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Agroscope

WP5 work at Agroscope: thinning, nutrients, water

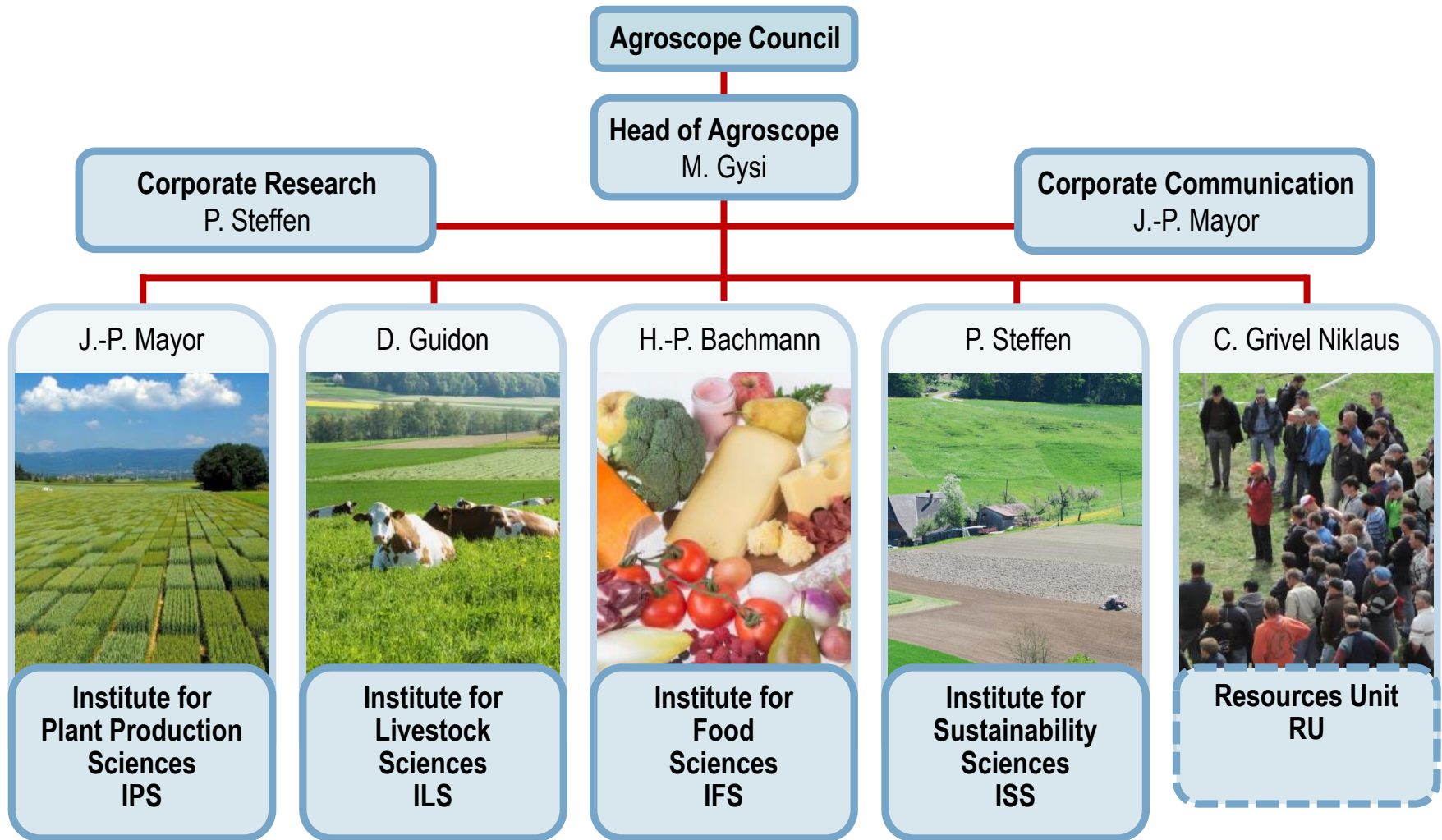
Thomas Kuster

EUFRUIT, 31.05.2016-01.06.2016

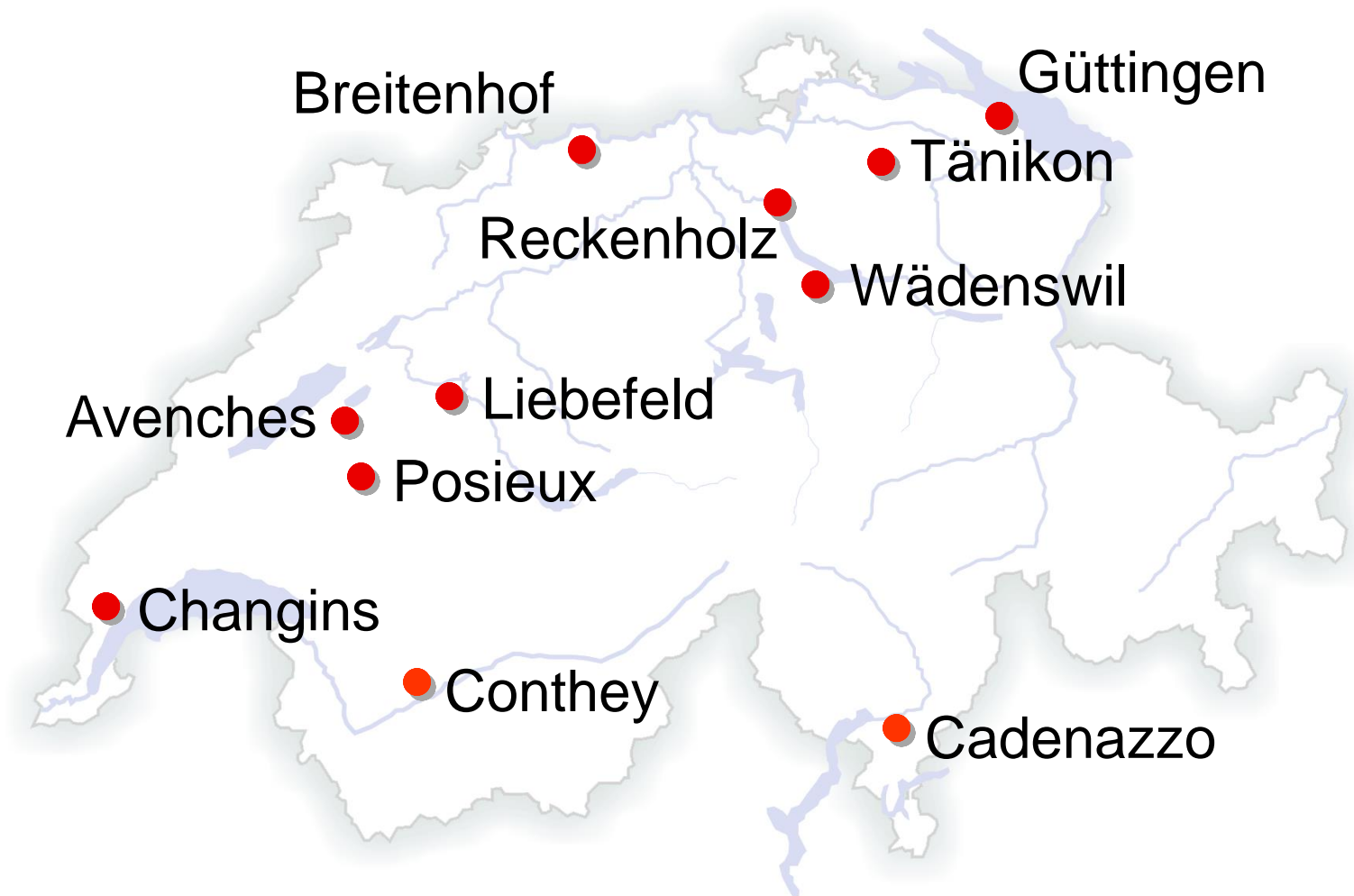
www.agroscope.ch



