Measuring Osmotic Potential using the PSY1 Stem Psychrometer

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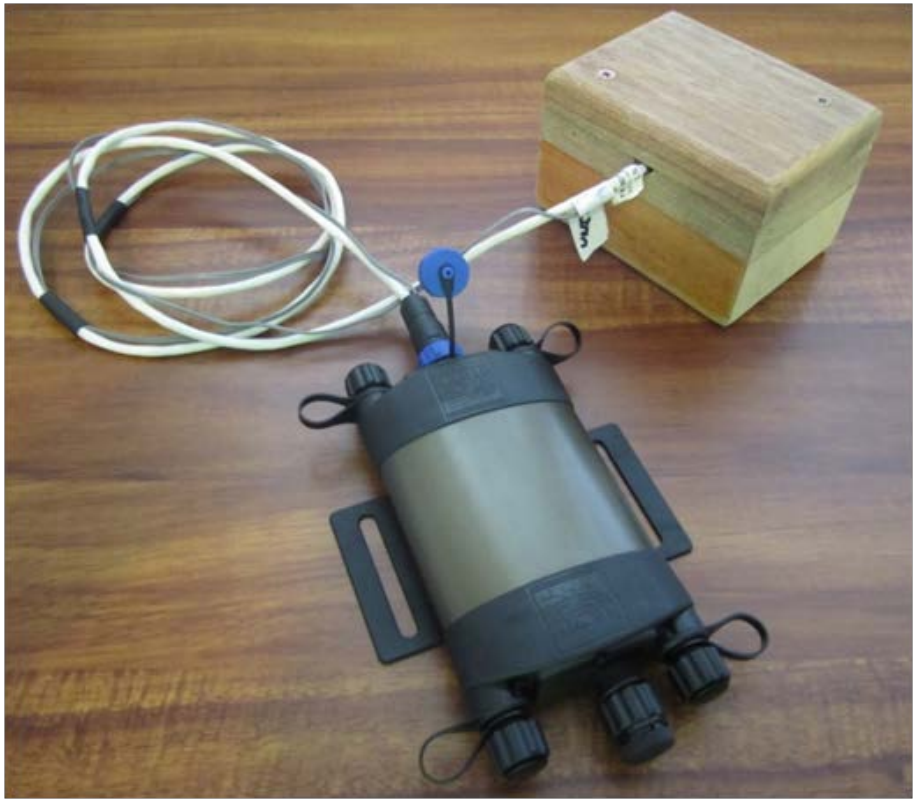
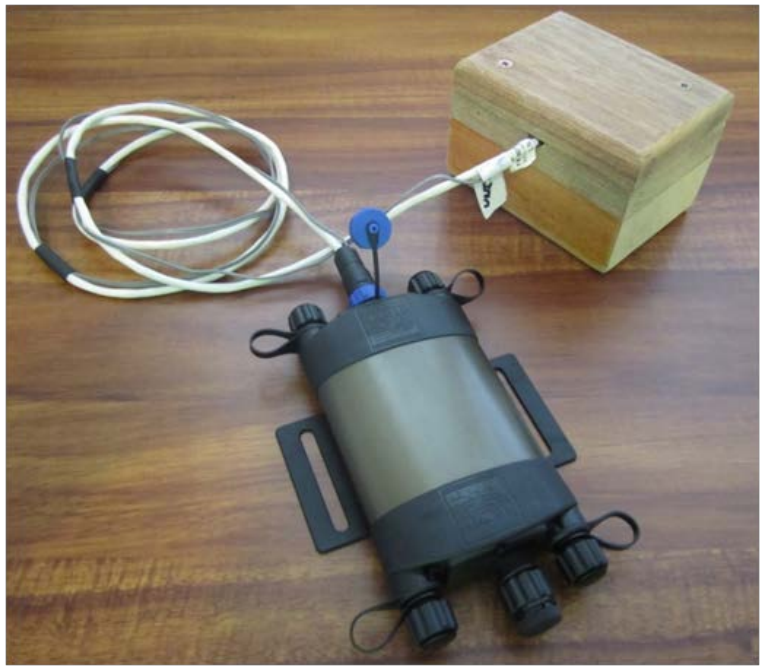
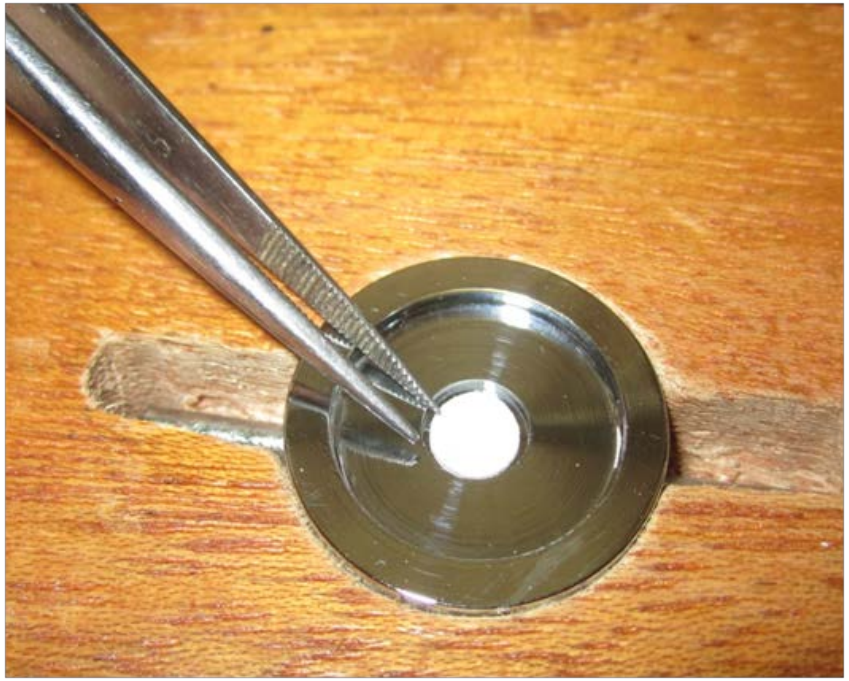


