



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

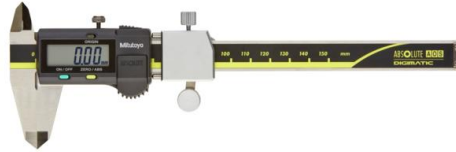
# **SmartER-Kiwi: misurazioni fisiologiche e confronto tra stagioni**

**Luigi Manfrini, Alexandra Boini**

DISTAL – Department of Agricultural and Food Sciences

# Rilievi – Jinyan, Dong hong, Jintao

- Crescita dei frutti (mm)
- Potenziali idrici di tronco, foglia e frutto (MPa)
- Fotosintesi ( $\mu\text{mol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$ )
- Conduttanza stomatica ( $\text{mol H}_2\text{O m}^{-2} \text{ s}^{-1}$ )
- Traspirazione ( $\text{mmol m}^{-2} \text{ s}^{-1}$ )
- Analisi qualità e produzione



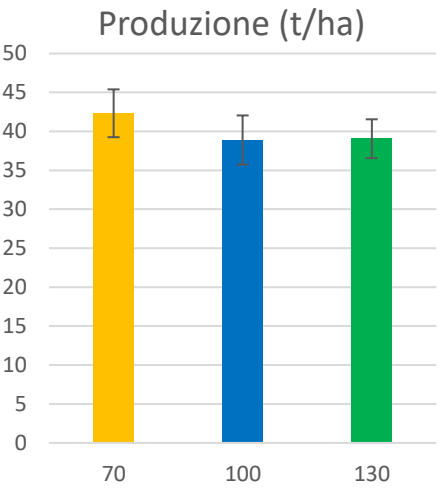
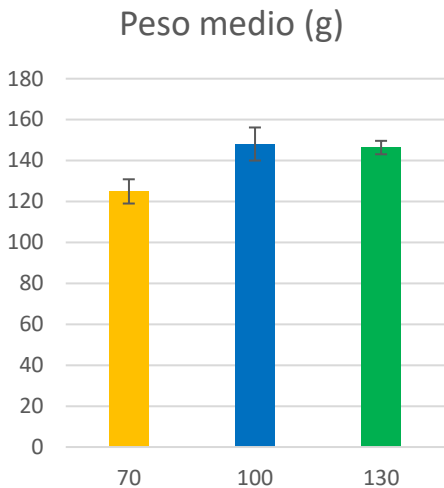
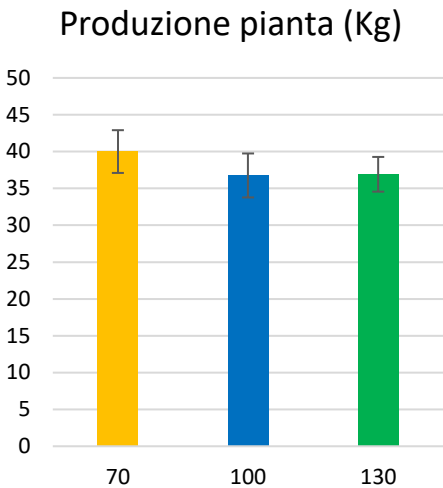
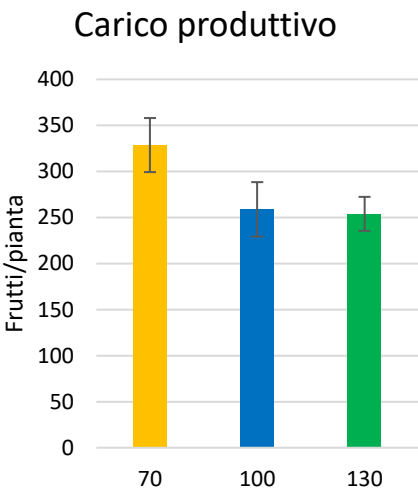
Camera di Scholander



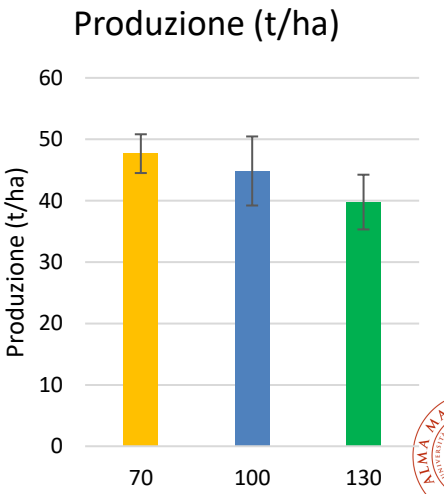
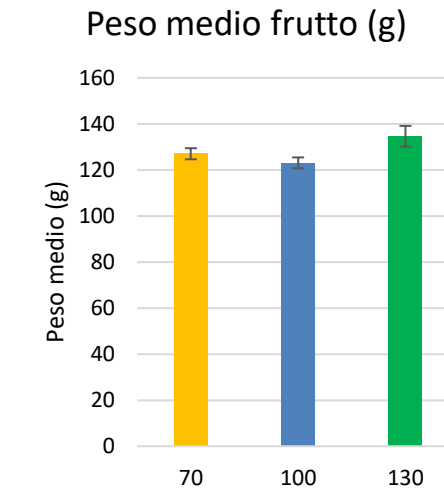
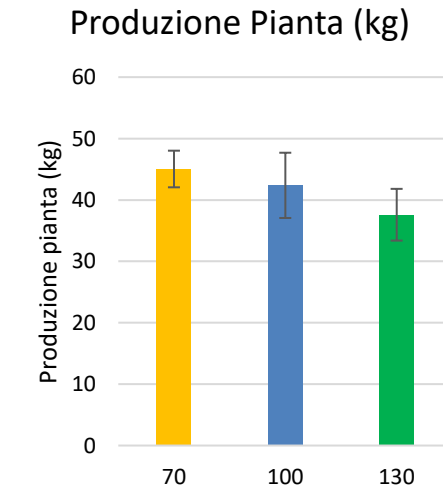
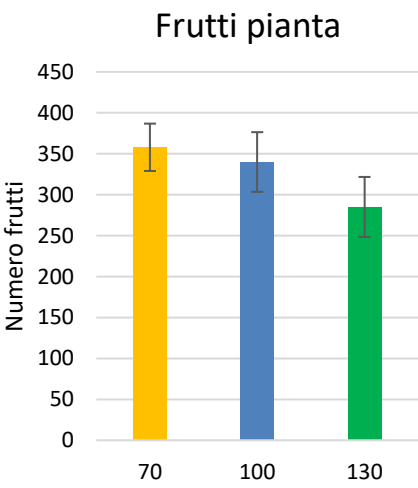
Li-6800

