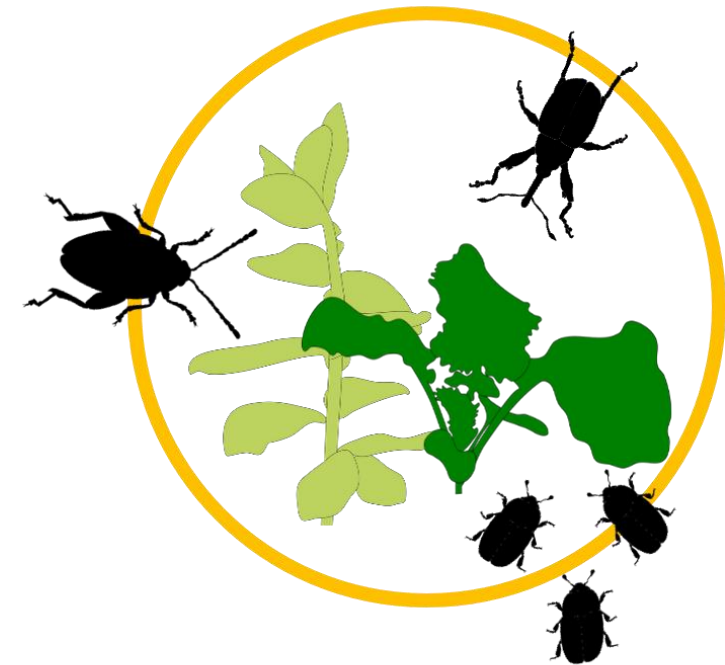
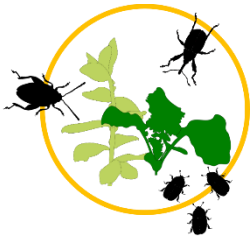




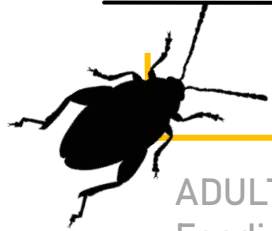
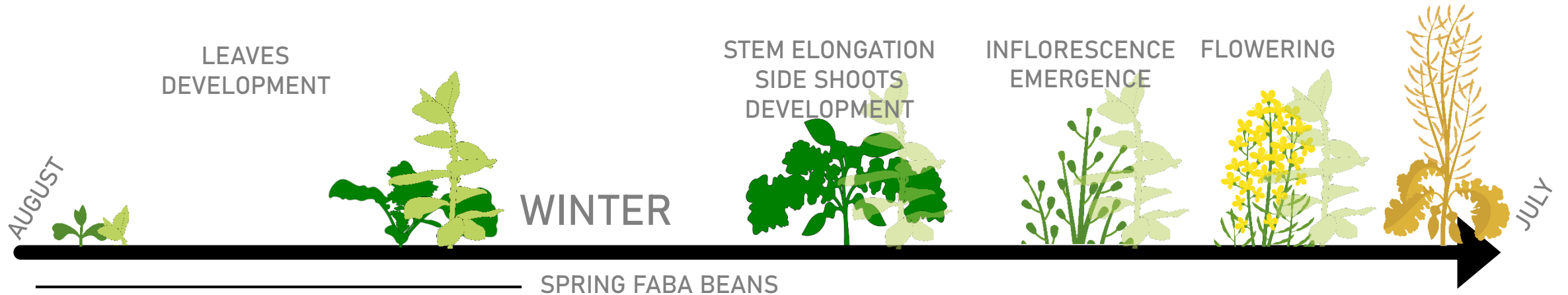
Intercropping mitigates the incidence of oilseed rape insect pest complex

