Title: Molecular Cloning and Expression Analysis of *Aquaporin* Genes in Pearl Millet [*Pennisetum glaucum* (L) R. Br.] Genotypes Contrasting In their Transpiration Response to High Vapour Pressure Deficits

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Molecular Cloning and Expression Analysis of *Aquaporin* Genes in Pearl Millet [*Pennisetum glaucum* (L) R. Br.] Genotypes Contrasting In their Transpiration Response to High Vapour Pressure Deficits

Running title: Role of *aquaporin* genes in pearl millet

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Highlights

- Identified pearl millet genotypes showing contrasting transpiration response to high vapor pressure deficit (VPD).
- Cloned seven *PgAQP* genes using homology based gene identification.
- PgAQP proteins were found to be evolutionarily closer to maize than rice.
- *PgAQPs* were induced in VPD-insensitive genotypes under low and high VPD conditions.
- *PgPIP2;1*, *PgPIP1;2*, *PgTIP2;2* and *PgPIP2;6* genes followed a diurnal rhythm of expression.