

- Detailed description of the materials & methods used
- Mentioning manufacturers, designation (town and country)
- Listing chemicals- / media including all components and manufacturers
- Indicate parameter in a comprehensible form –protocols given here should be prepared in a way that the experiment can be understood and reproduced by another person and could be adapted to other technical devices present in a different lab.

Examples:

(i) It is not enough to state rounds per minute (RPM) in case you describe a centrifugation step. Of major importance is the applied relative centrifugation force (RCF), which is a function of the rotation force and the radial diameter of the rotor (indicate the relative centrifugal force RCF (**g**-number), or at least indicate the centrifuge together with the rotor you have used)

(ii) In case you describe parameters of plant growth, it is not sufficient to indicate lighting durations (day / night). It is important to indicate light intensities (whenever possible use the dimension $\mu\text{mol m}^{-2}\text{s}^{-1}$) and the kind of light sources used which have certain wavelength spectra. Even the distance of the plants to the light source is an important parameter (law of the exponential decrease of radiation).

(iii) If you describe organisms used during your study, you should consider a tabular presentation in which you list their important properties. In case of describing e.g. fungal isolates always use its botanical name (genus, species), year of isolation, the location, the substrate it was isolated from (plant –genus, species, cv., organ), relevant traits and whenever possible provide references.

- Consider typing rules: 22°C and 43% (without a blank!); 20 mL, 8 g, 4 h (etc. with a non-breaking space (Word: STRG+ALT+SPACE BAR), botanical names in italics
- Describe the used software and statistical procedures. Also, describe the design of you experiments (number of independent repetitions of the experiment, number of repetitions in your experiment, number of technical repetitions in case of e.g. physiological measurements).

Results

- Describe exclusively results with the help of tables and figures which are described in the text
- In case you use headers give rational information about the aspects treated beyond – do not use headers which are providing a non-descriptive single term like „18 dpi“, for instance.
- Chapter and subchapter headings should regularly be followed by a text passage and should not be standalone headings followed directly by a sub-heading.
- Present results as bar charts of mean values presenting also individual standard deviations.

- Whenever possible compare mean values with statistical procedures in order to check their explanatory power (test of significance).
- According to the traits recorded (parametric- non-parametric) and their distribution (residues) select suited tests.
- An exclusive presentation of data in tables or graphs is not sufficient. Describe results.
- Use a rational encoding of variants in order to facilitate reading of your thesis.
- Use a clear diction, which is very important. Never use the complex German sentence design ending up in numerous side chains. Always prefer short sentences considering the question: “Wherever a comma is in place can’t I substitute it with a full stop?”
- Whenever you present numbers, either in tables or in the text, do not give more than two decimal places.

Discussion

- In this part of the thesis, interpret results in the context of the knowledge presented in the scientific literature.
- Do not simply repeat results using other words. Instead, compare them critically with existing published hypotheses and your own hypothesis.
- Point of reference should always be the primary literature (reviews or citation in other papers is not a proper way)
- Further necessary research can be included at the end of the discussion (outlook)
- Normally, the discussion does not contain figures or tables

Summary

- Short and clear presentation of the experimental question (working hypothesis)
- Very short presentation of the studied objects, methods used, main results, main conclusions and take-home messages
- Should usually not exceed 1-2 pages
- No citations in here
- Solely reading of the introduction and the summary should allow the reader to pick the main contents of the thesis
- Do not use your abbreviations, which you introduced before.

References

- Describing references in the text of the thesis:
(i) single author: (von Tiedemann, 1999) - or in case of direct use – von Tiedemann (1999) showed...

(II) two authors: (Juroszek & von Tiedemann, 2011) – Juroszek and von Tiedemann (2011)

(III) three and more authors: (Juroszek et al., 2011)- Juroszek et al. (2011)

(IV) personal communication: (Koopmann B, pers. communication, 18.11.2011)

(V) Web pages (UFOP, 2011 or name, first name, year)

- Order of references: in the reference chapter in an alphabetical order, in the text according to the year of publication, in case of multiple publication in the same year sub-ordering by alphabet, introduction of small letters in case papers of a single author are referred with the same publication year (e.g.: von Tiedemann 2012a, von Tiedemann 2012b)
- The chapter references provides all sources of information, which have been referred to in the thesis: (i) scientific paper, (ii) books, (iii) book chapters, (iv) web page information. **Personal information** (oral or delivered via email, letter etc.) will be cited only at the place they are mentioned and not in the references.