# Produzione Jinyan

2024

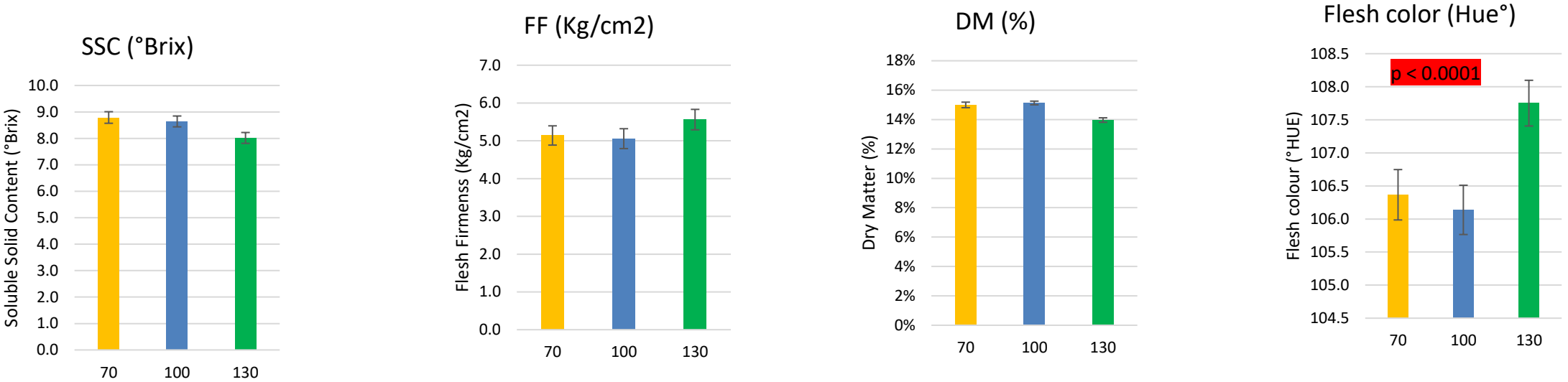


2025

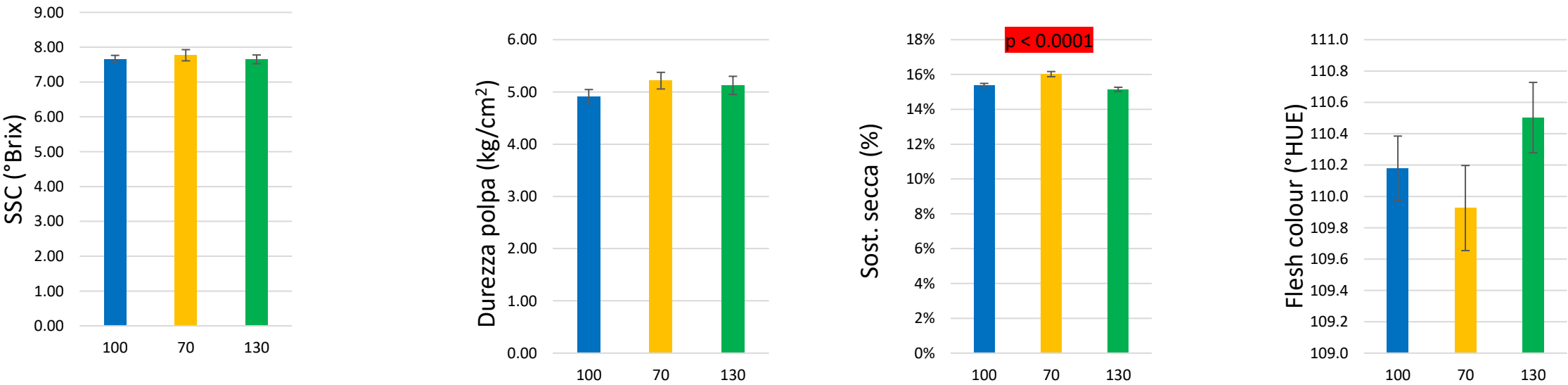


# Qualità Jinyan

2024

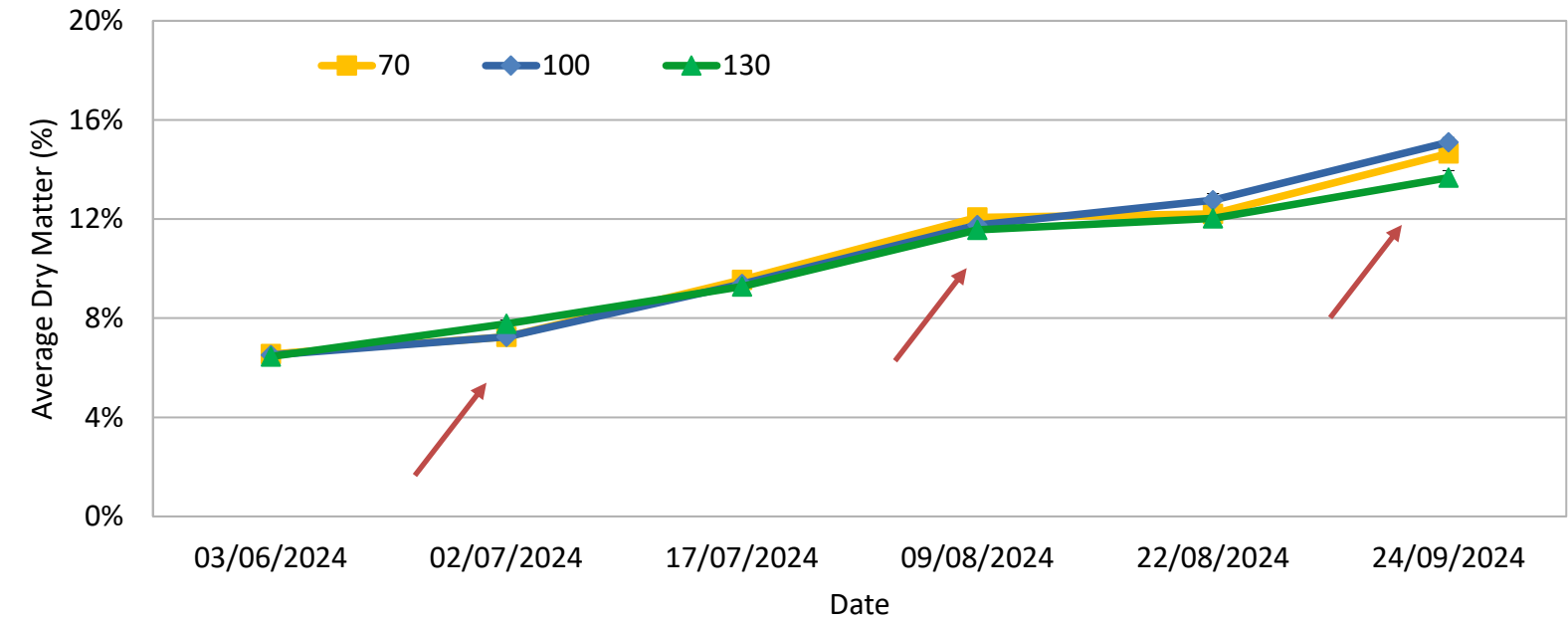


2025

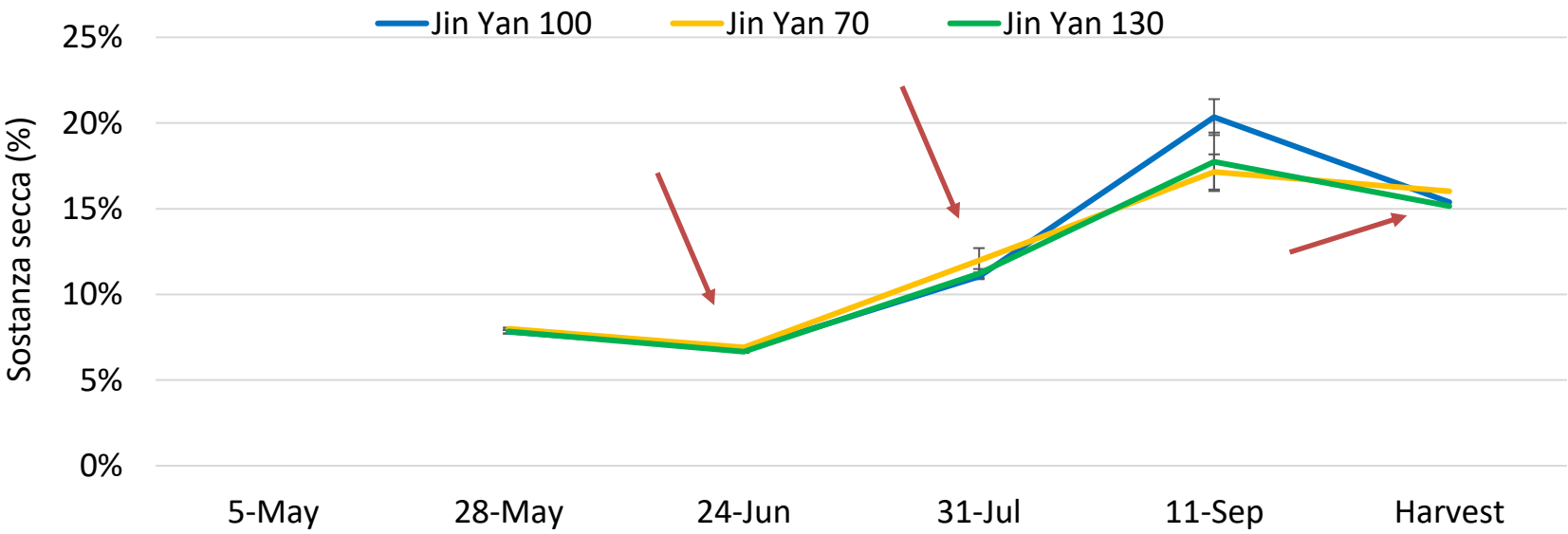


# Accumulo di sostanza secca

2024



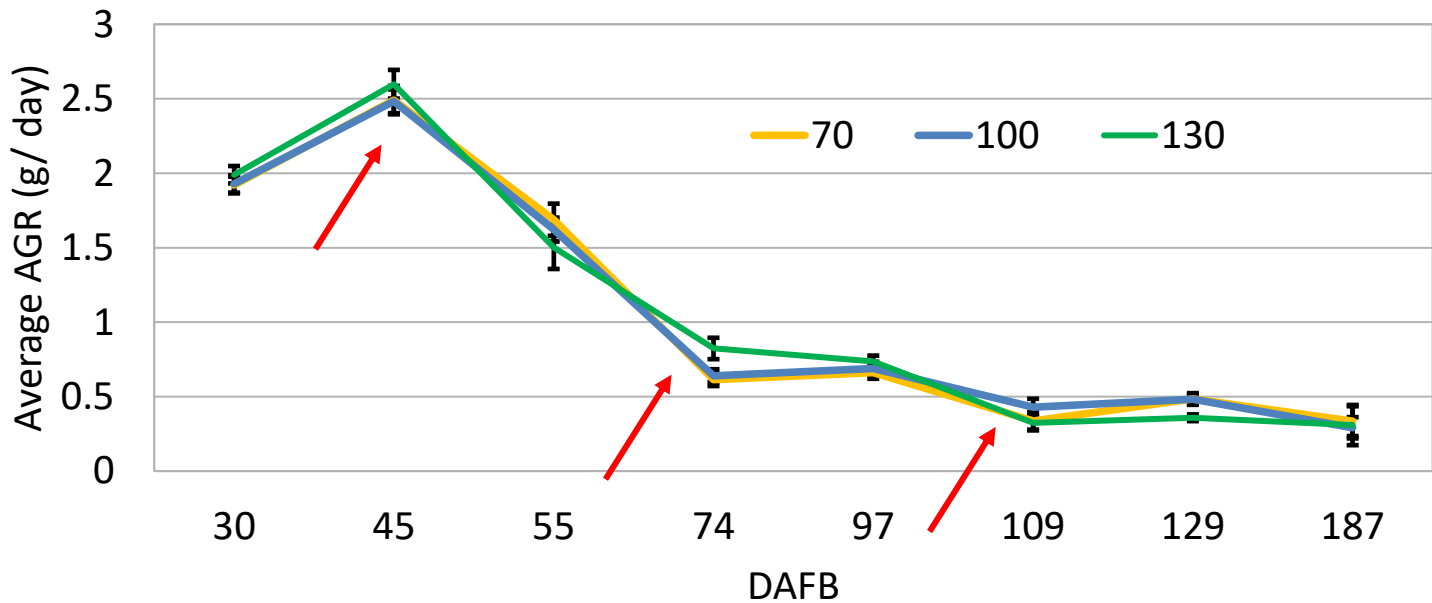
2025



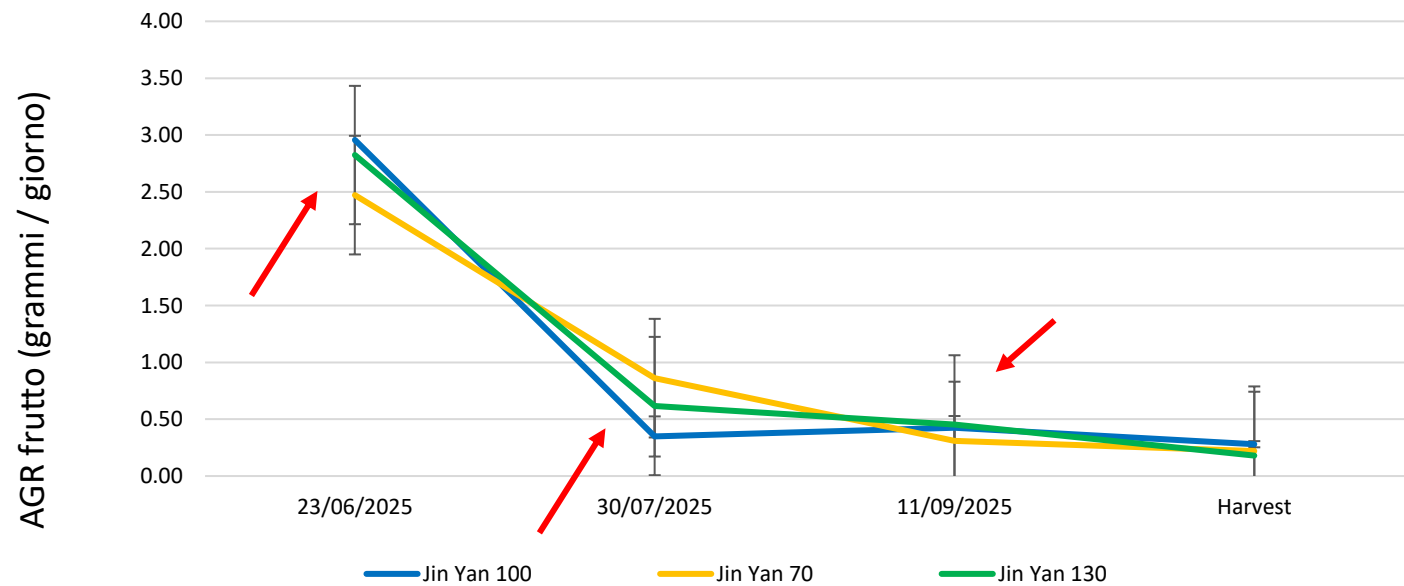
Crescite frutti Jinyan

Jinyan AGR (g/ day)

