



# Thinning trial with Brevis and NAAM in Switzerland on Golden & Ladina

**Thomas Kuster, Simon Schweizer**

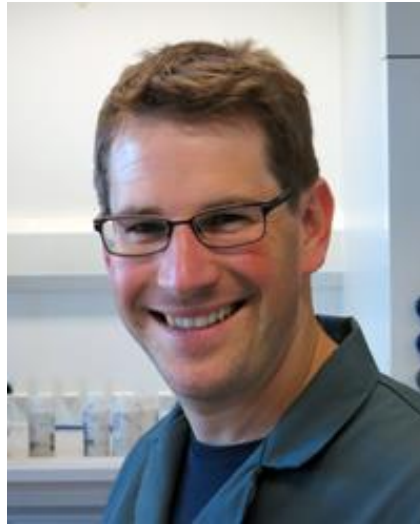
EUFRIN Working Group Fruit Thinning, 2016, Porto



# New physiology team at Agroscope



*Albert Widmer  
(retired April 2014)*



*Thomas Kuster  
(since November 2014)*



*Simon Schweizer*

## Thomas Kuster (80%)

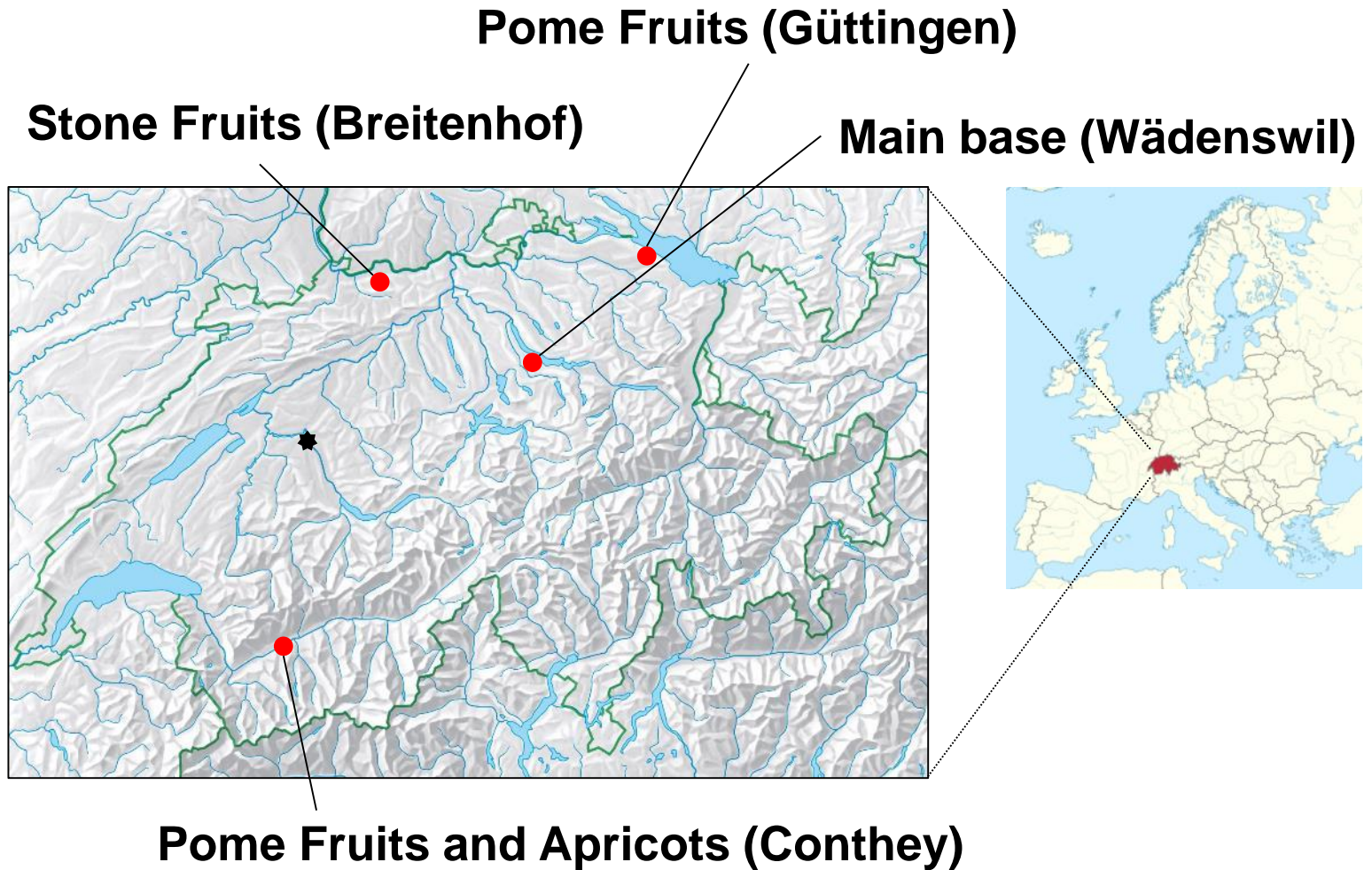
- Physiology of pome fruits
- Fertilisation
- Evaluation of new thinning products and herbicides
- Mechanical pruning of cherry trees

