Supporting material

Supplementary information to the paper:

Haldan, K., Kuprina, K., Haase, M. I., Kieckhäfer, F., Schade, L., Schmoldt, J., Schock, L. S., Stein, M., Wille, A., Schnittler, M., Bog, M. and Kreyling, J. "Choose wisely: Great variation among genotypes of promising paludiculture crop *Phragmites australis*."

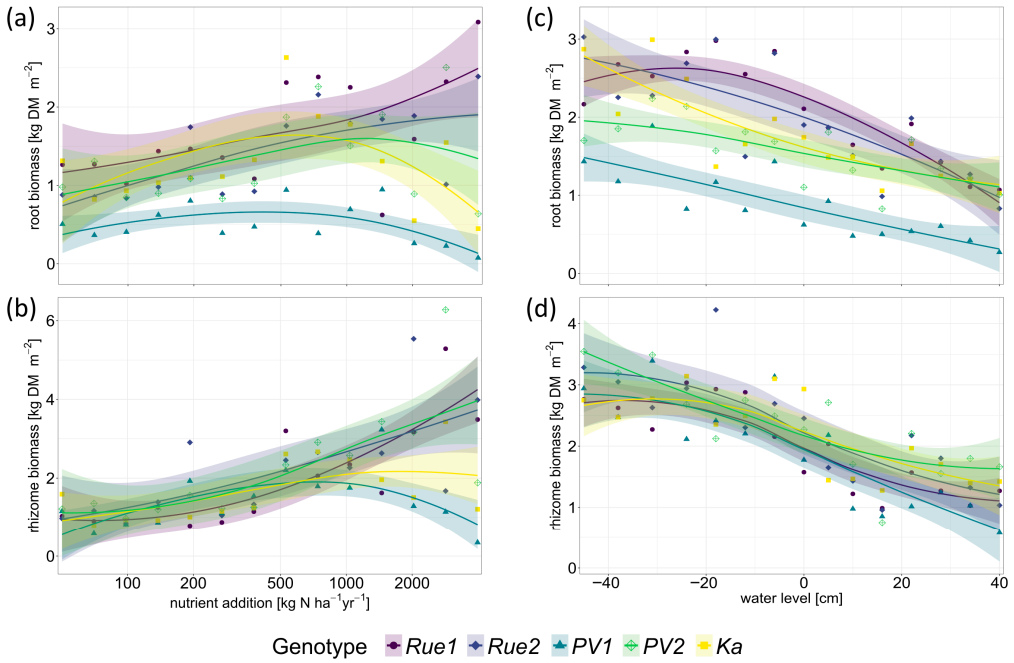


Figure S1. Root and rhizome biomass dry weight of five *P. australis* genotypes (Rue1, Rue2, PV1, PV2, Ka; Table 1). (**a**) Root biomass dry weight [kg m^{-2}] (span = 1.8) and (**b**) rhizome biomass dry weight [kg m^{-2}] (span = 2.0) along the nutrient addition gradient. (**c**) Root biomass dry weight [kg m^{-2}] (span = 2.0) and (**d**) rhizome biomass dry weight [kg m^{-2}] (span = 1.2) along the water level gradient. Symbols show original data points; lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals. Along the water level gradient, negative numbers represent water levels below ground and positive numbers represent water levels above ground.

