

50th Photography Competition WINNERS ANNOUNCED!

Thank you to all those who entered our competition. We enjoyed choosing our favourite shots of ADC products in use. Here are the winners:

1



First Prize awarded for:

“LCpro+ being used to measure grapevines submitted to severe summer stress in Douro Valley, Portugal”

Submitted by: José Manuel Moutinho Pereira, Integrated Member of Centre for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB), University of Trás-os-Montes and Alto Douro (UTAD), Vila Real, Portugal.

Joint second prizes were awarded for:

2A. “Soil respiration measurement in 5 vineyards in Val Tidone and Val Trebbia Valley, Piacenza, using an LCI-SD.” This work is comparing soil respiration in grassed and tilled rows between vineyards”.

Submitted by: Irene Diti, DI.PRO.VE.S., Università Cattolica del Sacro Cuore, Piacenza, Italy.

2A



2B. “A PhD candidate operates LCpro+ system to measure gas exchange parameters on dry bean (*Phaseolus vulgaris* L.) subjected to different levels of irrigation. Photograph taken in the Farm of Aristotle University of Thessaloniki, Themi, Greece”

Submitted by: Dr. JT Tsialtas, Aristotle University of Thessaloniki, Faculty of Agriculture, Lab. of Agronomy

2B



2C. “The Response of Tomato (*Solanum lycopersicum* L.) Seedling to Foliar Application of Cultar (Paclobutrazol) Under Controlled Conditions”



Submitted by: Dr. Tawfiq Qubbaj, Faculty of agriculture and veterinary medicine, An Najah National University. Nablus, Palestine. Credit also goes to: Hisham Saeed, Husni Qteet, Ansam Melhem, Ramez Shtayeh, Saif Mansor.

2D. “Using LCPro-SD portable photosynthesis system under field conditions in our *Stylosanthes capitata* Vogel experiments in Brazil, carried out in FACE and T-FACE systems”



Submitted by: Prof. Dr. Carlos Alberto Martinez, featuring Eduardo Habermann (right) and Rafael Ferreira Barreto (left) from Departamento de Biologia, FFCLRP, Universidade de São Paulo, Brasil.

Limited offer: Fv/Fm modulated fluorometer

Handheld F_v/F_m Meter for dark-adapted 'fast' fluorescence tests

For a limited time the Fv/Fm meter is available for only £1,920

Contact your local ADC representative for a quotation



The Fv/Fm meter is supplied with 10, lightweight, **dark adaption clips**, a carrying case, rechargeable Lithium-ion battery, USB cable, universal battery charger and cable and manuals on USB memory stick.

The **Fv/Fm meter is the lowest-priced, modulated fluorometer to use dark clips, in the world.** The Fv/Fm meter allows the equivalent of predawn measurement at more reasonable sampling times. Dark clips also allow dark adaption for shorter periods of time while the lights are still on in growth chambers or the lab.

Fv/Fm meter applications:

Boris LAZAREVI, Tomáš LOŠÁK, Ahmad M. MANSCHADI (2018) Arbuscular mycorrhizae modify winter wheat root morphology and alleviate **phosphorus deficit stress**, Plant Soil Environ., Vol. 64, 2018, No. 1: 47–52.

Fernández-Marín, B., Gago, J., Clemente-Moreno, M.J. *et al.* (2019) "**Plant pigment cycles in the high-Arctic Spitsbergen**" Polar Biol, 2019, 42: 675.

Zohreh Heydarian, MinYu, Margaret Gruber, Cathy Coutu, Stephen J. Robinson & Dwayne D. Hegedus (2018) "Changes in gene expression in *Camelina sativa* roots and vegetative tissues in response to **salinity stress**" Scientific Reports 8: 9804.

Limited Offer: CCM200plus with free GPS

For a limited time, the CCM200plus is now available with integral GPS at no extra cost. All that we ask is for you to complete and return a **brief survey** on the application and performance of the GPS module.

This is a limited offer, after which the GPS version of the CCM200plus will be sold at a higher price than the standard unit. To take advantage of this offer, please email sales@adc.co.uk

Technical Specifications of the GPS module are also available on request.



New CCM300 Applications:

Lyu, J.I., Kim, J.H., Chu, H., Taylor, M.A., Jung, S., Baek, S.H., Woo, H.R., Lim, P.O. and Kim, J., (2019) "Natural allelic variation of GVS 1 confers diversity in the regulation of leaf senescence in **Arabidopsis**". *New Phytologist*, 221(4), pp.2320-2334.

Maliba, B.G., Inbaraj, P.M. and Berner, J.M. (2019). "The Use of OJIP Fluorescence Transients to Monitor the Effect of Elevated Ozone on Biomass of **Canola Plants**". *Water, Air, & Soil Pollution*, 230(3), p.75.

Liu, S., Li, S., Fan, X.Y. *et al.* (2019) "Comparison of two non-invasive methods for measuring the pigment content in foliose **macro lichens**" Photosynth Res, 2019.

Rastogi, A., Stróżecki, M., Kalaji, H.M., Łuców, D., Lamentowicz, M. and Juszczak, R. (2019). "Impact of warming and reduced precipitation on photosynthetic and remote sensing properties of **peatland vegetation**". *Environmental and Experimental Botany*, 160, pp.71-80.

“Stomatal and Photosynthetic Regulation of Water Use Efficiency” SEB Congress, Seville.

We attended and sponsored the above session, in which the application of our LCpro-SD systems for leaf gas exchange was discussed.

We were delighted to award Miss Shauni McGregor from the University of Sheffield with a Best Poster Prize of £250.00 for her novel use of laser microdissection to investigate the cell wall structure of stomata in grass.



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