2024

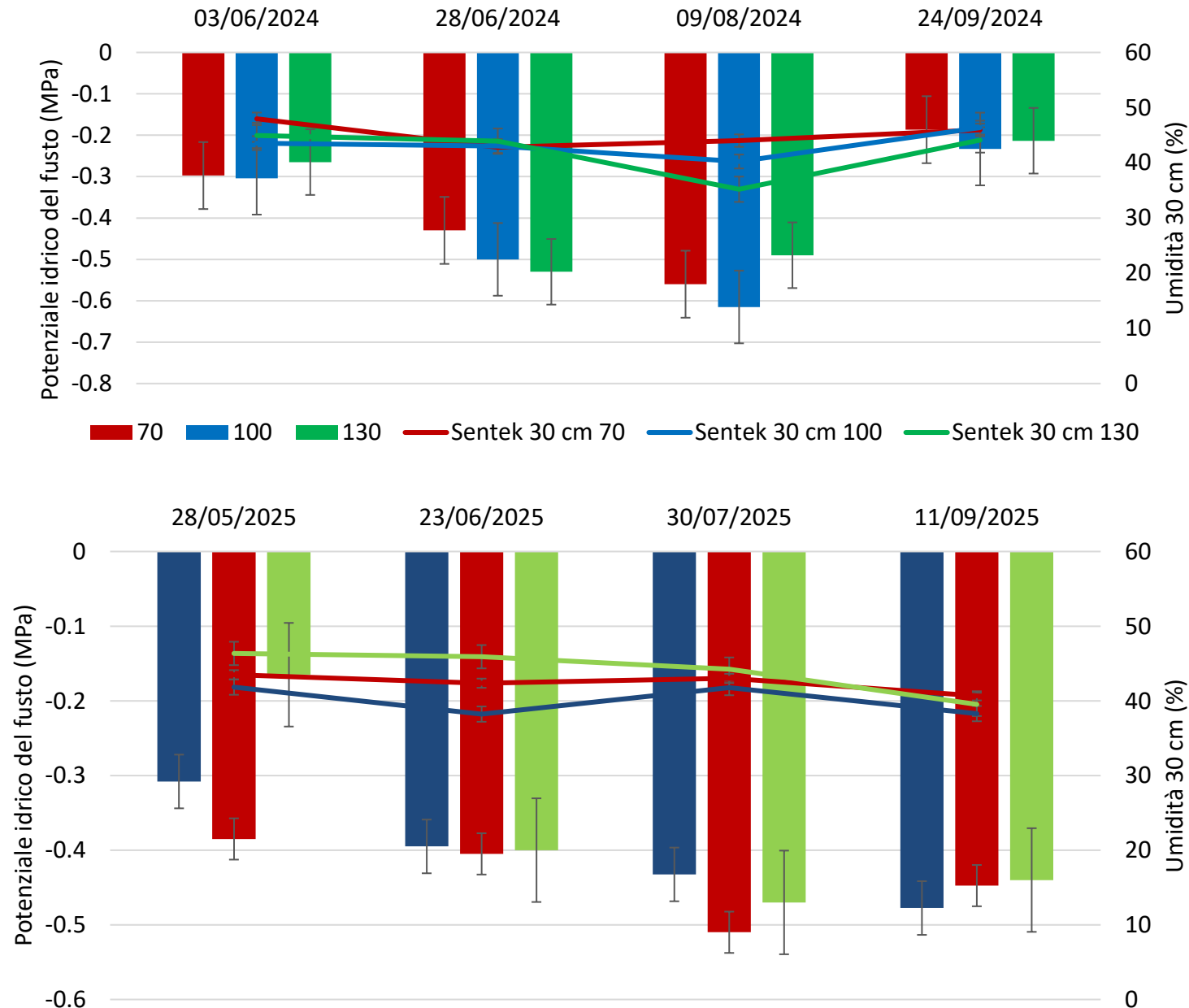


2025



# Potenziali idrici e umidità suolo

Potenziale idrico Vs Umidità suolo

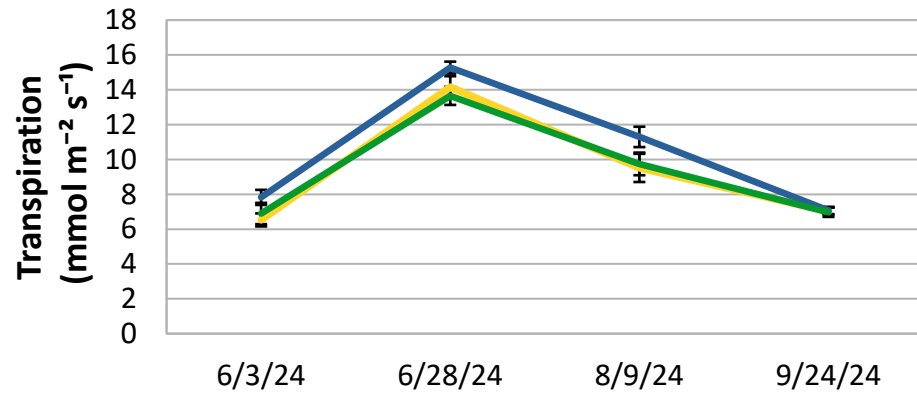
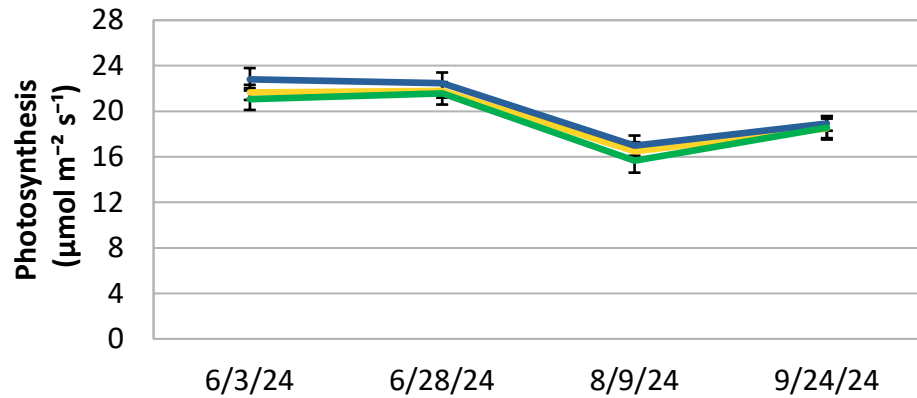


A livello idrico la riduzione al 70% Eto non ha mostrato alcun segno di stress.

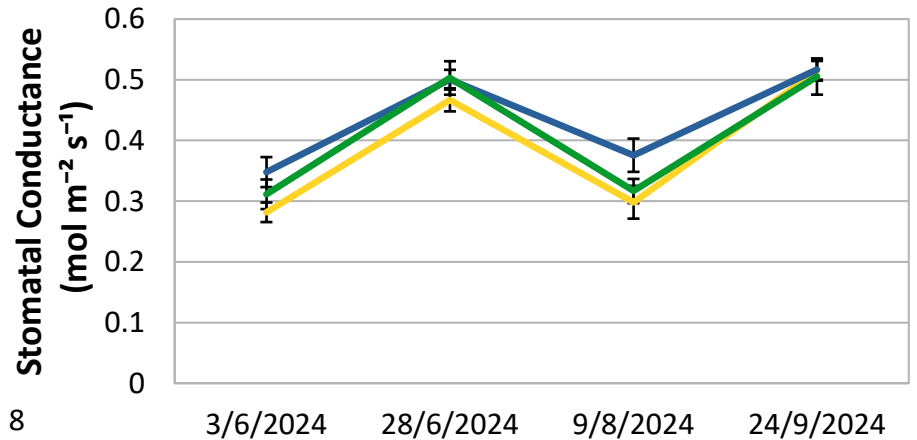
Il valore minore registrato di potenziale idrico del fusto (circa -0.6 Mpa) corrisponde a valori di umidità del suolo pari al 40% di volume.



