DOCTORAL DEGREE REGULATIONS

Wageningen University

2023

These regulations will enter into force on 1 January 2023



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General provisions

This document contains the English translation of the Dutch version of the Doctoral Degree Regulations. In case of discrepancies between the English translation and the Dutch text, the Dutch text prevails.

Article 1 Definitions and general provisions

1.1 Definitions

As used in these regulations, the following terms are defined below:

- Act: The Higher Education and Research Act.
- Regulations: these Doctoral Degree Regulations, including the corresponding appendices.
- Doctoral defence ceremony: the occasion on which the public defence of the thesis and the propositions takes place and a doctorate degree may be conferred to the candidate.

The other terms appearing in these regulations have the same meaning as those same terms from the Act.

1.2

When these regulations refer to a promotor or co-promotor, if reference is made to more than one promotor or co-promotor, this should be read as: promotors or co-promotors.

Article 2 Introductory provisions

2.1

At Wageningen University, the doctorate can be conferred based on the basis of the doctoral defence ceremony. These regulations provide the way in which this degree is conferred

2.2

The Academic Board confers the doctorate subject to the provisions in the Act and in these regulations.

2.3

At Wageningen University, a joint doctorate can be obtained based on the doctoral defence ceremony.

2.4

The Academic Board confers the joint doctorate together with one or more bodies authorised to confer the doctorate, of one or more partner institutes, on the basis of the Act, these regulations and agreements made with the partner institute(s).

2.5

For a joint doctorate, prior written permission must be received from the Academic Board before the start of the PhD programme.

2.6

Appendix 7 of these regulations contains additional regulations on the joint doctorate.

2.7

The Academic Board adopts these Doctoral Degree Regulations after acquiring approval from the Executive Board.

The PhD candidate

Article 3 Requirements PhD candidate

3.1

To qualify for the doctoral defence ceremony:

- a. based on the provisions in Article 7.10a, first, second or third paragraph of the Act, the candidate must have earned the degree of Master at an institute of academic education which is recognised by the Academic Board;
- b. as proof of the ability to perform as an independent practitioner of science, the candidate must have written a thesis and/or created a technological design;
- c. must have written at least six and no more than eight propositions; and
- d. must have satisfied the other requirements in these regulations.

3.2

In exceptional cases, the Academic Board can grant a doctorate to individuals who have satisfied the provisions in the first paragraph under b, c and d, but have not satisfied the provision in that clause under a.

3.3

The PhD candidate must have demonstrable proficiency in English, and in Dutch as well if the thesis is written in Dutch, at the level established by the Academic Board as described in Appendix 2.

The Go/ No Go

Article 4 The Go / No Go assessment

4.1

At least 8 and no more than 15 months after the registered start date of the PhD candidate, the progress of the PhD candidates will be assessed by the (co)promotors, on the basis of which the Academic Board decides whether the PhD candidate can continue the PhD programme (Go) or not (No Go). In the latter case, the PhD programme ends for the PhD candidate and deregistration from the university takes place. Part of the assessment is whether the PhD candidate can reasonably achieve successful completion within the duration of the study programme.

4.2

The Academic Board may deviate from the provisions of the previous paragraph with reason.

The promotor and co-promotor

Article 5 Qualifications and tasks of the promotor

5.1

Qualified to be appointed as a promotor by the Academic Board are:

- a. a professor at Wageningen University (with the exception of an honorary professor) or at another accredited university;
- b. an associate professor 1 in Tenure Track at Wageningen University;
- c. an employee of Wageningen University with the degree of Doctor or Doctor of Philosophy, who is in the opinion of the Academic Board, duly qualified to act as promotor. The Academic Board will decide on this matter at the request of the employee and in accordance with the criteria and procedure described in appendix 8.

5.2

The right to act as a promotor for persons as referred to in Article 5.1 under b and c, is granted for a period of 5 years, after which the Academic Board decides on the basis of an evaluation whether these persons can be appointed as promotor again. If it is decided by the Academic Board that a person cannot be reappointed as a promotor, appointments already made will also discontinue, unless in individual cases the Academic Board decides otherwise. In these individual cases, the person will retain the appointment as a promotor for up to five years after the right to act as a promotor has ended.

5.3

Honourably discharged professors and persons to be appointed as a promotor on the basis of Article 5.1 under b and under c will retain the right to act as promotors for candidates for whom they were already appointed as the intended promotor, for five years after their discharge.

5.4

If the promotor to be appointed is not and was not recently (as meant in Article 5.3), an employee of Wageningen University, the Academic Board will also appoint a promotor who is an employee of Wageningen University.

5.5

The Academic Board will appoint a minimum of one and a maximum of three promotors. In exceptional cases, the appointment of four promotors is possible after a motivated written request of the promotor. In total, no more than four promotors will be appointed.

With due observance of Article 6.1, the Academic Board will appoint at least two and at most three promotors / co-promotors. In exceptional situations, the Academic Board can appoint four promotors / co-promotors after a motivated written request of the promotor. Appointment of more than four promotors / copromotors is not possible. In very exceptional situations, the Academic Board may decide to appoint only one promotor after a motivated request of the promotor and to refrain from appointing a second (co)promotor.

5.6

Individuals who have a family relationship with the PhD candidate or have a relationship with the PhD candidate that might impair their independent judgement, do not qualify for the position of promotor.

5.7

Individuals who have a family relationship with other promotors or co-promotors or who are in such a relationship with each other that it might impair their independent judgement, are not eligible for the position of promotor.

5.8

The promotor has the task of supervising the PhD candidate and is responsible for the supervision. The promotor ensures that the thesis satisfies the requirements pursuant to these regulations.

Article 6 Qualifications and tasks of the co-promotor

6.1

The Academic Board may be requested by the promotor to appoint a maximum of two co-promoters. In exceptional situations, the Academic Board can appoint three co-promotors after a motivated written request of the promotor. Appointment of more than three co-promotors is not possible.

With due observance of Article 5.1, the Academic Board will appoint at least two and at most three promotors / co-promotors. In exceptional situations, the Academic Board can appoint four promotors / co-promotors after a motivated written request of the promotor. Appointment of more than four promotors / copromotors is not possible.

6.2

The co-promotor is employed as a member of scientific staff, not necessarily at Wageningen University, and has earned a doctorate at an accredited university.

6.3

Individuals who have a family relationship with the PhD candidate or have a relationship with the PhD candidate that might impair their independent judgement, do not qualify for the position of co-promotor.

6.4

Individuals who have a family relationship with other co-promotors or promotors, or who are in such a relationship with each other that it might impair their independent judgement, do not qualify for the position of co-promotor.

6.5

The co-promotor aids the promotor with the supervision of the PhD candidate. The co-promotor assesses whether the thesis satisfies the requirements pursuant to these regulations and advises the promotor in this matter.

The thesis committee

Article 7 Composition and operation of the thesis committee

7.1

The Academic Board appoints a thesis committee for every doctoral defence ceremony.

7.2

The composition of the thesis committee is as follows:

- a. as chairperson, the rector magnificus in the capacity as chairperson of the Academic Board, or the deputy of the rector magnificus;
- b. the appointed promotor(s) and co-promotor(s), including at least one promotor who is (or recently was, as meant in Article 5.3) employed at Wageningen University;
- c. four opponents, as further described in Article 7.4, of whom at least one is (or recently was, as meant in Article 5.3) employed by Wageningen University and has the ius promovendi as described in Article 5.

7.3

In the case of a joint doctorate with a defence that takes place at WU, the composition of the thesis committee may be deviated from if the partner university(s)so requests, as long as the requirements described in paragraph 7.2 under a, b and c are met.

7.4

Professors or individuals who have earned doctorates and are sufficiently qualified to be a member of the thesis committee according to the Academic Board, can be appointed as opponents.

Opponents must not be affiliated with or employed by the chair group of the PhD candidate or the chair group of one of the promotors or co-promotors. They may not have a family relationship with the PhD candidate or a relationship with the PhD candidate that might impair their independent judgement. They may not be a co-author in any of the thesis chapters.

7.5

The chairperson cannot vote.

The members referred to under clause 2 sub b jointly have a single vote, the other members as referred to in clause 2 sub c have one vote per person.

Appointment of the (co-)promotor

Article 8 Appointment of promotor and co-promotor

8.1

Immediately at the start of a PhD study, the Academic Board appoints a promotor and possibly (at the request of the promotor(s)) a co-promotor.

8.2

If needed, either the promotor or the PhD candidate can request the appointment of a different promotor during the PhD programme by the Academic Board.

8.3

Preceding the final appointment, the Academic Board can provide a hearing to the PhD candidate, the proposed promotor(s) and co-promotor(s).

8.4

Both the PhD candidate and the appointed (co-)promotor must approve the appointment. By approving the appointment, the (co-)promotor accepts the applicability of these regulations.

Evaluation of the thesis and the propositions

Article 9 Evaluation by the promotor

9.1

The PhD candidate submits the thesis and the propositions to the promotor for evaluation.

9.2

In the evaluation of the thesis and the propositions, the promotor takes the recommendation of the co-promotor into account.

9.3

The evaluation of the thesis takes place by reviewing it in accordance with the requirements in these regulations, especially regarding the requirements in Articles 12 through 14 and 18, as well as the attainment targets established by the Academic Board as set down in Appendix 1.

9.4

The evaluation of the propositions takes place by reviewing them according to the requirements in Articles 12.3, 14.1 and 14.3, and according to general principles of morality and decency.

9.5

If the promotor determines that the thesis and the propositions have satisfied the requirements, the promotor approves the thesis and the propositions.

9.6

The promotor (or primary promotor if there is more than one) informs (digitally) the Academic Board and the PhD candidate about this approval. This approval is not a final decision, but a recommendation to the Academic Board.

9.7

The Academic Board, taking account of the approval of the thesis and the propositions by the promotor, decides to appoint the thesis committee.

9.8

The PhD candidate has the right to respond to the decision as referred to in Article 11.5 and/or to amend the thesis for the purpose of resubmission. The PhD candidate submits the response and/or the amended thesis to the promotor. If the promotor judges the amended thesis and/or the response defendable, the promotor approves the amended thesis and/or the response.

Article 10 Evaluation of the propositions by the Academic Board

10.1

After being approved by the promotor, the propositions are submitted to the Academic Board for evaluation.

10.2

The Academic Board decides whether the propositions meet the requirements set in Articles 12.3 and 14.3.

