



UNIVERSITÀ DEGLI STUDI DI MILANO
DIPARTIMENTO DI SCIENZE AGRARIE
E AMBIENTALI - PRODUZIONE,
TERRITORIO, AGROENERGIA

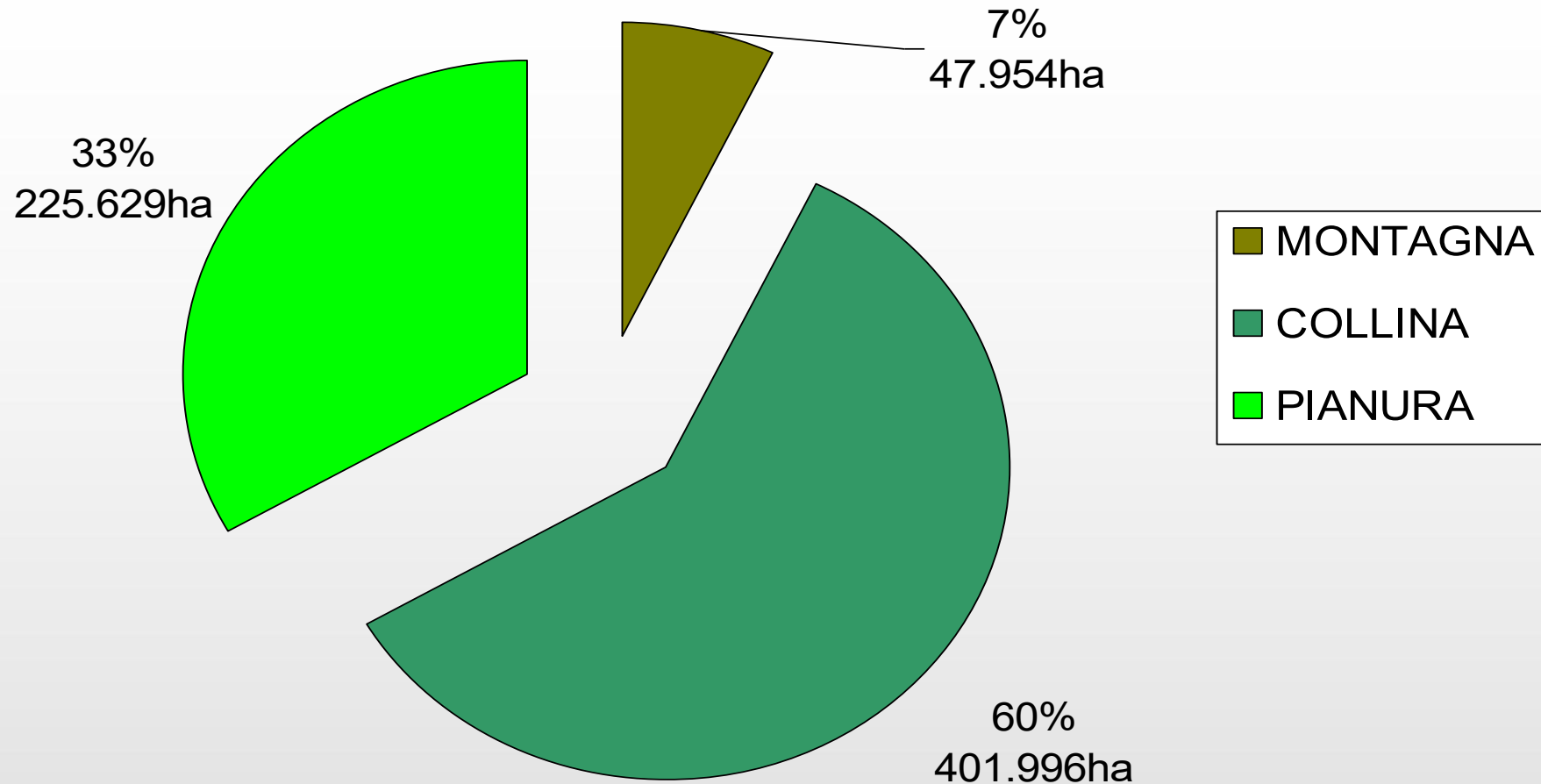
2a BIOSTIMOLANTI CONFERENCE

“Uso dei biostimolanti per contrastare gli stress abiotici in viticoltura

Gli ambienti della viticoltura

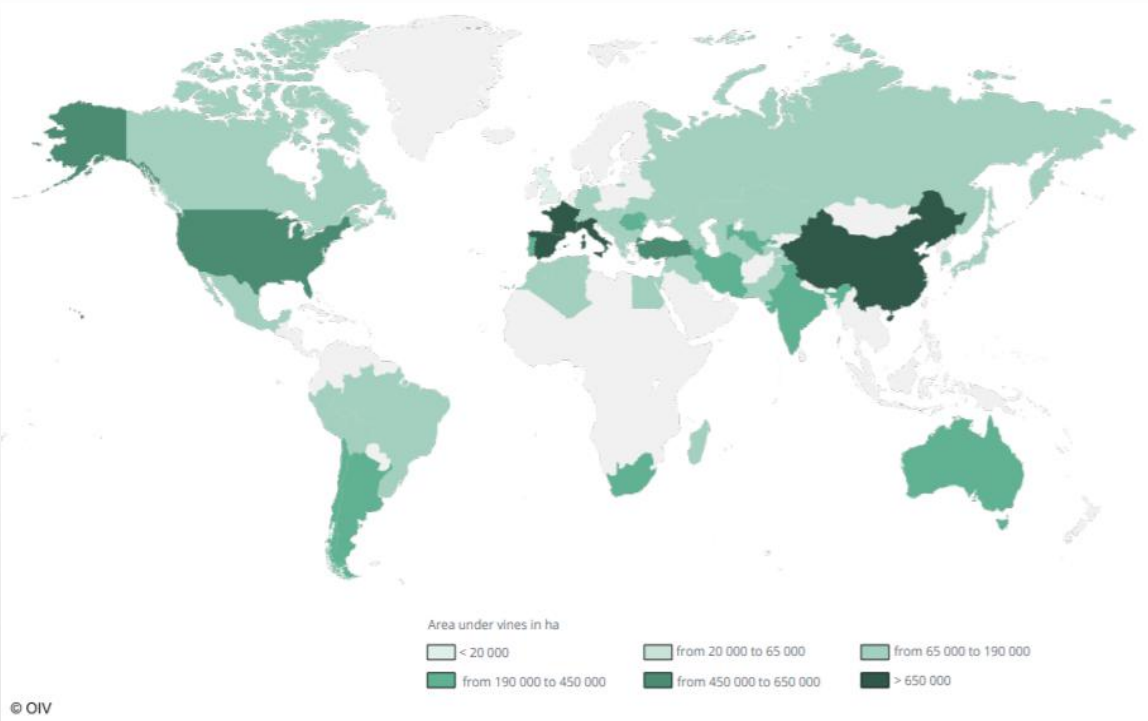