The PSY1 Stem Psychrometer configured for measuring Osmotic potential using the Osmotic Potential Insulator (PSY-OPI)

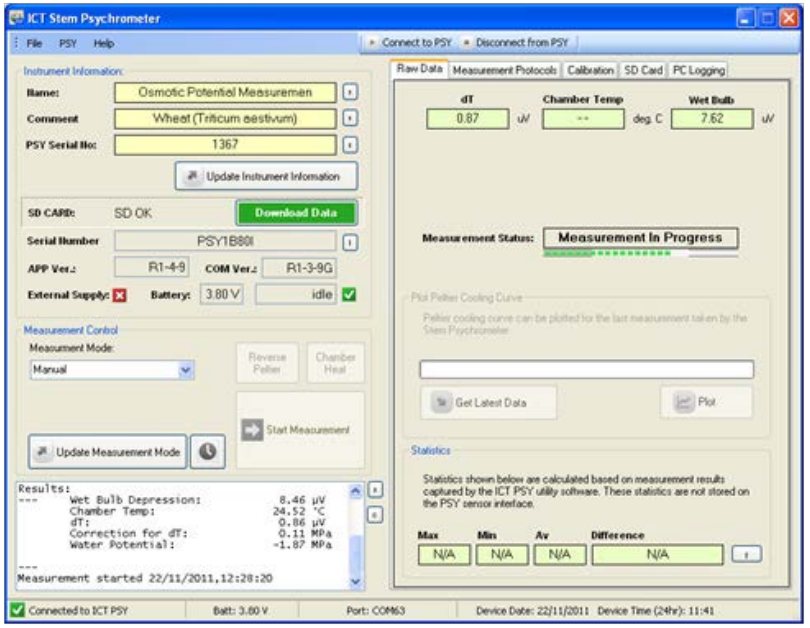


The PSY1 Stem Psychrometer configured for measuring Osmotic potential using the Osmotic Potential Insulator (PSY-OPI)

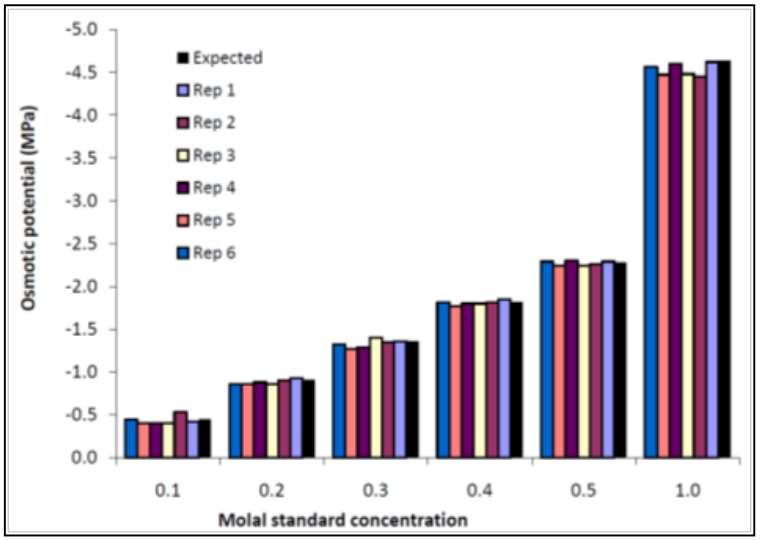


An extracted sap sample on a saturated filter paper being placed into the calibration lid of the PSY1 Stem Psychrometer