Article 11 Evaluation of the thesis by the opponents

11.1

After being approved by the promotor, the thesis is submitted to the opponents, who have been appointed for this purpose.

11.2

Within six weeks after receiving the thesis as approved by the promotor, the opponents decide whether or not the thesis has provided sufficient proof of competency in the independent practice of science to allow the PhD candidate to publicly defend the thesis. A positive decision requires a positive evaluation of all opponents.

11.3

The decision referred to in Article 11.2 is based on a review of the thesis with respect to the attainment targets formulated by the Academic Board, which have been listed in Appendix 1 and in Articles 12.1, 12.2 and 18 (cum laude).

11.4

On behalf of the thesis committee, the Dean of Research will inform the candidate and the promotor of the decision of the thesis committee in (digital) writing. If the thesis committee has decided that the PhD candidate is not allowed to defend the thesis, the reasons for this decision will be explained.

11.5

In case the thesis committee judges the thesis to be not defendable, the PhD candidate has the right to improve the thesis and/or to write a response only once. If the promotor determines that the thesis and/or the response have satisfied the requirements, the promotor will approve the amended thesis and/or the response. If the thesis committee maintains its judgement that the thesis is not defendable, the PhD candidate can restart the evaluation procedure six months after the final decision.

The thesis and the propositions

Article 12 Contents of the thesis and the propositions

12.1

The thesis can be:

- a. a scientific treatment concerning a specific topic;
- b. a number of distinct scientific treatments which already may have been published (partially or entirely), if they display sufficient coherence with respect to a specific topic; this coherence is to be demonstrated by the inclusion of a general introduction and general discussion; or
- c. a technological design, comprised of a drawing created with the help of appropriate theoretical knowledge and methodologies from the relevant field, accompanied by a scientific explanation and documentation.

12.2

The thesis is intended as proof of the competency of the PhD candidate to conduct independent scientific research.

12.3

At least six and no more than eight propositions are added to the thesis. Two of the propositions concern the topic of the thesis or the technological design, two to four propositions concern a different scientific field or science in general and two propositions concern a socially relevant topic. Propositions are concisely worded positions taken by the PhD candidate that are formulated in such a way that they can be debated at a scientific level and consist of one sentence.

12.4

A distinct scientific treatment, as referred to in Article 12.1 under b, which has been written by the PhD candidate in cooperation with others, can be part of the thesis only if the PhD candidate has provided a significant contribution and if the portion for which the PhD candidate is primarily responsible is clearly indicated in the thesis.

12.5

The thesis can be written by one individual, or by two or three individuals together. The individuals who have written a thesis together must satisfy the following conditions:

- a. all authors are PhD candidates, each of whom satisfies the provisions and procedures in these regulations;
- b. the PhD candidates have at least one promotor in common;
- c. in the thesis, the portions for which each PhD candidate is primarily responsible are clearly indicated;
- d. each PhD candidate adds the prescribed number of propositions to the thesis;
- e. all PhD candidates must defend their thesis on the same day at Wageningen University.

Article 13 Structure and design of the thesis

13.1

The structure and design of the thesis must satisfy the corresponding guidelines established by the Academic Board, which are included in these regulations as Appendix 3.

13.2

It is not allowed to include advertising or logos in the thesis or on the cover. If a thesis is the result of a joint PhD programme and if the partner university requires so, logos of both universities may be presented on the cover and/or first title page.

13.3

If the PhD research has been made possible in part by support, financial or otherwise, from outside the university, this must be reported in the thesis according to the guidelines referred to in Article 13.1.

13.4

Sections which fall beyond the scope of the scientific treatment in the strictest sense can only be added to the thesis with permission from the Academic Board. Statements regarding religion or politics are not allowed, other than those related to acknowledgement of the support the PhD candidate has received.

Article 14 Language of the thesis and the propositions

14.1

The thesis is written in English. Upon request from the PhD candidate, the Academic Board can give permission to write the thesis in Dutch.

14.2

The thesis contains a summary in English. One or two summaries in other languages are allowed. A thesis written in Dutch, contains a Dutch summary and an English summary that also provides a translation of the thesis title in English.

14.3

The propositions are formulated in the same language as that in which the thesis is written.

Article 15 Printing/reproduction and distribution of the thesis

15.1

Before the thesis is printed or reproduced in any other fashion:

- a. the thesis committee must have decided that the PhD candidate can be allowed to defend the thesis;
- b. the cover, the four title pages and the page opposite the end leaf must be approved by the Academic Board. To this end, the PhD candidate must submit copies of these pages for approval to the PhD Office; and
- c. the printer's proof of the thesis and the propositions must be approved in writing by the promotor, where the promotor takes the standards in or pursuant to these regulations into account.

15.2

In the guidelines that are included in these regulations as Appendix 3, the Academic Board determines the following:

- a. the number of copies of the thesis that, preceding the public defence, must be provided to the Academic Board;
- b. the number of copies of the thesis that the PhD candidate must supply at cost to the Wageningen University library, in consultation with the Executive Board; and
- c. the way in which an electronic version of the thesis must be provided.

The public defence

Article 16 The doctoral defence ceremony

16.1

The defence of the thesis and the propositions takes place in public in the presence of the thesis committee.

16.2

The public ceremony is chaired by the rector magnificus as chairperson of the Academic Board, or the deputy.

16.3

The time and place of the public ceremony are determined by the Academic Board following consultation with the PhD candidate and promotor. The PhD candidate must submit a request for a time and place well in advance.

16.4

The Academic Board adopts the protocol of the public ceremony. The standard protocol is included in these regulations as Appendix 6.

16.5

The PhD candidate defends the thesis and the propositions for a period of 45 minutes; during this defence, she is opposed by the thesis committee and all other individuals who have been granted permission by the Academic Board. A request for permission to oppose the PhD candidate during the defence must be submitted to the Academic Board at least one week before the date of the doctoral defence ceremony.

16.6

The public ceremony is conducted in English unless the PhD candidate has submitted a written request to conduct the defence in Dutch and all members of the thesis committee are able to discuss it in Dutch.

Article 17 Conferring the doctorate and the degree certificate

17.1

During a private meeting that takes place immediately following the thesis defence, the thesis committee, on behalf of the Academic Board, decides whether or not to confer the doctorate, based on the thesis, the propositions and the defence.

17.2

A decision to withhold conferral of the doctorate on the grounds of the PhD candidate's defence must be based on the negative judgement of three of the voting members of thesis committee. The members are not allowed to abstain from voting.

17.3

Following the private meeting of the thesis committee, the chairperson reopens the public meeting and announces the decision of the thesis committee.

17.4

As proof of conferral of the doctorate, the PhD candidate receives a degree certificate. The degree certificate is signed on behalf of the Academic Board by the rector magnificus or the deputy of the rector magnificus, the promotor(s), if relevant, the co-promotor(s) and by the PhD candidate.

17.5

If a decision has been made to confer the doctorate *cum laude*, then this is listed on the degree certificate.

The designation *cum laude*

Article 18 The designation cum laude

18.1

If the PhD candidate has shown exceptional competency in the independent practice of science, the Academic Board can confer the doctorate cum laude (with distinction).

18.2

If the evaluation of the thesis by the thesis committee gives reason to do so, the Academic Board immediately submits the thesis to two additional experts and requests them to make a recommendation about the proposal to confer the designation cum laude in an explanatory letter. The experts must be full professors, but not at Wageningen University. At least one of the experts must be affiliated with a university outside the Netherlands. With the request to the experts, a proposal from the promotor (as referred to in Article 18.3) or a letter from the promotor in support of the assessment by the thesis committee will be sent.

18.3

Concomitantly with submission of the thesis, the promotor can submit a written proposal to the Academic Board to confer the degree with the designation cum laude. This document must explain the reasons for the proposed designation and will be forwarded to all members of the thesis committee.

18.4

Only if at least one of the experts advised positively, the Academic Board informs the thesis committee about the submitted proposal and calls a closed meeting of the thesis committee immediately preceding the defence ceremony. During this meeting, the thesis committee discusses the possible designation *cum laude*.

18.5

The thesis committee makes a decision about the proposal to confer the designation *cum laude* on behalf of the Academic Board during the closed meeting referred to in Article 17.1. The proposal will be approved if no member of the committee votes against it and if no more than one member of the committee abstains from voting. If one of the two consulted experts has made a negative recommendation, the proposal can be accepted only if there is a unanimous decision of the committee.

Settling disputes

Article 19 Settling disputes

19.1

The provisions of the General Administrative Law Act (Awb) apply.

19.2

The regulations concerning the conferral of a doctorate do not apply to legal disputes.

Article 20 Complaint handling procedure

20.1

An interested party can submit a request for mediation or complaint handling to the Academic Board in case of a dispute that concerns the behaviours or decisions of promotors, co-promotors, the Academic Board itself, or individuals who are acting on behalf of the Academic Board. Mediation does not suspend the term referred to in Article 21.1. In consultation with the party submitting the request, the chairperson of the Academic Board provides mediation or complaint handling in accordance with Chapter 9 of the General Administrative Law Act.

Article 21 Objection procedure

21.1

An interested party can object to decisions made by or on behalf of the Academic Board within six weeks after the person concerned is informed of the decision by submitting a notice of objection in an explanatory letter to the Academic Board. In case of decisions mentioned in Article 5.1 under c, the objection procedure described in Article 22 applies.

21.2

The Academic Board forwards the notice of objection to the objection advisory committee of Wageningen University.

21.3

The objection advisory committee acts in accordance with the provisions in Article 7.13 of the General Administrative Law Act.

21.4

The objection advisory committee allows the parties concerned to be heard. The person who actually took the contested decision, or another representative of the Academic Board, is invited to the hearing and will be given the opportunity to provide an explanation of the contested decision or point of view of the Academic Board.

21.5

The objection advisory committee makes a written recommendation to the Academic Board. The recommendation includes a report of the hearings.

21.6

Within 12 weeks after receiving the notice of objection, the Academic Board makes its decision about the objection. The decision shall be duly substantiated and shall be communicated in writing to the party who submitted the notice of objection and the other parties involved in the objection procedure.

21.7

If the decision on the objection deviates from the recommendation made by the advisory committee, the letter about the decision explains the reasons for this deviation, and the advisory committee recommendation is included.

21.8

Within six weeks after receiving the decision referred to in Article 21.6, an interested party can appeal to the competent Dutch court against this decision.

Article 22 Objection procedure regarding Article 5.1.c.