A. Baux - I. Hiltbold
L. Magnin, E-A. Laurent, L. Bolis, S. Breitenmoser





Intercropping with companion plants for pest management



WINTER FABA BEANS
Psylliodes chrysocephala

ADULTS
Feeding damages on leaves

LARVAE
Development in stems and leaves petiole



Ceutorhynchus napi

ADULTS
Oviposition
punctures

LARVAE
Development
in stems

Brassicogethes aeneus

ADULTS & LARVAE
Feeding on floral
buds















INSECT PESTS
AND THEIR
DAMAGES





Field experiment

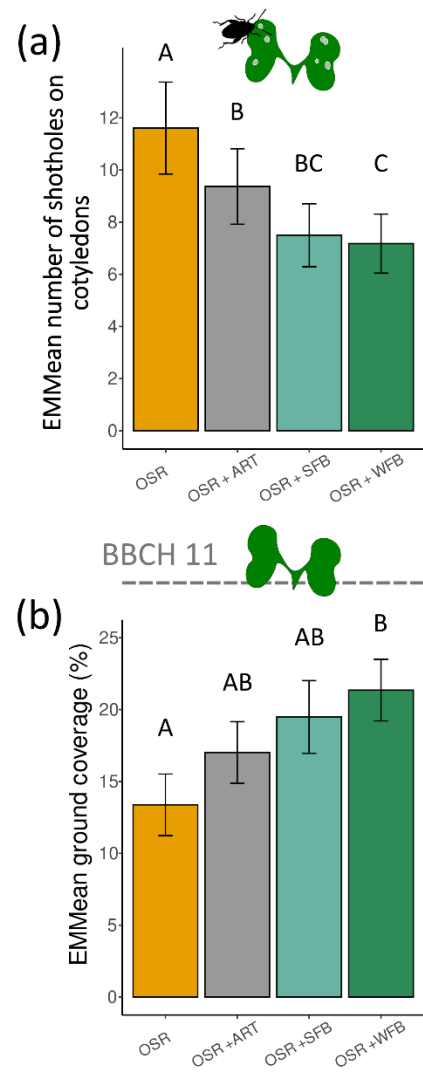
- 2 years
- 3 fields
- OSR-Faba beans
- OSR- artificial plants

	OSR	OSR+ ART
September <i>Phyllotreta</i> spp. bites on cotyledons	 Plante emergence density: 23 ± 4 OSR/m ²	 Plante emergence density: 21 ± 5 OSR/m ² 13 ART/m ²
October - November <i>Psylliodes chrysocephala</i> immigration December - January <i>P. Chrysocephala</i> Larval development	 	 From 30 cm (10.01) to 95 cm (11.20) 
February - March <i>Ceuthorhynchus napi</i> oviposition puncture in stems	 	 
March <i>Brassicogethes aeneus</i> migration		