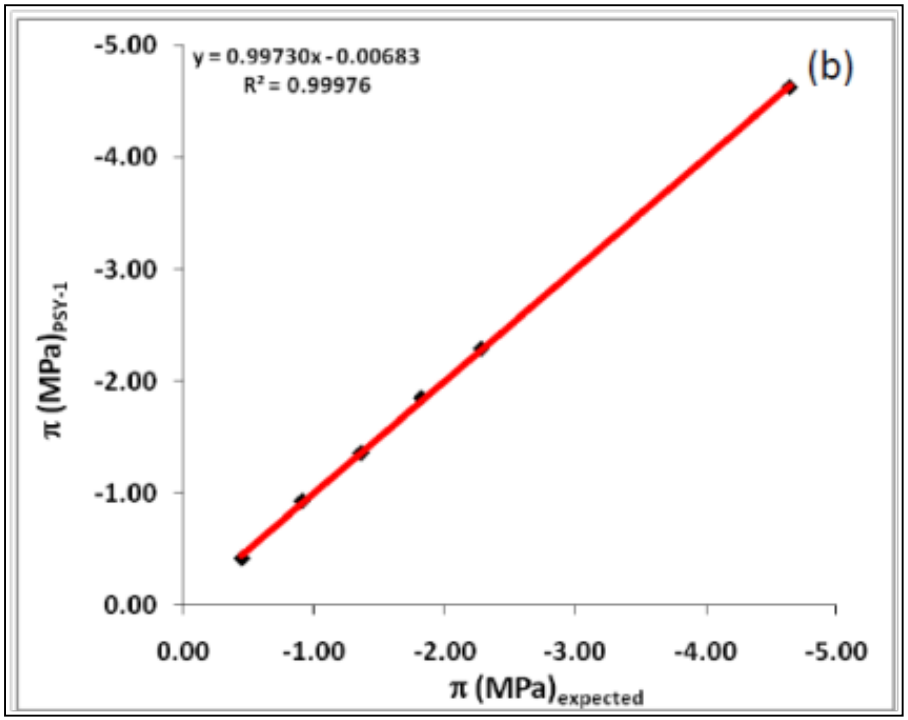
The PSY1 Stem Psychrometer chamber embedded in the Osmotic Potential Insulator.



The PSY1 graphical User Interface performing an Osmotic potential measurement on an extracted sap sample from a wheat plant.



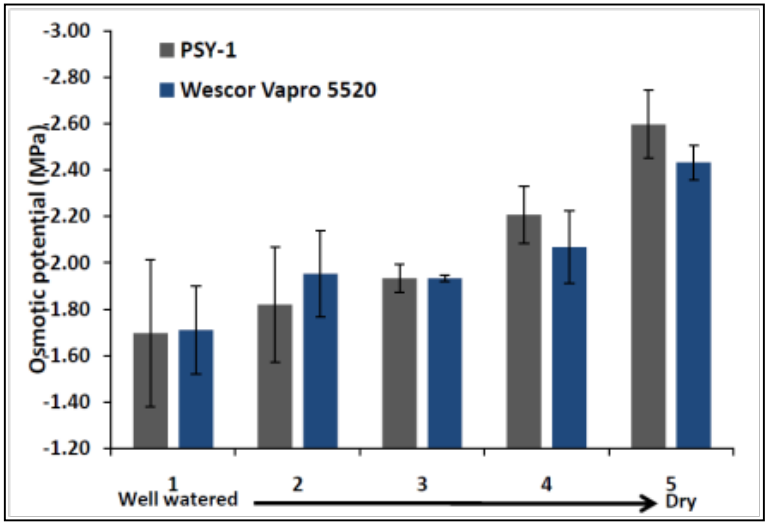
All values are within ± 0.10 MPa of the expected outcome for calibration standards