## Simon Schweizer (50%)

- Physiology of stone fruits
- Replant disease



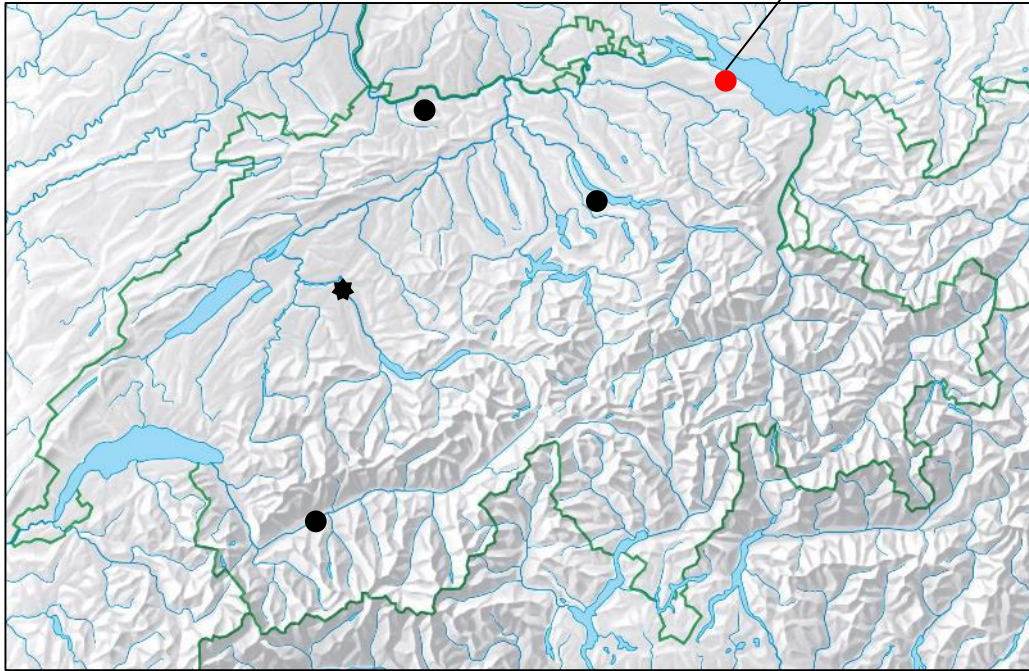
# Trial locations of Agroscope





# Trial locations of Agroscope

## Trial 2015: Golden & Ladina





# Thinning trial 2015

- Objectifs:
- thinning strategy with Brevis
  - thinning the new variety Ladina
  - gain experiences with thinning trials



Treatment	ppm	kg/ha, l/ha	Stage
untreated control			
hand thinning			after June drop
NAAm	141.4	3.50	BBCH 67
1 x Metamitron	247.5	1.65	10 mm
2 x Metamitron	247.5	1.65	10 mm
	247.5	1.65	14 mm
NAAm	141.4	3.50	BBCH 67
Metamitron	247.5	1.65	14 mm

# Varieties: Golden Delicious & Ladina

## Golden Delicious

- 2001, Fleuren 56, 96 trees in the trial,  $n = 16$



## Ladina

- 2011, B9, 24 trees in the trial,  $n = 4$
- new Agroscope hybridisation:  
Topaz × Fuji
- low infection risk for fire blight
- resistant to apple scab
- crispy and sweet table apple
- harvest: 10 days after Gala  
(mid September)

