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Development of Transgenic Tall Fescue (*Festuca arundinacea*) plants with Enhanced Tolerance to Environmental stress

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Abiotic stress is one of the most important factor limiting the productivity of forage crops. To develop transgenic tall fescue plants with enhanced tolerance to abiotic stress, a multiple stress tolerance gene, *AtNDPK2*, was introduced into genome of tall fescue plants by *Agrobacterium*-mediated genetic transformation.

Transgenic tall fescue plants expressing *AtNDPK2* were developed. PCR and Southern blot analyses revealed that transgenes were successfully integrated into genome of regenerated transgenic plants. Leaf squares from transgenic plants were subjected to oxidative stresses such as methyl viologen (MV) or H₂O₂, and cellular damages are measured. Transgenic plants showed enhanced tolerance to MV- or H₂O₂ -mediated oxidative stress. These results suggest that the *AtNDPK2* plays an important role in protecting the tall fescue plant against damages caused by abiotic stresses.