

Agnieszka Grabowska, Ph. D.

Position: Assistant Professor

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Research interests:

Regulation of nitrogen metabolism in higher plants.

Teaching:

Lectures: molecular biology

Academic and Research Career:**Education:**

M.Sc.: Faculty of Horticulture and Landscape Architecture, Warsaw University of Life Sciences - SGGW, Warsaw, speciality: genetics, breeding and biotechnology, 1997

Ph.D.: Faculty of Horticulture and Landscape Architecture, Warsaw University of Life Sciences - SGGW, Warsaw, speciality: genetics, breeding and biotechnology, 2001

Employment:

2004 - present - **Assistant Professor** in the Department of Biochemistry, Faculty of Agriculture and Biology, Warsaw University of Life Sciences - SGGW

2001 - 2004 - **Research Assistant**, in the Department of Biochemistry, Faculty of Agriculture and Biology, Warsaw University of Life Sciences - SGGW

1998-2001 - **Ph.D. student** - in the Department of Plant Genetics, Breeding and Biotechnology, Faculty of Horticulture, Biotechnology and Landscape Architecture, Warsaw University of Life Sciences - SGGW

Selected research projects:

NCN grant; no. 2012/07/B/NZ9/01765 The role of 9-cis-epoxycarotenoid dioxygenase and ABA 8'-hydroxylase in regulation of dormancy of triticale seeds; contractor of the project; 2013-2017

MNiSW grant; no. N N310301134 "The role of glutamine synthetase and glutamate dehydrogenase in the yield of winter triticale"; contractor of the project; 2008-2011

MNiSW grant; no. N N302061134 The role of starch phosphorylation in starch degradation in potato plastids; contractor of the project; 2008-2010

MNiSW grant; no. P06A 022 30; "Molecular characterization and subcellular and tissue localization of aldehyde oxidase AO3 - isoform oxidating abscisic aldehyde to ABA in pea (*Pisum sativum*)"; contractor of the project; 2006-2009.

Membership of scientific associations

Polish Biochemical Society, Polish Society of Experimental Plant Biology,

Scientific prizes and awards:

Individual award of the Rector of Warsaw University of Life Sciences for scientific achievements, 2012

Individual award of the Rector of Warsaw University of Life Sciences for achievements in the field of teaching, 2009

List of selected publications:

1. Zdunek-Zastocka E., **Grabowska A.**, 2019 The interplay of *PsABAUGTI* with other abscisic acid metabolic genes in the regulation of ABA homeostasis during the development of pea seeds and germination in the presence of H₂O₂. *Plant Science* 285, 79-90
2. Fidler J., **Grabowska A.**, Prabucka B., Więsyk A., Góra-Sochacka A., Bielawski W., Pojmaj M., Zdunek-Zastocka E. 2018 The varied ability of grains to synthesize and catabolize ABA is one of the factors

affecting dormancy and its release by after-ripening in imbibed triticale grains of cultivars with different pre-harvest sprouting susceptibilities. *Journal of Plant Physiology* 226, 48-55