22.1

An interested party can object to decisions made by or in name of the Academic Board, as mentioned in Article 5.1 under c. within six weeks after the decision has been made known to the person concerned, by lodging a motivated notice of objection to the Academic Board.

22.2

The "Regulation governing Wageningen University Advisory Committee on Appeals and Objections" applies to this objection procedure. The aforementioned Advisory Committee will advise the Academic Board on an objection.

Honorary doctorate

Article 23 Honorary doctorate

23.1

Upon nomination by the Executive Board, the Academic Board is authorised to award the degree *doctor honoris causa* (honorary doctorate) to an individual in recognition of outstanding accomplishments. This doctorate is conferred by and in the presence of the Academic Board in a manner which is determined by this Board.

23.2

The other provisions in these regulations do not apply to the conferral of an honorary doctorate.

Final provisions

Article 24 Final provisions

In all cases not covered by these regulations, the Academic Board will make a decision on the matter.

These regulations were determined by the Academic Board of Wageningen University on 14 December 2022 and approved by the Executive Board of Wageningen University on 19 December 2022.

Appendices:

- 1. Attainment targets of the doctorate
- 2. Language requirements
- 3. Guidelines for structure, design and distribution of the thesis
- 4. PhD candidate's authorship statement
- 5. Thesis evaluation form with rubric
- 6. Protocol for the doctoral defence ceremony
- 7. Regulations for conferring a joint, double or dual doctorate
- 8. Procedure and format request ius promovendi for others than associate professors 1 in Tenure Track

Appendix 1 Attainment targets for the PhD degree (doctorate)

The recipient of the doctorate is capable of:

- 1. functioning as an independent practitioner of science who is able to:
 - a. formulate scientific questions, either based on social issues or scientific progress;
 - b. conduct original scientific research; and
 - c. publish articles in peer-reviewed scientific journals, publish books with scientific publishers or make a technical design;
- 2. integrating the research in, or placing it within the framework of, their own scientific discipline and against the background of a broader scientific area;
- 3. placing the research aims and research results in a societal context;
- 4. postulating concisely worded propositions in scientific and societal areas, formulated in such a way that they are subject to opposition and defence.

Appendix 2 Language requirements

To be admitted to the PhD programme, the PhD candidate must demonstrate proficiency in the English language, as well as the Dutch language if the thesis is written in Dutch, at the level established by the Academic Board.

Proficiency in Dutch is defined as having passed the final exam in Dutch for preuniversity education in the Netherlands, as shown by possession of a VWO diploma or comparable certificate.

If the PhD-candidate is not Dutch, from a non-Anglophone country and does not have completed higher education with English as the language of instruction, the candidate has to submit an internationally recognised Certificate of Proficiency in the English Language. This must be done prior to the start of the PhD-project and before the PhD registration at Wageningen University. The reason is that this is needed to be registered in the Wageningen University PhD registration system¹.

The recognised certificates and the minimum required scores² are:

- TOEFL internet-based 90, with minimum sub-score 20 for speaking
- IELTS (academic version) 6.5, with minimum sub-score 6.0 for speaking
- Cambridge Certificate of Advanced English (CAE) with minimum grade C
- Cambridge Certificate of Proficiency in English (CPE) any grade
- RATEr: This is a local test that can only be done at Wageningen University. To meet the entry requirements the following scores must be obtained*:

Reading & Vocabulary	23	
Writing	47	
Listening	23	
Speaking	62	
* Candidate must pass all elements to get an overall pass		

^{3.} Test results may not be older than 24 months at the moment of application.

^{1.} In a situation where promotors have reasons to allow a PhD candidate who does not yet meet the requirements to come to Wageningen University, they must request permission for this from the Dean of Research by means of a letter with motivation that is enclosed with the documents for the PhD registration. This letter must accompany the PhD registration documents.

In this situation the candidate has three months to meet the proficiency requirements. To facilitate this, "Wageningen In'to Languages" offers an intensive writing course which ends with a RATEr test (See their pages on courses offered by In'to Languages for PhD Candidates for more information.).

Appendix 3 Design, format, reproduction and distribution of the thesis

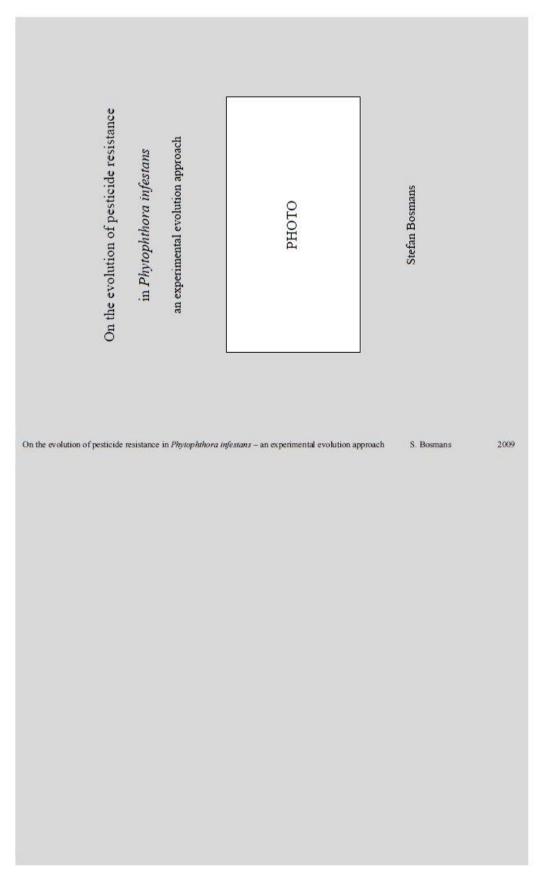
Appendices 3a through 3d show how the thesis should appear regarding its cover (3a), required title pages (3b), acknowledgements of financial support (3c) and the propositions (3d).

Any deviation from these examples requires prior permission from the Academic Board.

Two weeks before the public defence, the PhD candidate submits fifteen copies of the thesis to the PhD Office, and one printed copy, a Pdf file (including the propositions immediately after the cover) and an abstract in Word format to the Library.

Appendix 3a Cover

Logos on the cover are not allowed, except in the case of a joint degree, see appendix 7.



First title page

The *Phytophthora infestans* avirulence gene *X5yz* and its potato counterpart *A6*

Piet A. Ardappel

Second title page

Professors with personal or special chairs must be explicitly indicated as such in the list of promotors. Their affiliation must also be listed.

The list of co-promotors must state their positions and affiliations.

The affiliation of WUR promotors and co-promotors consists of their basic organisational unit (chair group or business unit) plus Wageningen University & Research as main affiliation.

The other members (the opponents) are listed with their main affiliation. Affiliations outside the Netherlands must also include the name of the country.

Thesis committee

Promotors

Prof. Dr F. Pietersen Personal chair at the Laboratory of Phytopathology Wageningen University & Research

Prof. Dr F. Swartjes Professor of Phytopathology Wageningen University & Research

Co-promotor

Dr P.A. Willis Associate professor, Animal Nutrition Group Wageningen University & Research

Other members

Prof. Dr W.J. Stekels, Wageningen University & ResearchDr P. de Groot, University of AmsterdamDr A. de Bruin, Keygene N.V., WageningenDr P. van Oost, University of Aberdeen, UK

This research was conducted under the auspices of the Graduate School Experimental Plant Sciences

The *Phytophthora infestans* avirulence gene *X5yz* and its potato counterpart *A6*

Piet A. Ardappel

Thesis submitted in fulfilment of the requirements for the degree of doctor at Wageningen University by the authority of the Rector Magnificus, Prof. Dr A.P.J. Mol, in the presence of the Thesis Committee appointed by the Academic Board to be defended in public on Wednesday 1 February 2017 at 4 p.m. in the Omnia Auditorium.

Fourth title page

Note that on this page 'Wageningen University' is used because that is the legal entity that issues the doctorate.

Piet A. Ardappel The Phytophthora infestans avirulence gene X5yz and its potato counterpart A6, 83 pages.

PhD thesis, Wageningen University, Wageningen, the Netherlands (2017) With references, with summary in English

ISBN 123-45-67890-123-4 DOI <u>https://doi.org/10.18174/123456</u>

Appendix 3c – acknowledgements of financial support (last inside page of thesis) Logos are not allowed, except the FSC logo if the thesis is printed on FSC-certified paper. Acknowledgments of the cover designer and printing company are optional.

The research described in this thesis was financially supported by <name financer>.

Financial support from Wageningen University and <name financier> for printing this thesis is gratefully acknowledged.

Cover design by <name designer>

Printed by <name printing company> on FSC-certified paper <optional>

Appendix 3d – propositions (as a separate leaflet and in Pdf immediately after cover)

Propositions

- The general assumption that the mesophyll conductance to carbon dioxide in leaves of green plants is infinite cannot be maintained. (this thesis)
- The partitioning of excited electrons to photosystems I and II is unbalanced in plants suffering from severe drought stress. (this thesis)
- 3. Zinc biofortification of cereals through plant breeding is inefficient, especially in the case of wheat.
- 4. For the analysis of the crop physiological background of tuber size distribution in potato it is essential to analyse phenomena of tuber set and tuber bulking at the level of the individual plant.
- 5. Moral acceptance of techniques of genetic modification plays a much smaller role in the debate on genetically modified organisms than proponents of such techniques assume.
- 6. The current debate in literature on the question whether green plants are intelligent suggests that plants might have a greater ability to perceive signals from their environment and to learn from these signals than some scientists do.

Propositions belonging to the thesis, entitled

Why electrons get excited and how to cool them down: on the thermodynamics of photosynthesis in green plants

Paul Herbert Droef Wageningen, 1 February 2017 (Date defence ceremony)

Appendix 4 PhD candidate's authorship statement

Aim of the authorship statement

The authorship statement is sent with the thesis manuscript to the opponents to allow them to judge the candidate's contribution to (chapters in) the thesis. A PhD study is a learning process, so the candidate is not supposed to have it done all by her/himself. The promotor may have come up with the research question, for example, or suggested text improvements. Perhaps for example a MSc student did an experiment under the candidate's guidance.

The authorship statement should focus on the candidate's own contribution

While it may be needed to mention what others did, in particular when the candidate is not the first author of a chapter, the statement should focus on the candidate's own contribution. Therefore, the text is written in the first person.

The text must be concise, maximum 1 page A4, about 500 words. If there are authorship statements on chapters that were already submitted or published as paper, these may be re-used in this authorship statement.

Items to address in the research chapters are usually: research question, methodology, research and data collection, data analysis, text and graphs, and the final discussion. For other chapters or for other types of research, the items to address may differ.

