

Accepted Manuscript

Title: Heat and water stressed field-grown soybean: A multivariate study on the relationship between physiological-biochemical traits and yield

Authors: Verónica V. Ergo, Ramiro Lascano, Claudia R.C. Vega, Rodrigo Parola, Constanza S. Carrera



PII: S0098-8472(17)30352-0
DOI: <https://doi.org/10.1016/j.envexpbot.2017.12.023>
Reference: EEB 3363

To appear in: *Environmental and Experimental Botany*

Received date: 8-12-2017
Revised date: 29-12-2017
Accepted date: 30-12-2017

Please cite this article as: Ergo, Verónica V., Lascano, Ramiro, Vega, Claudia R.C., Parola, Rodrigo, Carrera, Constanza S., Heat and water stressed field-grown soybean: A multivariate study on the relationship between physiological-biochemical traits and yield. *Environmental and Experimental Botany* <https://doi.org/10.1016/j.envexpbot.2017.12.023>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Heat and water stressed field-grown soybean: a multivariate study on the relationship between physiological-biochemical traits and yield

Verónica V. Ergo^a; Ramiro Lascano^{a,b,c}; Claudia R. C. Vega^d; Rodrigo Parola^b; Constanza S. Carrera^{b,c,*}

^a Cátedra de Fisiología Vegetal (FCEfyN-UNC), Córdoba, Av. Vélez Sarsfield 299, 5000, Argentina

^b Instituto de Fisiología y Recursos Genéticos Vegetales (IFRGV), Centro de Investigaciones Agropecuarias (CIAP), Instituto Nacional de Tecnología Agropecuaria (INTA), Córdoba, Camino 60 cuadras km 5.5, 5119, Argentina

^c Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)

^d INTA Estación Experimental Manfredi. Manfredi, Córdoba, Ruta Nacional N° 9 Km 636, 5988, Argentina

*Corresponding author. E-mail adress: carrera.constanza@inta.gob.ar (C.S. Carrera)

HIGHLIGHTS

Heat (HS) and/or water stress (WS) caused detrimental effects on yield (grain number and weight) due to photosynthesis and redox state impairment.

Grain weight under irrigated HS episodes was similar to control, highlighting compensatory mechanisms.

Canopy temperature, SPAD, Φ PSII and redox state explained yield, grain number and weight variations under field HS and WS.

These physiological-biochemical traits identified in field-grown soybean are robust and useful selection markers for genotype screening.

Download English Version:

<https://daneshyari.com/en/article/8887035>

Download Persian Version:

<https://daneshyari.com/article/8887035>

[Daneshyari.com](https://daneshyari.com)