



## Ingo Potrykus



**Date of Birth** 5 December 1933

**Place** Hirschberg (Germany)

**Nomination** 10 March 2005

**Field** Plant Sciences

**Title** Professor em. (ETH, Zürich)

### Most important awards, prizes and academies

*Honours:* ISPMB International Award in Plant Molecular Biology and Biotechnology 2000; American Society of Plant Biologists (ASPB) Leadership in Science Public Service Award 2001; Crop Science of America (CSSA) 2001; CSSA President's Award 2002; European Culture Award in Science 2002; Honorary Doctor, Swedish University of Agricultural Sciences 2002; University of Freiburg, Germany 2007; "The most influential scientist" in the area of Agricultural, Industrial, and Environmental Biotechnology for the decade 1995-2005, elected by the peers of *Nature Biotechnology* 2006; Cover *TIME Magazine* July 31, 2000. *Academies:* Academia Europaea, Swiss Academy of Technical Sciences, Hungarian Academy of Sciences, Pontifical Academy of Sciences.

### Summary of scientific research

Prof. Potrykus' work centred on the development and application of genetic engineering technology for and to 'food security' crops such as rice (*Oryza sativa*), wheat (*Triticum aestivum*), sorghum (*Sorghum bicolor*), and cassava (*Manihot esculenta*), in order to solve problems that are difficult to treat with traditional techniques. He also focused on the areas of disease- and pest resistance, improved food quality, improved yield, improved exploitation of natural resources, and improved bio-safety. He is the inventor and promoter of 'Golden Rice', a sustainable contribution to reduce vitamin A-malnutrition ([www.goldenrice.org](http://www.goldenrice.org)).

### Main publications

Ca. 340 publications in refereed journals; ca. 30 international patents. Potrykus, I. (1971) Intra and interspecific fusion of protoplasts from petals of *Torrenia bailloni* and *Torrenia fournierii*. *Nature* 231, 57-8; Potrykus, I. and Durand J. (1972) Callus formation from single protoplasts of *Petunia*. *Nature* 327, 286-7; Potrykus, I. (1973) Transplantation of chloroplasts into protoplasts of *Petunia*. *Z.Pflanzenphysiol.* 70, 364-6; Potrykus, I. and Hoffmann, F. (1973). Transplantation of nuclei into protoplasts of higher plants. *Z.Pflanzenphysiol.* 69, 287-9, 1976; Potrykus, I., Harms, C.T. and Lo#rz, H. (1976) Problems in culturing cereal protoplasts. In: *Cell Genetics in Higher Plants*. D. Dudits *et al.* (eds), Akademiai kiado, Budapest, 129-40; Potrykus, I., Harms, C.T., Lo#rz, H. and Thomas, E. (1977). Callus formation from stem protoplasts of corn (*Zea mays* L.). *Mol. Gen. Genet.* 156, 347-50; Callus formation from cell culture protoplasts of corn (*Zea mays*). Brisson, N., Paszkowski, J., Penswick, J., Gronenborn, B., Potrykus, I. and Hohn, T. (1984). Expression of a bacterial gene in plants using a viral vector. *Nature* 310, 511-4; Paszkowski, J., Shillito, R.D., Saul, M.W., Mandak, V., Hohn, T., Hohn, B., Potrykus, I. (1984) Direct gene transfer to plants. *EMBO J.* 3, 2717-22; Potrykus, I., Paszkowski, J., Saul, M.W., Petruska, J., Shillito, R.D. (1985). Molecular and general genetics of a hybrid foreign gene introduced into tobacco by direct gene transfer. *Mol. Gen. Genet.* 199, 169-77; Potrykus, I., Saul, M.W., Petruska, J., Paszkowski, J. and Shillito, R.D. (1985). Direct gene transfer to cells of a graminaceous monocot. *Mol. Gen. Genet.* 199, 183-8; Shillito, R.D., Saul, M.W., Mu#ller, M., Paszkowski, J. and Potrykus, I. (1985). High efficiency direct gene transfer to plants. *Bio/Technology* 3, 1099-103; Schocher, R.J., Shillito, R.D., Saul, M.W., Paszkowski, J. and Potrykus, I. (1986). Co-transformation of unlinked foreign genes into plants by direct gene transfer. *Bio/Technology* 4, 1093-6; Paszkowski, J., Baur, M., Bogucki, A. and Potrykus, I. Gene targeting in plants. *EMBO J.* 7, 4021-6 (1988); Potrykus, I. Gene transfer to cereals: an assessment.

*Bio/Technology* 8, 535-42 (1990); Baur M, Potrykus I., Paszkowski J. (1990) Intermolecular homologous recombination in plants. *Mol. Cell. Biol.* 10, 492-500; Mittelsten Scheid, O., Paszkowski, J., and Potrykus, I. Reversible inactivation of transgene in *Arabidopsis thaliana*. *Mol. Gen. Genet.* 228, 104-12 (1991); Potrykus, I. Gene transfer to plants: Assessment of Published Approaches and Results. *Annu. Rev. Plant Physiol. Plant Mol. Biol.* 42, 205-25 (1991); Sautter, C., Waldner, H., Neuhaus-Url, G., Galli, A., Neuhaus, G. and Potrykus, I. Micro-Targeting: High efficiency gene transfer using a novel approach for the acceleration of microprojectiles. *Bio/Technology* 9, 1080-5 (1991); Spangenberg, G., Freydl, E., Osusky, M., Nagel, J. and Potrykus, I. Organelle transfer by microfusion of defined protoplast-cytoplasm pairs. *Theor. Appl. Genet.* 81, 477-86 (1991); Datta, S.K., Datta, K., Soltanifar, N., Donn, G. and Potrykus, I. 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Available from: <http://www.ejbiotechnology.info/content/vol18/issue3/editorial.html>. ISSN 0717-3458; Potrykus, I. & Ammann, K., eds. (2010) Transgenic Plants for Food Security in the Context of Development, Vol. 27/5, pp 445-718, Proceedings of a Study Week of the Pontifical Academy of Sciences, Elsevier, Amsterdam, IS: ISSN 1871-6784; Potrykus, Ingo. Regulation must be revolutionized. *Nature*, Vol 466, 29 July 2010.