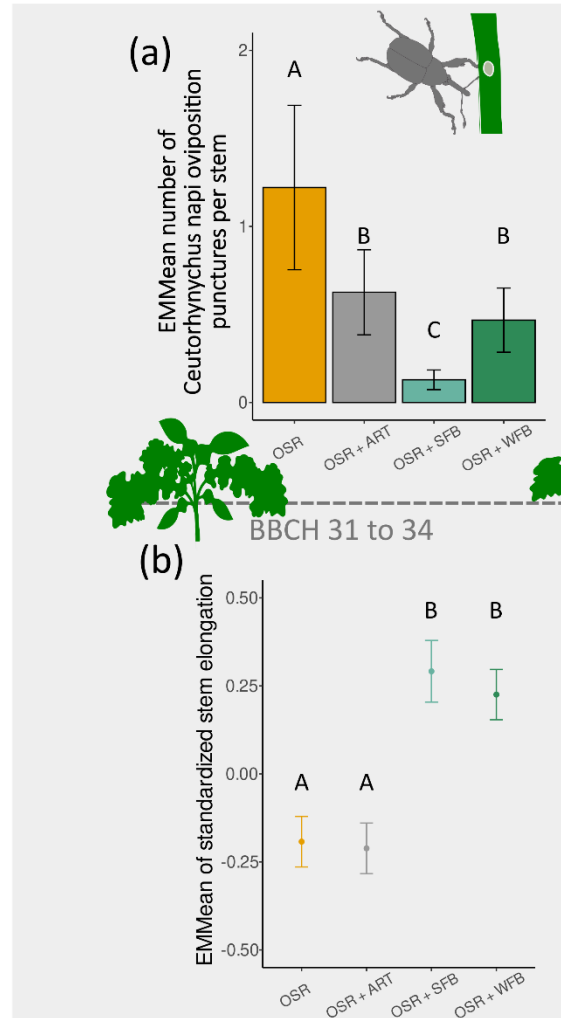


Autumn-active pests



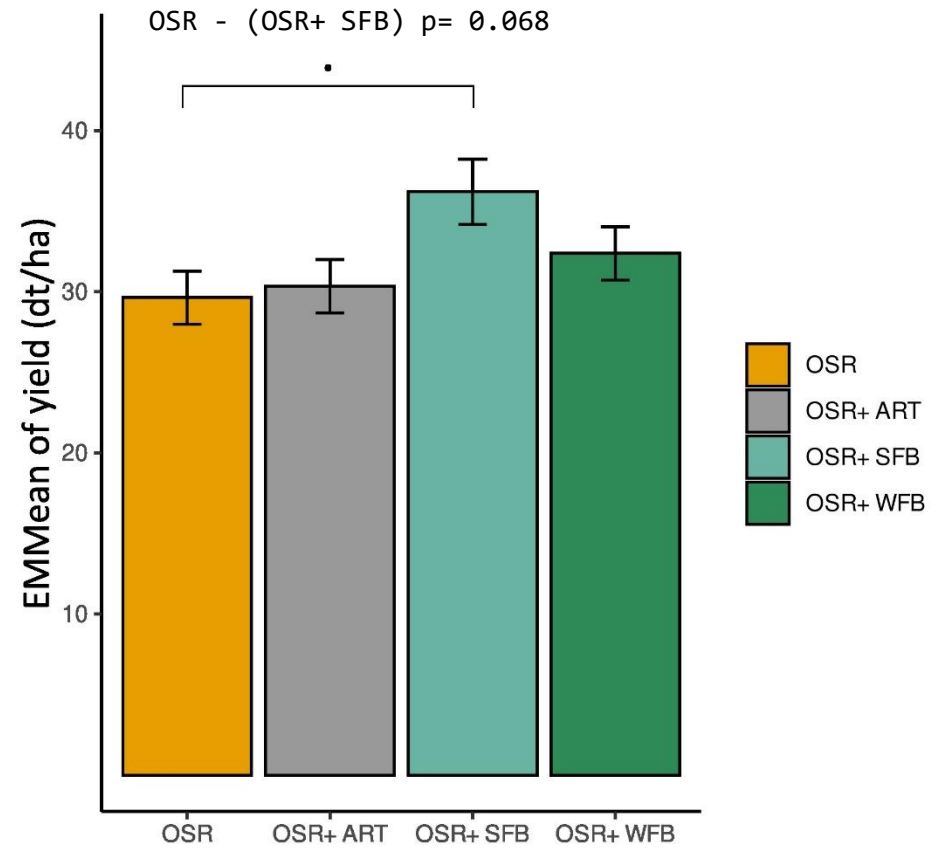


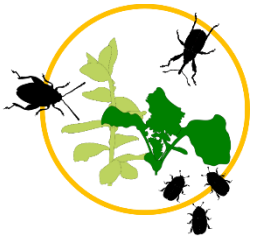
