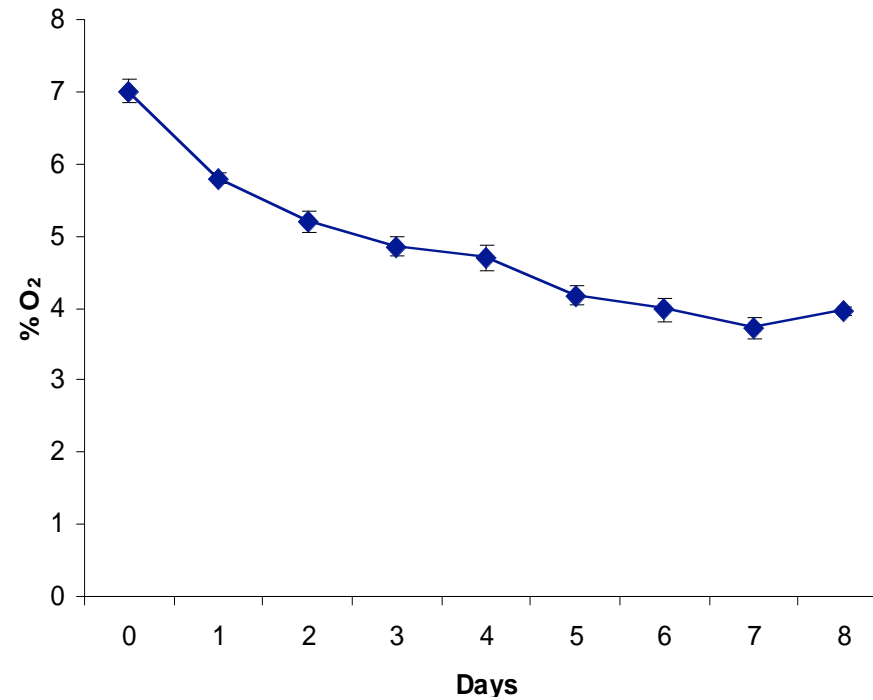


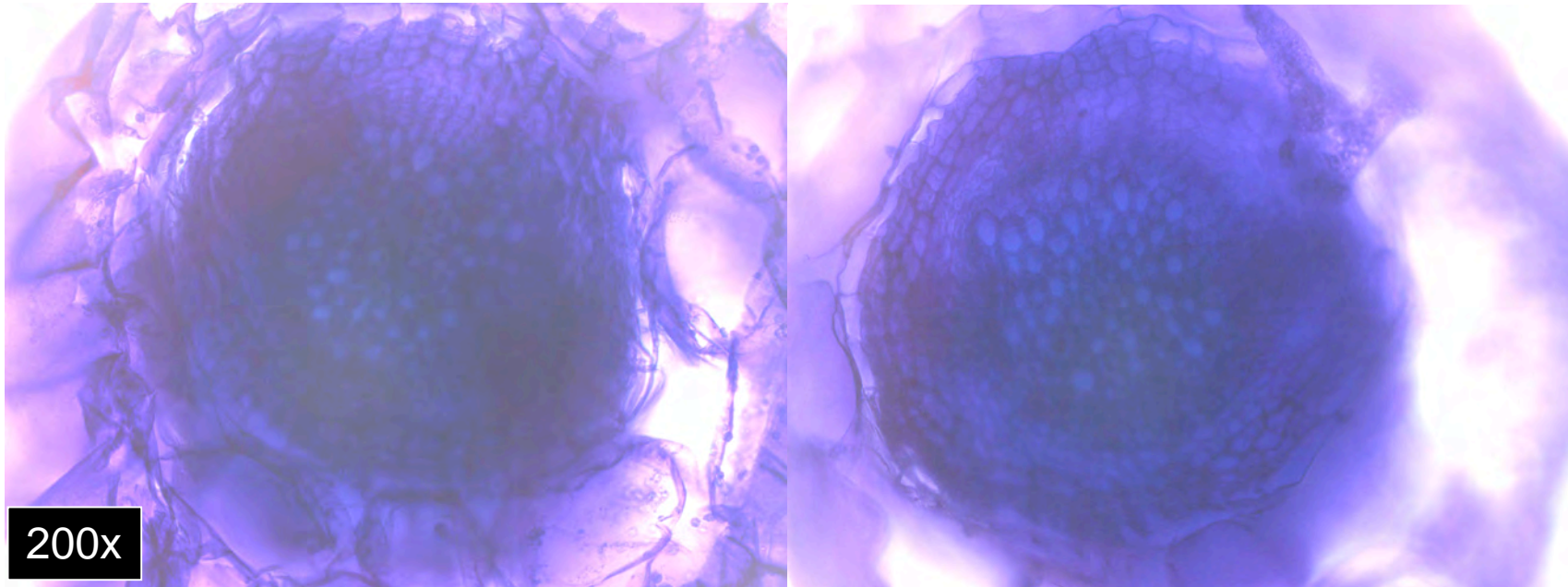
Supplemental Data. Mühlenbock et al. (2007). Lysigenous aerenchyma formation in *Arabidopsis* is controlled by *LSD1*.