Ripartizione delle superfici vitate in Italia in base alla orografia dei territori (dati ISTAT 2000)

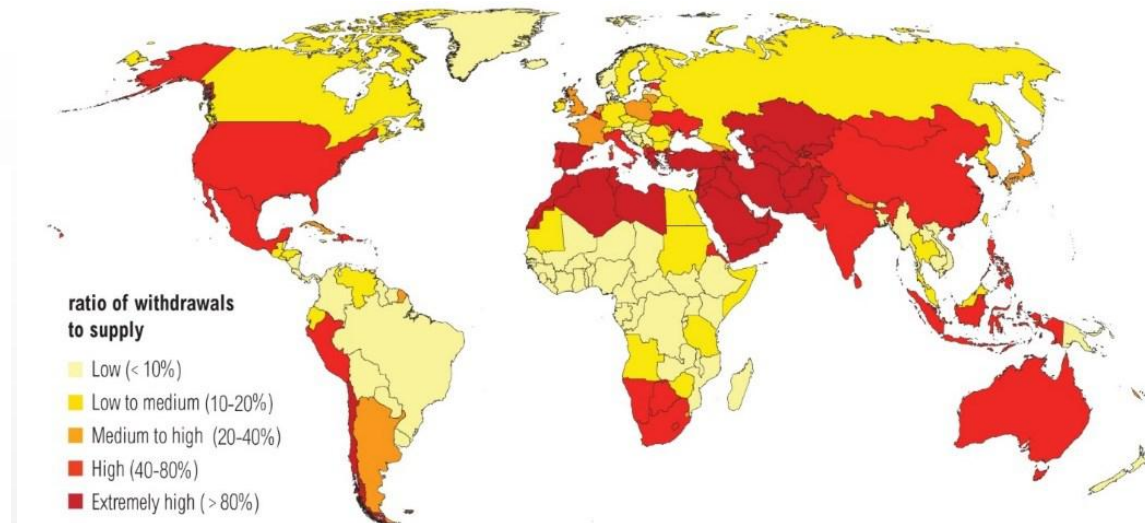


Gli ambienti della viticoltura e i mutamenti climatici

Area under vines



Water availability in 2040



WORLD RESOURCES INSTITUTE
Models SSP2 and RCP8,5

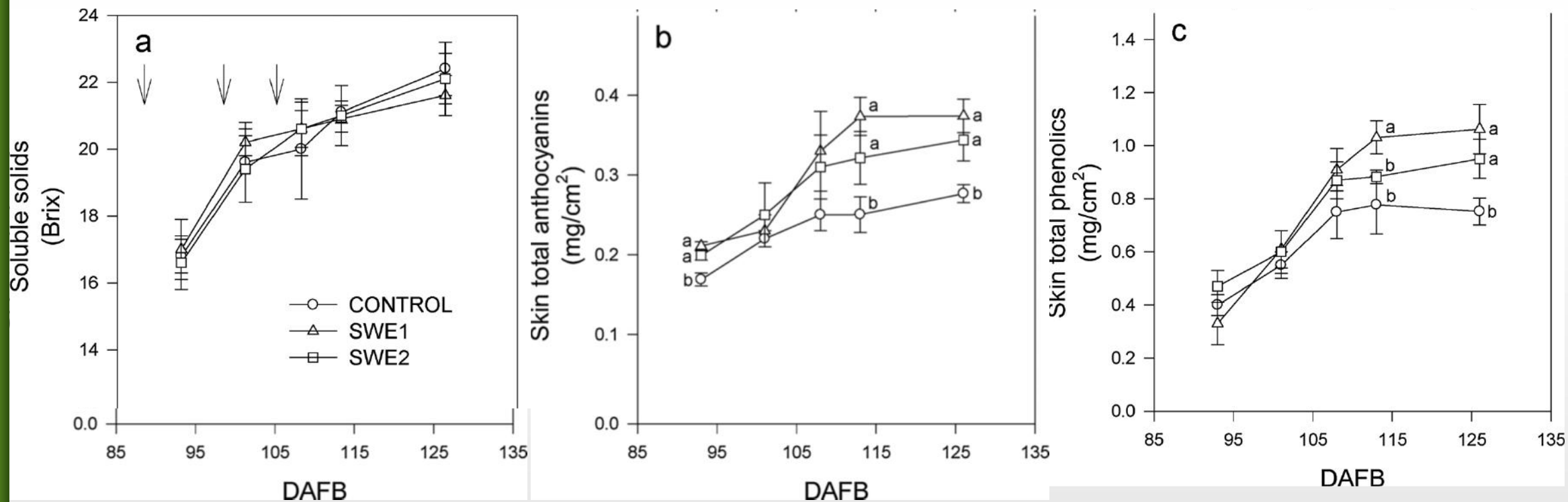
INTERNATIONAL ORGANISATION OF VINE AND
WINE (OIV)

