

The impact of tomato growing technology on whitefly populations (Aleyrodidae)

Katja Žanić¹, Gvozden Dumičić¹, Marija Mandušić¹ Branimir Urličić¹,
Smiljana Goreta Ban²

¹ Institute for Adriatic Crops and Karst Reclamation, Split

² Institute of Agriculture and Tourism, Poreč



Funding:



TomGraf; IP-2014-09-3365

Project: Tomato grafting mitigates biotic stress caused by whiteflies (TomGraf; IP-2014-09-3365)



- **ARNOLD**
- **BOUFON**
- **EMPERADOR**
- **MAKSIFORT**

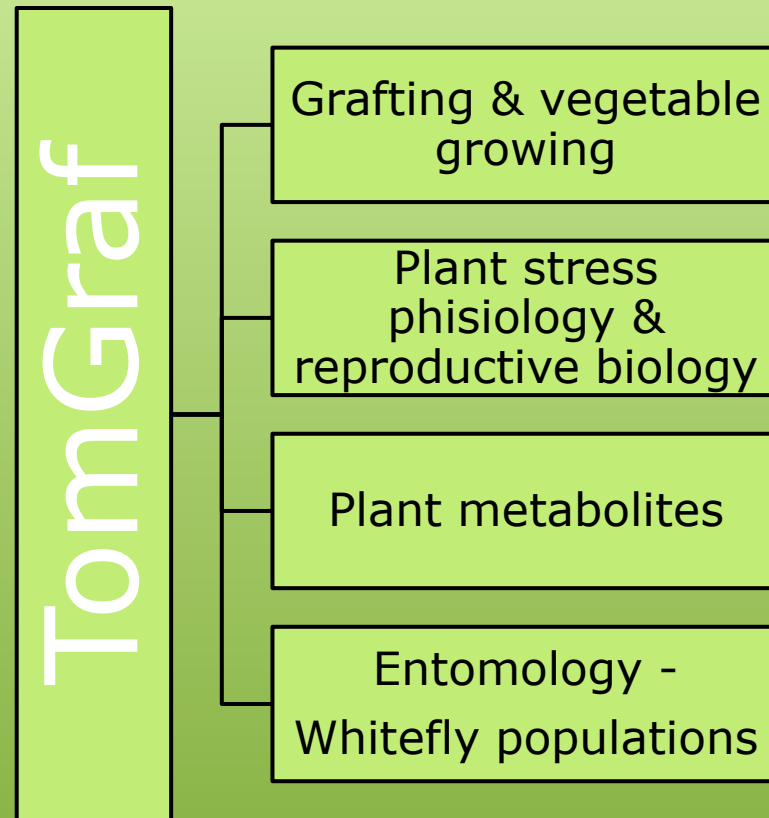


Bemisia tabaci



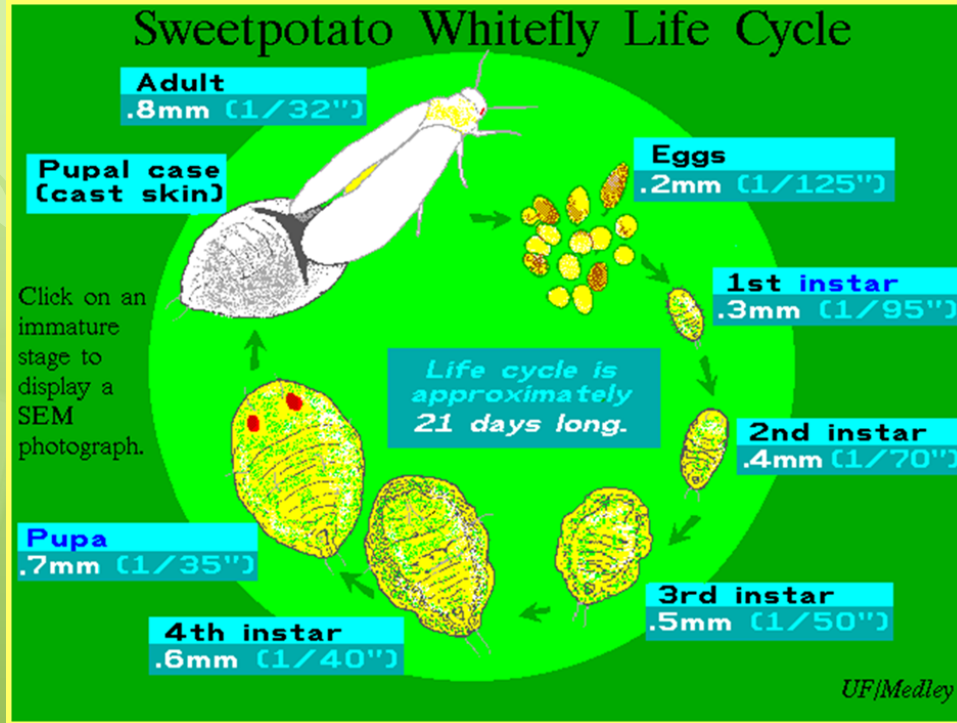
Trialeurodes vaporariorum

Project: Tomato grafting mitigates biotic stress caused by whiteflies (TomGraf; IP-2014-09-3365)



