

Peer reviewed publications

- Persson, K., Danielsson, H., Selldén, G. & Pleijel, H. (2003). The effects of tropospheric ozone and elevated carbon dioxide on potato (*Solanum tuberosum* L. cv. Bintje) growth and yield. *Science of the Total Environment* 310, 191-201.
- Pihl Karlsson, G., Karlsson, P. E., Danielsson, H. & Pleijel, H. (2003). Clover as a tool for bioindication of phytotoxic ozone – 5 years of experience from Southern Sweden – consequences for the short-term critical level. *Science of the Total Environment* 301, 205-213.
- Danielsson, H., Pihl Karlsson, G., Karlsson, P. E. & Pleijel, H. (2003). Ozone uptake modelling and flux-response relationships – assessments of ozone-induced yield loss in spring wheat. *Atmospheric Environment* 37, 475-485.
- Ottosson, S., Wallin, G., Skärby, L., Karlsson, P.E., Medin, E.-L., Rantfors, M., Pleijel, H. & Selldén, G. (2003). Four years of ozone exposure at high or low phosphorus reduced biomass in Norway spruce. *Trees* 17, 299-307.
- Pleijel, H., Danielsson, H., Ojanperä, K., De Temmerman, L., Högy, P. & Karlsson, P.E. (2004). Relationships between ozone exposure and yield loss in European wheat and potato – A comparison of concentration based and flux based exposure indices. *Atmospheric Environment* 38, 2259-2269.
- Karlsson, P.E., Medin E.L., Ottosson, S., Selldén, G., Wallin G., Pleijel, H. & Skärby, L. (2004). A cumulative ozone uptake - response relationship for the growth of Norway spruce saplings. *Environmental Pollution* 128, 405-417.
- Piikki, K., Vorne, V., Ojanperä, K. & Pleijel, H. (2003/4). Potato tuber sugars, starch and organic acids in relation to ozone exposure. *Potato Research* 46, 67-79.
- Pihl Karlsson, G., Soja, G., Vandermeiren, K., Karlsson, P.E. & Pleijel, H. (2004). Test of the short-term critical levels for acute ozone injury on plants – improvements by ozone uptake modelling and the use of an effect threshold. *Atmospheric Environment* 38, 2237-2245.
- Skärby, L., Ottosson, S., Karlsson, P.E., Wallin, G., Selldén, G., Medin, E.L. & Pleijel, H. (2004). Growth of Norway spruce (*Picea abies*) in relation to different ozone exposure indices. *Atmospheric Environment* 38, 2225-2236.
- Hultengren, S., Gralén, H. & Pleijel, H. (2004). Recovery of the epiphytic lichen flora following air quality improvement in south-west Sweden. *Water, Air and Soil Pollution* 154, 203-211.
- Piikki, K., Selldén, G. & Pleijel, H. (2004). The impact of tropospheric ozone on two potato cultivars (*Solanum tuberosum* L. cv. Bintje and cv. Kardal) in an open-top chamber experiment. *Agriculture, Ecosystem and Environment*, 104, 483-492.
- Pleijel, H. (2004). Air pollution effects of ozone on crop yield and quality. *Encyclopedia of Plant and Crop Science* 13-16. Marcel Dekker Inc.
- Ashmore, M., Emberson, L., Karlsson, P.E. & Pleijel, H. (2004). New Directions: A new generation of ozone critical levels for the protection of vegetation in Europe. *Atmospheric Environment* 38, 2213-2214.
- Pleijel, H., Pihl Karlsson, G. & Binsell Gerdin, E. (2004). On the logarithmic relationship between NO₂ concentration and the distance from a highroad. *Science of the Total Environment* 332, 261-264.
- Uddling, J., Pleijel, H. & Karlsson, P. E. (2004). Measuring and modelling leaf diffusive conductance in juvenile silver birch, *Betula pendula*. *Trees* 18, 686-695.
- Uddling, J., Günthardt-Goerg, M.S., Matyssek, R., Oksanen, E., Pleijel, H., Selldén, G., Karlsson, P.E. (2004) Biomass reduction of juvenile birch is more strongly related to stomatal uptake of ozone than to indices based on external exposure. *Atmospheric Environment* 4709-4719.
- Ashmore, M., Emberson, L., Karlsson, P.E. & Pleijel, H. (2004). Editorial: introduction for ozone deposition special issue. *Atmospheric Environment* 38, 2211-2212. Contribution as guest editor of the journal.
- Vandermeiren, K., Black, C., Pleijel, H. & De Temmerman, L. (2005). Impact of rising tropospheric ozone on potato: effects on photosynthesis, growth, productivity and yield quality. Accepted for publication in *Plant, Cell and Environment*.

- Karlsson, P.E., Pleijel, H., Belhaj, M., Danielsson, H., Dahlin, B., Andersson, M. Hansson, M., Munthe, J. & Grennfelt, P., (2005). An economic assessment of the negative impacts of ozone on crop yield and forest production at the estate Östads Säteri in south-west Sweden. *AMBIO* 34, 32-40.
- Pleijel, H., Berglen Eriksen, A., Danielsson, H., Bondesson, N. & Selldén, G. (2005). Differential ozone sensitivity in an old and a modern Swedish wheat cultivar – grain yield and quality, leaf chlorophyll and stomatal conductance. Accepted for publication in *Environmental and Experimental Botany*.
- Karlsson, P.E., Hansson, M., Hoglund, H.-O. and Pleijel, H. Ozone Concentration Gradients and Wind Conditions in Norway Spruce (*Picea abies*) Forests in Sweden. Accepted for publication in *Atmospheric Environment*.
- G. Krause, B., Köllner, L., Grünhage, H.-J. Jäger, J. Bender, H.-J., Weigel, M. Ashmore, L. Emberson, P.-E. Karlsson and H. Pleijel. (2005). New Directions: Discussion of “A new generation of ozone critical levels for the protection of vegetation in Europe” by Ashmore et al. *Atmospheric Environment* 39, 5213-5217.

