Summary Specification of Scientific Accomplishments of a Thesis Supervisor Candidate
maximum 2 pages - it should be a synthesis of the most important elements of accomplishments

Name and surname, degree, title: Andrzej Pacholczak dr hab. (Prof. SGGW)	
Discipline/ disciplines of science	agriculture and horticulture
Professional development (degrees and titles) in chronological order	Degree: doctor of agricultural sciences in the field of horticulture - May 2005 - dissertation entitled: "The influence of pre-treatment of mother plants of selected species of ornamental shrubs on the process of rhizogenesis of shoot cuttings" Supervisor: Prof. dr hab. Aleksandra Łukaszewska. Degree: habilitated doctor in the field of horticulture, specialty: ornamental plants – 06.12.2017 - scientific achievement - a series of monothematic publications entitled: "Biostimulators as an alternative to auxins in the process of rooting deciduous shrub cuttings".
Most important publications/patens over the last 3 years (maximum 10)	1. **Pacholczak A.**, Nowakowska K. 2019. Micropropagation of February daphne (*Daphne mezereum* L.). Propagation of Ornamental Plants 19(4): 106-112. 2. **Pacholczak A.**, Nowakowska K. 2020. The effect of biostimulators and indole-3-butyric acid on rooting of stem cuttings of two ground cover roses. Acta Agrobotanica 73(1) Article 7314. DOI: 10.5586/aa.7314 3. **Pacholczak A.**, Winiarczyk A., Grzelak M., Nowakowska K. 2020. Efficient *in vitro* propagation of *Rhododendron* (L.) 'Ken Janeck'. Propagation of Ornamental Plants 20(3): 81-87. 4. Nowakowska K., **Pacholczak A.** 2020. Comparison of the effect of meta-Topolin and benzyladenine during *Daphne mezereum* L. micropropagation. Agronomy 10(12), 1994; doi:10.3390 https://doi.org/10.3390/agronomy10121994 5. Jagiełło-Kubiec K., Nowakowska K., Łukaszewska A.J., **Pacholczak A.** 2021. Acclimation to *ex vitro* conditions in ninebark. Agronomy 11, 612. https://doi.org/10.3390/agronomy11040612 6. Nowakowska K., Pińkowska A., Siedlecka E., **Pacholczak A.** 2021. The effect of cytokinins on shoot proliferation, biochemical changes and genetic stability of Rhododendron 'Kazimierz Odnowiciel' in the *in vitro* cultures. Plant Cell, Tissue and Organ Culture (PCTOC). https://doi.org/10.1007/s11240-021-02206-z. 7. Nowakowska K., Marciniak P. **Pacholczak A.** 2022. A protocol for efficient micropropagation of /doi.org/10.1016/j.sajb.2022.07.023rare orchid *Vanda brunnea* Rchb.f. South African Journal of Botany 150: 233-239. doi.org/10.1016/j.sajb.2022.07.023

	8. **Pacholczak A.**, Żatkiewicz A. 2022. The interaction of brassinosteroids and indole-3-butyric acid (IBA) in rooting of stem cuttings in ninebark (*Physocarpus opulifolius* (L.) Maxim.)). Propagation of Ornamental Plants 22: 3-10.
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	1. Paweł Petelewicz, scientific supervision in the years 2012-2016, the title of doctoral dissertation: "The influence of selected biostimulants on the rooting of white dogwood (*Cornus alba* L.) shoot cuttings", Department of Ornamental Plants WOBiAK, Warsaw University of Life Sciences, Warsaw, nature of scientific care - co-promotor 2. Karolina Nowakowska, scientific supervision in 2015-2019, the title of the doctoral dissertation: "Selected aspects of microtreating laurel wilczełyko (*Daphne mezereum* L.)", Department of Ornamental Plants WOBiAK, Warsaw University of Life Sciences, Warsaw, nature of scientific care – supervisor.
Project/grants achievements (from the last 10 years)	Managing national research projects and participating in such projects: 1. Project title: "Intensification of the propagation of ornamental shrubs with the use of biostimulators", National Science Center NN 310725140, start 2011, end 2014, participation in the project - grant manager. 2. Project title: "The impact of plant-based bi-stimulants on the rooting efficiency of historic rose shoots", National Science Center NN 31000824; start 2011, end 2014, participation in the project - contractor of the grant led by Dr. Marta Monder from the Botanical Garden of the Polish Academy of Sciences in Powsin. Managing projects implemented in cooperation with entrepreneurs BAYER Sp. z o. o. with headquarters in Warsaw, Al. Jerozolimskie 158, 02-326 Warsaw: 1. Duration of March 25, 2015 - November 15, 2015, title of the project: "Conducting experiments in the use of the Logo herbicide in the field cultivation of coniferous shrubs" - project manager. 2. Duration 1.04.2016-30.11.2016, project title: "Conducting experiments in the use of Logo herbicide in the field cultivation of coniferous shrubs, checking its phytotoxicity against shrubs and controlling existing weeds" - project manager. 3. Duration 1.04.2016-30.11.2016, title of the project: "Conducting experiments in the use of soil herbicides in the field cultivation of coniferous shrubs, checking its phytotoxicity against shrubs and combating existing weeds" - project manager. 4. Duration 1.11.2016-30.05.2017, title of the project: "Conducting experiments in the field of application of the Logo herbicide in the field cultivation of coniferous shrubs during the winter dormancy" - project manager.

	Managing projects implemented in cooperation with entrepreneurs (implementation research): 5. Duration 1.04.-31.07.2021, title of the project: " Effect of sodium light on growth parameters of selected potted plants of the *Bromeliaceae* family" - project manager. 6. Duration 15.01.-31.04.2022, title of the project: " Optimisation of cultivation conditions for selected plants of the Bromeliaceae family" - project manager.
Topic – research problem – for which the candidate supervisor seeks a doctoral student	The main topic in my research is the intensification of the process of propagation of ornamental shrubs through shoot cuttings with the use of substances that stimulate the process of rhizogenesis. In particular, I study the effect of various forms of auxins and the possibility of their application on the rooting of cuttings. In addition, I deal with the determination of the action of biostimulants as an alternative to commercially available auxin-based rooting agents. Recently, I have started research on the micro-propagation of woody plants, particularly related to the intensification of their rooting in tissue cultures. An important aspect of my research is also the evaluation of the obtained material - by conventional or *in vitro* methods - which is manifested by carrying out numerous biochemical and botanical analyses. The task that a doctoral student would have to deal with is an attempt to scientifically explain the problems with the reproduction and rooting of selected valuable species, both in traditional nursery and in tissue cultures. An important scope of the PhD student's work will be laboratory work: in the tissue culture laboratory, or in the plant physiology. The candidate should know the basics of plant physiology and botany and be able to choose the appropriate method of reproduction. The ability to work in a tissue culture laboratory is welcome: sterile work, initiation of cultures, preparation of media. In addition, the candidate should be willing to independently explore problems and undertake scientific discussions supported by the latest literature reports.
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