Example of an authorship statement

PhD candidate's name:. . .First promotor:. . .Title of PhD thesis:. . .Date of public defence:. . .

Chapter 1 General introduction. The general research question and its general scientific and social perspective were proposed by my promotor. I delineated the research question, described how it fits in the current scientific literature and described its potential social impact. I revised the text two times, after comments of my co-promotor.

Chapter 2 . . .

Chapter 3 Heat resistance of ice-cream. I contributed to defining the research question, proposed the methodology and the experimental design, carried out the experiments together with an MSc student whom I supervised, and did the data analysis together with the student and a statistician. The student wrote the first draft (therefore, I am second author) and revised it after the comments of myself (which were quite many) and the other co-authors.

Chapter 4 . . .

Chapter 5 . . .

Chapter 6 General discussion. I wrote the first draft of the text after just one discussion with my co-promotor on the subjects and arguments to be included. I revised the text once, after comments of my promotor and co-promotor.

Date Signature PhD candidate Signature promotor for agreement

Appendix 5 Thesis evaluation form with rubric

Quality standards for PhD theses differ worldwide, and so do evaluation procedures and grades such as cum laude (with distinction). Wageningen University provides the thesis committee and external experts with detailed information concerning the evaluation procedure (see appendix 5a) and a rubric (appendix 5b or 5c) for the evaluation of a thesis. This information provides transparency of Wageningen University's thesis requirements to PhD candidates and their (co-)promotors.

Doctoral theses can be mainly disciplinary, multidisciplinary, interdisciplinary and/or transdisciplinary. There are two rubrics available:

- a rubric for the assessment of mainly disciplinary and multidisciplinary PhD research (appendix 5b);
- a rubric for the assessment of mainly interdisciplinary and transdisciplinary PhD research (appendix 5c).

The main criteria for the rubrics are the same, but in the operationalisation of the criteria in the rubric in appendix 5c puts a relatively heavier weight on the level of integration achieved between different bodies of knowledge and the extra effort and skills that were demonstrated to achieve this, and puts – compared to the rubric in appendix 5b- relatively less weight on the expected scientific impact of the research chapters in the dissertation.

The promotor decides after consultation with the candidate under which category the thesis is submitted to the examining committee, and thus which rubric is going to be used by the thesis committee.

The rubric for the assessment of <u>disciplinary and multidisciplinary</u> research is targeted at dissertations that either:

- consist mainly of research chapters that each belong to the same discipline, usually involving a supervisory team that is relatively homogeneous in terms of the scientific backgrounds/disciplines included.
- or:
- consist mainly of disciplinary research chapters that belong to several disciplines, usually involving a supervisory team that is heterogeneous in terms of the scientific backgrounds/disciplines included.

The rubric for the assessment of interdisciplinary and transdisciplinary research is targeted at dissertations that either:

- attempt mainly to connect and integrate questions, concepts, theoretical frameworks, methodologies and/or findings from different scientific disciplines, possibly leading to the breaking of boundaries between disciplines and the formation of new domains of science, and usually involving a supervisory team that is heterogeneous in terms of the scientific backgrounds/disciplines included.
- or:
- report mainly on research that is based on active engagement with nonacademic groups during part of the research process - usually with the aim of addressing real-life societal challenges - whereby the knowledge and understanding of stakeholders is connected to and integrated with scientific understanding.

Appendix 5a Thesis evaluation form as sent to the thesis committee

Dear members of the thesis committee,

Thank you for your willingness to evaluate this PhD thesis. Wageningen University PhD theses are evaluated on five criteria using a standard form and a rubric which is provided at the end of this document. The aim of using a rubric is to enhance homogeneity of assessments and the ability to discuss assessments with other examiners and the (co-) promotor(s) (main supervisors). Also, it clarifies the expectations for a thesis to PhD candidates. The standard evaluation form also has comment fields to elaborate on your evaluation for each of the five criteria. The use of these comment fields is highly recommended for providing additional feedback. In the rubric:

- each row represents one criterion, e.g. originality of the research;
- each column represents a level for the grading, e.g. 'good';
- each cell describes the level for that criterion.

Please start at the lowest mark in the rubric and test whether the PhD thesis is better described by the next higher level. Achievements at lower levels are implicit at higher levels and not again included in the criteria. You are kindly asked to describe in 25 – 100 words your evaluation of each of the five criteria. You could do this by comparing representative examples from the thesis to the descriptors in the rubric.

It could be that the PhD thesis scores 'unacceptable' on one criterion and 'good' on another. An 'unacceptable' for one of the first four criteria designates that the thesis is not defendable in which case it is important to provide detailed feedback to enable the candidate to develop a revised version.

Your thesis evaluation will be made available to the Dean of Research and is used to decide whether the PhD candidate can be allowed to defend the thesis. Moreover, the Dean will use your evaluation to decide whether the PhD thesis should be considered for a cum laude designation in which case two additional reviewers will review the thesis¹. In addition, directly after the public defence of the thesis, the committee will discuss the quality of the thesis and the defence in a joint meeting chaired by the Rector Magnificus, or a replacement and it is here where your anonymized evaluation report will be used by the Rector Magnificus. Your anonymized thesis evaluation report will only be disclosed to fellow committee members when the PhD thesis is considered for a cum laude.

The (co-)promotor(s) will receive your anonymised thesis evaluation report:

- in case the thesis is graded as 'unacceptable', to allow the candidate to improve the thesis. Your comments and reasons for your judgement are important as the candidate has the possibility to revise the thesis and/or provide a rebuttal;
- immediately after the defence, as feedback to the (co-)promotor(s) regarding the quality of this particular thesis and to clarify the expectations for possible next PhD theses under her/his supervision.

¹ Please note that after the defence, a <u>thesis</u> can only qualify for the judgement of excellent if the cum laude procedure has been followed. Despite the procedure followed, the <u>defence</u> can qualify for the judgement of excellent.

If you propose the candidate can defend the thesis, you can only identify grammatical, formatting and minor errors. Your suggestions for correction of these errors will be forwarded to the (co-)promotor(s), who will then confer with the PhD candidate whether or not to incorporate your suggestions in the thesis.

Requirements for the degree of doctor awarded by Wageningen University

In order to be awarded the degree of doctor, the candidate must have demonstrated the capability of:

1. functioning as an independent practitioner of science who is able to:

- a. formulate scientific questions, either based on social issues or scientific progress;
- b. conduct original scientific research;
- c. publish articles in peer-reviewed scientific journals, publish books with scientific publishers or make a technical design;
- 2. integrating her/his research in, or placing it within the framework of, the own scientific discipline and against the background of a broader scientific area;
- 3. placing the research aims and research results in a societal context;
- 4. postulating concisely worded propositions in scientific and societal areas, formulated in such a way that they are subject to opposition and defence.

Your evaluation of the PhD thesis

Name of the PhD candidate	:
Planned date of the public defence	:
Title of the PhD thesis	:

Note: After the public defence your anonymised evaluation form will be provided to the promotor.

1. Originality of the research

Grade: unacceptable / acceptable / satisfactory / good / very good / excellent Reason for evaluation (25-100 words):

2. Scientific quality of the research chapters

Grade: unacceptable / acceptable / satisfactory / good / very good / excellent Reason for evaluation (25-100 words):

3. Reflection on the research as shown in the Introduction and General discussion

Grade: unacceptable / acceptable / satisfactory / good / very good / excellent Reason for evaluation (25-100 words):

4. Quality of written presentation

Grade: unacceptable / acceptable / satisfactory / good / very good / excellent Reason for evaluation (25-100 words):

The PhD candidate will only be allowed to defend the thesis if none of the above criteria are marked as 'unacceptable'. If you score 'unacceptable', please provide your arguments for that qualification in the box below. The candidate will be given the opportunity to submit a rebuttal to be re-evaluated by you within 2 weeks after receipt. In case the changes to the thesis are substantial, the other members of the thesis committee will be informed about the changes but will not be asked to re-evaluate the thesis.

5. Overall Assessment (based on the above evaluation categories 1 - 4)

Grade: unacceptable / acceptable / satisfactory / good / very good / excellent Reason for evaluation (25-100 words):

Keep on separate page so that the form can be anonymised easily

Name of committee member	:
Chair / Function / Affiliation	:
Date	:

Appendix 5b Rubric for evaluation of disciplinary and multidisciplinary PhD theses

Criteria	Unacceptable	Acceptable	Satisfactory	Good	Very good	Excellent
1. Originality of the research	Does not make (or has not made) a contribution to any discipline, either because it is a copy, or nearly so, of work done before by others, or because the research question is trivial.	Makes (or has made) a small and not very original contribution to one of the disciplines involved, uses a cookbook approach, is not really interesting but shows the ability to do research.	Makes (or has made) a modest contribution to one of the disciplines involved by addressing relevant, but small and traditional questions that are interesting for those who work on the same subject.	substantial contribution to one of the disciplines involved by addressing relevant questions that are interesting for others within the field. It is a solid part of normal science but does not open up the field.	Makes (or has made) <u>either</u> an important contribution to one of the disciplines involved by solving old problems in a new way, or by addressing new and relevant questions, however without completely exploring and solving those new questions; <u>or</u> makes substantial contribution to more than one discipline (see 'good').	Makes (or has made) either an exciting, major contribution to one of the disciplines involved, either by solving old problems in a brilliant, innovative way or by asking and answering new and intriguing questions; or makes an important contribution to more than one discipline (see 'very good').
2.Scientific quality of research chapters	Chapters are incoherent and choices and interpretations are mostly not convincing.	Chapters lack clear cohesion and choices and interpretations are not always convincing.	Chapters have sufficient cohesion and choices and interpretations are mostly convincing.	mostly well justified and convincing.	Chapters are coherent, very convincing and some of them are thought provoking and exciting.	Chapters are very coherent and convincing, all are exciting and some of them ground-breaking.
see footnotes: 1, 2, 3	The chapters are not publishable in any reputable journal or by any reputable book publisher and are not expected to be cited nor have any scientific impact.	One or two chapters are publishable in a reputable journal or by a reputable book publisher, but they are expected to be cited below the norm in the discipline(s) involved and have a lower than average scientific impact.	Most chapters are publishable in a reputable journal or by a reputable book publisher, but only some chapters are expected to be cited in line with the norm in the discipline(s) involved and have an average scientific impact, while others are expected be cited below the norm and have a lower than average impact.	published or likely to be published in reputable journals or by a reputable book publisher, and they are expected to be cited at least as well as the norm in the discipline(s) involved and have an average scientific impact. Some chapters are expected to be cited above the norm and have a higher than	All chapters are published or likely to be published in reputable journals or by a reputable book publisher, and they are expected to be cited above the norm in the discipline(s) involved and have higher than average scientific impact and some will be cited substantially better than the norm and have a substantially higher than average scientific impact.	All chapters are published or likely to be published in reputable journals or by a reputable book publisher, and they are expected to be cited substantially better than the norm in the discipline(s) involved and will have a substantially higher than average scientific impact.
	In case of a monograph, it is not likely to be cited nor have any scientific impact	In case of a monograph, it is likely to be cited considerably below the norm in the discipline(s) involved and have considerably lower than average scientific impact.	In case of a monograph, it is likely to be cited in line with or slightly below the norm in the discipline(s) involved and have at most an average scientific impact.	is likely to be cited in line with or slightly above the norm in the discipline(s) involved and have at least	is likely to be cited above the norm in the discipline	In case of a monograph, it is likely to be cited substantially above the norm in the discipline involved and have a scientific impact.