## Jinyan 2024

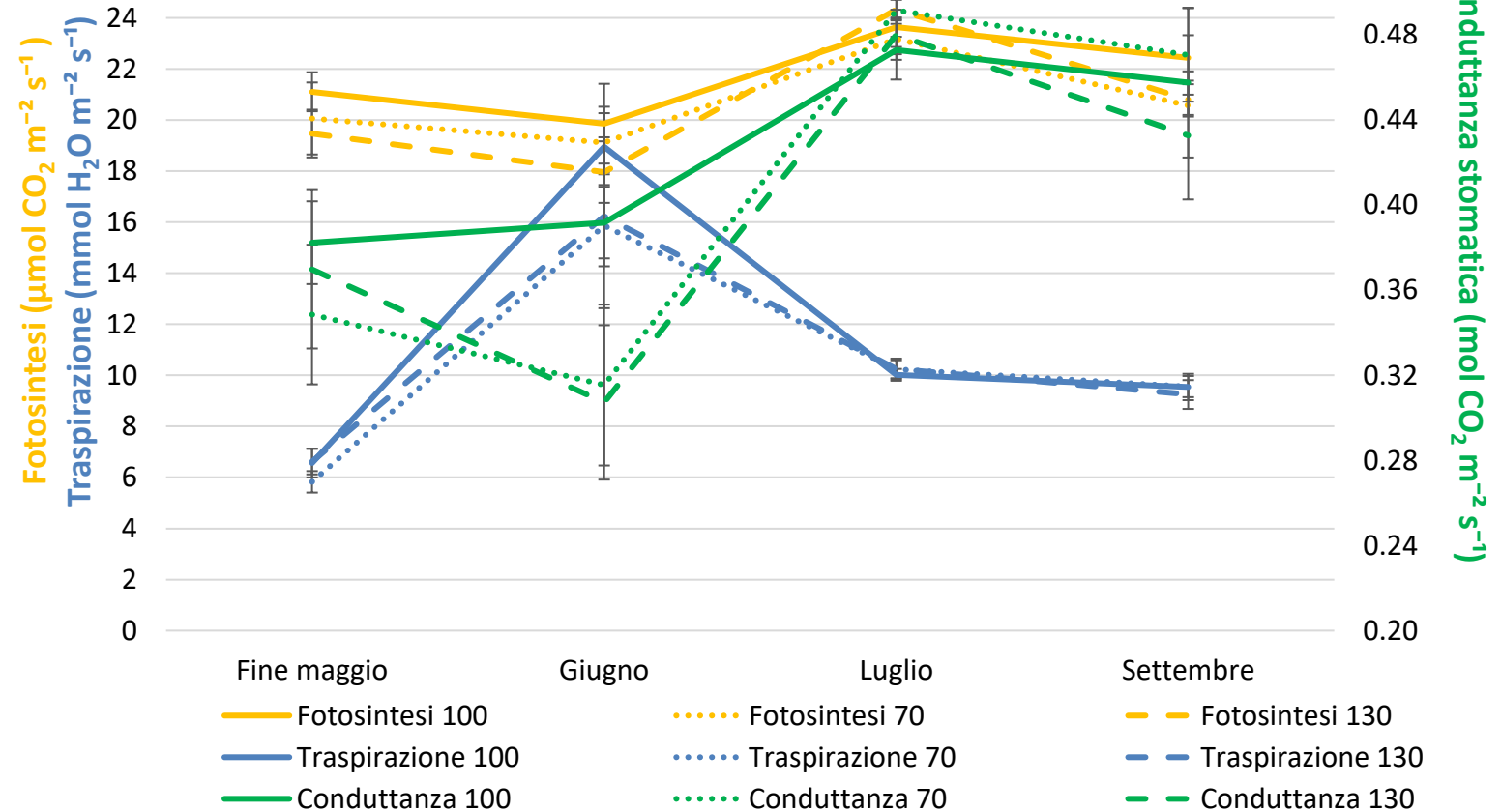


— 70 — 100 — 130



## Scambi Gassosi Jinyan

## Jinyan 2025



Fine maggio

— Fotosintesi 100  
— Traspirazione 100  
— Conduttanza 100

Giugno

... Fotosintesi 70  
... Traspirazione 70  
... Conduttanza 70

Luglio

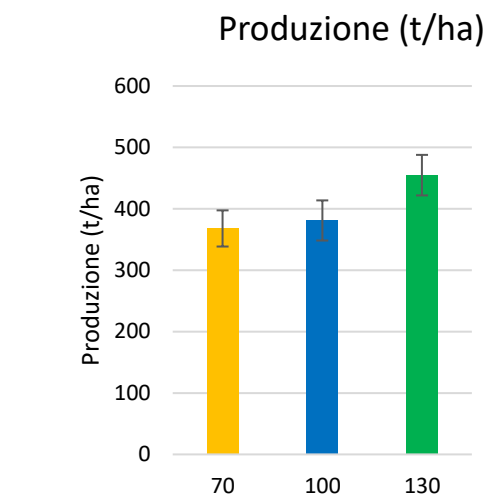
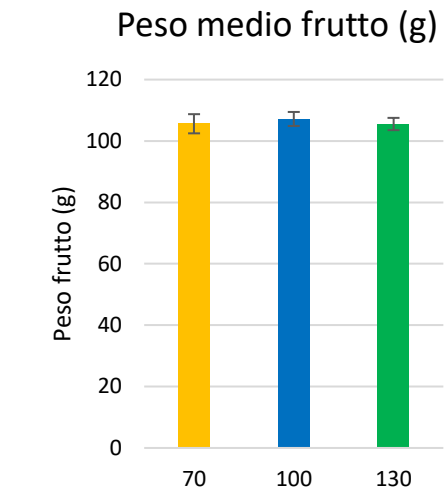
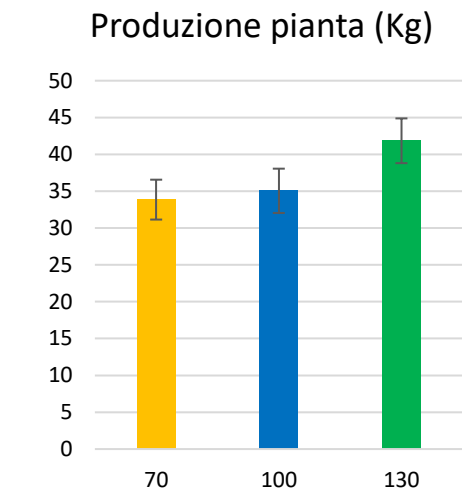
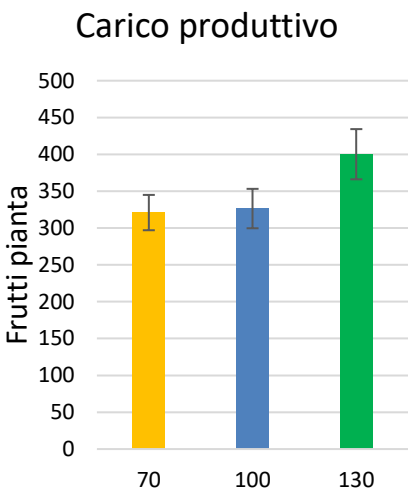
Settembre

— Fotosintesi 130  
— Traspirazione 130  
— Conduttanza 130

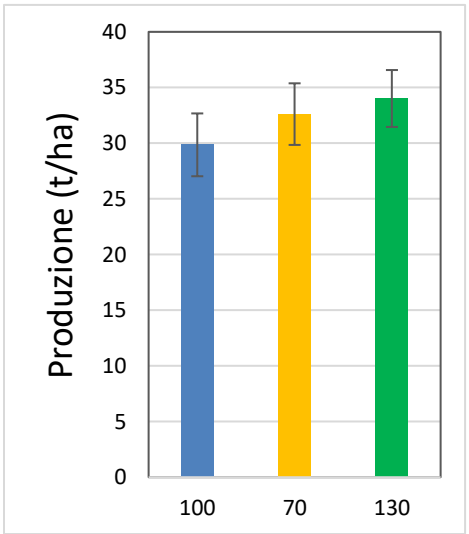
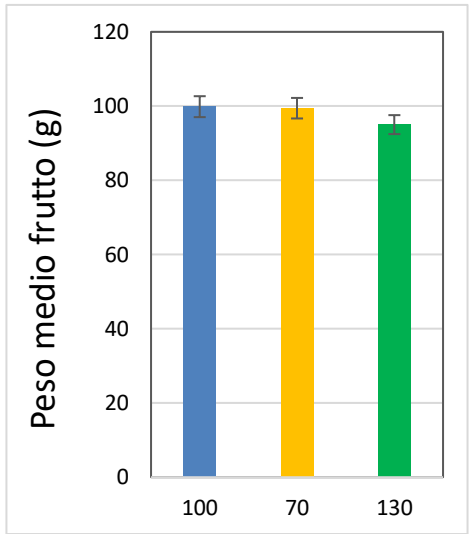
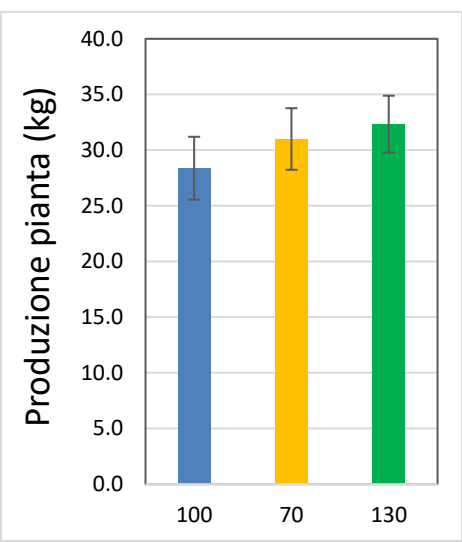
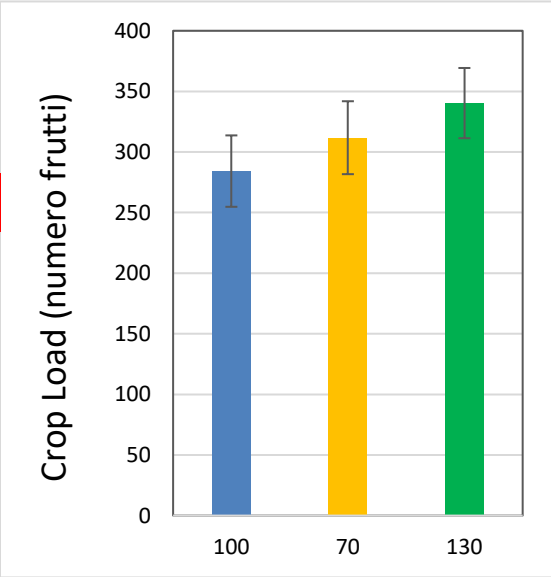


# Dong Hong produzione

2024

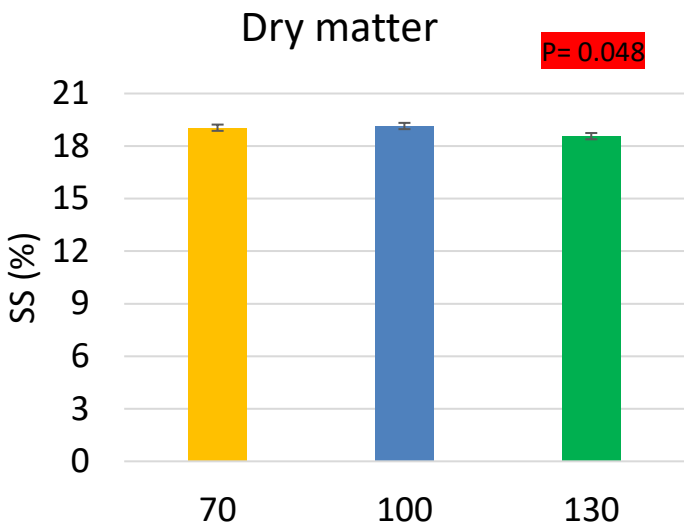
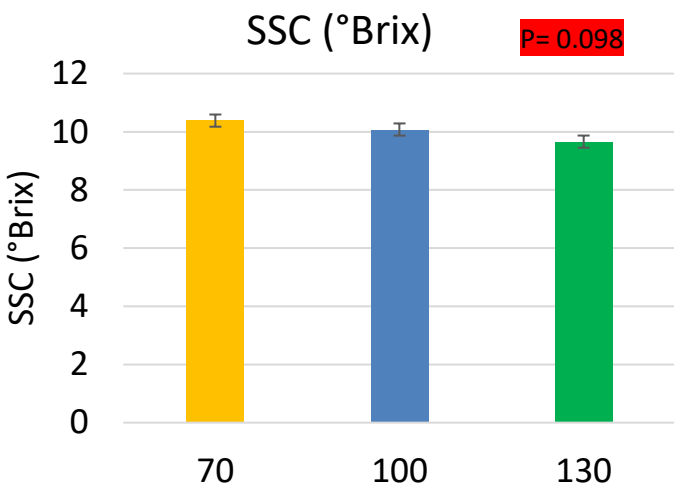
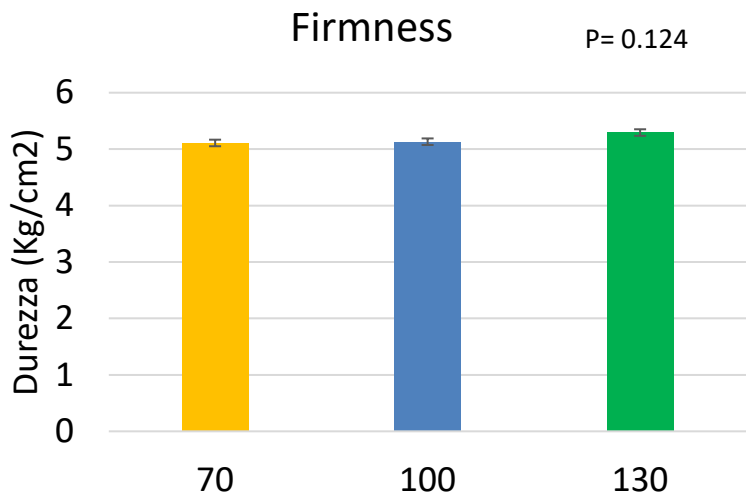