3. Zdunek-Zastocka E., **Grabowska A.**, Branicki T., Michniewska B. 2017 Biochemical characterization of the triticale TsPAPI, a new type of plant prolyl aminopeptidase, and its impact on proline content and flowering time in transgenic *Arabidopsis* plants. *Plant Physiology and Biochemistry* 116, 18-26
4. **Grabowska A.**, Zdunek-Zastocka E., Kutryn E., Kwinta J. 2017 Molecular cloning and functional analysis of the second gene encoding glutamate dehydrogenase in triticale. *Acta Physiologiae Plantarum* 39:24
5. Kwinta J., **Grabowska A.** (2016) The role of glutamine synthetase and glutamate dehydrogenase in yielding of triticale. ISBN978-83-945311-0-2, 142-152
6. Prabuca B., Drzymała A., **Grabowska A.** (2013) Molecular cloning and expression analysis of the main gliadin-degrading cysteine endopeptidase EP8 from triticale. *Journal of Cereal Science* 58, 284-289
7. Orzechowski S., **Grabowska A.**, Sitnicka D., Simińska J., Feluś M, Dudkiewicz M., Fudali S., Sobczak M. (2013) Analysis of the expression, subcellular and tissue localisation of phosphoglucan, water dikinase (PWD/GWD3) in *Solanum tuberosum* L.: a bioinformatics approach for the comparative analysis of two α -glucan, water dikinases (GWDs) from *Solanum tuberosum* L. *Acta Physiologiae Plantarum* 35, 483-500
8. **Grabowska A.**, Kwinta J, Bielawski W. (2012) Glutamine synthetase and glutamate dehydrogenase in triticale seeds: molecular cloning and genes expression. *Acta Physiologiae Plantarum* 34, 2393-2406
9. Szawłowska U., **Grabowska A.**, Zdunek-Zastocka E., Bielawski W. (2012) *TsPAPI* encodes a novel plant prolyl aminopeptidase whose expression is induced in response to suboptimal growth conditions. *Biochemical and Biophysical Research Communications* 419, 104-109
10. Wiśniewska A, **Grabowska A.**, Pietraszewska-Bogiel A, Tagashira N, Zuzga S, Wóycicki R, Przybecki Z, Malepszy S, Filipecki M. (2012) Identification of genes up-regulated during somatic embryogenesis of cucumber. *Plant Physiology et Biochemistry* 50, 54-64
11. **Grabowska A.** Nowicki M, Kwinta J. (2011) Glutamate dehydrogenase of the germinating triticale seeds: gene expression, activity distribution and kinetic characteristics. *Acta Physiologiae Plantarum* 33:1981
12. **Grabowska A.**, Wisniewska A, Tagashira N, Malepszy S, Filipecki M. (2009) Characterization of CsSEF1 gene encoding putative CCCH-type zinc finger protein expressed during cucumber somatic embryogenesis. *Journal of Plant Physiology* 166, 310-323
13. Linkiewicz A., Filipecki M., Tomczak A., **Grabowska A.**, Malepszy S. (2004) The cloning of sequences differentially transcribed during the induction of somatic embryogenesis in cucumber (*Cucumis sativus* L.). *Cellular and Molecular Biology Letters* 9B, 795-804
14. **Grabowska A.**, Filipecki M. (2004) The infiltration with *Agrobacterium* – the method for stable transformation avoiding tissue culture. *Acta Physiologiae Plantarum* 26, 451-458
15. Rakoczy-Trojanowska M., **Kwaśniak A.**, Malepszy S. (1996) Factors influencing viability and sporophytic development *in vitro* of rye (*Secale cereale* L.) microspores. *Vortraege fuer Pflanzenzuechtung* 35, 256-257

List of selected conferences:

1. **Grabowska A.**, Kutryn E., Zdunek-Zstocka E. New insight into possible role of *TsGSI* from triticale. 9th Conference of the Polish Society of Experimental Plant Biology, 9–12 September 2019, Torun, poster: S5-PO38
2. Zdunek-Zastocka E., Michniewska B., **Grabowska A.** Overexpression of triticale proline aminopeptidase gene (*TsPAPI*) enhances the tolerance of *Arabidopsis* transgenic plants to abiotic stress factors. 9th Conference of the Polish Society of Experimental Plant Biology, 9–12 September 2019, Torun, poster: S5-PO20
3. **Grabowska A.**, Zdunek-Zastocka E. Role of triticale glutamate dehydrogenase under salt stress. 8th Conference of the Polish Society of Experimental Plant Biology, 12-16 September 2017, Białystok, poster: p3.17
4. Zdunek-Zastocka E, **Grabowska A.** Abscisic acid metabolism in the response to cadmium stress in pea plants. 8th Conference of the Polish Society of Experimental Plant Biology, 12-16 September 2017, Białystok, poster: p3.66