	Unacceptable	Acceptable	Satisfactory	Good	Very good	Excellent
3. Reflection on the research as shown in `Introduction' and `General discussion'	There is no explanation of the added value of conducting this disciplinary or multidisciplinary research in either scientific or societal terms.	multidisciplinary research is trivial; it is made plausible that the proposed	There is a reasonably plausible argument (in scientific and/or societal terms) for pursuing the proposed disciplinary or multidisciplinary research lines.	There is a convincing argument of why it is relevant (in scientific and/or societal terms) to pursue the proposed disciplinary or multidisciplinary research lines.	There is a compelling and original argument of why it is relevant (in scientific and/or societal terms) to pursue the proposed disciplinary or multidisciplinary research lines.	There is a compelling, original and exciting argument of why it is relevant (in scientific and/or societal terms) to pursue the proposed disciplinary or multidisciplinary research lines.
	The work does not show how the results fit in existing knowledge, or what the societal relevance is.		Narrow view on how results fit in the existing knowledge and what the societal relevance is.	Obvious correspondences and conflicts with existing knowledge are identified. Most obvious societal relevance is indicated.	Most correspondences and conflicts with existing knowledge are identified. Societal relevance is mostly well indicated.	Results are critically confronted with existing knowledge. Societal relevance is addressed in full.
	The results from the different chapters are not connected to each other in any way.	connected to each other in a loose manner that is not	The results from the different chapters are partially connected to each other in a manner that is partially convincing.	The results from the different chapters are partially connected to each other in a manner that is mostly convincing.	The results from the different chapters are fully connected to each other in a manner that is mostly convincing.	The results from the different chapters are fully connected to each other in a manner that is entirely convincing.
	Possible weaknesses in the research are not discussed.	The most obvious weaknesses in the research are indicated, but not how they affect the conclusions.	Most weaknesses in the research are indicated, but less clearly how they affect the conclusions.	Most weaknesses in the research are indicated, and also how they affect the main conclusions.	All weaknesses in the research are indicated, and also how they affect the main conclusions.	All weaknesses in the research are indicated, and also how they affect each of the conclusions.
4. Quality of the written presentation	layout are so poor that it is hard to understand what	detail varies widely, but with effort the text is	Writing, tables, figures and layout are mostly adequate, but level of detail varies, and text could be more concise. Reading is laborious.	,	Writing is clear and concise, tables, figures and layout are functional and flawless. Reading is a joy.	Writing is crystal clear and compelling, concise but balanced with sufficient detail, with attractive, functional tables, figures and layout. Reading is exciting.
	The thesis is unstructured, often information is missing or presented in the wrong place.	Main structure of the thesis is adequate, but placement and structure of sections are often not logical.		Main structure of the thesis is correct, but some sections are less well placed or less well structured.	Main structure of the thesis is clear and correct, most sections are well structured and well placed.	The thesis is very well structured with each chapter and section having a clear function and presented in a logical order.

	Unacceptable	Acceptable	Satisfactory	Good	Very good	Excellent
5. Overall assessment	In case one of the five criteria is marked as 'unacceptable' by any of the opponents/ reviewers, the PhD candidate will not be allowed to defend the thesis without major revision.	Based on the above categories the overall quality of the thesis is considered acceptable. The PhD candidate will be allowed to defend the thesis.	Based on the above categories the overall quality of the thesis is considered satisfactory. The PhD candidate will be allowed to defend the thesis.	categories the overall	considered very good. The PhD candidate will be	Based on the above categories the overall quality of the thesis is considered excellent. This PhD thesis belongs to the top of the scientific field. This may be reason for awarding the designation 'cum laude' ('with distinction'). ⁴

¹ The precise criteria for assessing quality may differ per discipline and type of research. Accordingly, quality criteria may relate to use of theory, research design, methods of data collection, analytical approaches, modelling, validation, conclusion and discussion. More general quality criteria in relation to such building blocks include depth of argumentation, justification of choices, creativity, clarity, sophistication and the level of coherence between the building blocks.

² In the case of a design, please consider the originality of the design and the contribution to technology. Consider the candidate's technological competence, application of design methodologies, and analytical and integrative skills.

³ If the research chapters are multi-authored, it is important to consider the candidate's contribution to each chapter, in particular when s/he is not the first author. To this end, an authorship statement by the candidate has been added to the thesis manuscript. Also, it's good to check whether the research chapters show a level of written presentation similar to the Introduction and General discussion. If the research chapters are written in a better way, this may result in a higher grade for the criterion 'research chapters' but it suggests an important contribution of co-authors. Thus, a higher grade for the research chapters alone should perhaps not be reflected in the overall grade of the thesis

⁴ After the oral defence, the committee will be asked to comment on the quality of the defence. At that point the final decision whether or not to award a cum laude designation is made by anonymous voting.

Appendix 5c Rubric for evaluation of interdisciplinary and transdisciplinary PhD theses

Criteria	Unacceptable	Acceptable	Satisfactory	Good	Very good	Excellent
1. Originality of the research	not made) a contribution to either the interdisciplinary field or transdisciplinary science, either because it is a copy, or nearly so, of	Makes (or has made) a small and not very original contribution to either the inter-disciplinary field or transdisciplinary science, uses a cookbook approach, is not really interesting but shows the ability to do research.	Makes (or has made) a modest contribution to either the inter- disciplinary field or transdisciplinary science by addressing relevant, but small and traditional questions that are interesting for those who work on the same subject.	Makes (or has made) a substantial contribution to either the interdisciplinary field or transdisciplinary science by addressing relevant questions that are interesting for others within the field. It is a solid part of normal science but does not open up the field.	Makes (or has made) important contribution to either the interdisciplinary field or transdisciplinary science by solving old problems in a new way, or by addressing new and relevant questions, however without completely exploring and solving those new questions.	Makes (or has made) an exciting, major contribution to either the interdisciplinary field or transdisciplinary science, by solving old problems in a brilliant, innovative way or by asking and answering new and intriguing questions.
2. Scientific quality of the research chapters	and choices and interpretations are	Chapters lack clear cohesion and choices and interpretations are not always convincing.	Chapters have sufficient cohesion and choices and interpretations are mostly convincing.	Chapters are coherent and mostly well justified and convincing.	Chapters are coherent, very convincing and some of them are thought provoking and exciting.	Chapters are very coherent and convincing, all are exciting and some of them ground-breaking.
see footnotes: 1, 2, 3	publishable in any reputable journal or by any reputable book publisher and are not expected to be cited nor have a scientific impact.	book publisher, and it is	One or two chapters are publishable in a reputable journal or by a reputable book publisher, but they are expected to be cited below the norm in the inter- or transdisciplinary field of study involved and have lower than average scientific impact.	Most chapters are publishable in a reputable journal or by a reputable book publisher, but only some chapters are expected to be cited in line with the norm in the inter- or transdisciplinary field of study involved and have an average scientific impact, while others are expected to be cited below the norm and have a lower than average impact.	least as well as the norm in the inter- or transdisciplinary field of study involved and have an average scientific impact. Some chapters are expected to be cited above the norm and have a	All chapters are published or likely to be published in reputable journals or by a reputable book publisher, and they are expected to be cited above the norm in the inter- or transdisciplinary field of study involved and have higher than average scientific impact and some will be cited substantially better than the norm and have a substantially higher than average scientific impact.
	it is not likely to be cited nor have any scientific impact.	In case of a monograph, it is likely to be cited far below the norm in the field of study involved and have a considerably lower than average scientific.	In case of a monograph, it is likely to be cited considerably below the norm in the field of study involved and have a lower than average scientific impact.	In case of a monograph, it is likely to be cited in line with or slightly below the norm in the field of study involved and have at most an average scientific impact.	In case of a monograph, it is likely to be cited in line with or slightly above the norm in the field of study involved and have at least an average scientific impact.	In case of a monograph, it is likely to be cited well above the norm in the field of study involved and have a higher than average scientific impact.