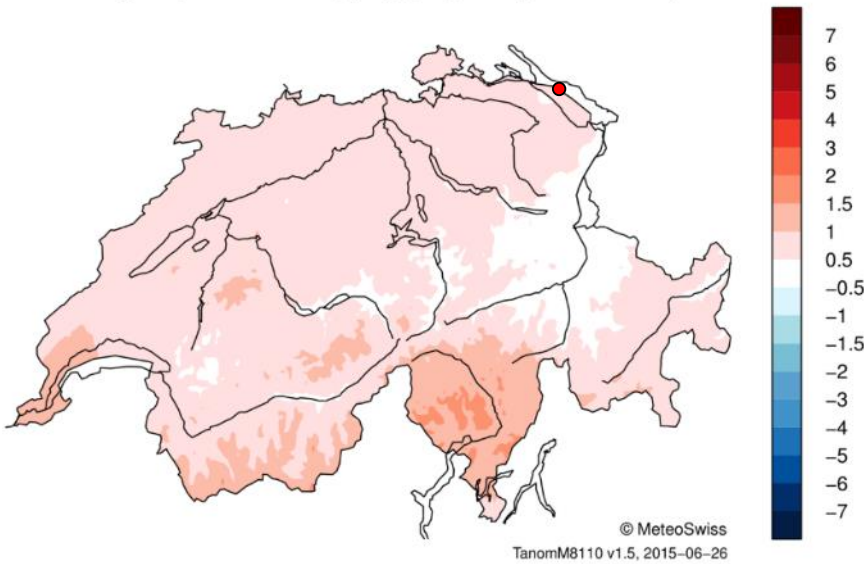




# Weather conditions May 2015

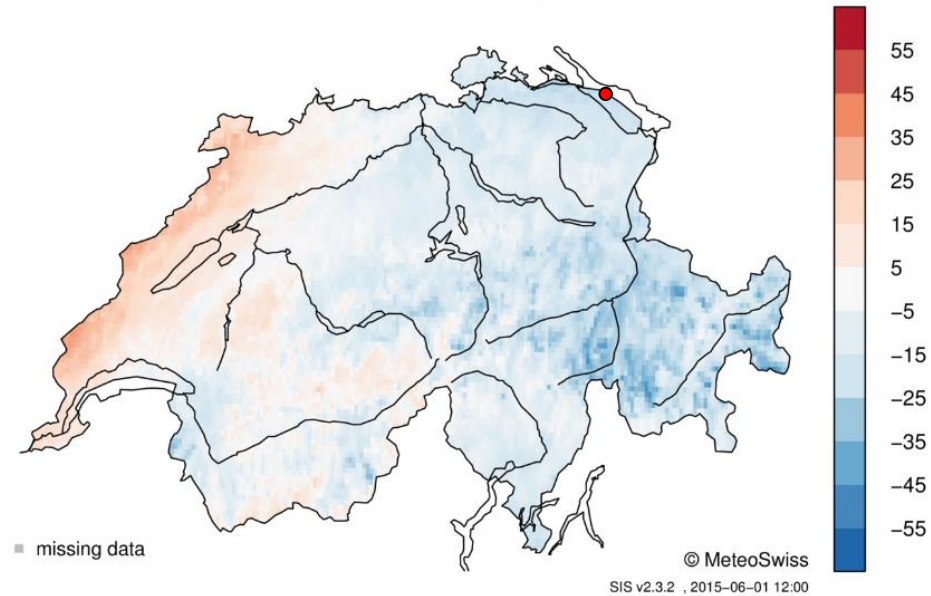
## Temperature

Monthly Temperature Anomaly (degC) May 2015 (Ref. 1981–2010)