Spring-active pests



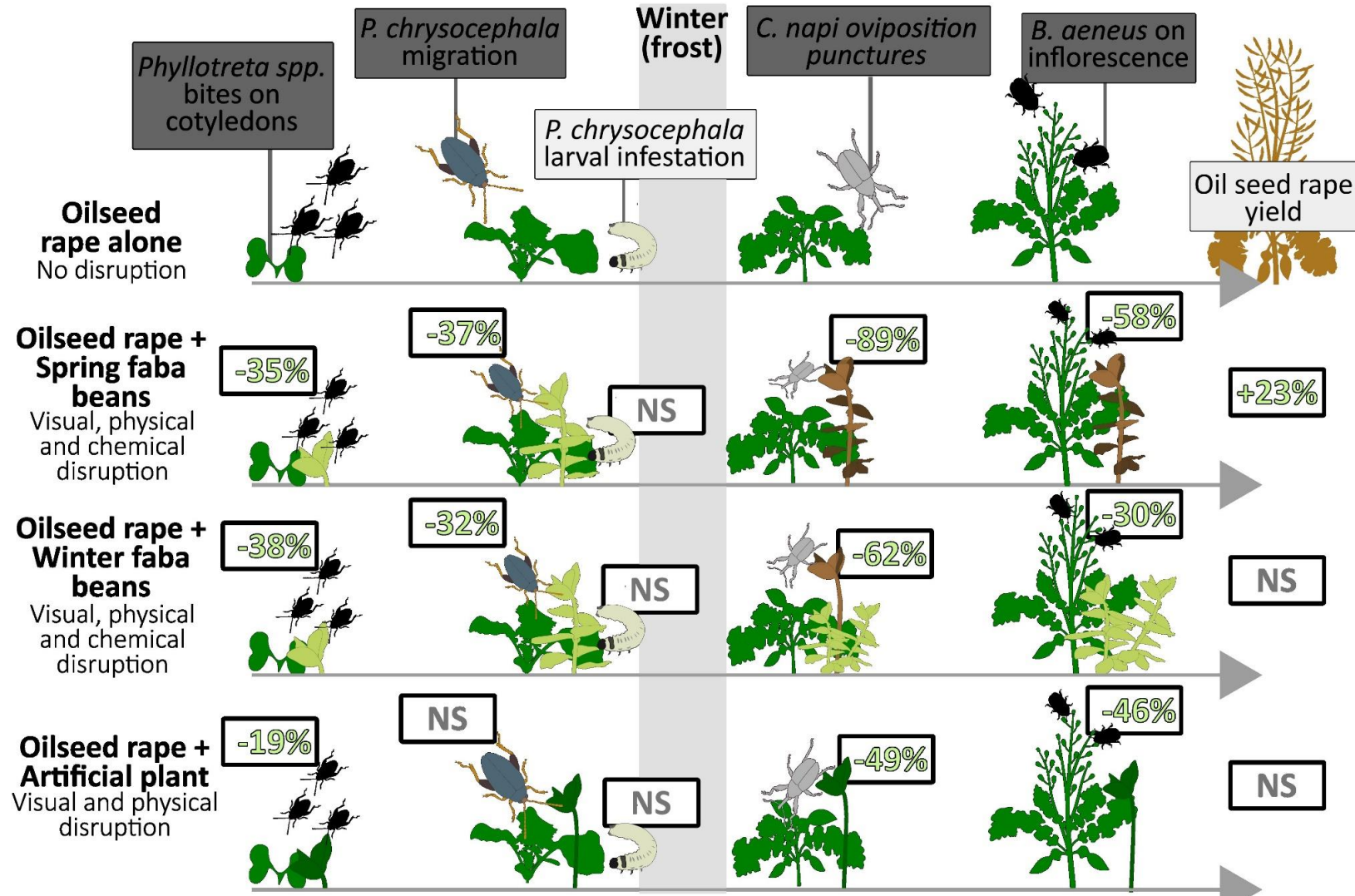


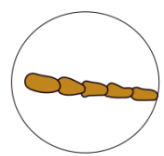