Effetti degli stress estivi multipli

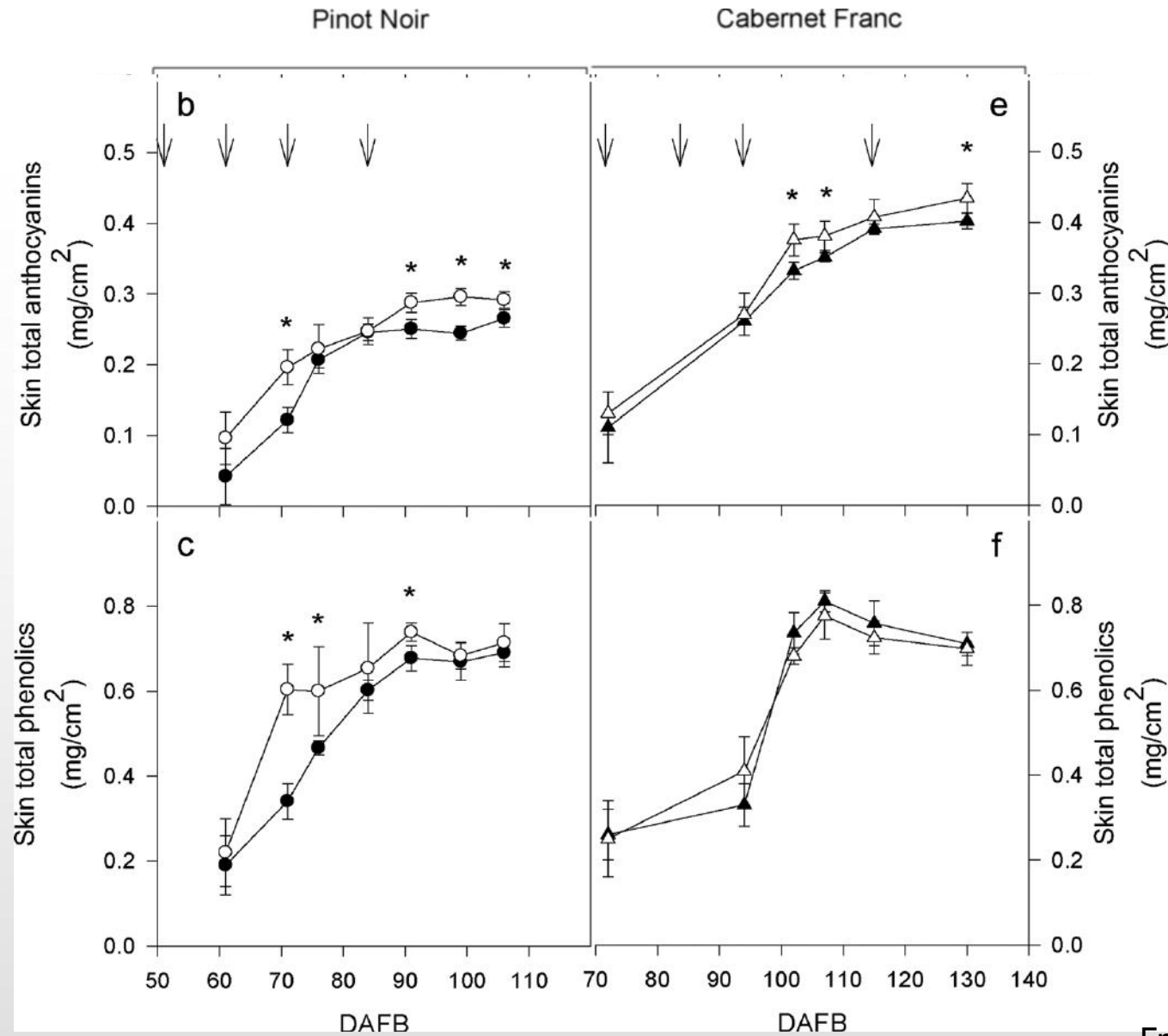


Effects of a biostimulant derived from the brown seaweed *Ascophyllum nodosum* on ripening dynamics and fruit quality of Sangiovese (Central Italy)

SWE1 1,5 kg/ha
SWE2 3,0 kg/ha



Effects of a biostimulant derived from the brown seaweed *Ascophyllum nodosum* on ripening dynamics and fruit quality of Pinot noir and Cabernet franc (Michigan)



Fruit composition: total soluble solids, titratable acidity, pH, malic acid, total anthocyanins treatments at two doses (1.6 and 6.4 g L⁻¹) and for five years (2012-2016).

Treatment	Total Soluble Solids (°Brix)	Titratable Acidity (g/L)	pH	Malic acid (g/L)	TAnt (mg/L)
Control	19.05 e ^a	8.03 a	3.14 b	2.60 a	132 e
Soy 1.6	20.53 d	7.12 b	3.34 b	1.76 b	336 bc
Soy 6.4	21.20 c	6.65 c	3.29 a	1.67 bc	271 d
Lup 1.6	22.80 a	6.24 cd	3.44 a	1.03 e	342 b
Lup 6.4	21.32 c	6.54 c	3.32 b	1.62 bc	327 bc
Cas 1.6	22.18 b	5.80 d	3.39 a	1.24 de	373 a
Cas 6.4	21.94 b	5.25 e	3.30 a	1.45 cd	316 c
<i>Treatment</i>	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001
2012	23.47 a	6.22 b	3.58 a	1.37 c	349 a
2013	18.40 c	8.72 a	3.00 c	2.36 a	251 b
2014	18.70 c	8.33 a	3.12 c	1.87 b	205 c
2015	23.54 a	5.25 d	3.34 b	1.24 c	358 a
2016	22.36 b	5.84 bc	3.31 b	1.28 c	332a
<i>Year</i>	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
<i>Treatment*Year</i>	< 0.001	< 0.01	< 0.05	< 0.05	< 0.001