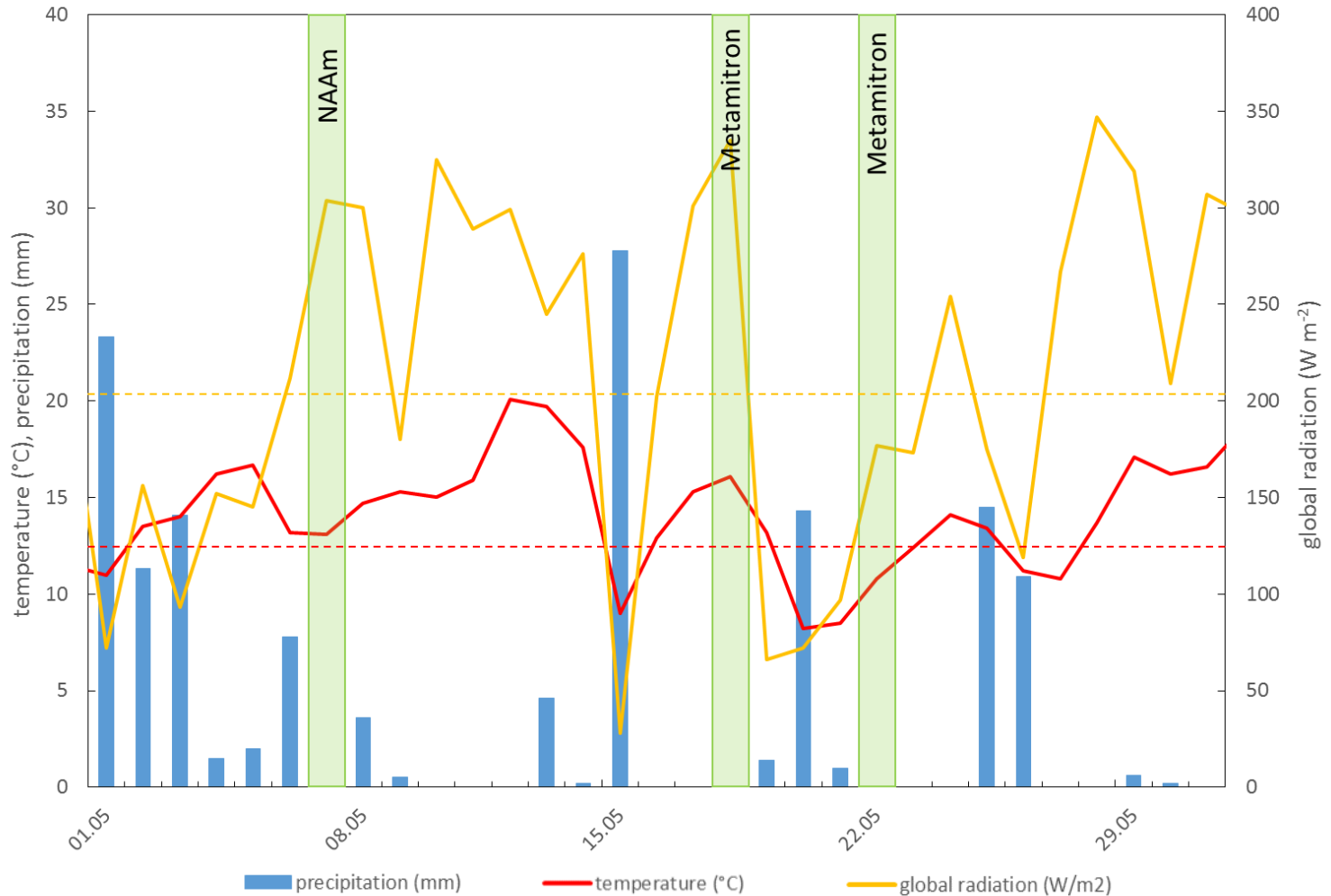
## Global Radiation

Global Radiation Anomaly (W/m2) 2015-05 (Ref. 2004 – 2014)