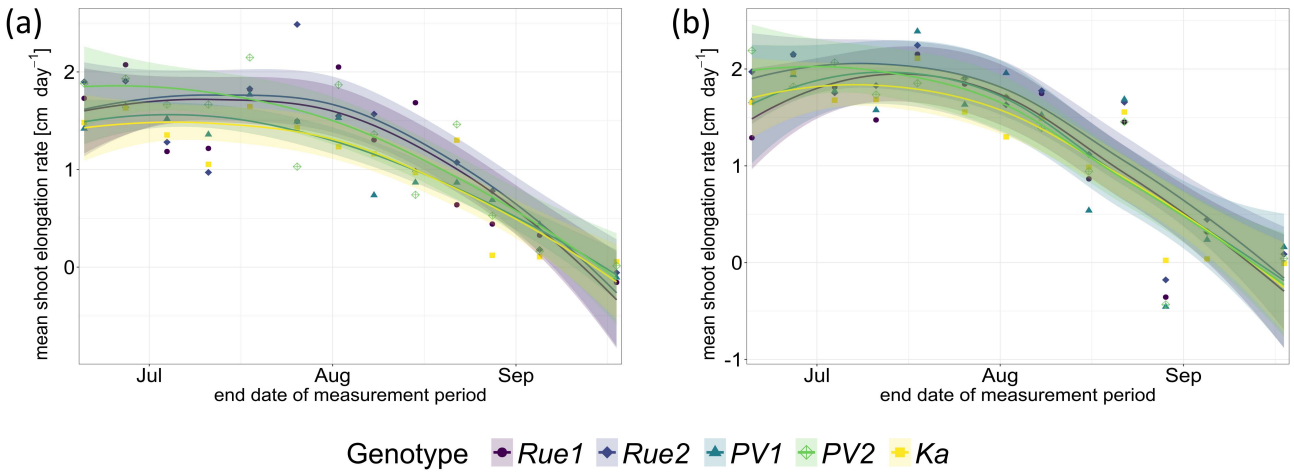


Figure S2: Shoot elongation rate of five *P. australis* genotypes (*Rue1*, *Rue2*, *PV1*, *PV2*, *Ka*; Table 1). (**a**) Shoot elongation rate [cm day^{-1}] averaged over the nutrient addition gradient (span = 1.3). (**b**) Shoot elongation rate [cm day^{-1}] averaged over the water level gradient (span = 1.2). Symbols show original data points, lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals.