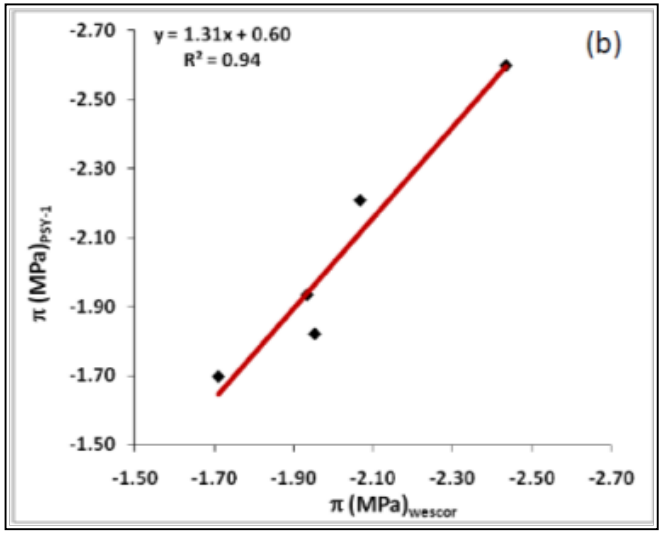


Linear regressions performed on the repeated measurements data for each molal standard were all significantly correlated ($P<0.01$), with R-squared values of 0.99.

Application Results:
The PSY1 was subsequently used to measure the osmotic potential of both herbaceous crop plants and woody perennials.

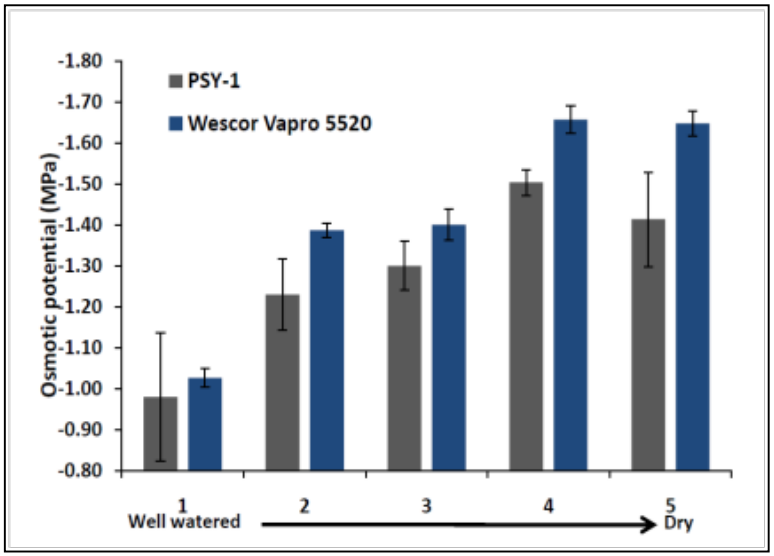
Wheat (*Triticum aestivum*)

