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Correction

Gary Creissen, John Fermin, Michael Fryer, Baldeep Kular, Nicola Leyland, Helen Reynolds, Gabriela Pastori, Florence Wellburn, Neil Baker, Alan Wellburn, and Phillip Mulineaux. (1999). Elevated Glutathione Biosynthetic Capacity in the Chloroplasts of Transgenic Tobacco Paradoxically Causes Increased Oxidative Stress. Plant Cell **11,** 1277–1291.

It has been brought to our attention that a paper has been published in which similar manipulations to those presented in our article are described for poplar (Noctor et al., 1998). In the poplar experiments, no evidence was seen for any deleterious effects arising from overexpression of glutathione in the chloroplasts of transgenic trees. Although it is clear that the transgenic poplar did not suffer oxidative damage as a result of this manipulation, no definitive explanation for this difference can be offered at this time. It does not appear that the discrepancies are due to any significant differences in the design of the chimeric gene constructs used for the transformation experiments.

One possible explanation for the different results may lie in the very different growth habits and ecological niches of the two species under study: poplar is a temperate, perennial species that is able to respond to a wide range of environmental conditions that would be lethal to tobacco. Therefore, we can speculate that the oxidative stress brought about by the manipulations described in our article may be a consequence of the intrinsic mechanisms whereby production of reactive oxygen species is both dealt with and monitored in tobacco as compared with poplar. In the absence of data regarding the redox state of the foliar γ-glutamylcysteine (γ-EC) pool in transgenic poplar, we can only speculate on the cause of this difference. Oxidized γ-EC may still hold the key to understanding these mechanisms, because we would predict that in poplar the γ-EC pool would be primarily in the reduced state, a situation similar to that seen in our hybrid transgenic lines carrying genes encoding enzymes that catalyze both the first and second steps of the glutathione biosynthetic pathway. Clearly, the roles played by glutathione and γ-EC in redox sensing can only be resolved by expanding this type of study to a much wider range of plant species.

Noctor, G., Arisi, A.-C.M., Jouanin, L., and Foyer, C.H. (1998). Manipulation of glutathione and amino acid biosynthesis in the chloroplast. Plant Physiol. **118,** 471–482.

Correction
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