	Unacceptable	Acceptable	Satisfactory	Good	Very good	Excellent
	understanding (within science or between science and society) is not achieved or discussed at the level of	Integration between different bodies of knowledge and understanding (within science or between science and society) is loosely achieved or discussed at the level of results in one or two chapters but is not very convincing.	Integration between different bodies of knowledge and understanding (within science or between science and society) is partially achieved or discussed at the level of results in one or two chapters and only partially convincing.	Integration between different bodies of knowledge and understanding (within science or between science and society) is partially achieved or discussed at the level of results in three or four chapters and mostly convincing.	Integration between different bodies of knowledge and understanding (within science or between science and society) is fully achieved or discussed at the level of results in three or four chapters and mostly convincing.	science and society) is fully achieved or discussed
		Set of research approaches combined within chapters demonstrates that candidate employed very little extra effort and skill to deliver this inter- or transdisciplinary thesis.	Set of research approaches combined within chapters demonstrates that candidate employed modest amount of extra effort and skill to deliver this inter- or transdisciplinary thesis.	Set of research approaches combined within chapters demonstrates that candidate employed fair amount of extra effort and skill to deliver this inter-or transdisciplinary thesis.	Set of research approaches combined within chapters demonstrates that candidate employed high amount of extra effort and skill to deliver this inter- or transdisciplinary thesis.	Set of research approaches combined within chapters demonstrates that candidate employed very high amount of extra effort and skill to deliver this inter- or transdisciplinary thesis.
3. Reflection on the research as shown in `Introduction' and `General discussion'	integrating different bodies of knowledge and understanding in this inter- or transdisciplinary research in either	The argument for integrating different bodies of knowledge and understanding in this inter- or transdisciplinary research is trivial; it is made plausible that it can be interesting (in scientific and/or societal terms) to link different bodies of knowledge but the choices made remain arbitrary.	There is a reasonably plausible argument of why it is relevant (in scientific and/or societal terms) to integrate the different bodies of knowledge and understanding chosen in this inter- or transdisciplinary research.	There is a convincing argument of why it is relevant (in scientific and/or societal terms) to integrate the different bodies of knowledge and understanding chosen in this inter- or transdisciplinary research.	and/or societal terms) to integrate the different bodies of knowledge and understanding chosen in this inter- or	There is a compelling, original and exciting argument of why it is relevant (in scientific and/or societal terms) to integrate the different bodies of knowledge and understanding chosen in this inter- or transdisciplinary research, and this may give rise to altogether new areas of study, collaboration and/or professionalism.
	how the results fit in the existing inter- or	inter- or transdisciplinary	Narrow view on how results fit in the existing inter- or transdisciplinary knowledge and what the societal relevance is.	Obvious correspondences and conflicts with existing inter- or transdisciplinary knowledge are identified. Most obvious societal relevance is indicated, and - in case of transdisciplinary research- there is already some evidence that non- academics build on	-in case of transdisciplinary research- there is clear potential for	Results are critically confronted with existing inter- or transdisciplinary knowledge. Societal relevance is addressed in full, and - in case of transdisciplinary research - there is clear evidence that non-academics build on findings to alter

	Unacceptable	Acceptable	Satisfactory	Good	Very good	Excellent
				the research findings.	or courses of action in society.	policies, designs or courses of action in society.
	The results from the different chapters are not connected to each other in any way.	The results from the different chapters are connected to each other in a loose manner that is not very convincing.		The results from the different chapters are partially connected to each other in a manner that is mostly convincing.		The results from the different chapters are fully connected to each other in a manner that is entirely convincing.
	Possible weaknesses in the research are not discussed.	The most obvious weaknesses in the research are indicated, but not how they affect the conclusions.	Most weaknesses in the research are indicated, but less clearly how they affect the conclusions.	Most weaknesses in the research are indicated, and how they affect the main conclusions.	All weaknesses in the research are indicated, and how they affect the main conclusions.	All weaknesses in the research are indicated, and how they affect each of the conclusions.
4. Quality of the written presentation	Writing, tables, figures and lay-out are so poor that it is hard to understand what the candidate wants to say. Reading is very difficult.	Writing, tables, figures and lay-out are not always correct and clear, level of detail varies widely, but with effort the text is understandable. Reading is difficult.	Writing, tables, figures and lay-out are mostly adequate, but level of detail varies, and text could be more concise. Reading is laborious.	Writing is correct and mostly clear, but text could be more concise. Tables, figures and lay-out are mostly clear, with few errors. Reading is effortless.	Writing is clear and concise, tables, figures and lay-out are functional and flawless. Reading is a joy.	Writing is crystal clear and compelling, concise but balanced with sufficient detail, with attractive, functional tables, figures and lay-out. Reading is exciting.
	The thesis is unstructured, often information is missing or presented in the wrong place.	Main structure of the thesis is adequate, but placement and structure of sections are often not logical.	Main structure of the thesis is correct, placement and structure of sections are not logical in places.	Main structure of the thesis is correct, but some sections are less well placed or less well structured.	Main structure of the thesis is clear and correct, most sections are well structured and well placed.	The thesis is very well structured with each chapter and section having a clear function and-presented in a logical order.
5. Overall assessment	In case one of the five criteria is marked as 'unacceptable' by any of the opponents/ reviewers, the PhD candidate will not be allowed to defend the thesis without major revision.	Based on the above categories the overall quality of the thesis is considered acceptable. The PhD candidate will be allowed to defend the thesis.	Based on the above categories the overall quality of the thesis is considered satisfactory. The PhD candidate will be allowed to defend the thesis.	Based on the above categories the overall quality of the thesis is considered good. The PhD candidate will be allowed to defend the thesis.	Based on the above categories the overall quality of the thesis is considered very good. The PhD candidate will be allowed to defend the thesis.	Based on the above categories the overall quality of the thesis is considered excellent. This PhD thesis belongs to the top of the scientific field. This may be a reason for awarding the designation 'cum laude' ('with distinction'). ⁴

¹ The precise criteria for assessing quality may differ per discipline and type of research. Accordingly, quality criteria may relate to use of theory, research design, methods of data collection, analytical approaches, modelling, validation, conclusion and discussion. More general quality criteria in relation to such building blocks include depth of argumentation, justification of choices, creativity, clarity, sophistication and the level of coherence between the building blocks.

² In the case of a design, please consider the originality of the design and the contribution to technology. Consider the candidate's technological competence, application of design methodologies, and analytical and integrative skills.

- ³ If the research chapters are multi-authored, it is important to consider the candidate's contribution to each chapter, in particular when s/he is not the first author. To this end, an authorship statement by the candidate has been added to the thesis manuscript. Also, it's good to check whether the research chapters show a level of written presentation similar to the Introduction and General discussion. If the research chapters are written in a better way, this may result in a higher grade for the criterion 'research chapters' but it suggests an important contribution of co-authors. Thus, a higher grade for the research chapters alone should perhaps not be reflected in the overall grade of the thesis.
- ⁴ After the oral defence, the committee will be asked to comment on the quality of the defence. At that point the final decision whether or not to award a cum laude designation is made by anonymous voting.

Appendix 6 Protocol for the doctoral defence ceremony

Location

The Omnia Auditorium of Wageningen University Hoge Steeg 2, Wageningen

General aspects

The doctoral defence ceremony has a long tradition. It is the pinnacle in the practice of science, where newly developed ideas and concepts are discussed and defended, in a public and preferably international setting, between early stage and established scientists. Wageningen University aims for the PhD defence to be a highly dignified ceremony where science is discussed at the highest level and has, therefore, established this protocol.

The PhD candidate can be accompanied by at most two paranymphs. The paranymphs mainly have a ceremonial function by reading one of the propositions on request. In exceptional cases directed by the chair of the committee, the PhD candidate may consult the paranymphs. The opponents may only address the PhD candidate.

Four opponents need to be present at the defence ceremony. Only in exceptional cases, a public defence ceremony can take place with three opponents. If an opponent cannot attend, the promotor is responsible for finding a replacement. This must be another qualified scientist with a doctorate according to the requirements stated in article 7.4. One of the four opponents can question the candidate via a video connection on the condition that the opponent is not residing in the Netherlands. The PhD office must be notified in time in the latter case. Only in exceptional cases, and with the specific permission of the Dean of Research, a second opponent may question the candidate via a video connection.

The ceremony is recorded and is accessible to the public in real-time at <u>Wageningen University and Research Media Library (yuja.com</u>). A copy of the broadcast can be viewed and obtained via the same website. A video recording of the defence ceremony will be kept for three years and filed afterwards. Wageningen University takes great care with recorded video material and complies with all legal requirements. At Wageningen University, <u>Protection of Personal Data regulations</u>, are in force, which is published on the website of Wageningen University.

Conventions

The focus of the ceremony is the practice of science. It is, therefore, inappropriate for the PhD candidate, paranymphs or members of the thesis committee to make any religious, political or nationalistic statements by means of words, gestures or in any other way, during and 30 minutes before the academic ceremony. Any other statements that do not show respect for the scientific and dignified character of the ceremony are also not permitted.

Terms of address ²

² Normally the thesis defence ceremony is conducted in English and the titles and texts spoken by the Rector Magnificus and supervisor included in this appendix apply. See Article 16.6 for the rules regarding the language of defence. The titles and texts used in a defence ceremony that is conducted in Dutch, can be found in Annex 7 of the Dutch version of these doctoral degree regulations, "Promotiereglement Wageningen University".

Rector Magnificus (or substitute) Candidate Promotor Co-promotor Opponents Madame / Mister (Deputy) Rector / Chair Respected candidate Highly esteemed promotor Highly esteemed co-promotor Highly esteemed opponent

Dress Code

Dress Code

During the doctoral defence ceremony, the PhD candidate, paranymphs and the members of the thesis committee are expected to wear the following clothing:

- PhD candidate and paranymphs: Appropriate clothing, preferably white tie with black shoes and black socks or other formal clothing such as a formal dress or skirt.
- Thesis committee:
 - Full professors: gown and cap (of own university) with a white shirt and black skirt or black trousers with black shoes and socks or a black dress.
 - Other members: formal clothing (tenue the ville), a formal dress or skirt in subdued colours or a dark suit with black shoes and socks.

Schedule

30 minutes before the start of the academic session

The thesis committee meets in the committee room at the Omnia Auditorium, where the Rector Magnificus explains the procedure, and opposition questions, propositions and time allocation are discussed. If an opponent will be present at the ceremony via a video connection, she/he will join this meeting via another video connection.

PhD candidate, paranymphs and beadle meet in the reception room. The audience is seated in the auditorium.

- 15 minutes before the start of the academic session

The beadle strikes the floor one time with the mace and escorts the PhD candidate and the paranymphs to the podium in the auditorium. The PhD candidate gives a brief presentation of the PhD research (max 14 min). The paranymphs are seated on the podium, in front at either side of the candidate.

- 2 minutes before the start of the academic session

The beadle strikes the floor three times with the mace and escorts the thesis committee to the podium in the main auditorium in ceremonial procession led by the Beadle then the Rector Magnificus followed by the promotor(s) and co-promotor(s) and then the opponents in order of opposition.

Thesis committee members take their seats on the podium or join via a video connection.

The Rector Magnificus and the promotor/co-promotor(s) are seated at the table on the right-hand side of the podium (as seen from the auditorium). The first promotor is seated left from the Rector Magnificus, and the second promotor and/or co-promotor(s) on the right-hand side of the Rector.

The other members of the thesis committee take their seats at the table on the left-hand side of the podium (as seen from the auditorium), in the order in which

they will oppose the PhD candidate, with the first opponent seated closest to the public.

The Beadle leaves the auditorium.