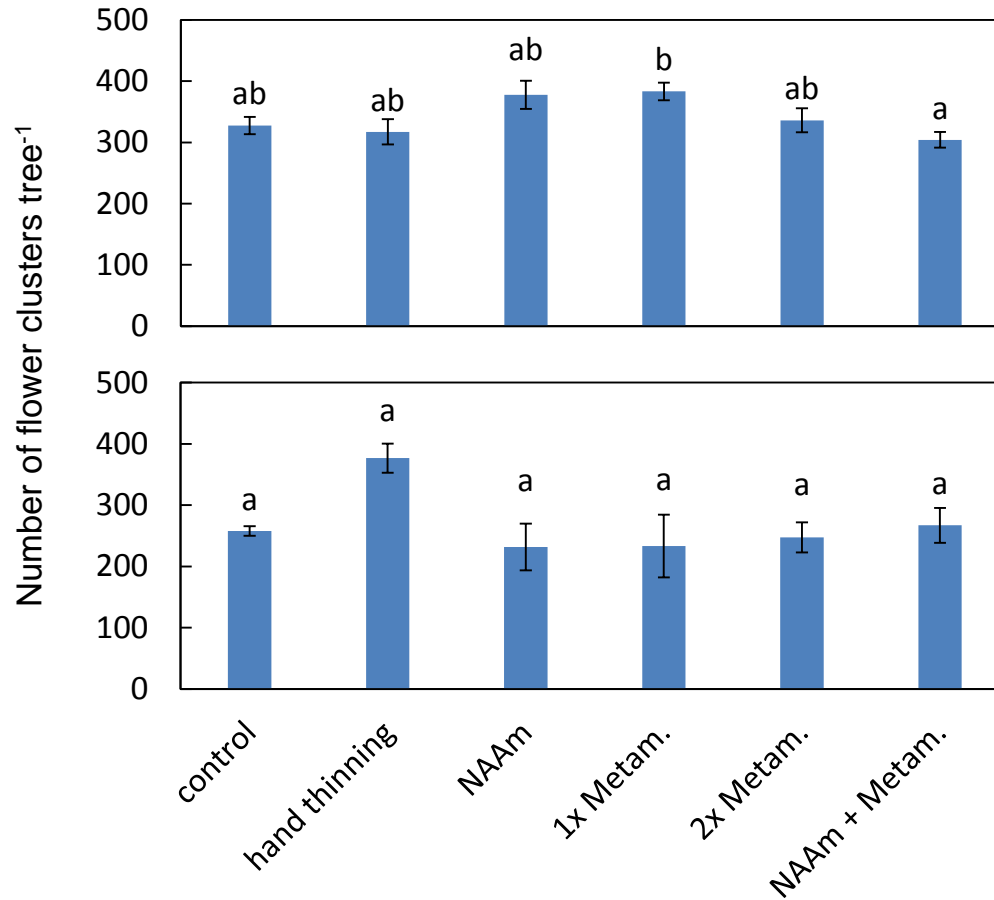
# Weather conditions May 2015







# Number of flower clusters



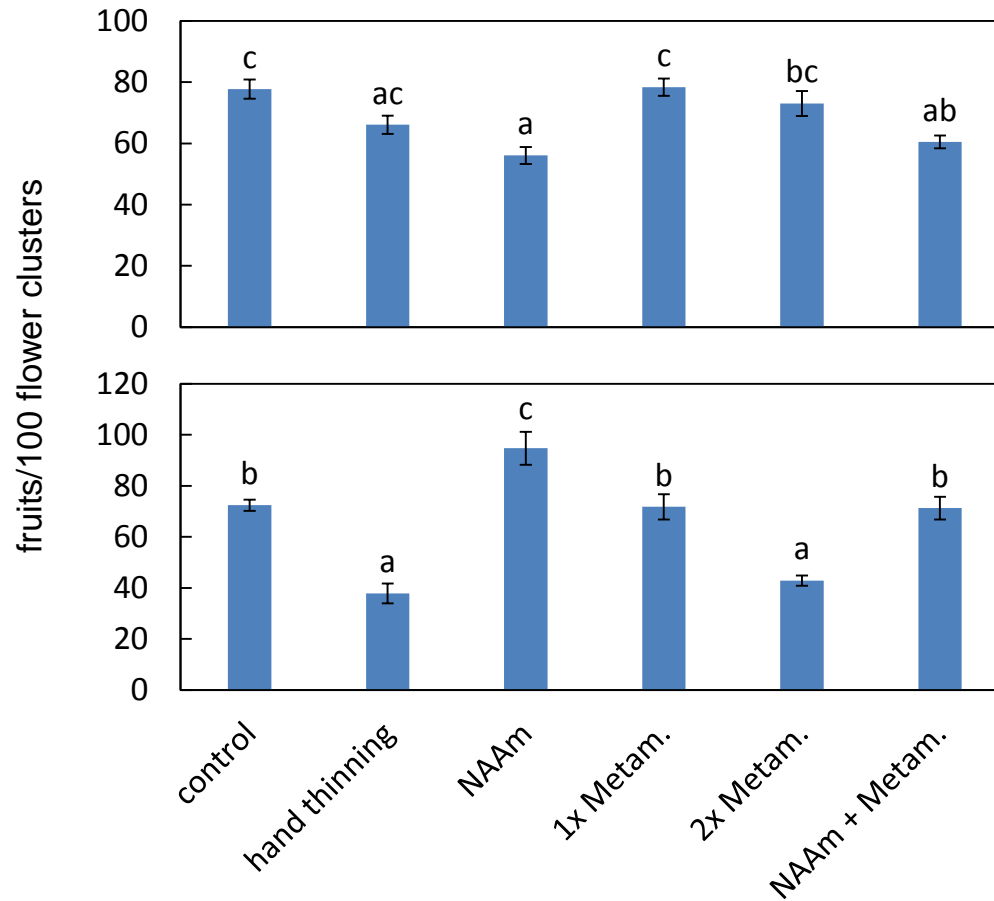