IL CWSI e la VALUTAZIONE DELLO STRESS IDRICO

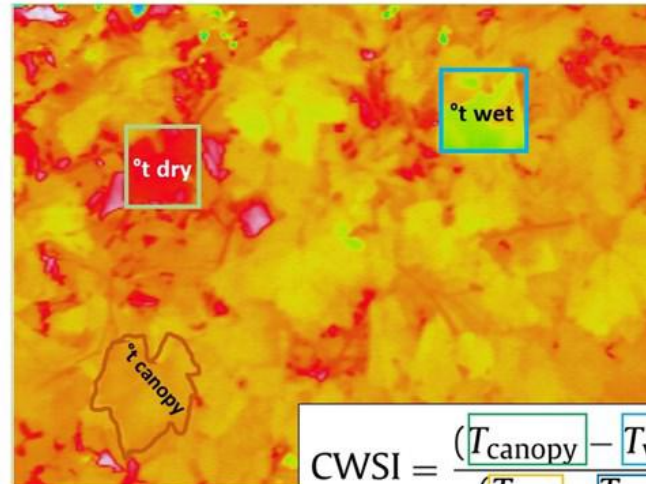
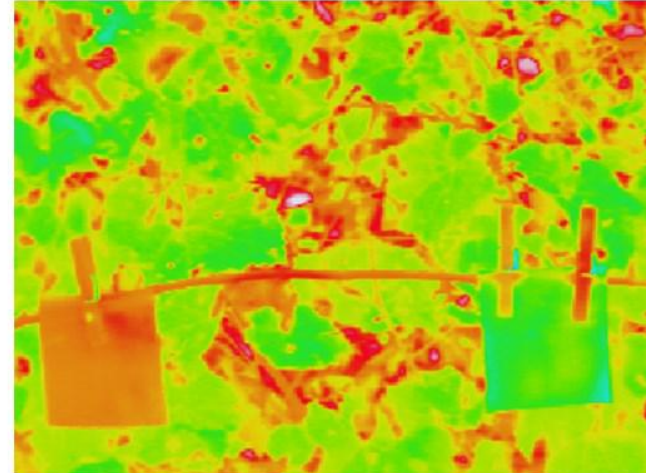


IMMAGINE TERMICA

$$CWSI = \frac{(T_{\text{canopy}} - T_{\text{wet}})}{(T_{\text{dry}} - T_{\text{wet}})}$$

IMMAGINE NEL VISIBILE

Effects of six treatments with hydrolysates on CWSI measured on sunlit canopy at midday of cv. Corvina on selected dates (indicated as Days Of Year, DOY) during the 2015 (A) and 2016 (B) seasons.

A

Treatment	DOY				
	182	196	210	224	238
Control	0.52a ^a	0.39a	0.55a	0.35a	0,50a
Soy 1.6	0.29b	0.13c	0.32b	0.15bc	0.26b
Soy 6.4	0.34b	0.17bc	0.29b	0.21b	0.30b
Lup 1.6	0.19c	0.14c	0.31b	0.10c	0.18c
Lup 6.4	0.25c	0.20b	0.30b	0.16b	0.24bc
Cas 1.6	0.33b	0,22b	0.28b	0.11c	0.20c
Cas 6.4	0.32b	0,19bc	0.27b	0.13c	0.25b

Treatment

DOY

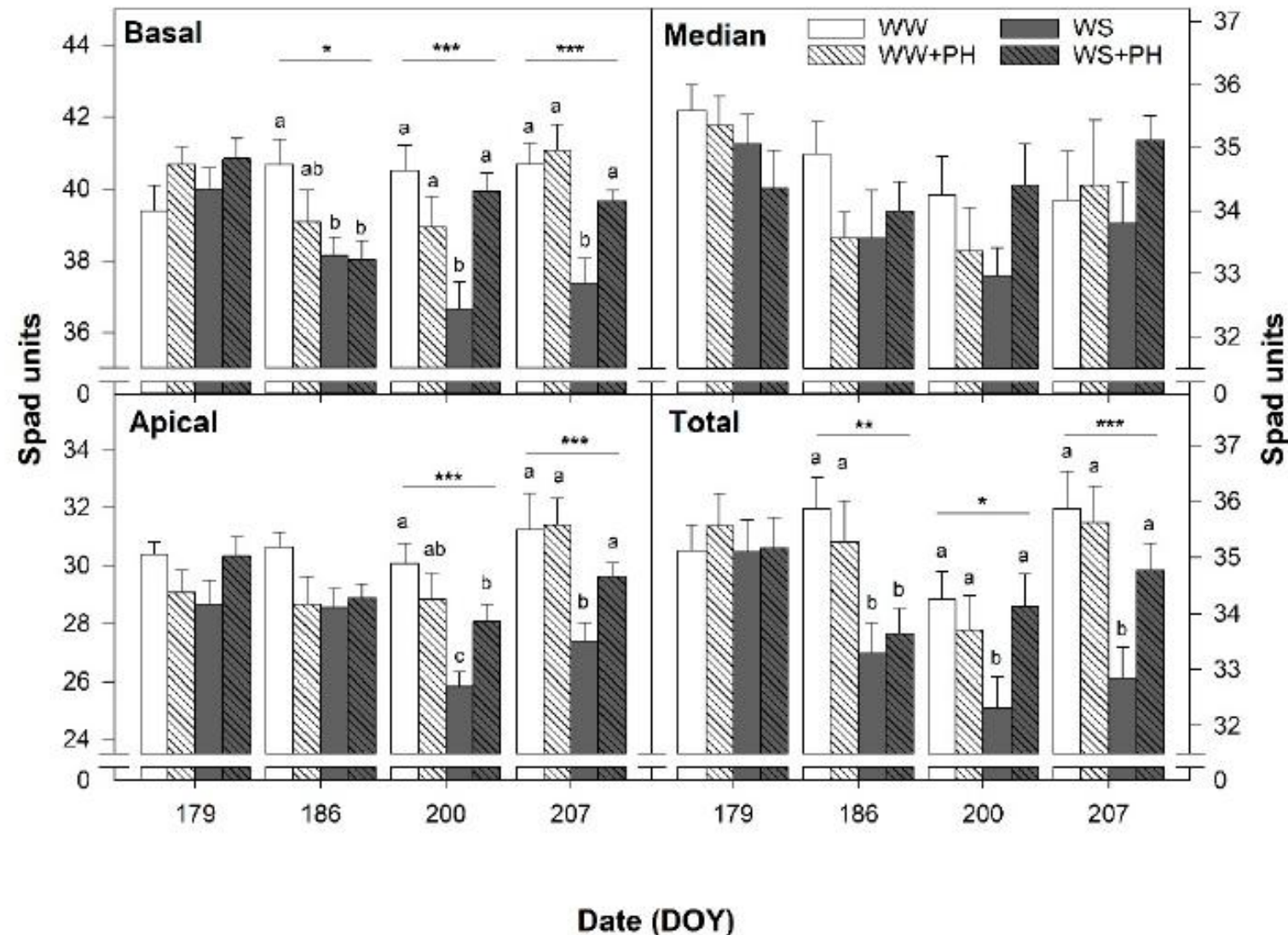
	DOY				
	182	196	210	224	238
Control	0.61a ^a	0.72a	0.63a	0.96a	0.58a
Soy 1.6	0.38b	0.40b	0.22d	0.54b	0.34b
Soy 6.4	0.42b	0.38b	0.35b	0.60bc	0.36b
Lup 1.6	0.37b	0.43b	0.32bc	0.66c	0.28bc
Lup 6.4	0.38b	0.42b	0.35b	0.52b	0.30bc
Cas 1.6	0.39b	0.36b	0.26cd	0.53b	0.26c
Cas 6.4	0.35b	0.40b	0.29bc	0.57b	0.32bc