Agroscope Organisation Chart

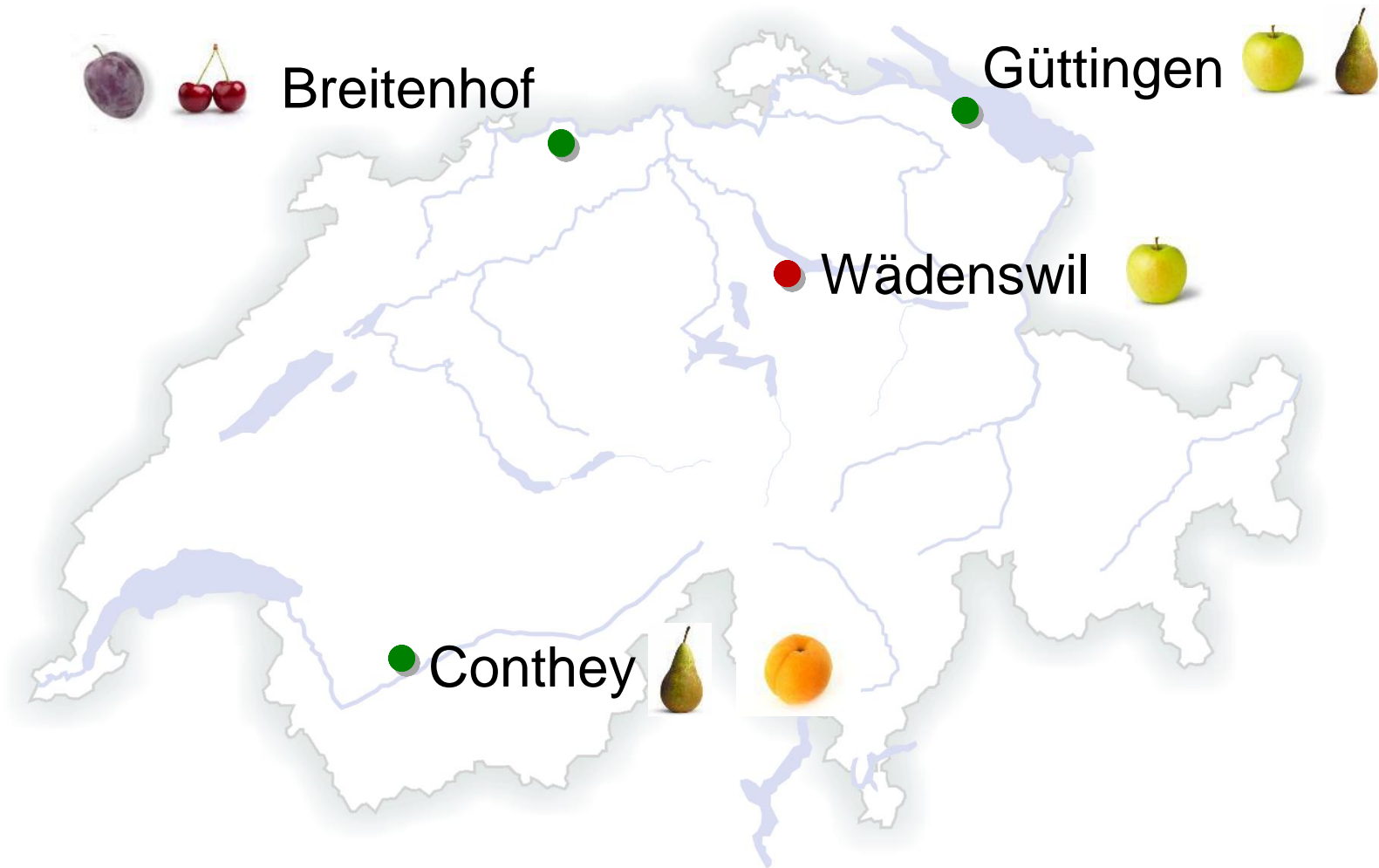


Agroscope's Sites





Trial sites





Work on fruit-growing at Agroscope

- Basic/scientific research
 - breeding of new cultivars, fireblight, cis-genetic, zoology, ...
- Applied research
 - in cooperation with the farmers/industry (Forum)
 - pesticide management, physiology, economy...
- Legal tasks on behalf of the Swiss Federal Office for Agriculture
 - evaluation of new pesticides
 - guideline for fertilisation in orchards
 - ...



