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Nitric oxide is involved in abscisic acid-induced photosynthesis and antioxidant system of tall fescue seedlings response to low-light stress

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Highlights

- ► ABA and NO improved tall fescue low-light tolerance.
- ► ABA mediated antioxidant defense and photosynthesis under low-light stress.
- ► ABA elevated NO level through enhancing NOS-like activity and up-regulating *FaNOA1* expression.

Abstract

Abscisic acid (ABA) and nitric oxide (NO) are both extremely important signalling molecules employed by plants to mediate plant tolerance under abiotic stresses. In the present study, the role of NO in ABA-induced photosynthesis and antioxidant system in leaves of tall fescue (*Festuca arundinacea* Schreb.) seedlings was investigated. Low-light (LL) stress increased intercellular CO_2 concentration (*Ci*), as well as decreased plant height, leaf width, tiller number, biomass, chlorophyll content, net photosynthetic rate (*Pn*), stomatal conductance (*Gs*), transpiration rate (*Tr*), the maximum quantum yield of photosystem photochemistry (F_v/F_m), actual photochemical efficiency of photosystem II (Φ_{PSII}), photochemical quenching (q^P), the

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