B

M. Boselli et al. 2019, Scientia Horticulturae 258, 108784



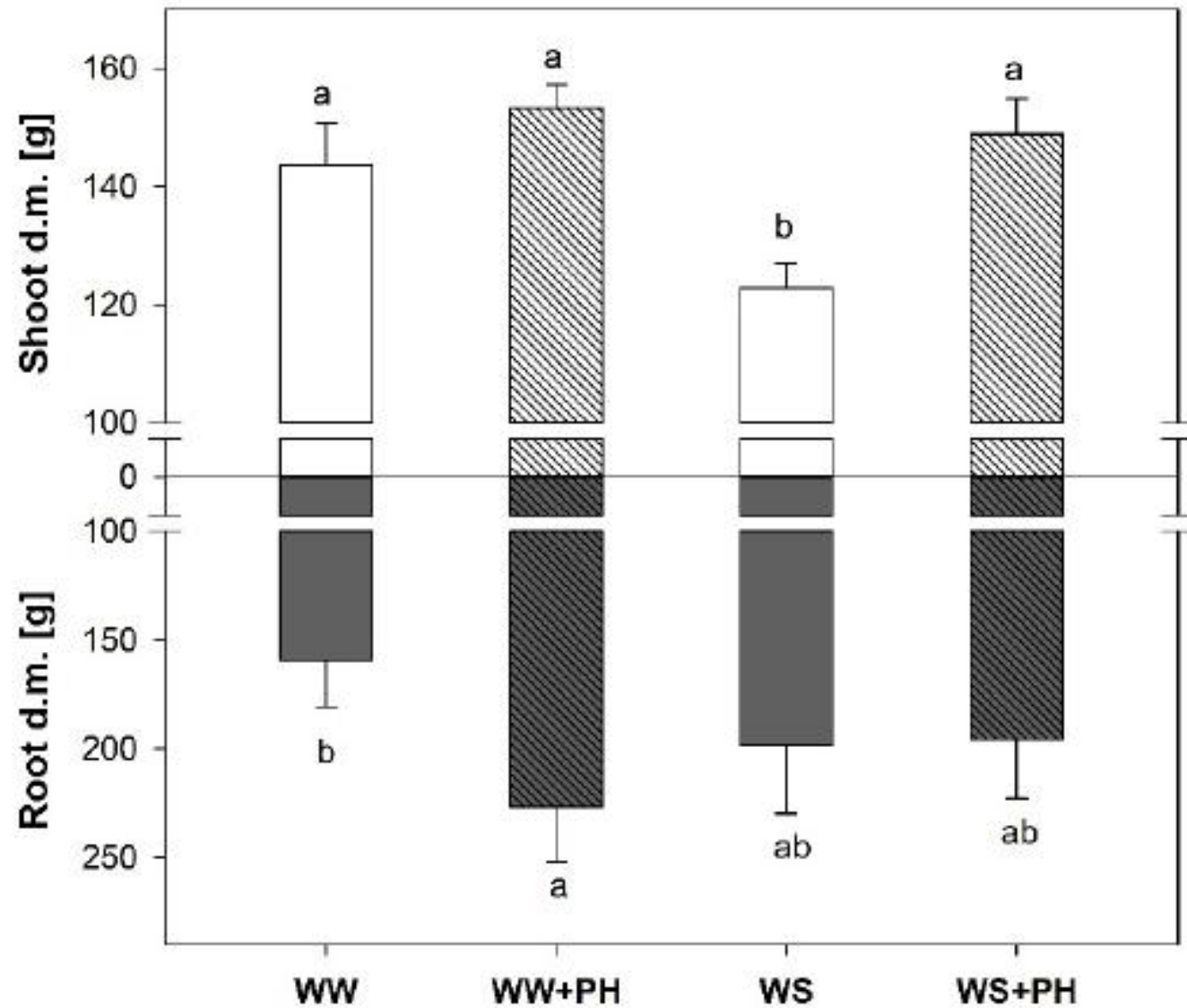
Effects of water stress (WS) compared with well-watered conditions (WW) and PH application, on the leaf chlorophyll content measured as SPAD units