Yield



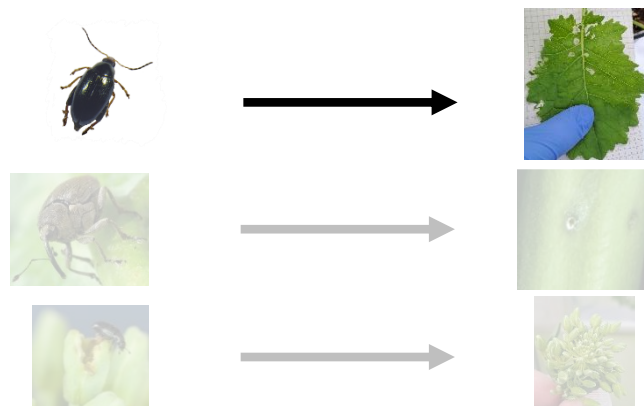
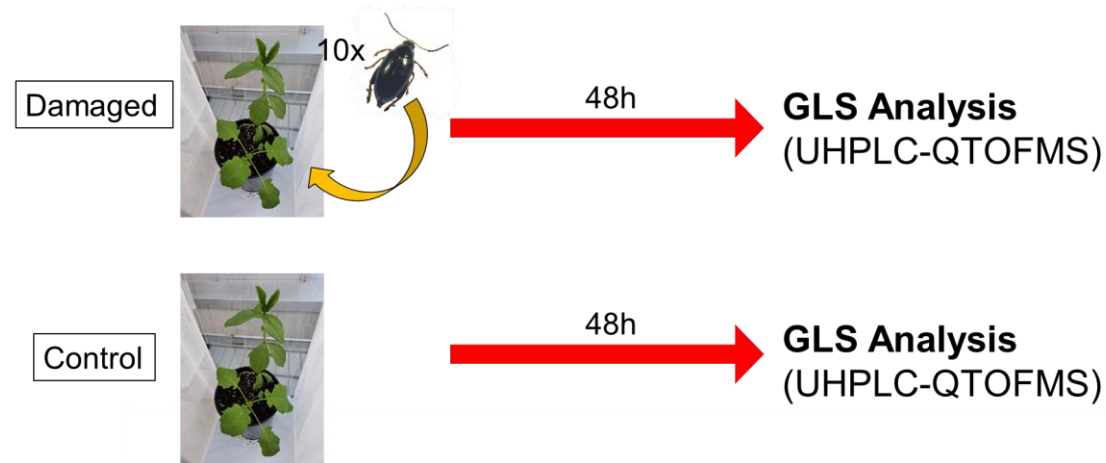
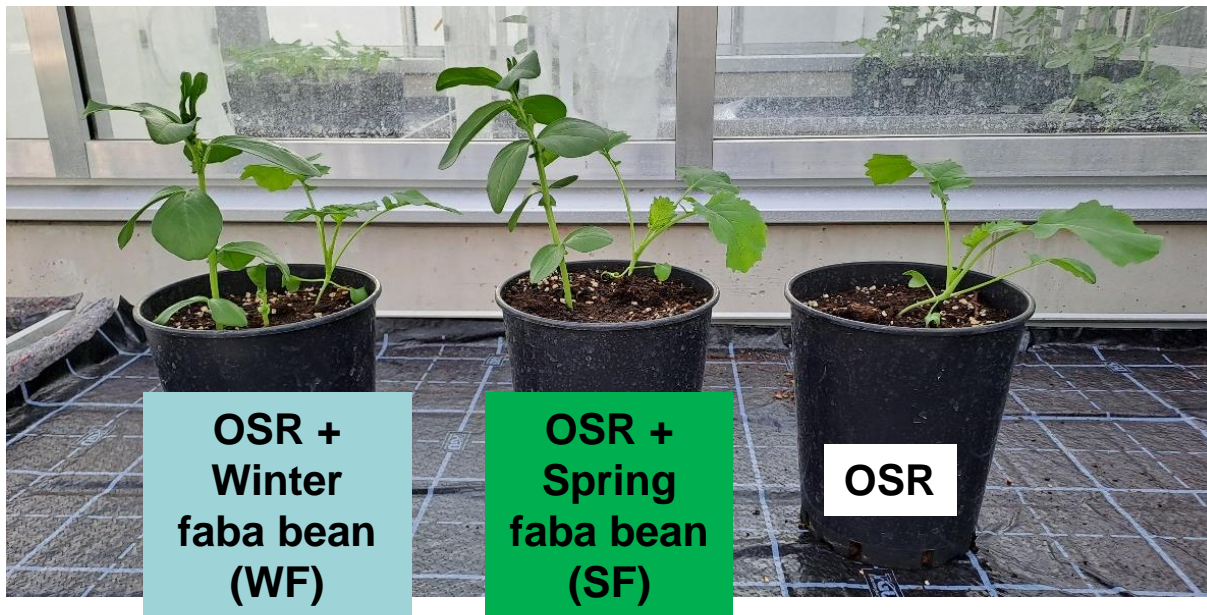


