

CURRICULUM VITAE

ANNA M. RYCHTER

Educational background

MS. in Biochemistry, Biochemistry Department, Warsaw University, Poland

MS. in Plant Physiology Horticulture Department, Purdue University, Lafayette Ind. U.S.A.

PhD, Plant Physiology, Institute of Botany, Warsaw University, Poland.

Professional experience

Post Doc, Horticulture Dept. Purdue Univ., Lafayette, Ind. U.S.A.

Post Doc Horticulture Dept. Rutgers University, New Brunswick, N.J., U.S.A. Research - Induction of alternative oxidase in potato tubers.

Visiting professor, University of Poitiers, Poitiers, France

Visiting professor Lab. de Biologie Vegetale IV. Univ. Pierre et Marie Curie, Paris. Research- Isolation and characterization of mitochondria from phosphate deficient plants.

Visiting professor, Biochemistry Department, University of Missouri-Columbia Missouri, U.S.A. Research- Sugar metabolism in phosphate deficient bean roots.

Docent (equiv. of associate professor) Institute of Botany, Warsaw University. Research - The regulation of respiration under different physiological and environmental conditions.

1992 - Professor of Warsaw University.

1993-96 - Director of Institute of Experimental Plant Biology

1989 – until now, Head of Bioenergetics Department, Institute of Experimental Plant Biology, Warsaw University.

Research - The effect of environmental conditions on bioenergetics economy of plants.

Author and coauthor about 50 experimental papers and 9 review papers

- 6 Grants from State Committee for Scientific Research (Poland) starting from 1993
- Grants of Centre Franco-Polonais de Biotechnologie des Plantes (4 times in last years)
- Grant for cooperation between Italy-Poland (1997-2000)
- Grant “Polonium” for French-Polish cooperation (1998-2001)

President (2005-2007) of Polish Society of Experimental Plant Biology, member of FESPB

Relevant papers from 1990

Reviews

1. H. Lambers and A. Rychter 1990 The biochemical background of variation in respiration rate: respiratory pathways and chemical composition. In: Genotypic variation in growth rate and productivity. Physiological, biochemical and morphological backgrounds; ecological and agronomic consequences. H. Lambers, M.L. Cambridge, H. Konings and L.T. Ponds ed. SPB Acad. Publishing, bv The Haque The Netherlands, 199-225
2. Ciereszko i A. Rychter 1995. Metabolic changes in bean roots under phosphate deficiency conditions (article in polish) Wiadomości Botaniczne 39 (1/2), 81-90
3. Juszczuk IM and Rychter AM 2003. Alternative oxidase in higher plants. Acta Biochimica Polonica.50:1257-1271,
4. Juszczuk, A. M. Rychter 2001. Regulacja aktywności oksydazy alternatywnej (Regulation of the alternative oxidase activity). Post. Biochem. 47, 318-327
5. Anna M. Rychter and I. M. Rao 2005 Role of phosphorus in photosynthetic carbon metabolism pp. 123-148 in: M. Pessarakli ed. Handbook of Photosynthesis, second edition, revised & expanded. Taylor& Francis,
6. Szal B, Skutnik M, Rychter AM (2006) Oxidative Metabolism after Anaerobiosis in Root Tissue. In: Floriculture, Ornamental and Plant Biotechnology: Advances and Topical Issues (1st Edition), Teixeira da Silva JA (ed), Global Science Books, London, UK, pp 230-238

Experimental papers.

7. A.M Rychter and M. Mikulska 1990 The relationship between phosphate status and cyanide-resistant respiration in bean roots. Physiol Plant. 79, 663-667
8. M. Rychter, M. Chauveau, J-L. Bomsel and C. Lance 1992 The effect of phosphate deficiency on mitochondrial activity and adenylate levels in bean roots. Physiol. Plant. 84, 80-86
9. M. Rychter and D. D. Randall 1994 The effect of phosphate deficiency on carbohydrate metabolism in bean roots. Physiol. Plant. 91, 383-388
10. Ciereszko, A. Gniazdowska, M. Mikulska and A. Rychter 1996. Assimilate translocation in bean plants (*Phaseolus vulgaris* L.) during phosphate deficiency. J. Plant. Physiol. 149, 343-348.
11. Kondracka and A. Rychter 1997. The role of Pi recycling processes during photosynthesis in phosphate deficient bean plants. J. Exp. Botany, 48, 1461-68