Golden



Ladina



# Thinning efficacy



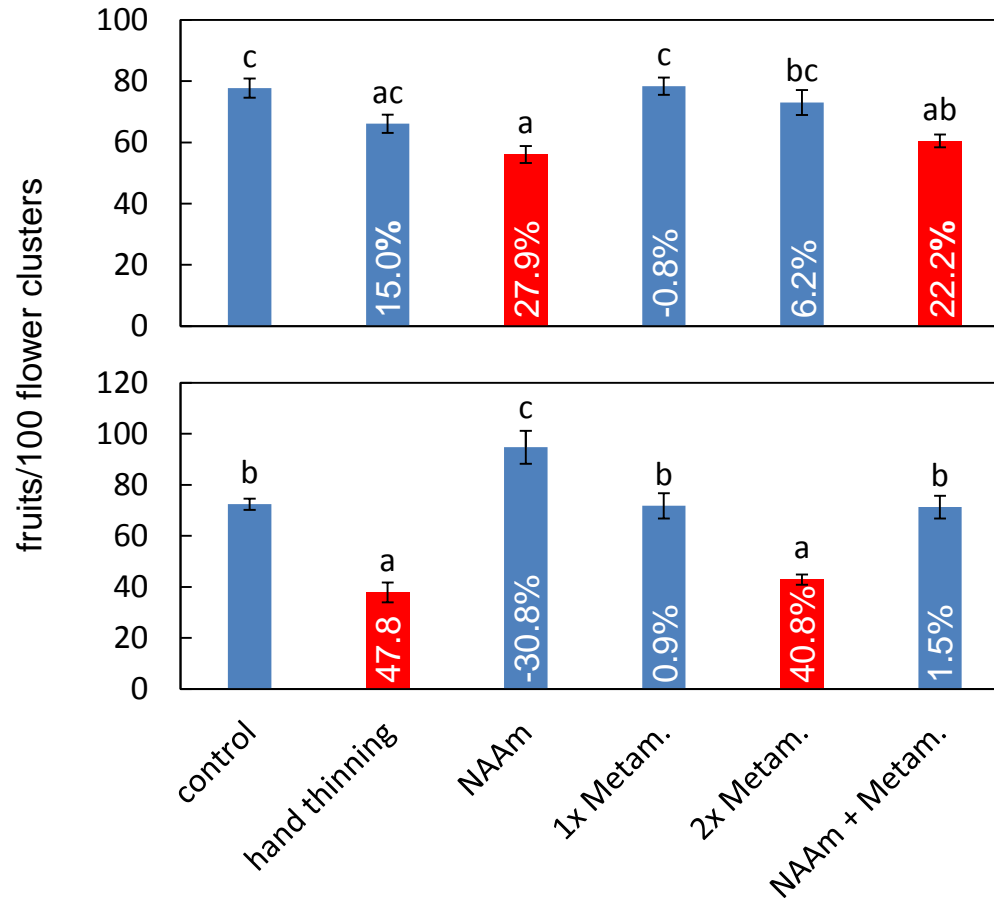
Golden



Ladina



# Thinning efficacy



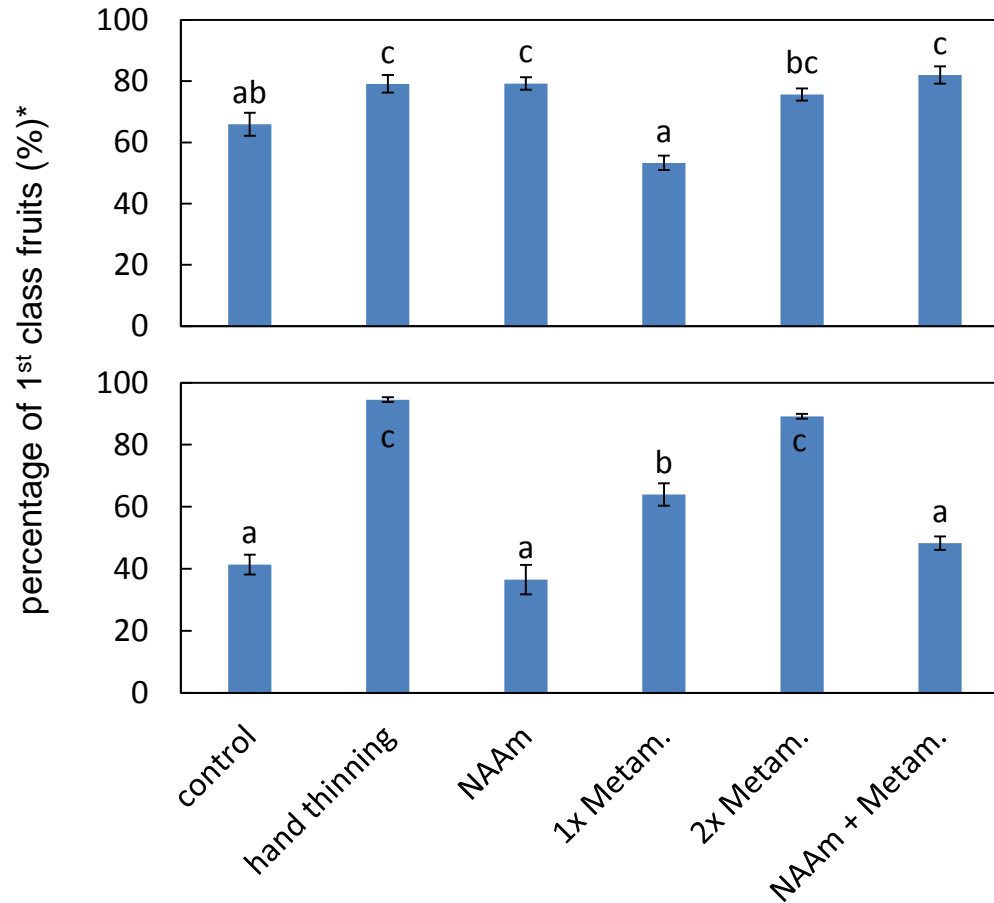