(F. Meggio *et al.* 2020 , Agronomy, 10, 1785)

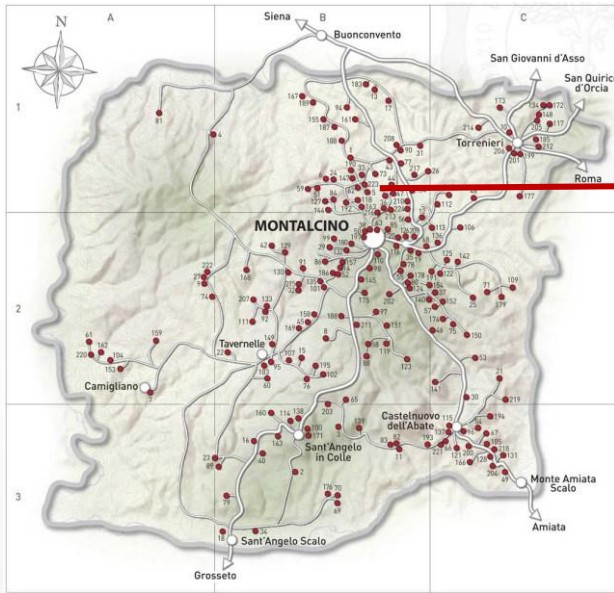


Effects of water stress (WS) compared with well-watered conditions (WW) and PH application, on dry matter partitioning among shoots and roots



(F. Meggio *et al.* 2020 , Agronomy, 10, 1785)

Prove dell'effetto biostimolante dell'idrolizzato della sericina



Versante Nord di Montalcino,
litologia marnosa che crea forti
stress idrici e nutrizionali al
vigneto,

Superficie totale: 1,5715 ha

Sesto d'impianto: 2,60 x 0,85 metri

Varietà: Sangiovese

Applicazione fogliare alla dose di 15 l/ha

2 applicazioni:

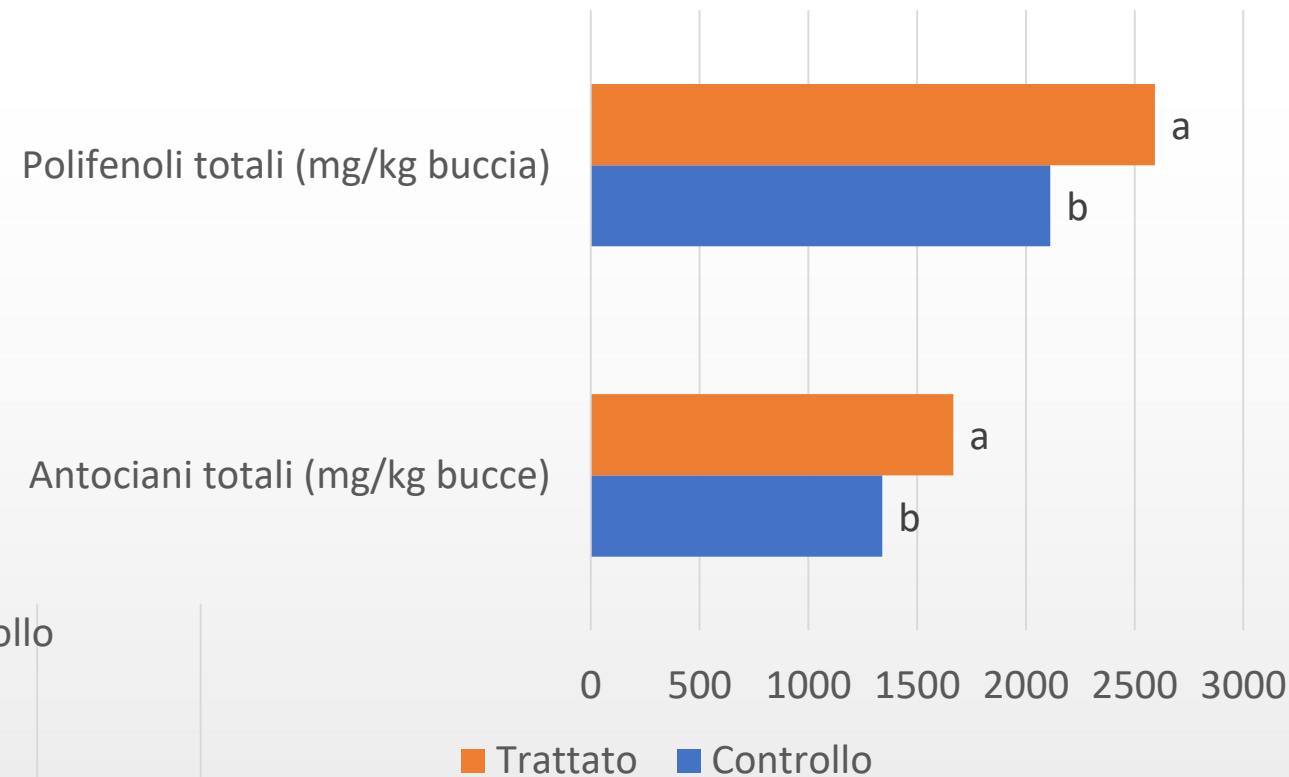
1° 22 Luglio 2019 – chiusura grappolo

2° 5 Agosto 2019 – inizio invaiatura

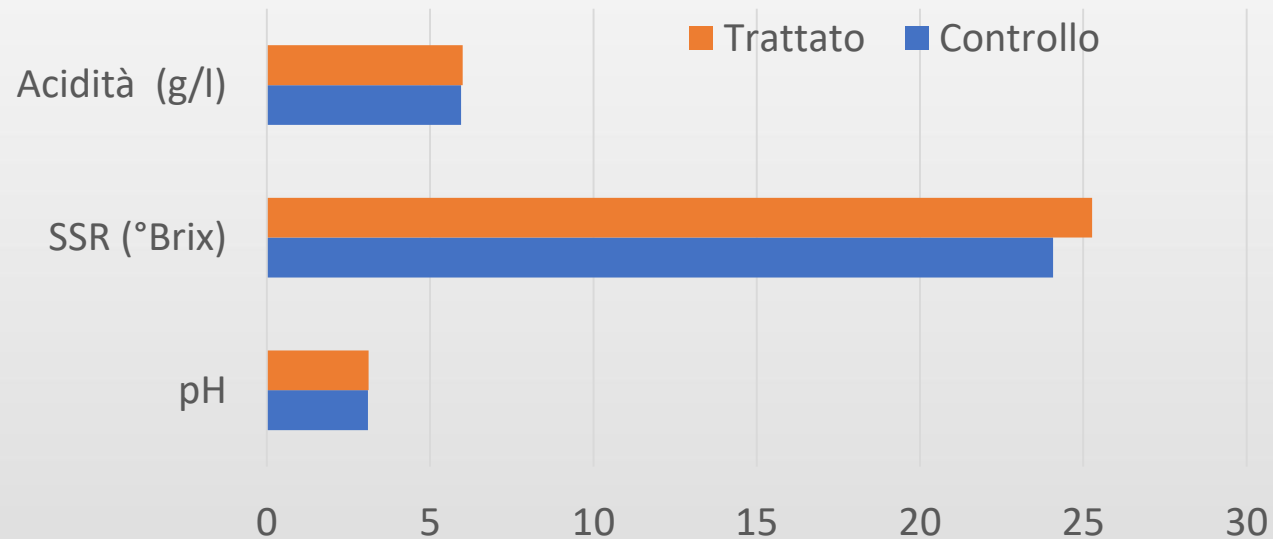


Prove dell'effetto biostimolante dell'idrolizzato della sericina

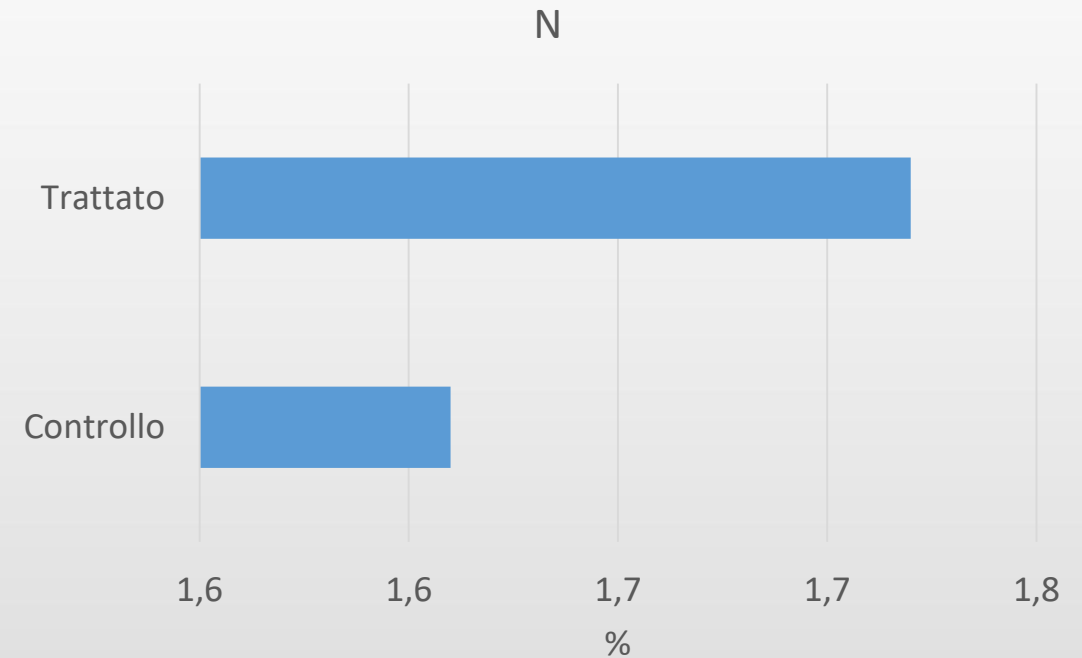
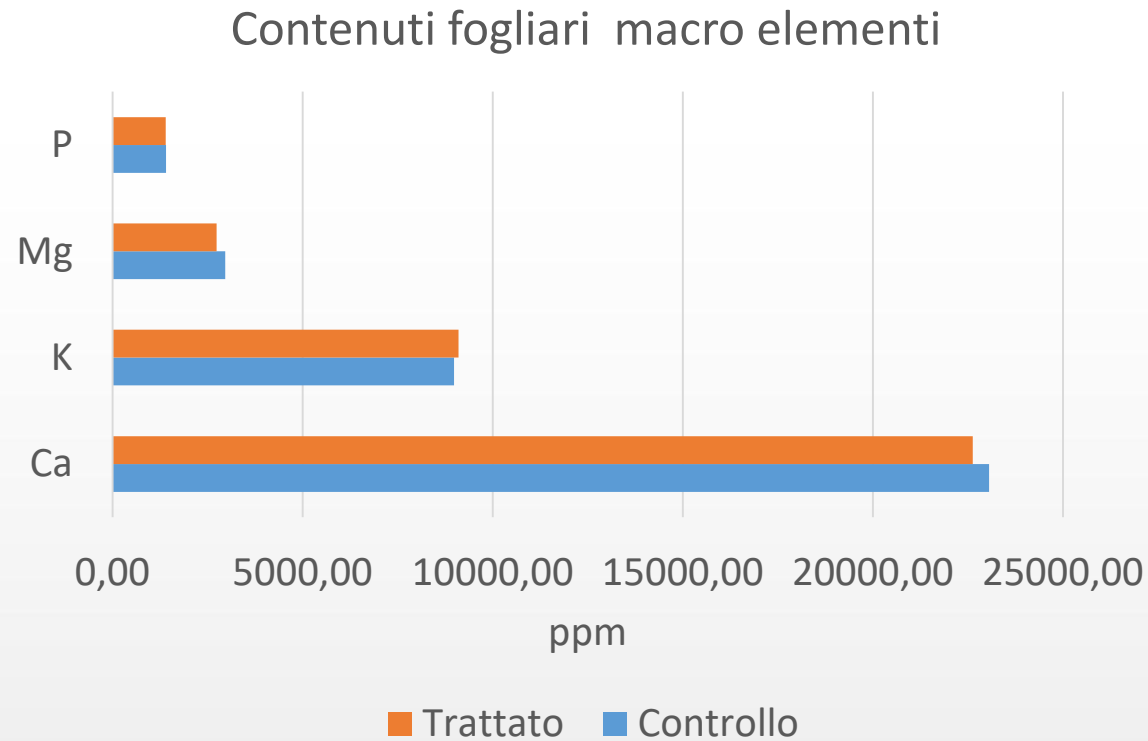
Parametri maturità fenolica