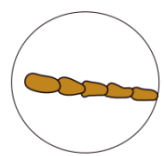
Field trial: summary





Plant chemistry also matters





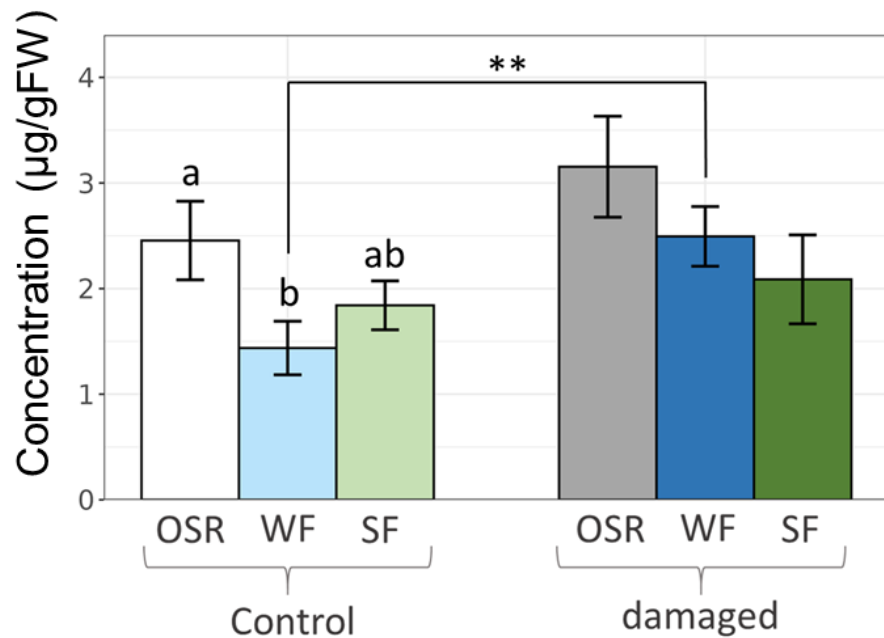
Plant chemistry also matters

Glucoalyssin

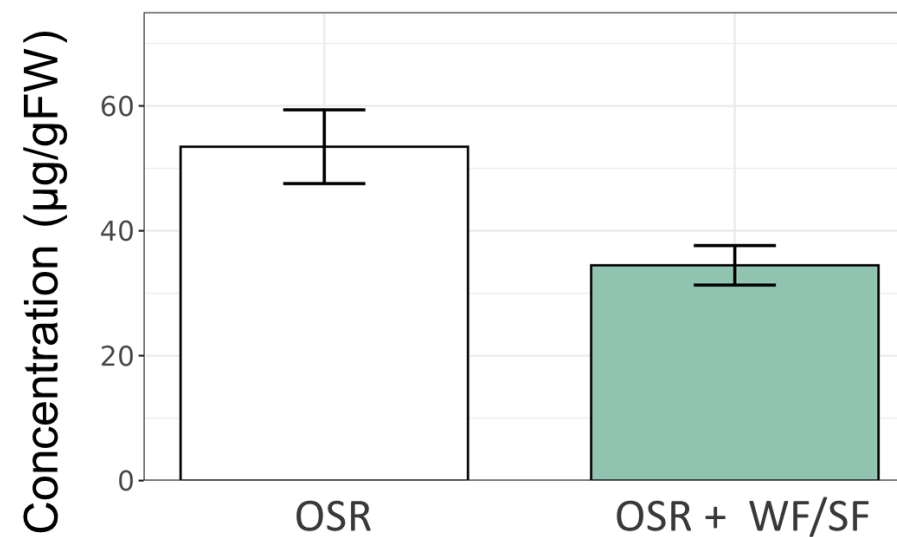


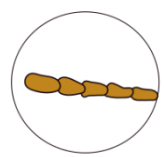
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Greenhouse :