Thinning/Physiology

Thomas Kuster

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

Simon Schweizer

- Physiology/thinning of stone fruits
- Replant disease (pome trees)



EUFRUIT WP5 - Agroscope
Thomas Kuster



Brevis trials Switzerland 2008-2016

	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 %	
2016	?				?



0-19 %: thinning efficacy too low

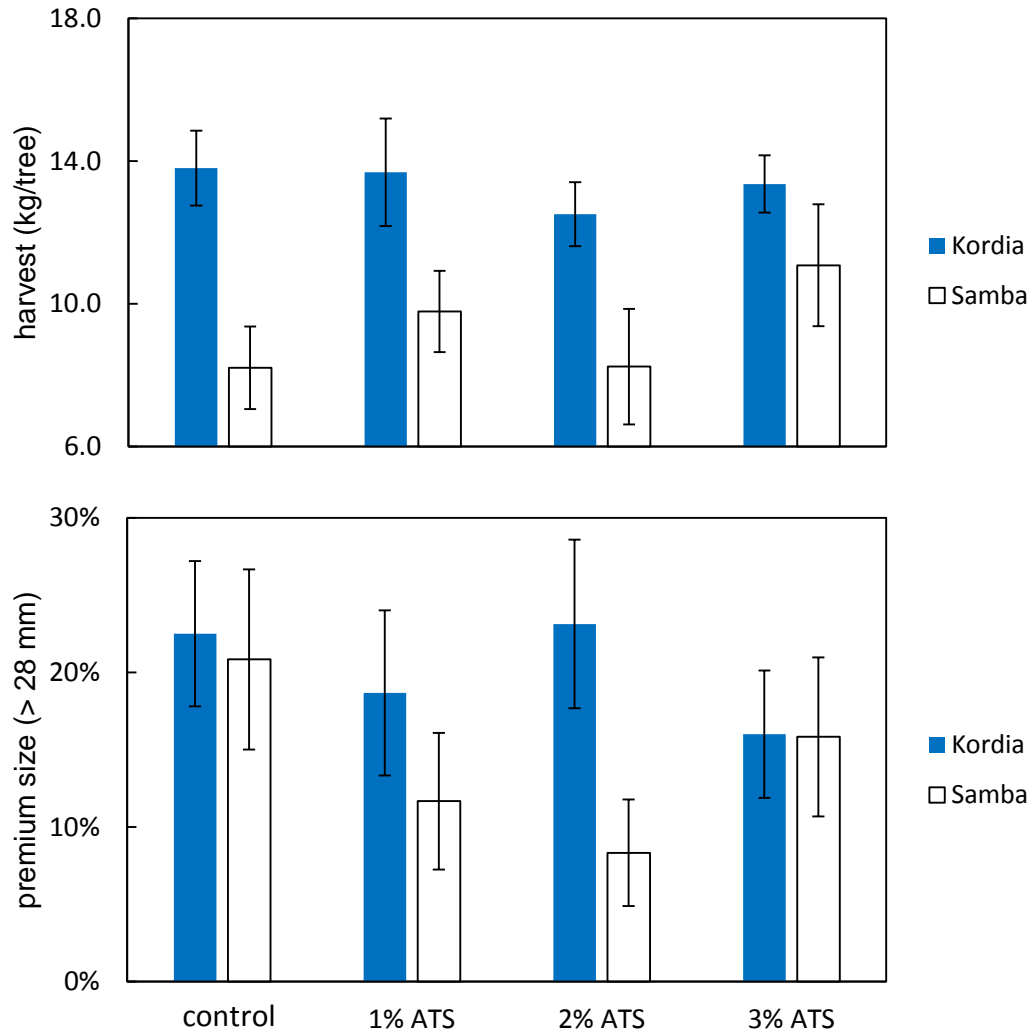
> 20 %: thinning efficacy okay

In general: higher thinning efficacy when Metamitron was applied

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



Thinning sweet cherries with ATS



- 500 l water/ha at full bloom
 - control
 - 1% ATS (5 l/ha)
 - 2% ATS (10 l/ha)
 - 3% ATS (15 l/ha)
- varieties
 - Samba (16.4.2015)
 - Kordia (21.4.2015)





Nutrients/fertilisation

- Work on a new guideline about fertilisation in orchards in Switzerland is in progress.
- No research activities on nutrients in orchards at the moment.