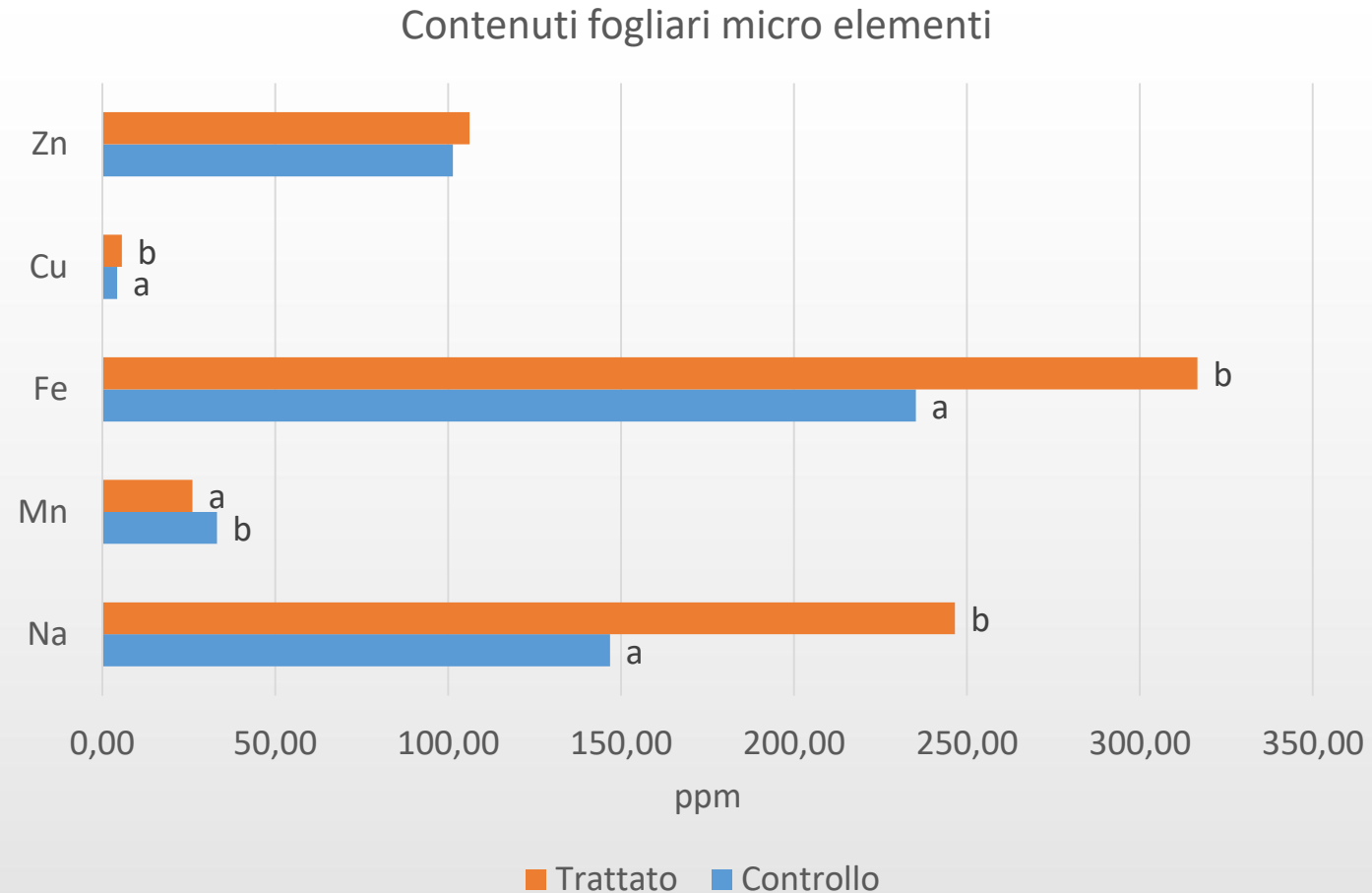
Parametri maturità tecnologica



Prove dell'effetto biostimolante dell'idrolizzato della sericina



Prove dell'effetto biostimolante dell'idrolizzato della sericina



***Grazie per
l'attenzione***