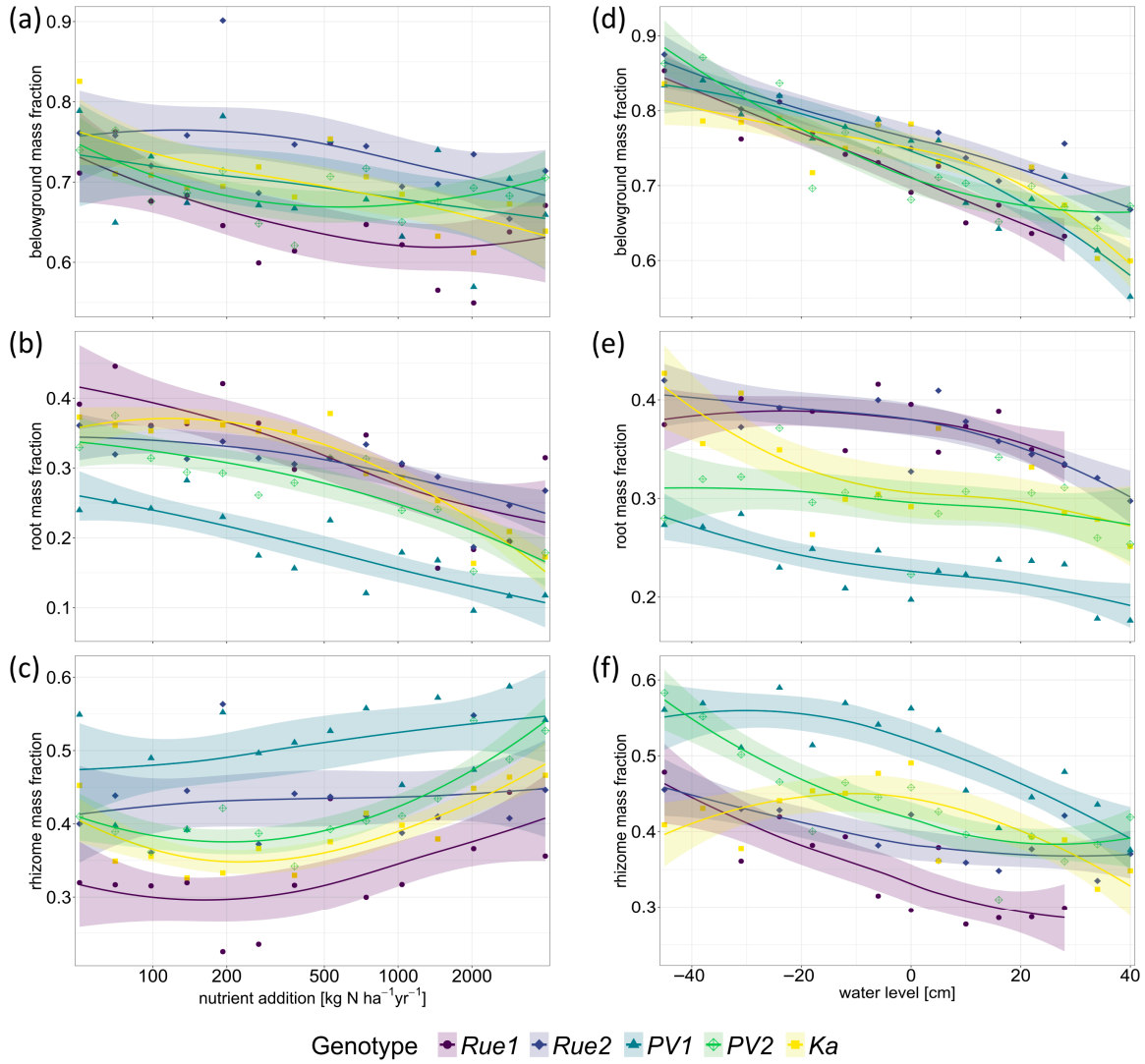


Figure S3. Biomass allocation of five *P. australis* genotypes (Rue1, Rue2, PV1, PV2, Ka; Table 1). (**a**) Belowground mass fraction (span = 1.8), (**b**) root mass fraction (span = 2.0) and (**c**) rhizome mass fraction (span = 1.8) along the nutrient addition gradient. (**d**) Belowground mass fraction (span = 1.2), (**e**) root mass fraction (span = 1.4) and (**f**) rhizome mass fraction (span = 1.2) along the water level gradient. Symbols show original data points; lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals. Along the water level gradient, negative numbers represent water levels below ground and positive numbers represent water levels above ground.

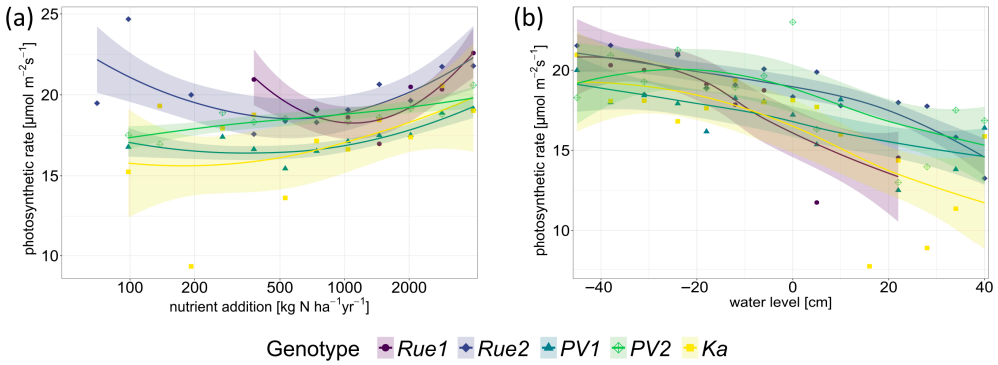


Figure S4. Photosynthetic rate of five *P. australis* genotypes (Rue1, Rue2, PV1, PV2, Ka; Table 1). (**a**) Photosynthetic rate [µmol m^{-2} s^{-1}] along the nutrient addition gradient (span = 2.0). (**b**) Photosynthetic rate [µmol m^{-2} s^{-1}] along the water level gradient (span = 1.5). Symbols show original data points; lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals. Along the water level gradient, negative numbers represent water levels below ground and positive numbers represent water levels above ground.