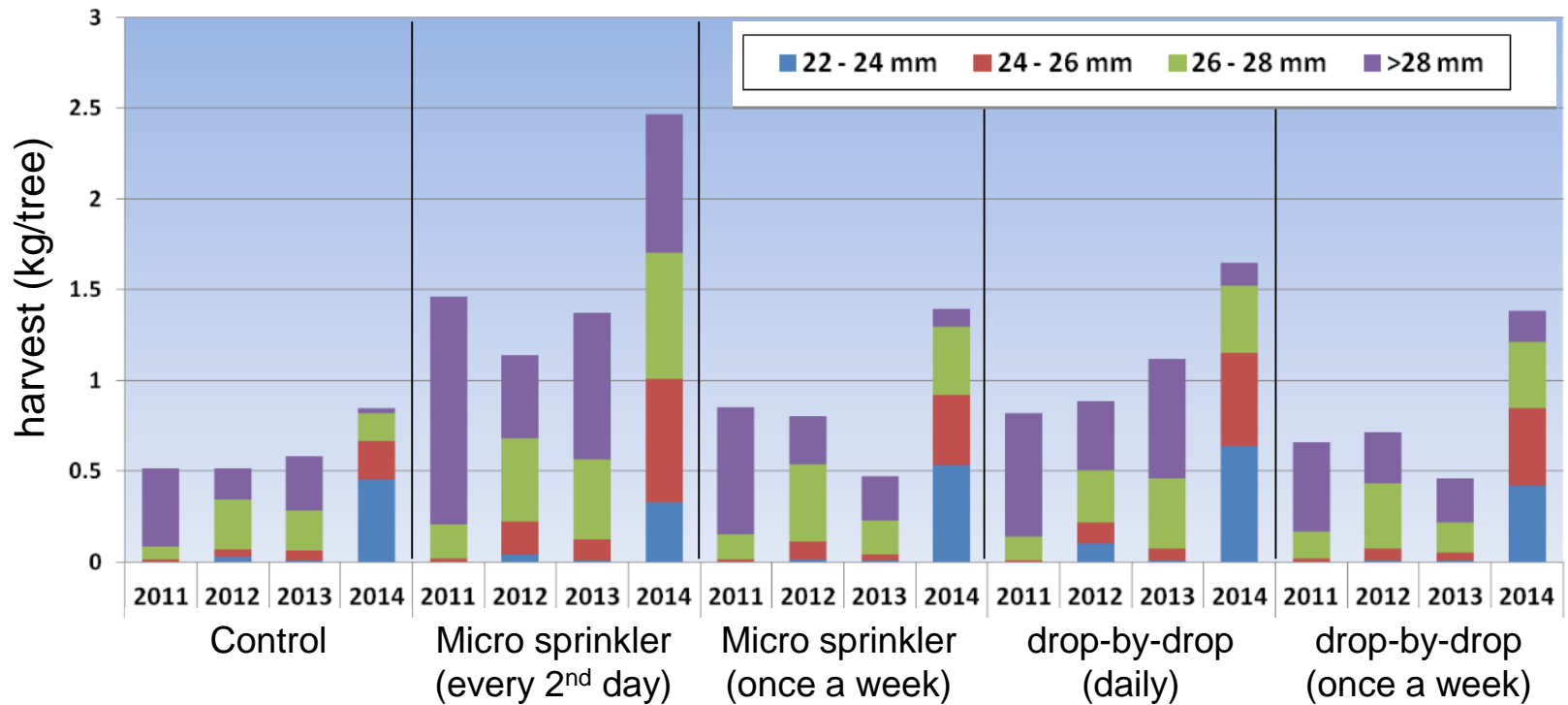
Water/Irrigation

- On average: 1500 mm rainfall
→ no need for irrigation
- Exceptions:
 - Canton of Valais: 500-2000 mm irrigation of apricots,...
 - Sweet cherries: rain cover to prevent bursting → irrigation needed
 - ...
- Only little research activities at the moment