- Start of the academic session

The Rector Magnificus opens the meeting by the strike of the gavel and begins the ceremony with the words:

"I hereby open this ceremony, convened by the Academic Board of Wageningen University, in which *<name of PhD candidate>* is offered the opportunity of defending a thesis, with propositions, entitled '*<title of thesis>*'. The defence will take place before a thesis committee appointed by the Academic Board as a prerequisite for conferring the degree of doctor. Good morning/afternoon. I would like to welcome you all to this graduation. My name is *<name>*. I am professor of *<name chair>* and representing the Academic Board and the Rector Magnificus today."

The Rector Magnificus gives the floor to the first opponent but first introduces the opponent with the words:

"I call on the first examiner, <*name and affiliations of the opponent*>." The Rector Magnificus introduces each subsequent member of the thesis committee in a similar manner.

The opponents ask their questions and discuss their issues with the PhD candidate during the time that is allocated to them, which is monitored by the Rector Magnificus.

- 45 minutes after the start of the academic session

The beadle enters the auditorium, walks onto the podium and strikes the floor one time with the mace before speaking the words out loud: "Hora est". The Rector Magnificus ensures that any continuing discussion or argument is completed, including its defence, and adjourns the meeting with the words: "I adjourn the meeting; the thesis committee will now withdraw for consultation." Preceded by the Beadle, the committee leaves the auditorium in ceremonial procession and returns to the meeting room. If an opponent was present at the ceremony via a video connection, this opponent will join these deliberations via another video connection.

The thesis committee decides whether to confer the degree of doctor whereafter the Rector Magnificus, promotor(s) and co-promotor(s) sign the diploma. A decision to withhold the conferral of the degree on the grounds of the candidate's defence must be based on the negative judgement of three of the voting thesis committee members. The committee then discusses the quality of the thesis, using the previously sent thesis assessment forms. The Rector Magnificus provides an overview of the evaluations after which the promotor makes an initial proposal for the assessment of the quality of the dissertation. Then the Rector Magnificus asks the opponents if they agree with the assessment of the promotor(s) and a discussion follows among the thesis committee members. After a decision has been made, about the assessment of the thesis and propositions, the Rector Magnificus asks the promotor(s) to make an initial proposal for the assessment of the quality of the defence. Then the opponents are asked if they agree with this assessment followed by a discussion among the thesis committee members. In case the committee does not reach a unanimous decision regarding the guality of the thesis and propositions or the defence, the Rector Magnificus will register the lowest gualification as the final assessment.

After the discussion and decision, the Rector Magnificus records the final assessments by the committee in the promotion book.

- 60 minutes after the start of the academic session

The thesis committee enters the auditorium in ceremonial procession, and all members take their places as before.

The Rector Magnificus reopens the meeting and announces the decision that the thesis committee has taken on behalf of the Academic Board with the following words: "I hereby re-open this meeting. The Academic Board of Wageningen University, represented by the Rector Magnificus and *<number>* committee members appointed by the Academic Board, having noted the content of a thesis, entitled '*<title of the thesis>'* with propositions, having heard the defence of that thesis, has decided to confer the degree of doctor on: *<name of PhD candidate>*, born in *<city of birth>* on *<birthdate>* and to grant to *<name of PhD candidate>* all rights and privileges ensuing from that doctorate by law and custom."

(In case the degree is awarded cum laude, the following is added: "Moreover, due to the exceptional capability in the independent practice of science shown by the candidate, the designation 'cum laude' is attached to this degree.") "The Academic Board assumes that you accept your duty as a scientist to execute your future research ethically and with due diligence according to the Netherlands Code of Conduct for Research Integrity. I now invite the promotor <*name>* to present the candidate with the degree."

The promotor invites the new doctor to sign the diploma with the following words: "You have heard the decision of the Academic Board of Wageningen University to confer on you, *<name PhD candidate>*, the degree of doctor. It is now my honour to present you with the degree, signed by the (deputy) Rector Magnificus, the promotor(s) and the co-promotor(s), and sealed with the Great Seal of Wageningen University. I first invite you to sign the degree as well. With this signature, you declare to act according to the Netherlands Code of Conduct for Research Integrity in the future."

The Beadle allows the new doctor to sign the diploma whereafter it is handed to the promotor who will officially present the candidate with the diploma. The promotor will then continue the ceremony with the words: "Allow me, (deputy) Rector Magnificus, to offer my congratulations and to add a personal address." The congratulations and personal address last no more than five minutes in total and are business-like and constructive in tone. The grade of the thesis and defence will be mentioned only in case of cum laude.

Thereafter the promotor gives the floor back to the Rector Magnificus with the words: "I hereby give the word back to the (deputy) Rector Magnificus", the Rector Magnificus congratulates the new doctor on behalf of the university, acknowledges the contributions of the members of the thesis committee, and thanks the audience for their presence before closing the meeting. The committee leaves the main auditorium in ceremonial procession, followed by the new doctor and the paranymphs.

After the close relatives have congratulated the new doctor, the promotor(s) and co-promotor(s) are the first to get the opportunity to offer their congratulations.

Addendum appendix 6 Deviations from the doctoral degree regulations in view of measures due to the COVID-19 pandemic

As a result of the, in March 2020, enforced international and national measures due to the COVID-19 pandemic, the thesis defence ceremony may deviate from the ceremony as set out in Appendix 6 of the doctoral degree regulations. If, in the opinion of the Academic Board, the current measures due to the COVID-19 pandemic give reason to do so, a "public defence" or "public meeting" as referred to in the doctoral degree regulations will not take place in the Omnia Auditorium of Wageningen University, but online. An online defence will be recorded and broadcasted live and will remain accessible to the public online at <u>Wageningen</u> <u>University and Research Media Library (yuja.com)</u>.

If the Academic Board decides that the public defence of a particular dissertation will take place online, this will have consequences for the application of at least the following articles and appendices of the doctoral degree regulations: articles 16.1, 16.2, 16.4, 16.5, 16.6 and 17.2, and appendices 3 and 7.

Where in Appendix 6 reference is made to a "private meeting" or "closed meeting", an "online meeting" will be held. This has consequences for the application of at least the following articles of the doctoral degree regulations: 17.1, 17.2, 18.4, 18.5.

Where reference is made to the protocol in Appendix 6, this will be the protocol as explained in an addendum to Appendix 6 as shown below. This concerns article 16.4 of the doctoral degree regulations.

Supplement to Appendix 6 due to national and international measures taken because of the Covid-19 pandemic.

At the time of the measures taken due to the COVID-19 pandemic, an amended protocol can be used. In agreement with the PhD candidate, the defence will take place via a skype or a similar online connection. The private meeting will also take place online. A digital beadle will ensure that the protocol is followed as closely as possible and see to it that the opponents are (also) able to discuss with the candidate from a distance.

The defence will be broadcast live on <u>Wageningen University and Research</u> <u>Media Library (yuja.com)</u> and will remain accessible online to the public on that web page.

In case the PhD candidate is unable or unwilling to defend the thesis online, a new date will be sought for a defence in the Omnia Auditorium.

Appendix 7 Regulations for conferring a joint, double or dual doctorate

Introduction

Where the term joint doctorate (JD) is used, joint, double as well as dual doctorates with joint governance, joint admission and joint supervision of PhD candidates are meant. Thus, PhD programmes with joint governance, joint admission and joint supervision of PhD candidates, may issue either 'joint', 'double' or 'dual' degrees.

For all such joint programmes, irrespective of the terminology used for the degree, the regulations in this appendix 7 apply.

A proposal for a JD programme has to be submitted by the graduate school of the participating chair group(s) to the Academic Board and has to be approved before the start of the PhD projects.

The Academic Board approves a proposal for a JD programme based on the quality and complementarity of the partner institute(s), the balance of nationalities within the WU PhD programme, the coverage of the proposal in terms of number of PhD projects (in other words the programme should have more than one project) and the adherence to the WU Doctoral degree regulations.

All joint degrees are (also) registered as WU degree. A Dutch university however only receives payment for a PhD thesis if the defence took place within the Netherlands. In cases where the defence takes place outside the Netherlands, no payment from the Dutch government is awarded.

Types of joint doctorate proposals

Joint degree proposals can be submitted when it concerns a collaboration of one (or a few) chair group with one (or a few) research group at a partner institution, a collaboration that needs an approved joint doctorate programme to apply for funding, such as for an innovative training network (ITN) grant or a strategic collaboration of WU(R) with a partner institute laid down in an MoU with the wish to make it possible to confer joint degrees. The core of the JD programmes of the first and second type consist of a common scientific goal, framework or issue around which the PhD programme is organised. This constitutes the foundation of the programme and should, therefore, be clearly elaborated and agreed upon among programme partners. Participation of the graduate school or chair group (hereinafter: participant) in the programme should create added value in terms of achieving the scientific goals of the participant. Thus, the programme should fit into the strategy of the participant as well.

Conditions for JD programmes

- A JD programme should involve a number of projects in a set timeframe.
- A PhD candidate should stay at least one year at both partner institutes.
- The admission procedure should include agreements regarding proficiency in the English language and academic quality of the candidates. The admission procedure should be equal for all PhD

candidates and meet the requirements of all partner universities.

- After the PhD defence, the candidate will receive two certificates, issued by WU and by the partner institution. An appendix to the certificate will state that the degree was awarded for a single thesis resulting from a joint doctoral programme of the partner institutions.
- There will be a single PhD defence for a joint doctorate. The protocol for the PhD defence will depend on the actual location. The PhD defence may take place either in Wageningen or at the partner institution. If the PhD defence takes place in Wageningen, the partner institution may – if desired – organise later its own PhD defence or another ceremony.

If the PhD defence takes place at the partner institution and subsequently also a ceremony is desired in Wageningen, that ceremony will not be an official PhD defence in the Omnia Auditorium of Wageningen University but a ceremony organised by the supervisors.

- An even distribution (a distribution reflecting the input from the institutions) of the defence ceremonies over the different locations should be strived for. When this is not the case argumentation should be given why a fair distribution cannot be reached.
- Setting up a joint doctorate programme minimally requires sufficient scientific quality of the partners.
- When more than two partners participate in a programme, it must be clearly defined before the start of the programme whether joint degrees are established with all partners or only with selected partners.
- All institutions involved in the joint PhD project should provide supervision. A joint supervision and training plan should be agreed on.
- The requirements regarding the thesis, propositions and defence should in any case meet the requirements set by Wageningen University for the regular (non-joint) degree or doctorate.
- There will be a single evaluation procedure for a PhD thesis and for the defence within a joint PhD programme. The thesis committee consists of at least four members next to the supervisors and includes at least one full professor from WU. The composition of the thesis committee must be approved by the Academic Board of both institutions. Modifications to the regular composition of the thesis committee might be requested to meet this approval. The title pages to be used for a joint thesis may deviate from the WU standard as indicated below.
- The JD programme should have sufficient funding.

