

Intraspecific ozone sensitivity in *anthoxanthum odoratum* (L.)

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The aim of this study was to investigate the sensitivity of the perennial grass *Anthoxanthum odoratum* L. to elevated tropospheric ozone at the species, population and individual level. A total of 76 individuals sourced from four populations in North Wales were exposed to four ozone treatments for 12 weeks in the solardomes at CEH Bangor from July to October 2005. Two background ozone concentrations of 20-25 ppb and 45-50 ppb were applied and combined with an episodic ozone regime in one treatment at each background level. Each episode consisted of ozone concentrations increased to 50ppb above the background level during daylight hours over four days. The effects of elevated ozone on dry weight biomass, senescence and tillering were assessed. Despite the highly significant inherent inter- and intra-population variation observed in this species, exposure to elevated ozone resulted in increased/premature senescence at the species and population levels, a varied response for tillering dependant on the level considered and no significant effect on dry weight biomass.

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