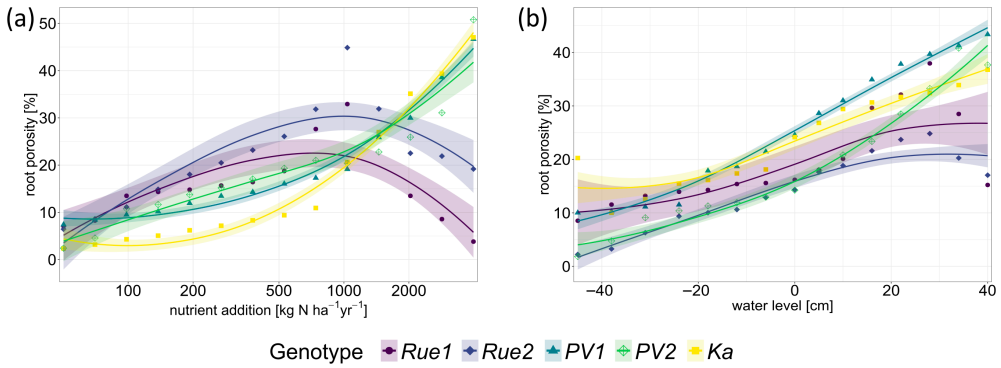


Figure S5. Root porosity of five *P. australis* genotypes (Rue1, Rue2, PV1, PV2, Ka; Table 1). (**a**) Root porosity [%] along the nutrient addition gradient (span = 1.5). (**b**) Root porosity [%] along the water level gradient (span = 1.4). Symbols show original data points; lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals. Along the water level gradient, negative numbers represent water levels below ground and positive numbers represent water levels above ground.

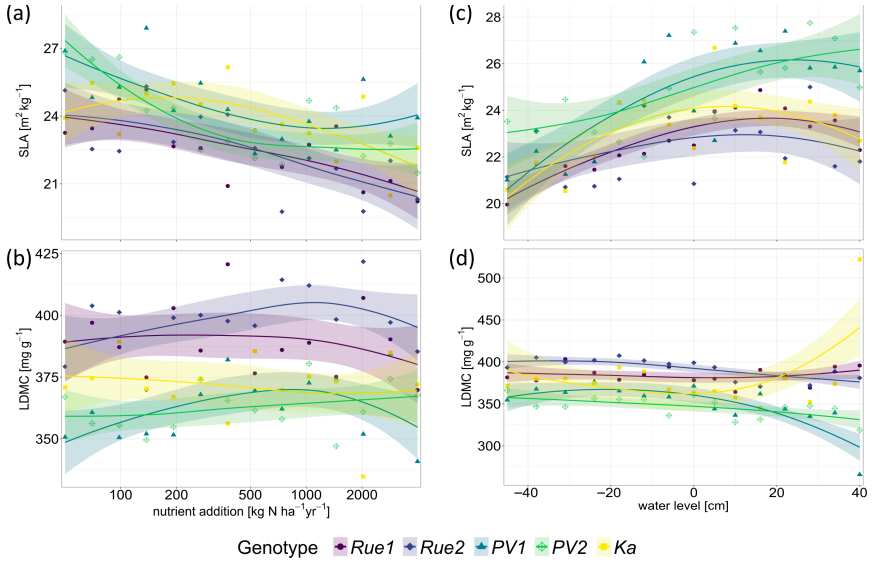


Figure S6. Functional leaf traits of five *P. australis* genotypes (Rue1, Rue2, PV1, PV2, Ka; Table 1). (**a**) Specific leaf area (SLA) [m^2 kg^{-1}] (span = 1.5) and (**b**) leaf dry matter content (LDMC) [mg g^{-1}] (span = 1.5) along the nutrient addition gradient. (**c**) Specific leaf area (SLA) [m^2 kg^{-1}] (span = 2.0) and (**d**) leaf dry matter content (LDMC) [mg g^{-1}] (span = 2.0) along the water level gradient. Symbols show original data points; lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals. Along the water level gradient, negative numbers represent water levels below ground and positive numbers represent water levels above ground.