5. Fidler J., Góra-Sochacka A., **Grabowska A.**, Prabucka B., Więsyk A., Zdunek-Zastocka E. Effect of after-ripening on abscisic acid content and its biosynthesis in triticale grains. 8th Conference of the Polish Society of Experimental Plant Biology, 12-16 September 2017, Białystok, poster: p1.3
6. Derewiaka D., Niedziałkowska P. Dasiewicz K., **Grabowska A.** Presence of soya allergens I selected products and dishes. 17th International Conference: Risk Factors of Food Chain 19-21 September 2016, Rzeszow, poster: p26
7. Kwinta J., **Grabowska A.** The role of glutamine synthetase and glutamate dehydrogenase in yielding of triticale. 1st Scientific Conference Agriculture in XXI century - problems and challenges, Krzyzowa, 30-31 March 2016, oral presentation
8. **Grabowska A.**, Kwinta J. Cloning, molecular characterization and expression analysis of glutamine synthetase type I gene from triticale. *Acta Biochemica Polonica* vol. 59 suppl. 3, 47th Conference of the Polish Biochemical Society, 11-14 September 2012, Poznan, poster: P6.7
9. **Grabowska A.**, Kwinta J. Physiological and molecular analysis of glutamate dehydrogenase in germinating triticale kernels. *Acta Biologica Cracoviensia* vol. 51 suppl. 2, 4th Conference of the Polish Society of Experimental Plant Biology, 21-25 September 2009, Krakow, poster: 1.31
10. Prabucka B., Drzymała A., **Grabowska A.** Molecular cloning and expression analysis of main gliadin-degradation cysteine endopeptidase EP8 from triticale (x Triticosecale Wittm.) *Acta Biologica Cracoviensia* vol. 51 suppl. 2, 4th Conference of the Polish Society of Experimental Plant Biology, 21-25 September 2009, Krakow, poster: 1.11
11. Orzechowski S., Simińska J., **Grabowska A.**, Sobczak M. Analysis of expression and tissue localisation of phosphoglucan:water dikinase (PWD) in *Solanum tuberosum* L.. *Acta Biochemica Polonica Suppl.*, 55/3:213, 43rd Conference of the Polish Biochemical Society, 7-11 September 2008, Olsztyn, poster: p9.10
12. **Grabowska A.**, Samojedny D., Simińska J., Dudkiewicz M., Orzechowski S. Cloning and sequence analysis of phosphoglucan water dikinase gene (PWD) from *Solanum tuberosum* L.. 3rd Conference of the Polish Society of Experimental Plant Biology, 26-30 August 2007, Warsaw, poster: p.81
13. Drzymała A., **Grabowska A.**, Bielawski W. Structure of carboxypeptidase III from triticale. *Acta Biochemica Polonica*, 53, 41st Conference of the Polish Biochemical Society, 12-15 September, 2006, Białystok, poster: 117
14. Filipecki M., Wiśniewska A., **Grabowska A.**, Pietraszewska A., Boruc J., Malepszy S. The differential expression of transcription factors during cucumber somatic embryogenesis. 7th International Congress of Plant Molecular Biology, 23-28 June, 2003, Barcelona, poster: S03-68
15. Filipecki M., **Grabowska A.**, Linkiewicz A., Malepszy S. Isolation of cucumber genes developmentally regulated during somatic embryogenesis. X Conference Plant, Animal and Microbe Genomes, January 12 - 16, 2002, San Diego, California, poster
16. Filipecki M., Linkiewicz A., **Kwaśniak A.**, Malepszy S. The genes differentially expressed during somatic embryogenesis in cucumber (*Cucumis sativus* L.) suspension culture. 6th International Congress of Plant Molecular Biology, Quebec, Canada, 18-24 June 2000, poster: S10-11
17. Linkiewicz A., Filipecki M., **Kwaśniak A.**, Malepszy S. The gene expression profile during somatic embryogenesis in cucumber (*Cucumis sativus* L.) suspension cultures. IX Conference of Polish Association for Plant Tissue Culture and Biotechnology, Gdansk - Sobieszewo, 10-13 September 2000, poster: 8-76