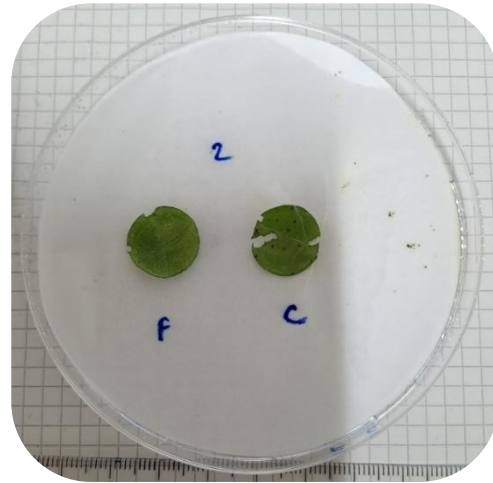
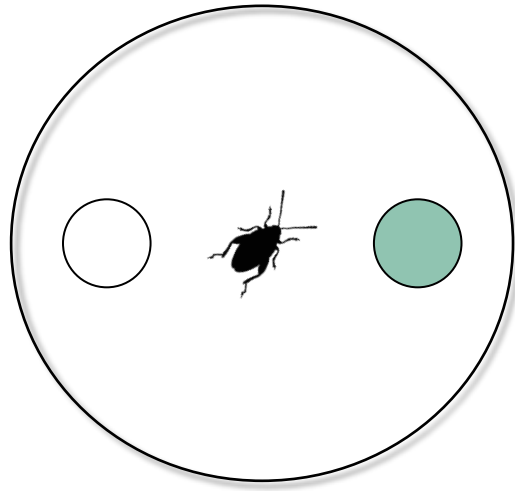
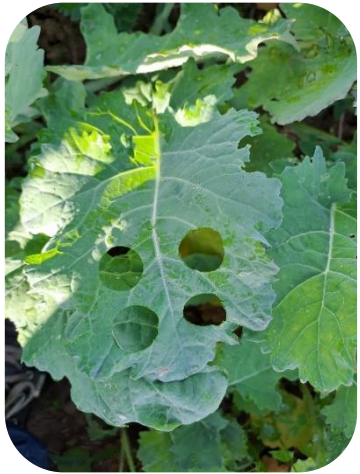


Field :

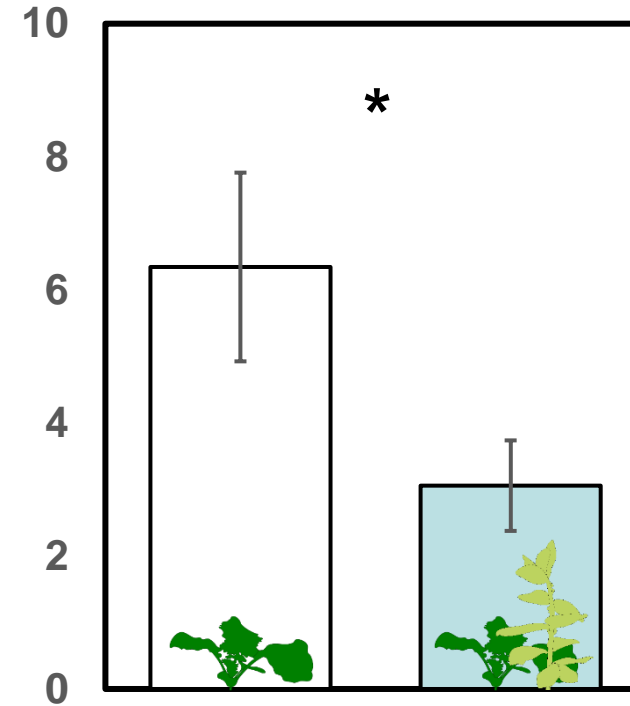


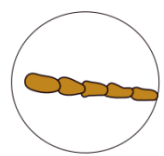


Plant chemistry also matters



Leaf surface eaten (mm²)