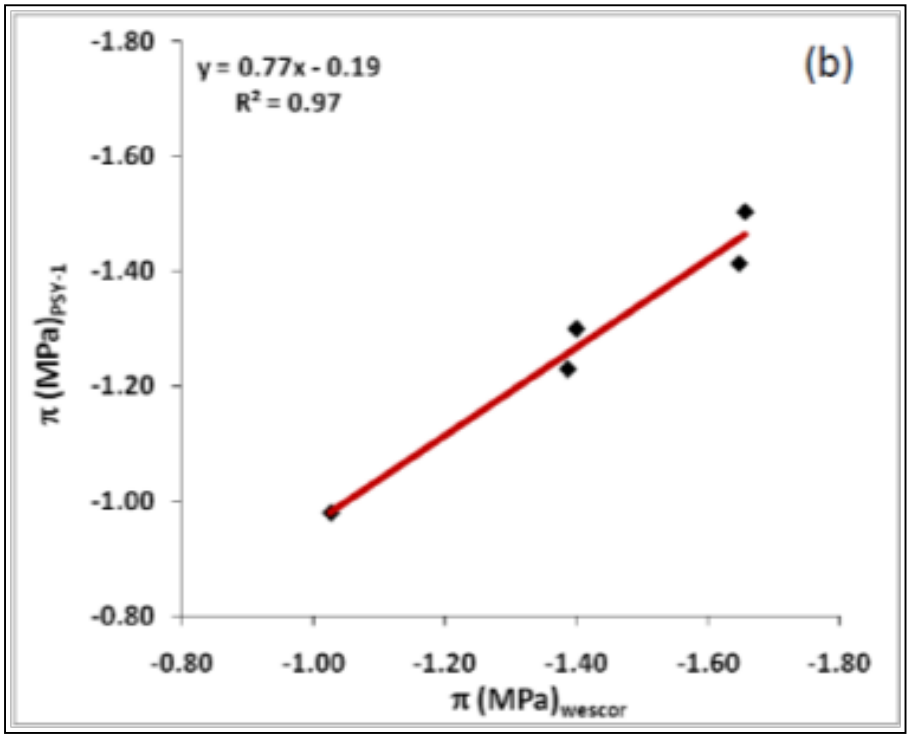




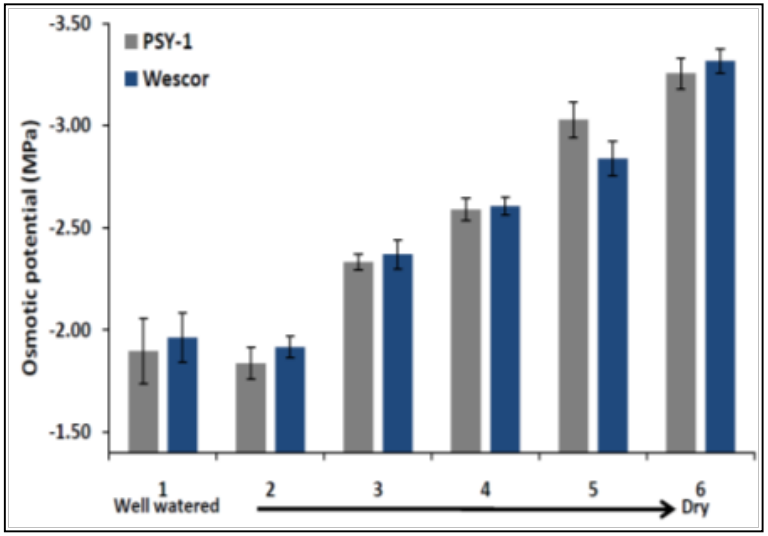
Comparisons for repeated measurements of osmotic potential (MPa) between the PSY1 and Wescor Vapro 5520 for wheat (*Triticum aestivum*) during bench dry-down on extracted sap samples using thermal isolation unit with standardised measurement protocol. Values are means ± s.e (n=3).

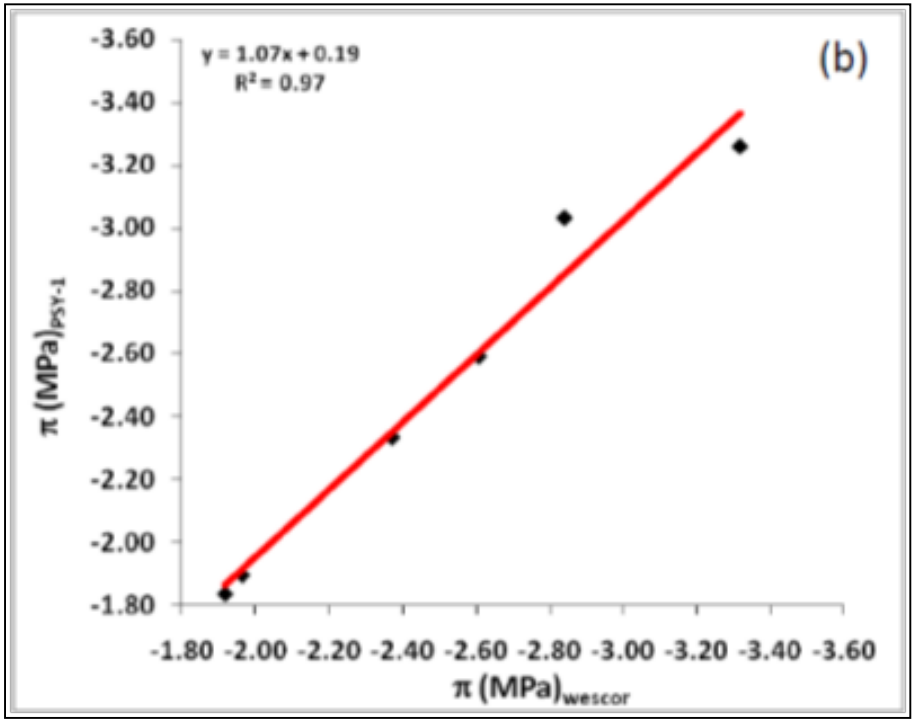
Chickpea (*Cicer areitinum*)





Eucalyptus michaeliana





Correlation between PSY1 & VAPRO
Values are means ± s.e (n=3).

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