2025\*\*\*

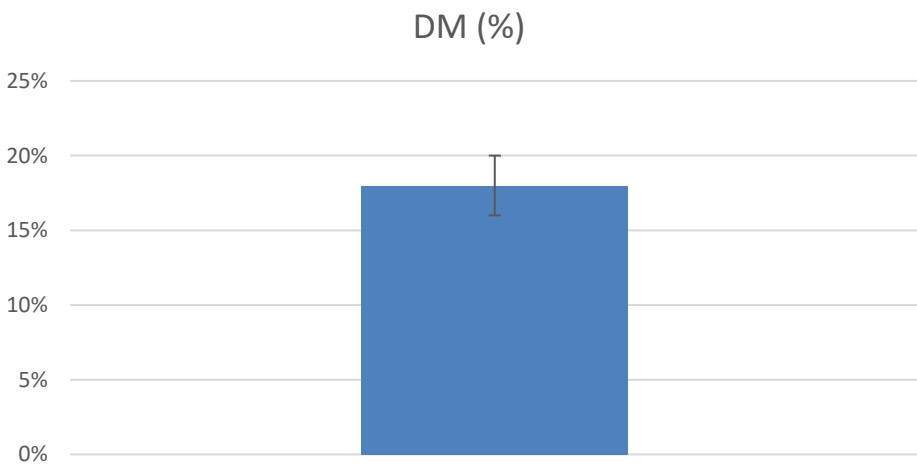
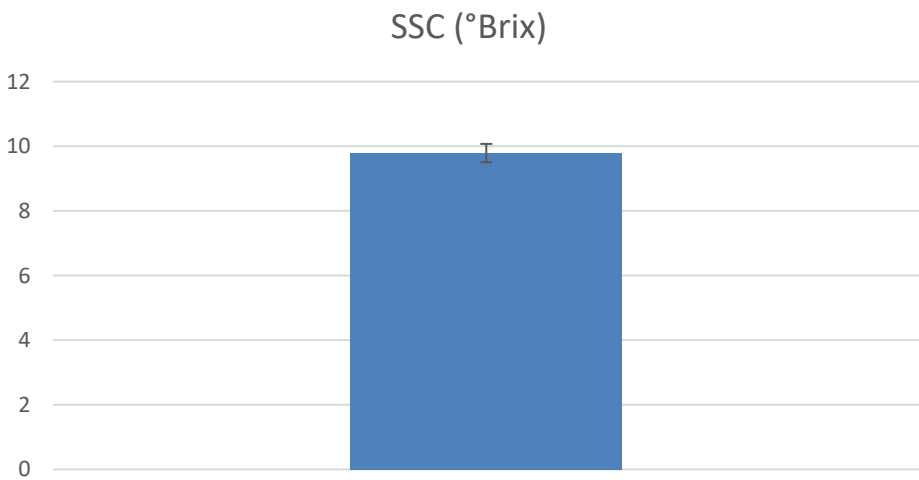


