

## **Generation Challenge Programme**

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## **Poster Abstracts**

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## 1.8 Large variation in gravimetric TE exists in wild and cultivated groundnut germplasm

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Transpiration efficiency is considered as one trait that can contribute to achieving higher yields under conditions of limited water, and variations for TE exist in groundnut. We have measured TE gravimetrically in 440 genotypes, encompassing the mini-core collection of groundnut, and have found a 4-fold range of variation for TE (0.62-2.75 g biomass kg<sup>-1</sup> water transpired). The relation between the TE values measured under well-watered and water stress. conditions was significant, but the correlation coefficient was weak (r=0.23). The surrogate traits for TE, SLA and SCMR, did not show any significant relation with TE, regardless of water regime. By contrast, we found that the rate of water loss per unit of leaf area was inversely related to TE. We also measured TE under well-watered conditions in 21 accessions of peanut wild relative and 10 accessions of cultivated groundnut. TE varied 1.99-4.93 g.kg<sup>-1</sup> in the wild and 2.27-3.50 g.kg<sup>-1</sup> in the cultivated. On average, TE was higher in the wild peanut than the cultivated. We found that the rate of water loss per unit of leaf area was lower in the wild peanut, and was well and negatively related to TE (r = 0.56).


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