

Table 1 Suppl. Statistical significance of effects: saccharose presence (S), N nutrition (N), and their combination (S × N) calculated by two-way *ANOVA*. ns = not significant ( $P \geq 0.05$ ). S/R - shoot / root;  $F_v/F_m$  - maximal efficiency of photosystem II photochemistry;  $\Phi_{PSII}$  - actual efficiency of photosystem II;  $q_N$  - nonphotochemical quenching coefficient;  $1-q_p$  - number of closed photosystem II centers; NR - nitrate reductase; GS - glutamine synthetase; GOGAT - glutamine:2-oxoglutarate aminotransferase (glutamate synthase); GDH - glutamate dehydrogenase.

Characteristics	P- values		
	S	N	S × N
Plant f.m.	ns	<0.001	<0.001
Shoot f.m.	ns	<0.001	<0.001
Root f.m.	<0.001	<0.001	<0.001
S/R	<0.001	<0.001	<0.001
$F_v/F_m$	ns	ns	ns
$\Phi_{PSII}$	ns	ns	ns
$q_N$	ns	ns	ns
$1-q_p$	ns	ns	ns
NR leaf	ns	<0.001	ns
NR root	ns	ns	ns
GS leaf	ns	<0.001	ns
GS root	ns	<0.001	0.004
GOGAT leaf	0.007	<0.001	ns
GOGAT root	ns	ns	ns
NAD-GDH leaf	ns	<0.001	ns
NAD-GDH root	ns	<0.001	ns
NAD(P)-GDH leaf	ns	ns	ns
NAD(P)-GDH root	ns	0.023	0.001



Fig 1 Suppl. Tobacco plants grown *in vitro* in Magenta boxes in the absence (A,C,E,G) or presence of saccharose (B,D,F,H) in an agar medium. Control MS plants (A,B), ammonium deficient N1 plants (C,D), nitrate deficient (E,F) N2 plants, and CA plants grown in casein hydrolysate as the sole source of nitrogen (G,H).