Oral presentations at national and international conferences, workshops and meeting

- Pleijel, H. (2002). Critical levels for crops. Oral presentation at the workshop Establishing Ozone Critical Levels II under the UNECE Convention on Long-Range Transboundary Air Pollution, Göteborg, Sweden, 19-22 November 2002.
- Pleijel, H. (2003). Ozone flux-response relationships for wheat, potato and clover – news and views from 2002. Oral presentation at the 16th Task Force Meeting of the UN/ECE ICP Vegetation, 27-30 January 2003, Velenje, Slovenia.
- Pleijel, H. (2003). The critical level for visible injury on crops *and* Flux-effect relationships for wheat and potato. Presentations at the Expert Group Meeting to finalize the text of the Ozone Sections of the Mapping Manual of the LRTAP convention, Manchester Airport Moat House Hotel, 30th April – 1st May 2003.
- Pleijel, H. & Karlsson, P.E. (2003). Critical Levels of Ozone. Oral presentation by HP at the 19th Meeting of the Task Force on ICP Mapping Critical Loads and Levels, Tartu, Estonia 22-23 May 2003.
- Pleijel, H. (2003). “Skog och grödor”. Lecture at Svenska Luftvårdsföreningen’s 10-year anniversary at the Royal Academy of Science, Stockholm, 18 November 2003.
- Pleijel, H. & Karlsson, P.E: (2003). “Air quality and risk assessment in Europe and North America”. Oral presentation by HP at the workshop “Air Pollution in Asia, Assessing Impacts on Agricultural and Forest Productivity, RapidC workshop, held at the Asian Institute of Technology, Bangkok, Thailand, 9-12 December 2003.
- Pleijel, H. & Danielsson, H. (2004). Flux based estimations of ozone effects on wheat and potato – a case study. Oral presentation by HP at the 17th Task Force Meeting of the UN/ECE ICP Vegetation, 11-13 February 2004, Kalamata, Greece.
- Pleijel H. (2004). Progress on critical levels and flux-based methods for ozone. Oral presentation by HP at the 19th Meeting of the Task Force on ICP Mapping Critical Loads and Levels, Laxenburg, Austria 27-28 May 2004.
- Pleijel, H. (2004). Effekter av kväve på vegetation i förhållande till det europeiska luftvårdssamarbetet och de nationella miljömålen. Oral presentation at: ASTA- seminarium: Kritiska belastningsgränser för kväve i Sverige. Uppsala, 23 September 2004.
- Pleijel, . & Karlsson, P.E. (2004). Historisk betraktelse och utveckling av miljömål för marknära ozon. Oral presentation at the County Administration of Västra Götaland 2004-12-16 at Målskillnad – Seminarier om Miljötilståndet i Västra Götalands län.
- Uddling, J., Lindblad, D. & Pleijel, H. (2005). Stomatal conductance in wheat – testing and comparing different model concepts. Flux based estimations of ozone effects on wheat and potato – a

- case study. Oral presentation by HP at the 18th Task Force Meeting of the UN/ECE ICP Vegetation, 2-4 February 2005, Almeria, Spain.
- Pleijel, H. (2005). Advantages and disadvantages of the flux based approach. Oral presentation at the workshop: Critical levels for Ozone: Further Applying and Developing the Flux-Based concept. Obergurgl, Austria 15-19 November 2005.
- Pleijel, H., Danielsson, H., Emberson, L., Simpson, D. (2005). Application of flux-based methods on a local and a regional scale. Oral presentation at the workshop: Critical levels for Ozone: Further Applying and Developing the Flux-Based concept. Obergurgl, Austria 15-19 November 2005.
- Ashmore, M., Bermejo, V., Broadmeadow, M., Danielsson, H., Emberson, L., Fuhrer, J., Gimeno, B., Holland, M., Karlsson, P.E., Mills, G., Pihl Karlsson, G., Pleijel, H. & Simpson, D. (2004). Mapping Critical Levels for Vegetation. Chapter 3 in *The Mapping Manual of the UN-ECE Convention on Long-Range Transboundary Air Pollution*. 60 pp.
- Pleijel, H., Uddling, J. & Mills, G. (2004). Ozone effects on plants. Recent results, current trends, sources of error and uncertainty. Infomral paper for the Working Group and Effects of the UNECE Long-Range Transboundary Air Pollution Convention.
- Pihl Karlsson, G., Karlsson, P. E., Danielsson, H. & Pleijel, H. (2002). Impact of daytime and/or night-time ozone exposure on visible injury and leaf conductance in Subterranean clover, *Trifolium subterraneum*. (poster) Also In: Klumpp, A. Fomin, A., Klumpp, G. & Ansel, W. (Eds): *Bioindication and Air Quality in European cities. Research, Application, Communication. Proceedings of the third Hohenheim workshop on bioindication at the Power Plant Altbach/Deizisau 2001*. pp 173-179. Verlag Günter Heimbach, Stuttgart.
- Karlsson, P.E., Selldén, G. & Pleijel, H. (Editors) (2003). *Establishing Ozone Critical Levels II. UNECE Workshop Report. IVL Report B1523*. 379 pp.