Dong Hong

2024

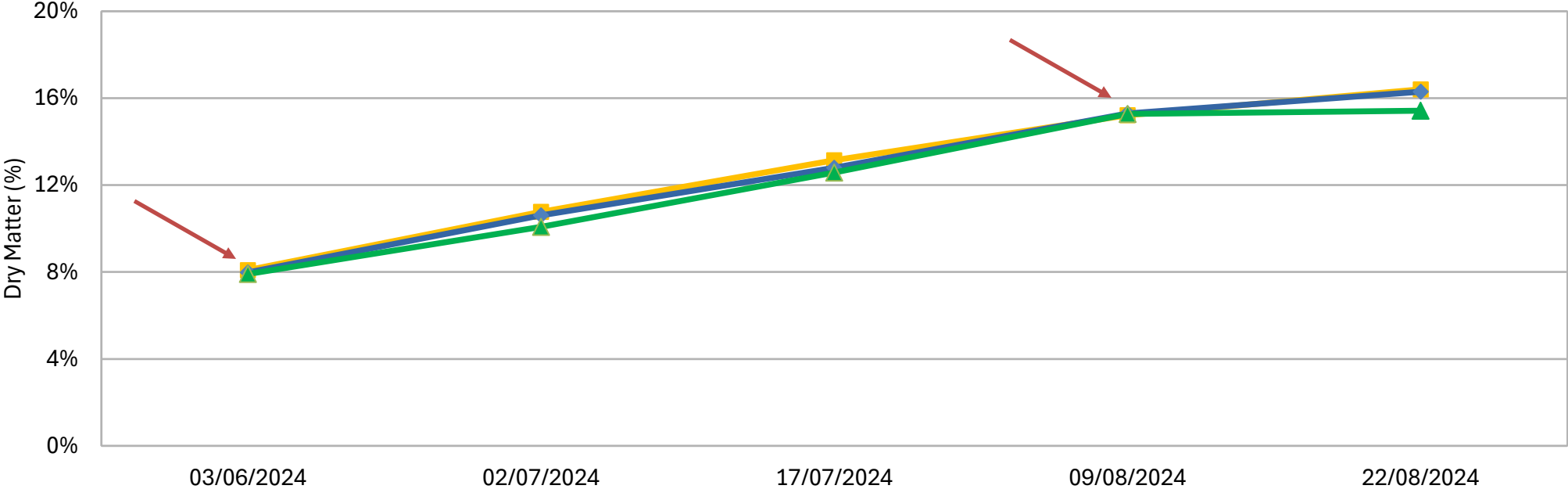


2025

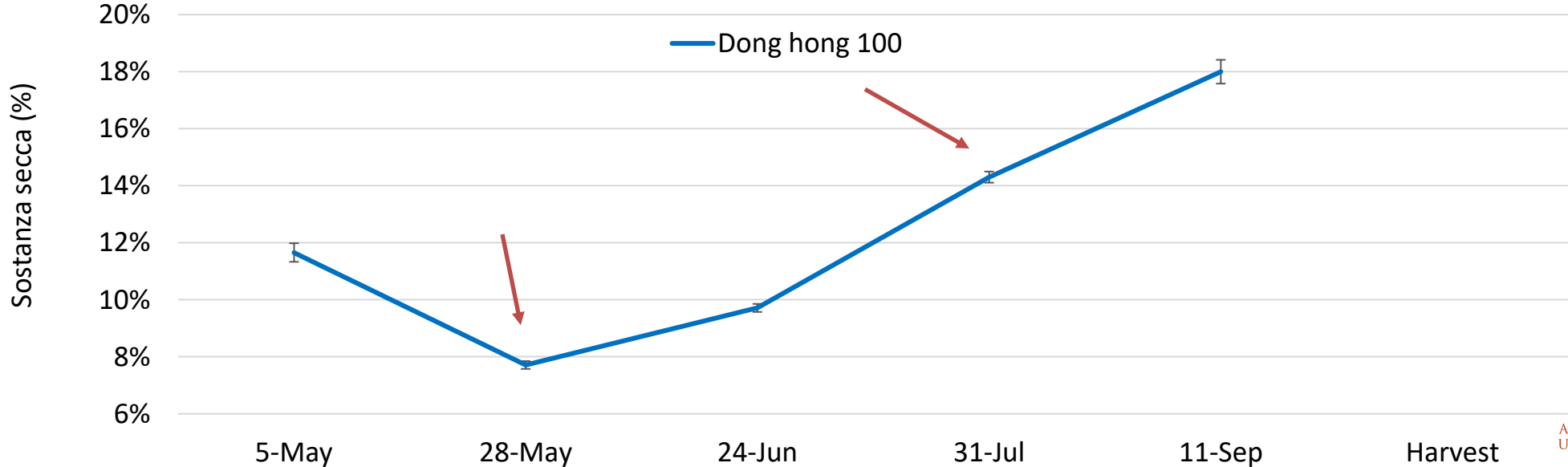


# Accumulo di sostanza secca

2024

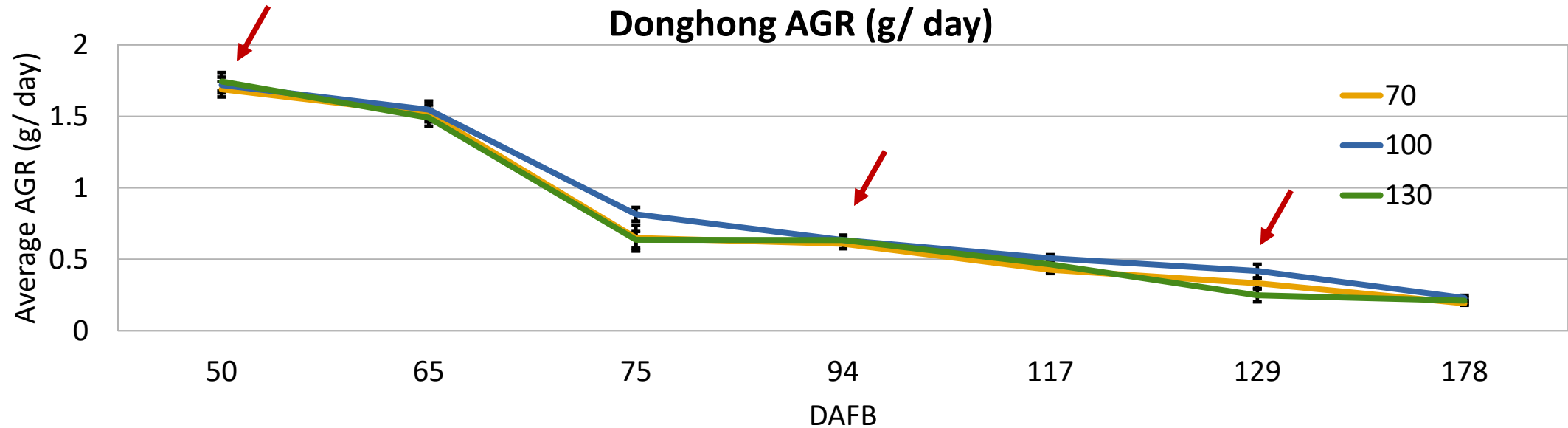


2025

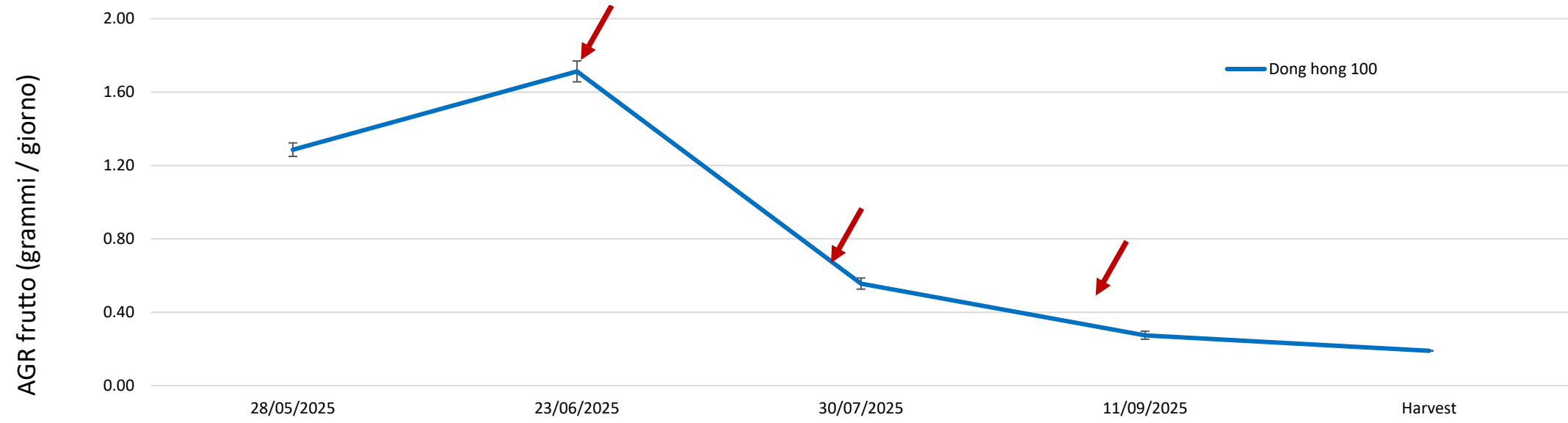


Crescita frutti

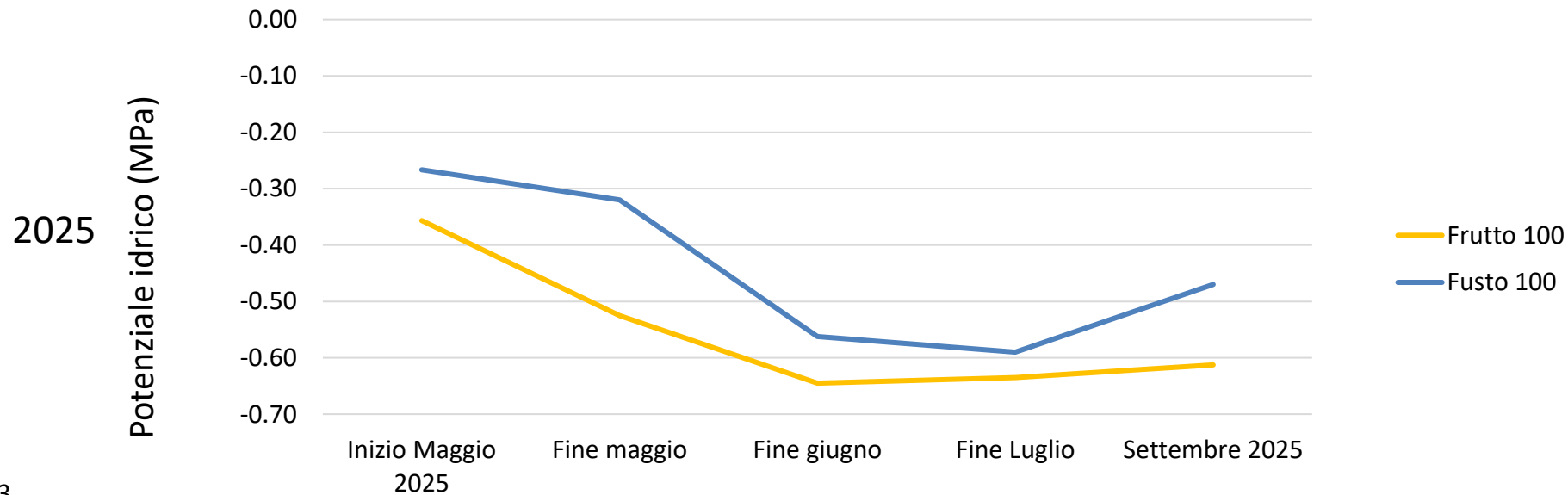
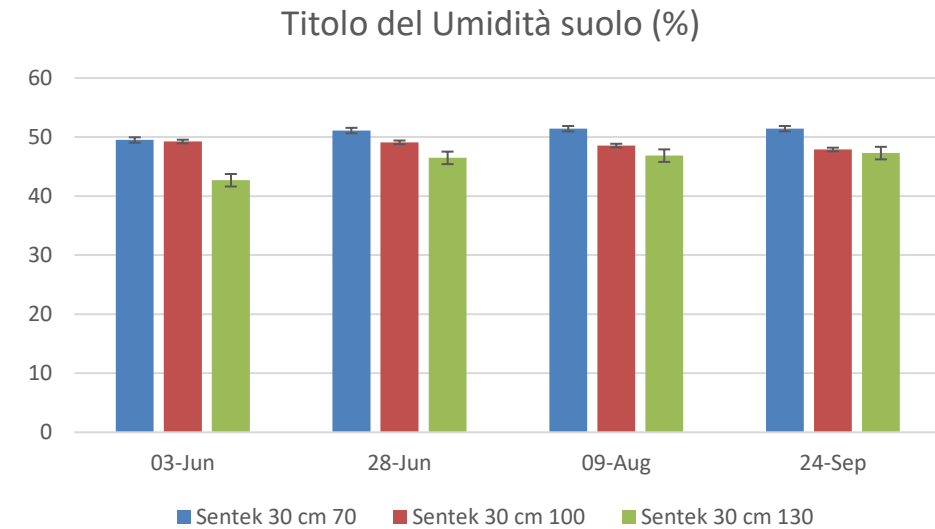
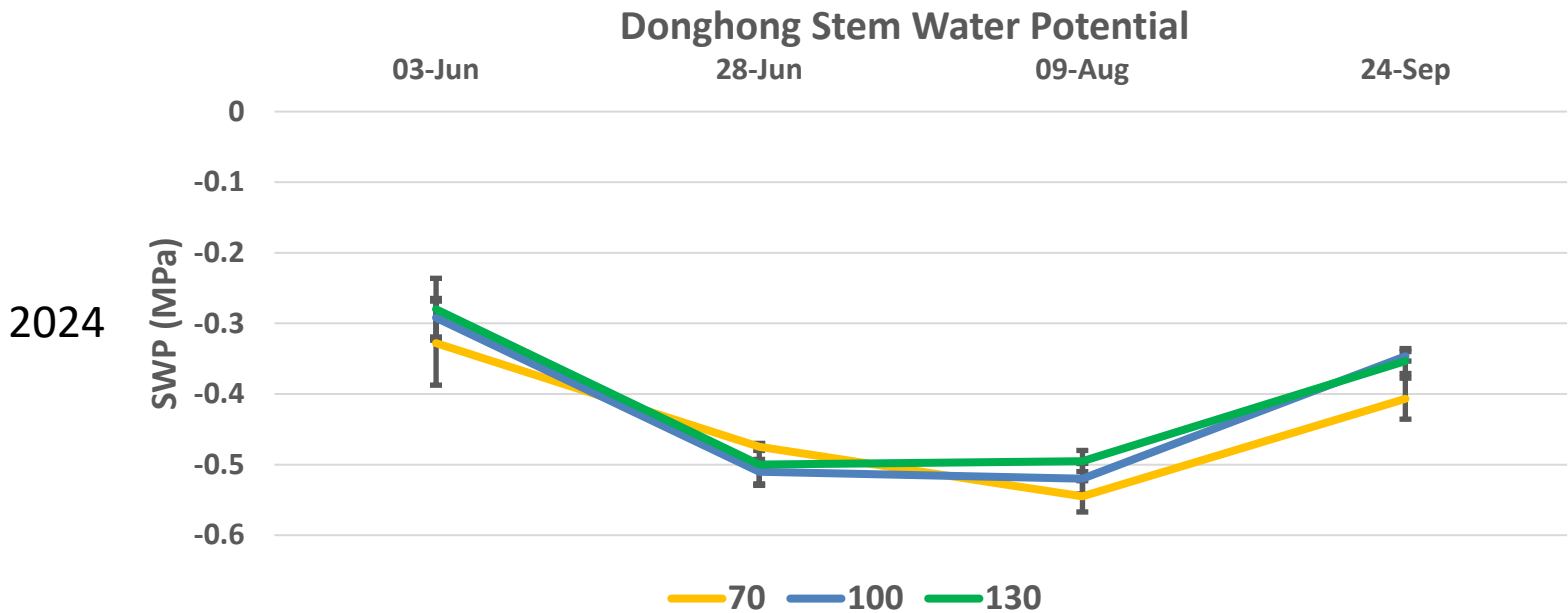
2024



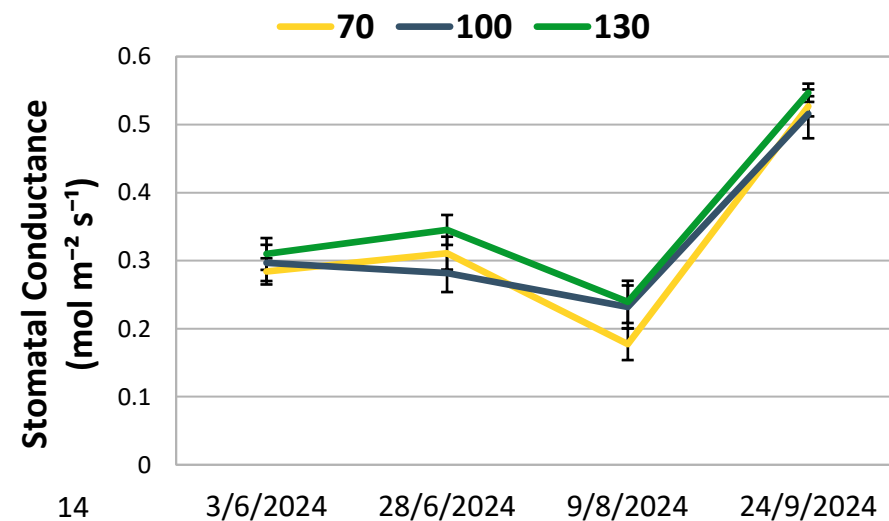
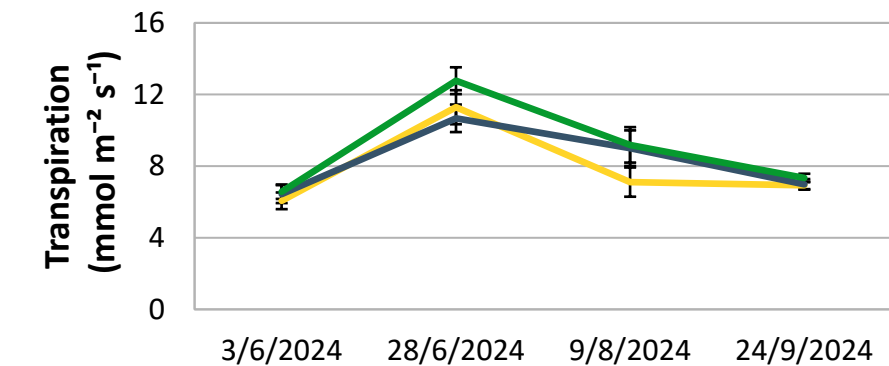
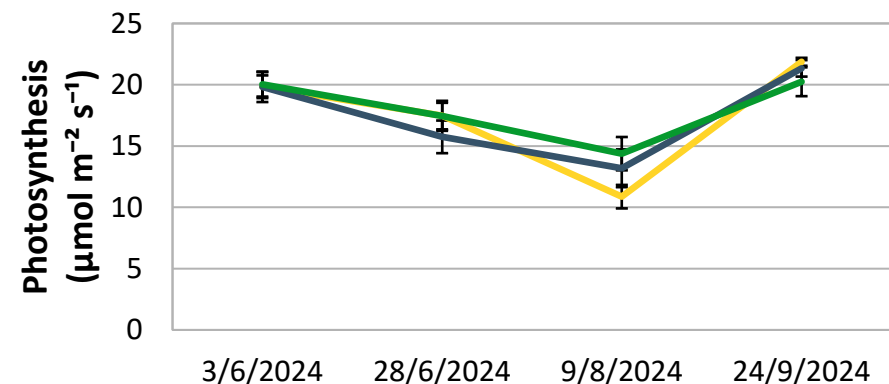
2025