- List references completely. Delete references, which are not used or referred to.

- Formatting of references follows the bellow given formal scheme:

(i) Paper of scientific journals

Eynck C, B Koopmann, P Karlovsky, A von Tiedemann (2009). Internal resistance in winter oilseed rape inhibits systemic spread of the vascular pathogen *Verticillium longisporum*. *Phytopathology* 99 (7): 802-811. DOI: 10.1094/PHYTO-99-7-0802(DOI, *might be presented but is essential only in case it is an online preprint publication*)

Fitt BDL, H Brun, MJ Barbetti, SR Rimmer (2006). World-Wide Importance of Phoma Stem Canker (*Leptosphaeria maculans* and *L. biglobosa*) on Oilseed Rape (*Brassica napus*). *Eur J Plant Pathol* 114 (3): 3-15.

Comment: the second citation is **not** following the rules:

- Title is not following the same capitalization rules as the first paper. Should be: World-wide importance of phoma stem canker (*Leptosphaeria maculans* and *L. biglobosa*) on oilseed rape (*Brassica napus*);
- Latin names are not in italics: World-wide importance of phoma stem canker (*Leptosphaeria maculans* and *L. biglobosa*) on oilseed rape (*Brassica napus*);
- Journal name is abbreviated: *Eur J Plant Pathol* 114 (3): 3-15; use the full name *European Journal of Plant Pathology* 114 (3): 3-15.
- Type journal names in italics: *European Journal of Plant Pathology* 114 (3): 3-15, *for reasons of convenience, we recommend to use full journal names. It is possible to abbreviate journal names. In case you like to do this, you should carefully follow the international convention (look up here: <https://www.ncbi.nlm.nih.gov/nlmcatalog/journals> or https://images.webofknowledge.com/images/help/WOS/J_abrvjt.html);*
- (ii) Books
Hallmann J, A Quadt-Hallmann, A von Tiedemann A (2009). Grundwissen Bachelor - Phytomedizin“, Verlag Eugen Ulmer Stuttgart, 2. Auflage, 516 pp., 2009 (ISBN 978-3-8252- 2863-7).

- (iii) Book chapter
Evans N, P Gladders, BDL Fitt, A von Tiedemann (2009). Altered distributions and life cycles of major pathogens in Europe. In: Feldmann F, DV Alford, C Furk (Eds.): Crop plant resistance to biotic and abiotic factors. Spectrum Phytomedizin, German Phytopathological Society, Braunschweig, Germany (2009), 302-308.

Consider citation of the authors:

Family name first, followed by a blank, first letter(s) of the first name(s) - not separated by a blank – comma. Family name suffixes like: von Tiedemann, van der Heide, De Jong K, Van Dijk should go in front of the family name

- (iv) Web page information
UFOP (2011). Ergebnisse der UFOP-Studie zum Winterrapsanbau zur Ernte 2012. URL: <http://www.ufop.de/4351.php> , accessed on 8.11.2011
- (v) Personal communications
Will **not be** listed in the References, because they are not accessible for the reader.
- References should be finally checked for completeness but also for redundancy / surpluses (is usually not necessary in case you use a reference management software like CITAVI).

Annex

- You can use this chapter to include important tables, figures and photos, which are e.g. by their complexity disturbing the chapter results.

Acknowledgements

- In case you have experienced assistance and help during your scientific work, this chapter provides the right place to appreciate this. We think, it is essential also to express your gratefulness to all the people who helped.

Curriculum vitae

- Your CV should, at the latest become part of your thesis when you finished your PhD.

Statutory declaration

- There should be a declaration added to your thesis which is in accordance with the most recent examination regulations (please look them up!).
A paragraph similar to the following should be provided at the end of your thesis:

„Herewith I declare that I have autonomously prepared the at hand thesis and used no other than the stated resources.“

Date: _____

Signature: _____