12. I.M. Juszczuk and A. Rychter 1997. The changes in pyridine nucleotide levels in leaves and roots of bean plants (*Phaseolus vulgaris* L.) during phosphate deficiency. *J. Plant Physiol.* 151: 399-404
13. E. Malusa and A. Rychter 1997. Effect of phosphate deficiency on isoenzyme pattern of hydrogen scavenging enzymes in bean roots. Proceedings of XIV National Congress of the Italian Society of Agrarian Chemistry-SICA, Rimini 1996. pp. 427-432.
14. M. Mikulska, J-L. Bomsel and A. Rychter 1998. The influence of phosphate deficiency on photosynthesis, respiration and adenine nucleotide pool in bean leaves. *Photosynthetica*, 35, 79-88
15. Cierieszko, A. Zambrzycka and A. Rychter 1998. Sucrose hydrolysis in bean roots (*Phaseolus vulgaris* L.) under phosphate deficiency. *Plant Science*, 133, 139-144
16. Gniazdowska, M. Mikulska and A. Rychter 1998. Growth, nitrate uptake and respiration rate in bean roots under phosphate deficiency. *Biologia Plantarum*, 41, 217-226
17. M. Wanke, I. Cierieszko, M. Podbielkowska and A. Rychter 1998. Localization of soluble sugars accumulating in bean roots (*Phaseolus vulgaris* L.) during phosphate deficiency. *Annals of Botany*, 82, 809-819
18. I.M. Juszczuk, E. Malusa and A. M. Rychter 1998. Alternative oxidase from phosphate deficient bean roots. In: *Plant Mitochondria from Gene to Function*. P. Gardestrom and I.M. Moller ed Backhuys Publ. Leiden. pp. 481-485 ISBN 90-5782-009-9
19. Gniazdowska, A. Krawczak, M. Mikulska and A.M. Rychter 1999. Low phosphate nutrition alters bean plant ability to assimilate and translocate nitrate. *J. Plant Nutrition*, 22, 551-563.
20. Cierieszko, J.F. Farrar and A.M. Rychter 1999. Compartmentation and fluxes of sugars in roots of bean (*Phaseolus vulgaris* L.) plants under phosphate deficiency. *Biologia Plantarum* 42, 223-231
21. Gniazdowska, B. Szal and A.M. Rychter 1999. The effect of phosphate deficiency on membrane phospholipid composition of bean (*Phaseolus vulgaris* L.) roots. *Acta Physiologiae Plantarum*. 21, 263-269
22. Cierieszko I, I. Miłosek and A.M. Rychter 1999. Assimilate distribution in bean plants (*Phaseolus vulgaris* L.) during phosphate limitation. *Acta Soc. Bot. Pol.* 68: 269-27
23. Gniazdowska A and A.M. Rychter 2000. Nitrate uptake by bean (*Phaseolus vulgaris* L.) roots under phosphate deficiency. *Plant and Soil* 226, 79-85
24. Juszczuk IM, Malusa E, Rychter AM 2001. Oxidative stress during phosphate deficiency in roots of bean plants (*Phaseolus vulgaris* L.) *J. Plant Phys.* 158,1299-1305

25. Juszczuk I.M., Wagner AM, Rychter AM 2001 Regulation of alternative oxidase activity during phosphate deficiency in bean roots (*Phaseolus vulgaris L.*) *Physiol. Plant* 113,185-192
26. Juszczuk I.M., Malusa E, Rychter AM 2001. Phosphate deficiency induced oxidative stress in roots of bean plants (*Phaseolus vulgaris L.*) *Devel. Plant Soil Sci. Plant Nutrition – Food Security and Sustainability of agro-ecosystems*. Horst WJ, et al eds. Kluwer Acad Publ. Dordecht/Boston/London vol 92, pp. 148-149, ISBN 0-7923-7105-4
27. Juszczuk IM and Anna M. Rychter. 2002 Pyruvate accumulation during phosphate deficiency stress of bean roots. *Plant Physiol. Biochem.* 40, 783-788
28. Szal B, Jolivet Y, Hasenfratz-Sauder M-P, Dizengremel P, Rychter A.M 2003. Oxygen concentration regulates alternative oxidase expression in barley roots during hypoxia and post-hypoxia. *Physiol. Plant.* 119: 494-502,
29. Juszczuk I.M., Wiktorowska A, Malusa E, Rychter AM 2004 Changes in phenolics concentration and exudation induced by phosphate deficiency in bean plants (*Phaseolus vulgaris L.*). *Plant and Soil* 267, 41-49
30. Szal B, Drozd M, Rychter AM 2004 Factors affecting determination of superoxide anion generated by mitochondria from barley roots after anaerobiosis. *J Plant Physiol.* 161, 1339-1346 ,