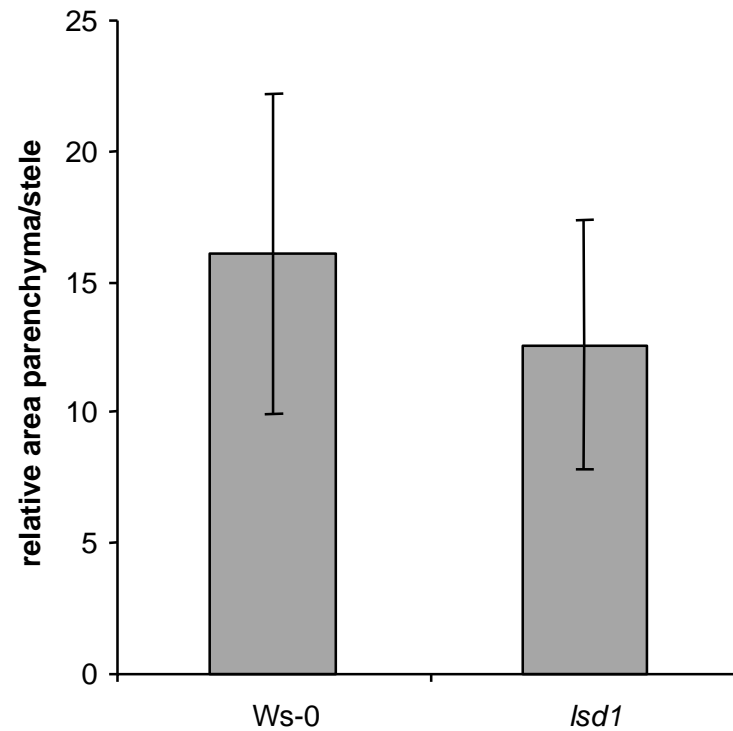
Supplemental Figure 1. Oxygen levels decrease during waterlogging. Oxygen levels gradually decrease from ambient concentration (7%) in the water surrounding pots of soil at the start of the waterlogging to hypoxic concentration below 4% after seven days of waterlogging.

control

wl 7d



Supplemental Figure 2. Four week old plants do not make aerenchyma. 4-week old plants were waterlogged for seven days (wl 7d) and their hypocotyls analysed for occurrence of aerenchyma in the xylem core. No aerenchyma was detected in plants of this age.



Supplemental Figure 3. Wild type (Ws-0) and *l sd1* xylem cores contain similar amount of parenchyma. No significant differences of the parenchyma areas in secondary xylem core of wild type (Ws-0) and *lsd1* hypocotyls cross sections was found.

Supplemental Table 1. Simultaneous exposure to EEE and root hypoxia accelerates aerenchyma formation.

Plants were exposed to a short day and low light conditions (SD/LL, 8 h and 100 μE), or a long day and low light (LD/LL, 18 h and 100 μE) or higher light intensities in short day (SD/HL, 8 h and 500 μE) and % of plants with aerenchyma was recorded. Aerenchyma was observed earlier (after 6 days) when plants were exposed to LD/LL or SD/HL than in plants that were exposed to SD/LL (8 > n > 3).

	0d	5d	6d	7d
SD/LL	0%	0%	0%	100%
LD/LL	0%	0%	33%	100%
SD/HL	0%	0%	100%	-