# Potenziali idrici del fusto

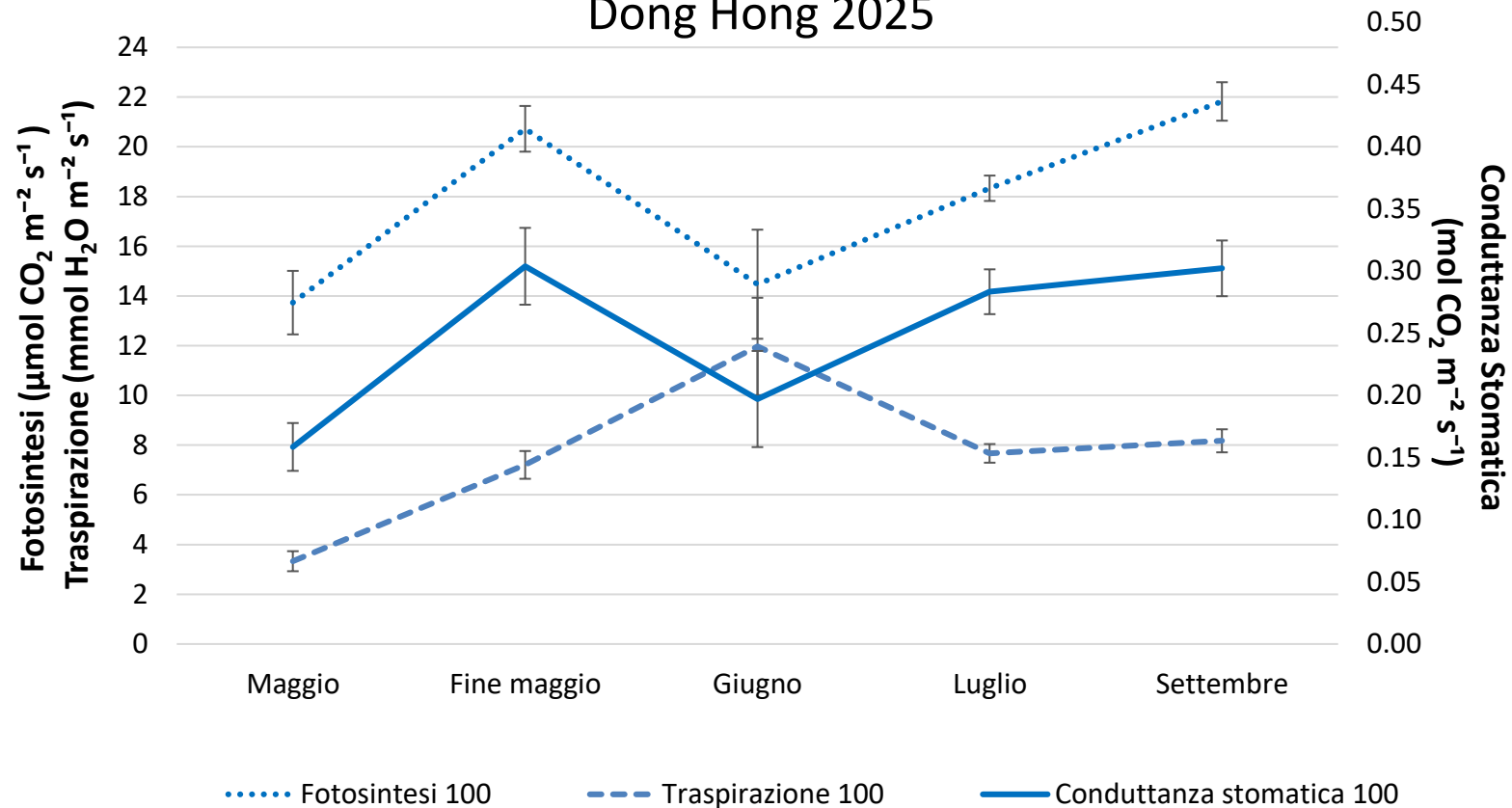


## Donghong 2024



## Scambi gassosi Dong Hong

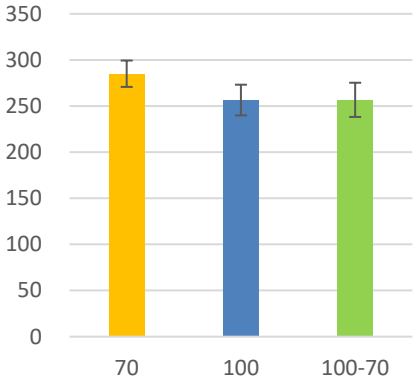
### Dong Hong 2025



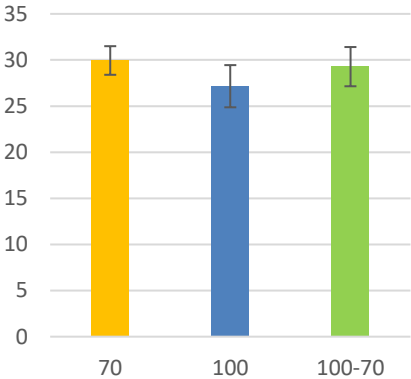
# Produzione Jintao 2024-2025

2024

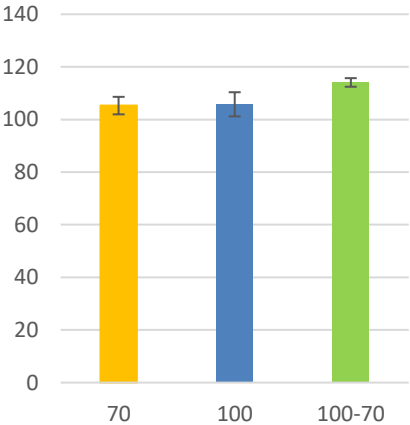
Carico produttivo  
(frutti/pianta)



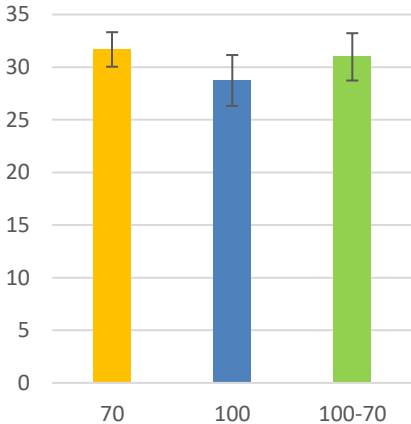
Produzione pianta  
(Kg/pianta)



Peso medio (g)

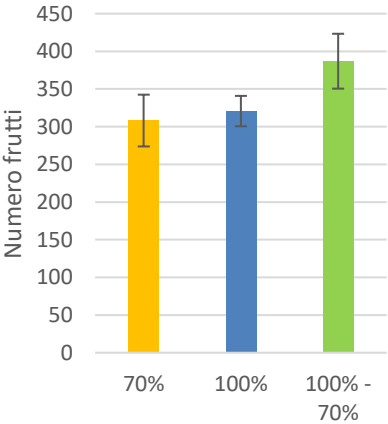


Produzione (t/ha)

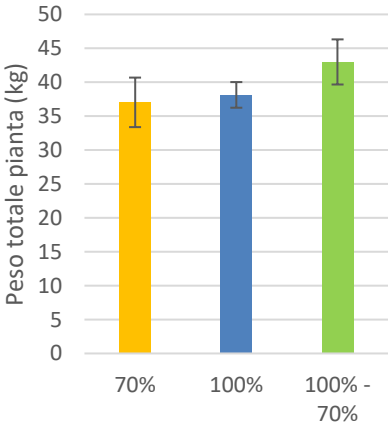


2025

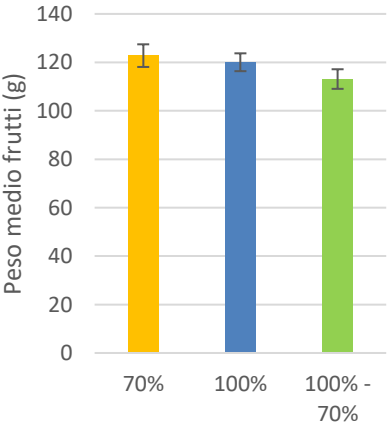
N° totale frutti



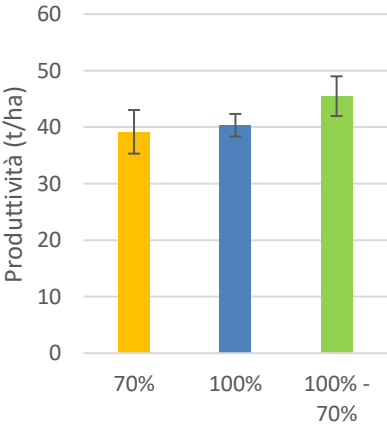
Peso totale pianta (Kg)



Peso medio frutto (g)