Format for a JD programme proposal

The proposal for a JD programme should include the following headings:

1. Type of joint doctorate (tick one box):

- Collaboration of one (or a few) chair group(s) with one (or a few) research group(s) at a partner institution.
 Please complete sections 2 and 3.
- □ Collaboration that needs an approved joint doctorate programme to apply for funding, such as for an innovative training network (ITN) grant.

- > Please complete sections 2 and 3.
- Strategic collaborations of WU(R) with a partner institute laid down in an MoU with the wish to make it possible to confer joint doctorate degrees.
 - > Please complete section 3.

2. Aim and content of the joint PhD programme

Involved chair group(s) from WU

Associated WU graduate school(s)

Intended start date of the programme

Intended end date of the programme

Name(s) partner institute(s):

When more than two partners participate in a JD programme, state whether the joint degree is established with all partners or only with selected partners from the programme.

Involved research group(s) partner institutes

Existing collaboration:

Common scientific goal, framework or issue

The core of the JD programme consists of a common scientific goal, framework or issue around which the PhD programme is organised. This constitutes the foundation of the programme and should, therefore, be clearly elaborated and agreed upon among programme partners. Participation of the graduate school or chair group (hereinafter: participant) in the programme should create added value in terms of achieving the scientific goals of the participant. Thus, the programme should fit into the strategy of the participant as well.

<u>Number of intended PhD projects</u> A JD programme should involve a number of projects in a set timeframe.

<u>Schedule of stay at the home institute and partner institute</u> A PhD candidate should stay at least one year at both partner institutes.

<u>Planned joint activities</u>

Such as joint courses as part of the joint doctorate programme. <u>Contribution to the international PhD classroom balance</u> Describe the effect that the joint degree programme will have on the balance of nationalities in the WU PhD population.

<u>Budget</u>

Provide a budget plan for the JD programme with special attention to arrangements governing PhD reimbursements. A Dutch university receives payment for a PhD thesis only if the defence took place within the Netherlands. In cases where the defence takes place outside the Netherlands, no payment from the Dutch government is awarded. It is, therefore, important when planning a budget for a JD programme to take national rules concerning PhD thesis payments into account and include the agreements in a budget plan.

A fair distribution (a distribution reflecting the input from the institutions) of the defence ceremonies over the different locations should be strived for. When this is not the case argumentation should be given when a fair distribution cannot be reached.

3. Format for Overall framework agreement per partner institute

The overall framework agreement needs to be set up once per partner institute. Please check whether an overall framework agreement already exists for your partner institute.

Description of the partner institution(s)

Describe the quality of the partner institution.

Admission procedure(s)

A description of the admission procedures for PhD candidates. The procedure should be equal for all PhD candidates and should contain agreements regarding proficiency in the English language and the academic quality of the candidates.

Supervision and training

Describe the agreements regarding the composition of the supervision teams, frequency of supervision, Go/No-go evaluation and intended training activities. Attach a format for the supervision and training plans. All institutions involved in the joint PhD project should provide supervision.

Evaluation and defence

Propositions

Regardless of the location of the defence, propositions have to be part of the PhD thesis.

Thesis evaluation

Describe a single evaluation procedure for all PhD theses and defences within the JD programme. Take the following into account when describing the procedure:

The promotor at WU is responsible for seeking approval from both institutions and will inform the secretariat for doctoral conferrals regarding an upcoming PhD defence, whether held at WU or at the partner institute as early as possible but at least no later than 6 months before the scheduled defence date. The thesis and propositions must be approved by supervisors from both institutions before they can be sent to the thesis committee. The thesis committee consists of at least four members and includes at least one full professor from WU. The composition of the thesis committee must be approved by the Academic Board of both institutions. Modifications to the regular composition of the thesis committee might be requested to meet this approval.

Thesis design

Describe the intended thesis design including any deviations from the WU regulations. The title pages to be used for a joint thesis may deviate from the WU standard as indicated below.

Protocol PhD defence

There will be a single PhD defence for a joint doctorate. For the PhD thesis defences the standard protocol of the institute where the defence takes place is followed.

The associated WU graduate school(s) should send the completed proposal to the Academic Board (<u>academic.board@wur.nl</u>) before the intended start of the JD programme.

Required title pages for a joint PhD thesis defended at Wageningen University

If requested by the partner university, the thesis cover and/or the first title page may contain the logos of both universities.

First title page of a joint PhD thesis

The *Phytophthora infestans* avirulence gene *X5yz* and its potato counterpart *A6*

Piet A. Ardappel

(This is a fictional example)

Second title page of a joint PhD thesis

Professors with personal or special chairs must be explicitly indicated as such in the list of promotors. Their affiliation must also be listed.

The list of co-promotors must state their positions and affiliations.

The affiliation of WUR promotors and co-promotors consists of their basic organisational unit (chair group or business unit) plus Wageningen University & Research as main affiliation.

The other members (the opponents) are listed with their main affiliation. Affiliations outside the Netherlands must also include the name of the country.

Thesis committee

Promotors

Prof. Dr F. Pietersen Personal Chair at the Laboratory of Phytopathology Wageningen University & Research

Prof. Dr F. Swartjes Professor of Phytopathology Partner Institution

Co-promotor

Dr P.A. Willis Associate professor, Animal Nutrition Group Wageningen University & Research

Other members

Prof. Dr W.J. Stekels, Wageningen University & Research Dr P. de Groot, Partner Institution Dr A. de Bruin, Keygene N.V., Wageningen Dr P. van Oost, University of Aberdeen, UK

This research was conducted under the auspices of the Graduate School of Partner Institution, Partner Country, and the Graduate School Experimental Plant Sciences, The Netherlands, and as part of the joint PhD programme NAME.

Third title page of a joint PhD thesis

Note that on this page 'Wageningen University' is used because that is the legal entity that issues the doctorate.

The *Phytophthora infestans* avirulence gene *X5yz* and its potato counterpart *A6*

Piet A. Ardappel

 Thesis

 submitted in fulfilment of the requirements for the joint degree of doctor between

 Partner Institution

 by the authority of the Rector Magnificus, Prof. Dr Other Rector, and

 Wageningen University

 by the authority of the Rector Magnificus, Prof. Dr A.P.J. Mol, in the presence of the

 Thesis Committee appointed by the Academic Boards of both universities to be defended in public

 on Wednesday 1 February 2017

 at 4 p.m. in the Omnia Auditorium of Wageningen University.

(This a fictional example)

Fourth title page of a joint thesis

Note that on this page 'Wageningen University' is used because that is the legal entity that issues the doctorate.

Piet A. Ardappel The Phytophthora infestans avirulence gene *X5yz* and its potato counterpart *A6* 83 pages.

Joint PhD thesis, Partner Institution, Partner Country, and Wageningen University, Wageningen, the Netherlands (2017) With references, with summary in English

ISBN 123-45-67890-123-4 DOI <u>https://doi.org/10.18174/123456</u>

(This is a fictional example)

The last inside page of a joint PhD thesis is similar to Appendix 3c. The leaflet with the propositions of a joint PhD thesis is similar to Appendix 3d.

Appendix 8 Procedure and format request ius promovendi for others than associate professors 1 in Tenure Track

Procedure request ius promovendi for others then associate professors 1 in Tenure Track

- The candidate prepares her/his portfolio and is personally responsible for the accuracy and completeness of the data.
- The candidate's chair holder checks the data in the portfolio and discusses the accuracy and completeness with the candidate.
- The candidate hands in the portfolio, including the approval of the chair holder, to the Academic Board (mail to: academicboard@wur.nl) The Academic Board asks for advice from the Graduate School involved. This advice will be added to the portfolio.
- A review committee, existing of three members of the Academic board, will assess the portfolio.
- Deadlines for presenting the portfolio to the Academic Board are 15 May and 15 November.
- The Academic Board will assess the portfolio following the Tenure Track criteria for associate professor 1 for research and acquisition.

Format portfolio ius p	romovendi

:

Name

Current job title :

Number of hours worked : ... FTE

Portfolio is prepared in connection with :

Contents of portfolio

- 1 Letter of recommendation from the chair holder
- 2 Letter of recommendation from the Graduate School (The secretary of the Academic Board will ask for this letter)
- 3 Curriculum vitae
- 4 Research description
- 5 Research output
- 6 Acquisition
- 7 Competences

Explanation

Ad 1 Letter of recommendation

This concerns the academic level of the research and management skills of the candidate.

Ad 2 Letter of recommendation

This concerns the academic level of the research and PhD supervision skills of the candidate.

Ad 4 Research description

Description of the past and current research, international position, and the societal impact of the research in the field.

Ad 5 Research output

Publications

You can retrieve your publication data from the digital library (<u>Staff Publications</u>). If you are logged in as a WUR user and click (*Go to*) Staff Publications, your own publications will be shown. From the menu under *My publications* (right hand column) you can go to *Lists*, *Bibliometric analysis* and *Research credits*. Your portfolio should give the following information:

- full publication list
- total number of publications in international refereed journals (see under Research credits)
- relative impact (RI, see under *Bibliometric analysis*)
- percentage of highly cited papers (%T10 and %T1 in *Bibliometric analysis*)
- total number of citations (Web of Science and Scopus)
- h-index (Web of Science and, click <u>here</u> for further explanation)

PhD and postdoc supervision

- PhD candidates you have supervised as co-supervisor (co-promotor), including the years of supervision and dates of graduation
- PhD candidates you currently supervise (including the years of supervision)
- Postdocs you supervise or have supervised
- PhD supervision course

Other research output

- International cooperation/partners in research (participation in international conferences, workshops and symposia, etc.)
- Recognition of academic achievements (membership of editorial boards, scientific awards, editing/reviewing of scientific books and journals, etc.)
- Keynotes
- Reviews
- Interviews in national newspapers, on radio and TV

Ad 6 Acquisition

Information on:

- proposals written and submitted both as principal investigator and as a coinvestigator
- your contribution to larger research consortia, involving non-WU institutions, that respond to calls jointly

For each of these proposals, please state:

- if they were successful or not
- at which funding agencies they were aimed
- how they support your own research agenda as described above in your vision
- how many PhD and postdoc positions they brought in and the budget (€)

Ad 7 Competences

Progress concerning the development of competences:

- What is the current development?

- What steps have been taken?What steps will be taken and with what aim?