Golden



Ladina



# Fruit quality



Golden

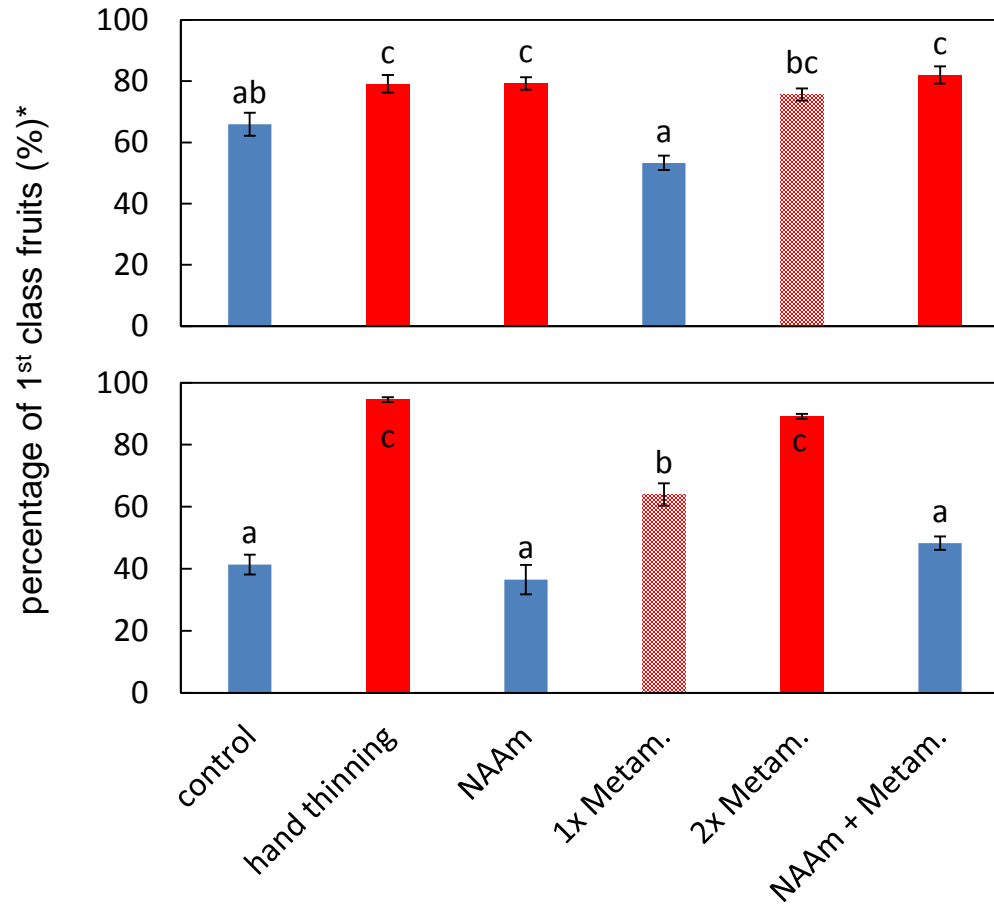


Ladina

\*65-85 mm  
Ladina: > 30 % red col.