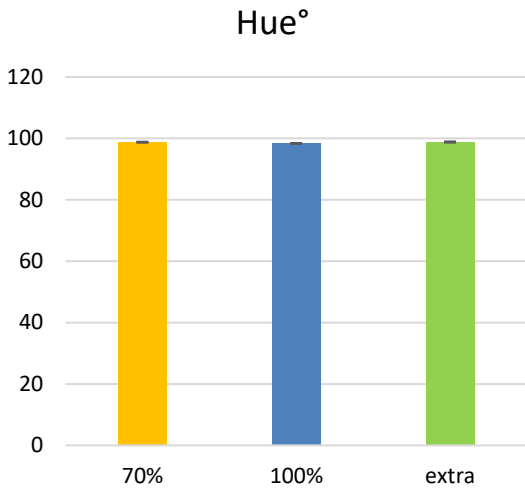
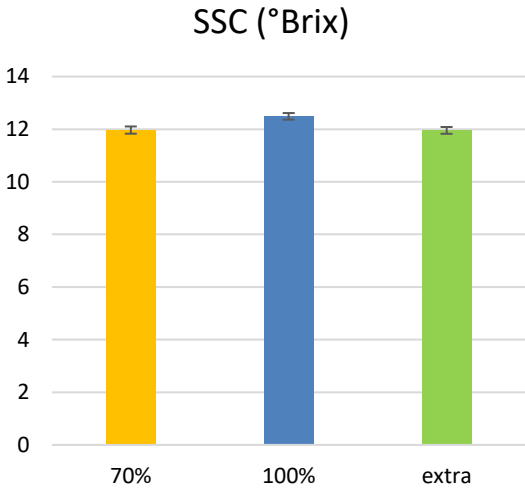
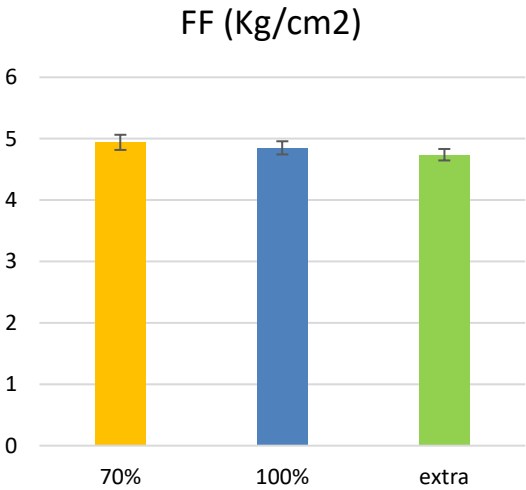
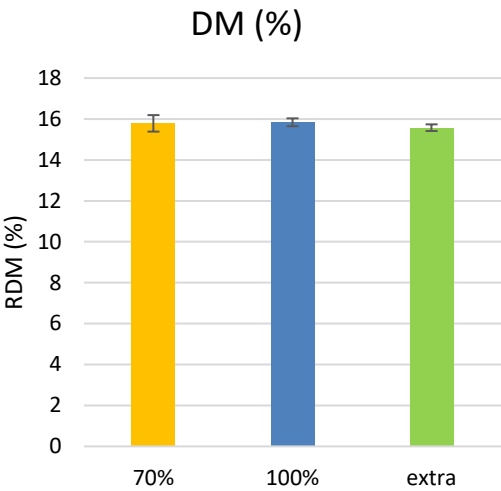


Produttività (t/ha)

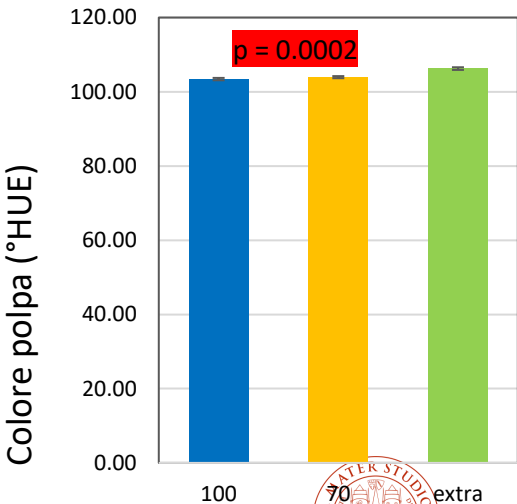
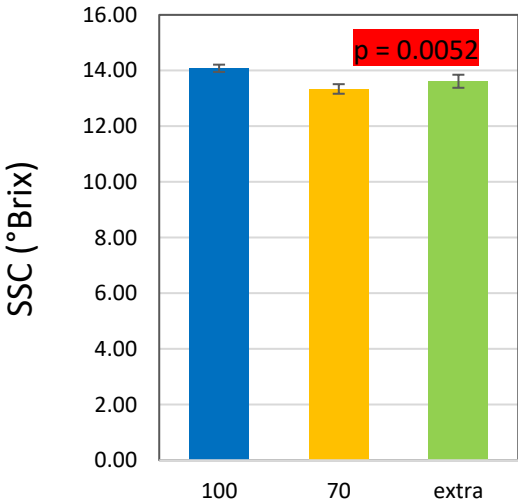
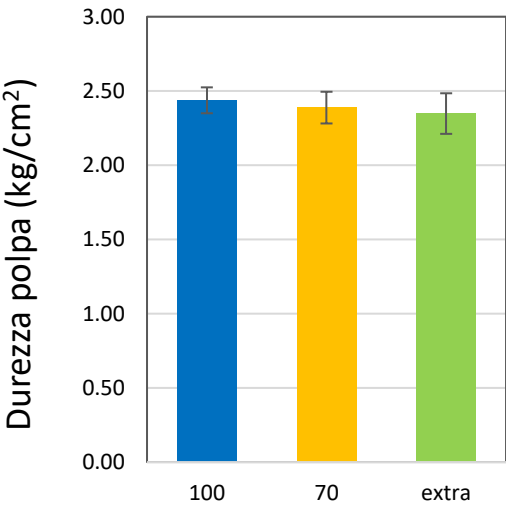
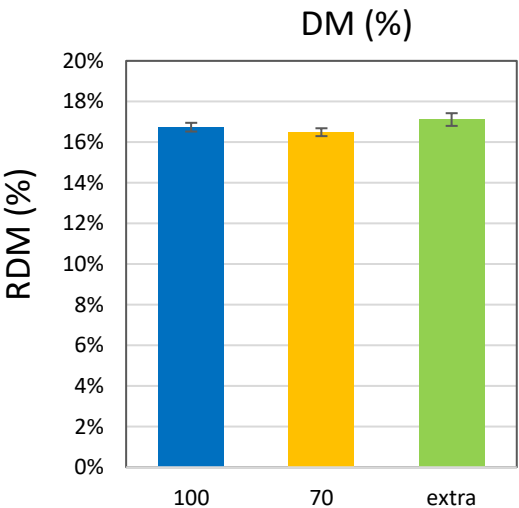


# Qualità Jintao 2024-2025

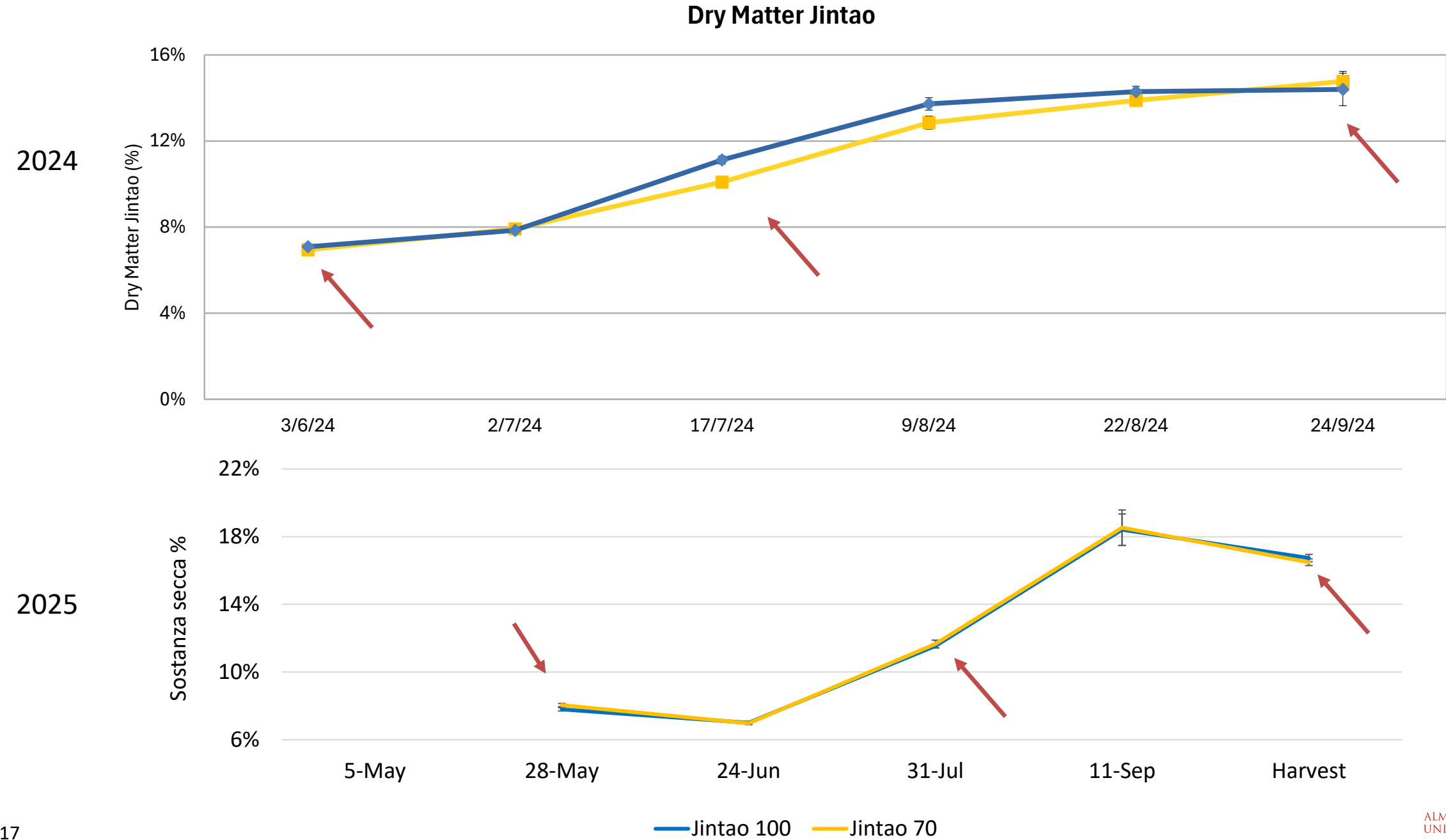
2024



2025



# Accumulo di sostanza secca Jintao



# Conclusioni

Il confronto tra gli anni di prova ha messo in luce che:

- Il trattamento al 70% non modifica in modo sostanziale le risposte quali-produttive e fisiologiche degli actinidieti senza mostrare mai valori di stress (potenziali idrici- scambi gassosi)
- Il trattamento al 130% rappresenta un eccesso che non comporta vantaggi produttivi, ma determina verosimilmente soltanto una maggiore perdita di input idrici.
- È quindi probabilmente possibile ridurre i volumi irrigui attraverso una rimodulazione dei volumi e dei Kc.

Sono inoltre disponibili alcuni indicatori, come la velocità di crescita dei frutti e l'accumulo di sostanza secca, che individuano punti saldi lungo la stagione utili per verificare l'andamento della crescita ed il potenziale produttivo e dell'accumulo di sostanza secca. Tali indicatori si sono dimostrati stabili nel corso degli anni.