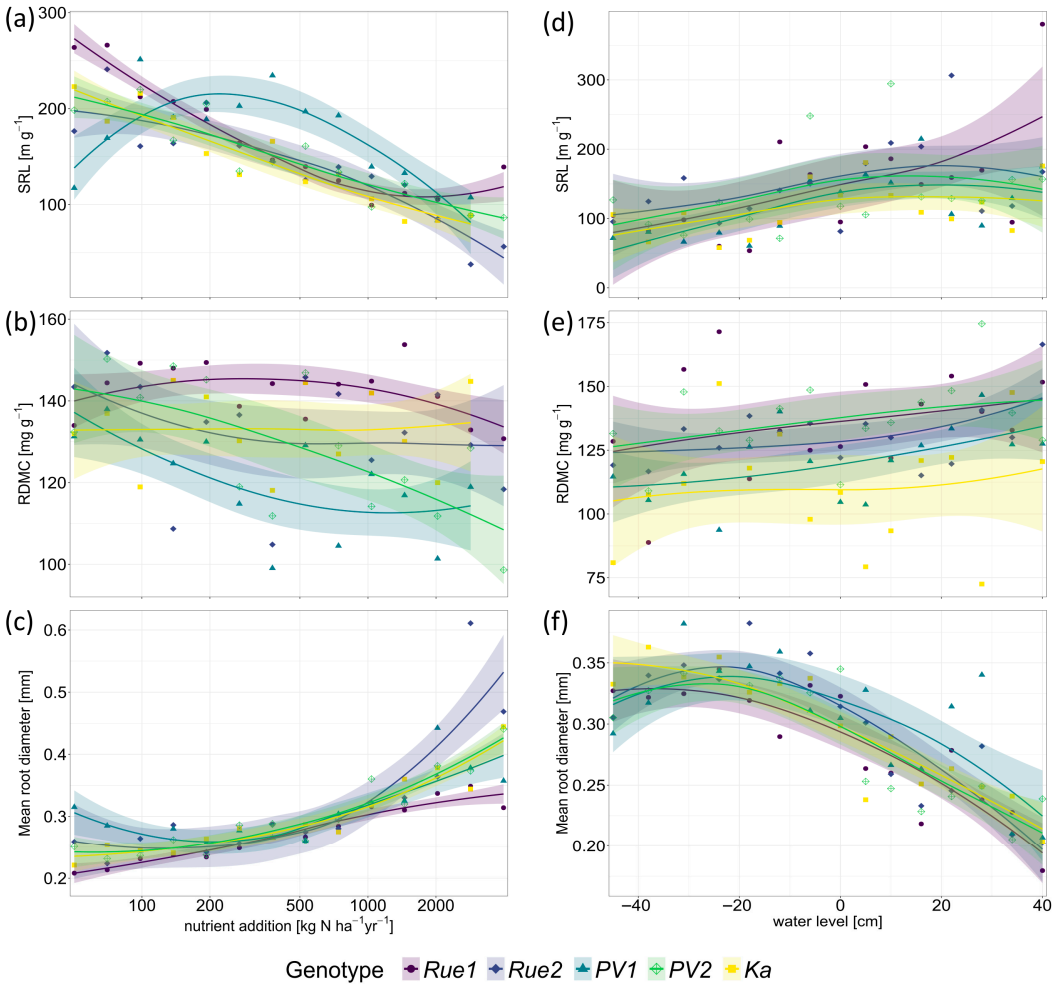


Figure S7. Functional root traits of five *P. australis* genotypes (Rue1, Rue2, PV1, PV2, Ka; Table 1). (**a**) Specific root length (SRL) [m g^{-1}] (span = 1.2), (**b**) root dry matter content (RDMC) [mg g^{-1}] (span = 2.3) and (**c**) mean root diameter [mm] (span = 1.2) along the nutrient addition gradient. (**d**) Specific root length (SRL) [m g^{-1}] (span = 1.5), (**e**) root dry matter content (RDMC) [mg g^{-1}] (span = 2.7) and (**f**) mean root diameter [mm] (span = 1.5) along the water level gradient. Symbols show original data points; lines are the smoothed local polynomial regression fittings (loess). Shaded areas around lines indicate 83% confidence intervals. Along the water level gradient, negative numbers represent water levels below ground and positive numbers represent water levels above ground.