The aim - We expect that selection of rootstock/s can be used as a useful tool in management strategy against whiteflies ensuring the satisfactory effect on yield and fruit quality components.

Tobacco whitefly, *Bemisia tabaci*



Tobacco whitefly, *Bemisia tabaci*

PLANT DISORDERS



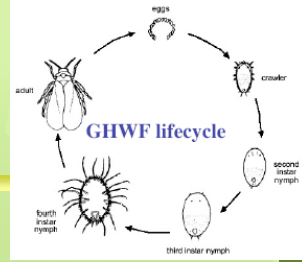
Tomato yellow leaf curl virus (TYLCV)



*Squash leaf curl virus (SLCV) i
Watermelon chlorotic stunt virus (WmCSV)*



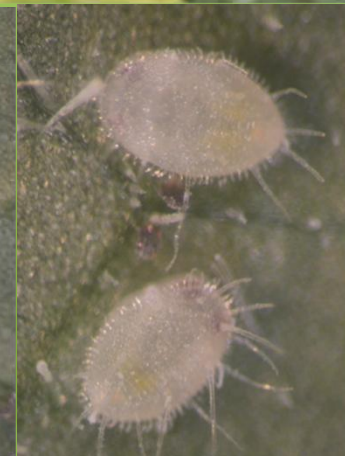
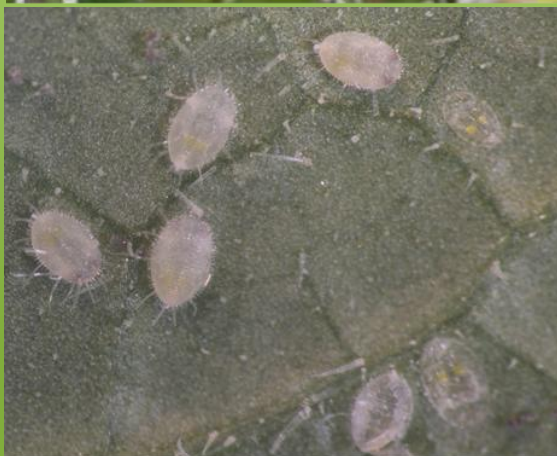
Greenhouse whitefly – *Trialeurodes vaporariorum*



LIFE CICLE

Greenhouse whitefly, *T. vaporariorum*

PLANT DISORDERS




Research: Tomato grafting/rootstock effect on mitigation of biotic stress caused by *B. tabaci* and *T. vaporariorum* (2015)


Clarabella



Experiment I

Rootstock	<i>B. tabaci</i> population density
Arnold	
Boufon	
Emperador	
Maxifort	
Non-grafted	
Self-grafted	

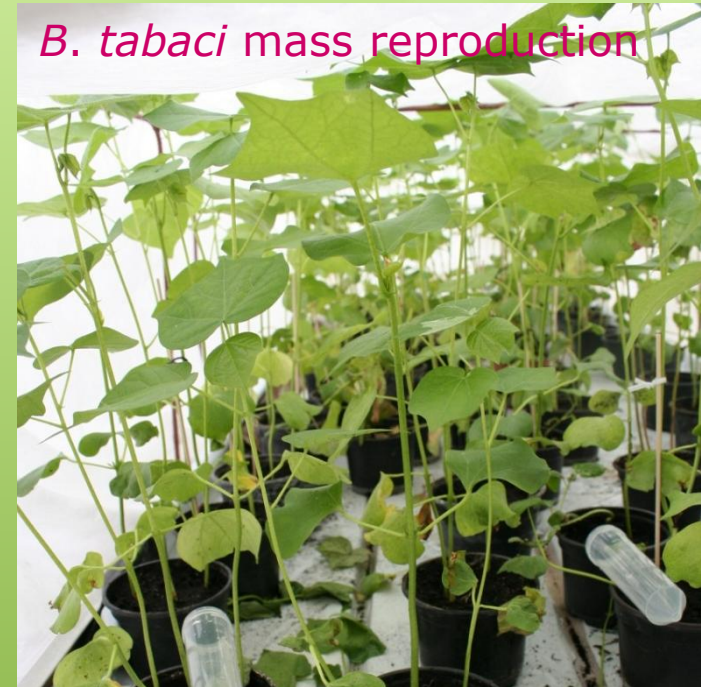
Experiment II

Rootstock	<i>T. vaporariorum</i> population density
Arnold	
Boufon	
Emperador	
Maxifort	
Non-grafted	
Self-grafted	