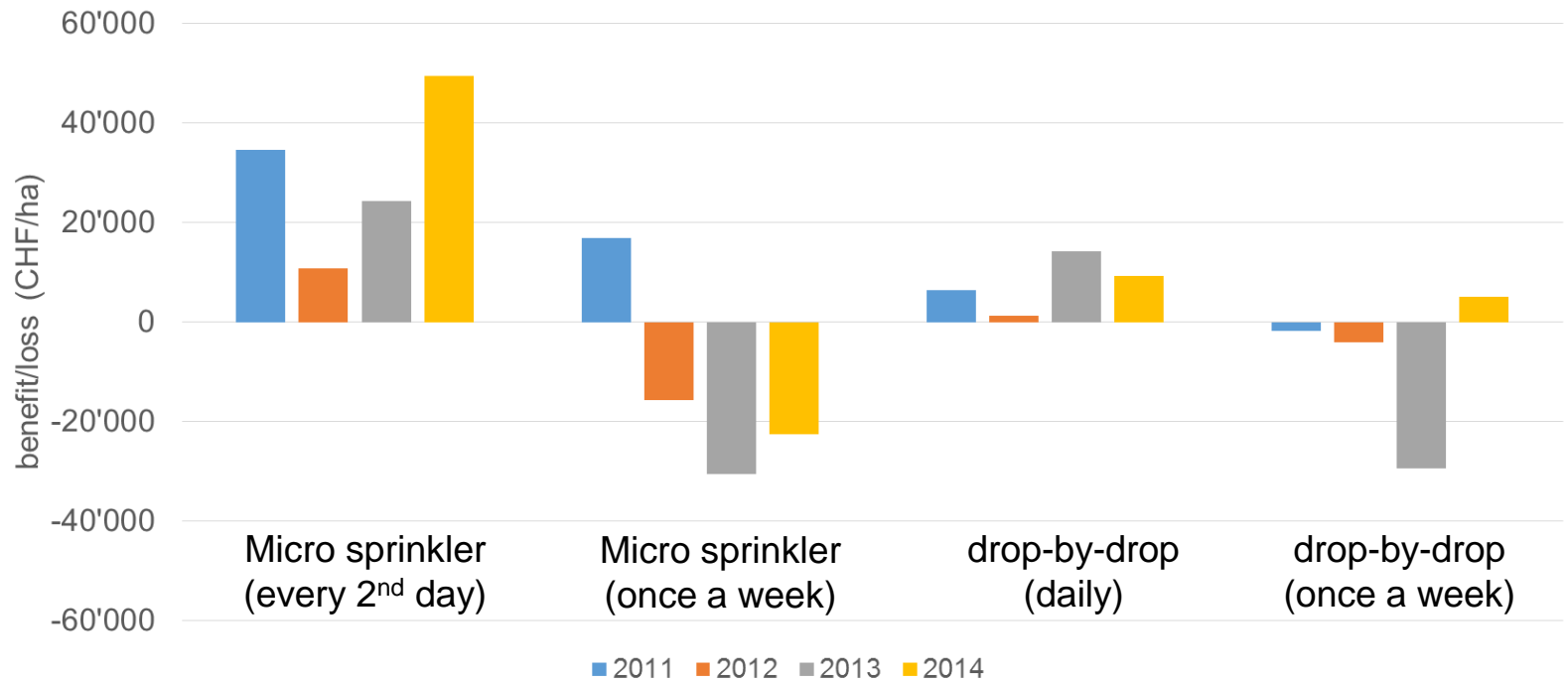


Irrigation of sweet cherries I





Irrigation of sweet cherries II





Organic farming

- Research on organic farming in Switzerland is done by the Research Institute of Organic Agriculture FiBL.
- Therefore, there is no activity at the moment on organic farming at Agroscope.



- Research on low input systems/low residue
- However, research on sustainable fruit production/organic farming might increase in the near future at Agroscope.

Outlook: projects on sustainable fruit production

- Mechanical weed control instead of herbicides (replacement of glyphosate and soil herbicides)

- Side nets to exclude pest insects → effects on microclimate and physiology





Thank you for your attention



Agroscope good food, healthy environment