# Fruit quality



Golden

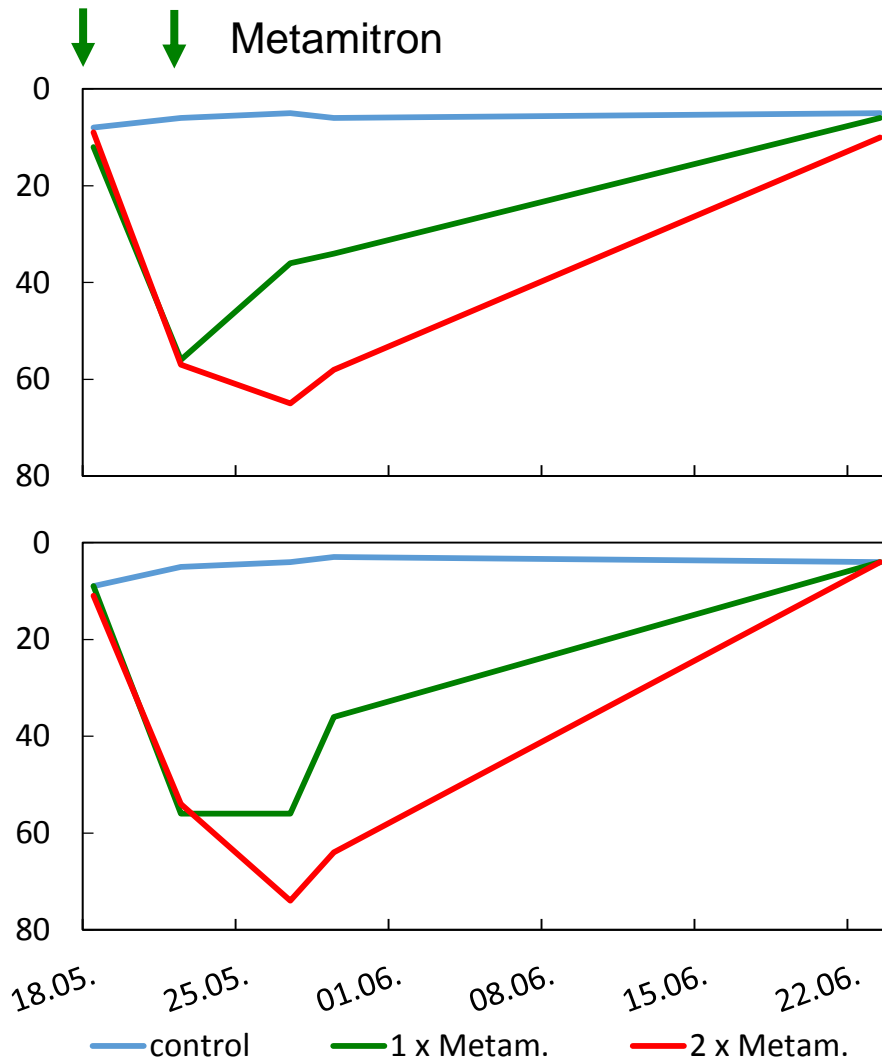


Ladina

\*65-85 mm  
Ladina: > 30 % red col.



# PS Measurements



Golden



Ladina



# Results Switzerland 2008-2015



	Golden	Gala	Braeburn	Ladina	Conf.
2008		29 - 34 %			
2010		5 - 7 %	12 - 19 %		
2011	1 - 29 %		0 - 26 %		
2012		1 - 34 %	2 - 59 %		
2013		2 - 19 %			4 - 28 %
2015	0 - 6 %			0 - 41 %	

0-19 %: thinning efficacy too low

> 20 %: thinning efficacy okay

In general: higher thinning efficacy when Metamitron was applied

- in two applications (concentration insignificant)
- with 330 ppm (only in some years)



# Conclusions & Outlook

Trials 2015:

- weather conditions: rather cool and wet
- Ladina: good thinning efficacy of Metamitron
- Golden: mixed result; NAAM > Metamitron
  - age of the trees, growth intensity?
  - fruit size when Metamitron was applied?
  - fruit set?
  - variety?



Trials 2016: focus on pear

- Conférence (in comparison with BA)
- Golden, Ladina, Gala?







# Thank you for your attention



**Agroscope** good food, healthy environment