Experiment details - (summer/autumn 2015) I



Insect populations rearing



Experiment details - (summer/autumn 2015) II



T. vaporariorum mass reproduction

Transplants production



Experiments – tomato transplants in hydroponic system

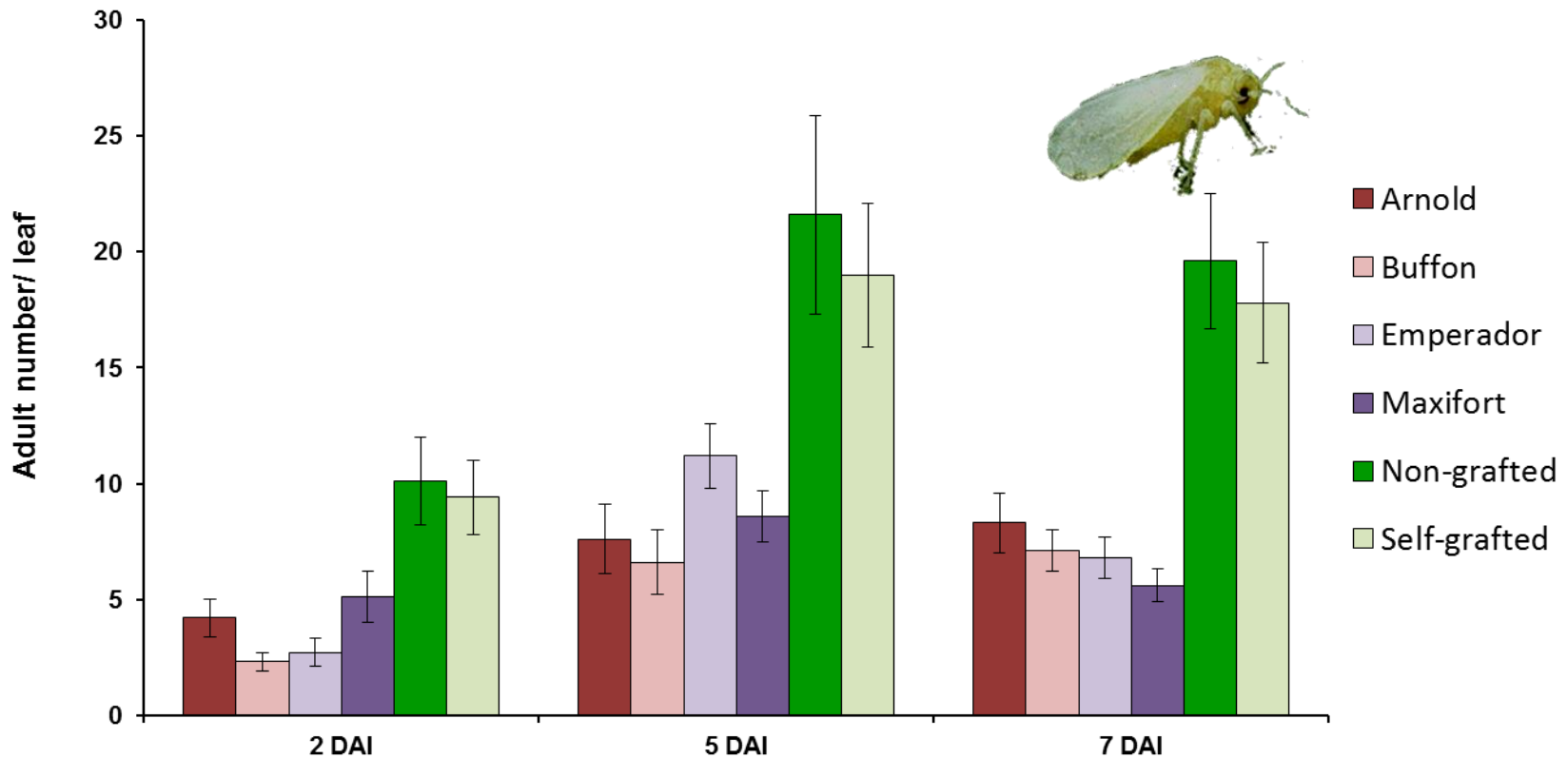


Experiment – transplants infestation I, 20. October



RESULTS I

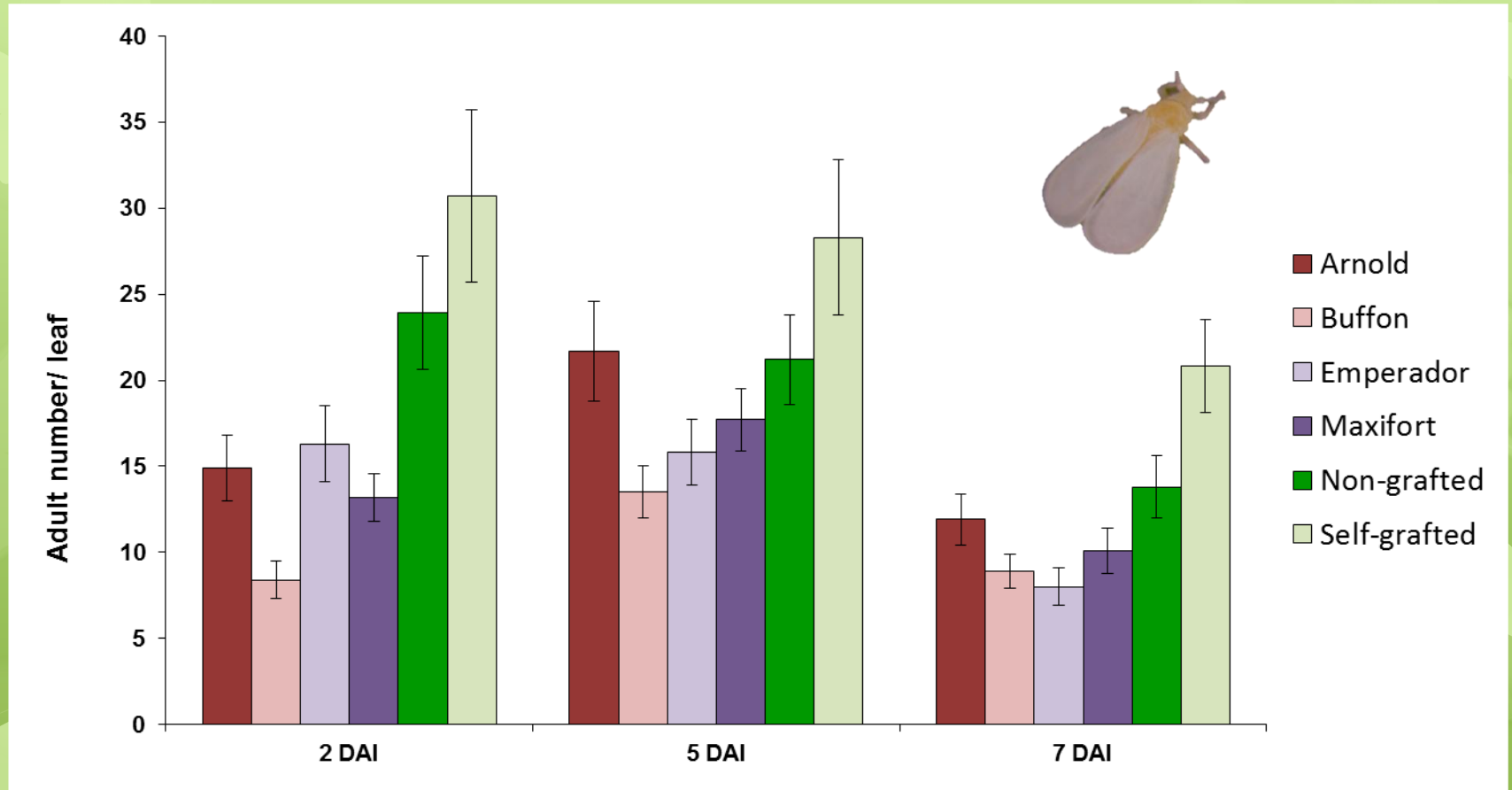
The effect of tomato rootstock on adult density of *B. tabaci*



B. tabaci adult population density was lower on grafted tomatoes compared to non-grafted or self-grafted tomatoes (three sampling).

RESULTS II

The effect of tomato rootstock on adult density of *T. vaporariorum*



Number of *T. vaporariorum* adult individuals per leaf was lower on tomato plants grafted onto the rootstock Buffon compared to non-grafted or self-grafted tomatoes (three samplings).

CONCLUSION

The results can be applied in an integrated protection against *B. tabaci* and *T. vaporariorum*