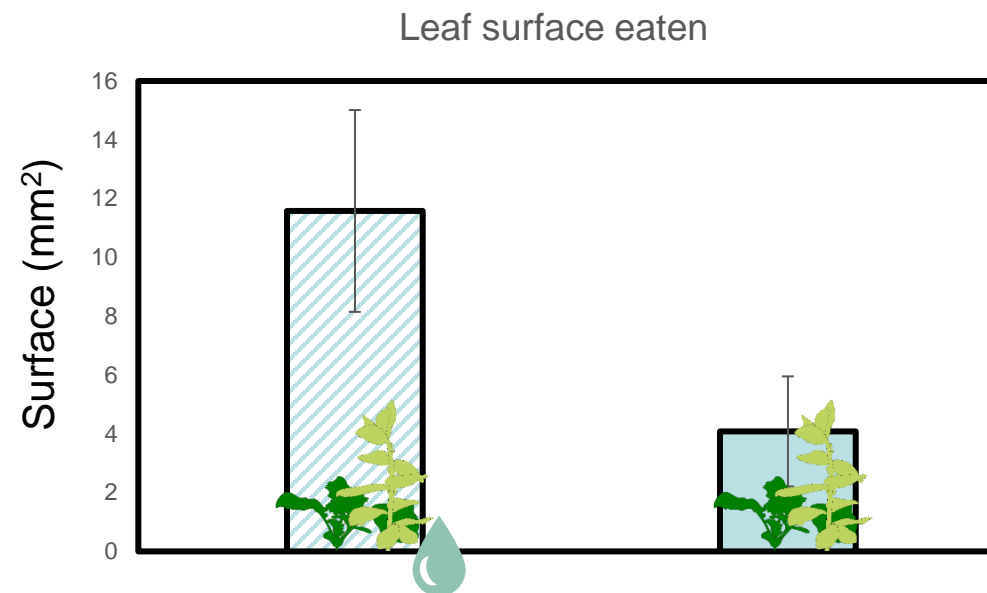
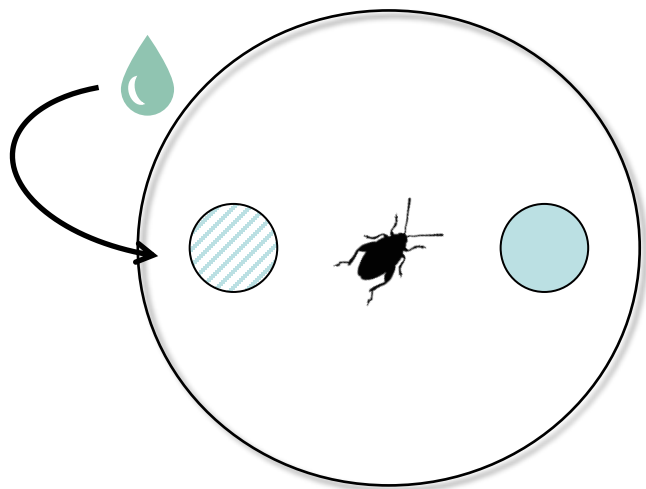


Plant chemistry also matters

Glucoalyssin

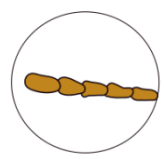


+ 20 μ l Glucoalyssin [0.1, 1, 30mM]



→ **Concentration and glucosinolate is important!** No effect when 0.1mM or 30mM and no effect with glucoraphanin!





Plant chemistry also matters VOC



Greenhouse plants

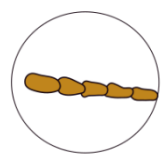


Field plants



Behavioral assays

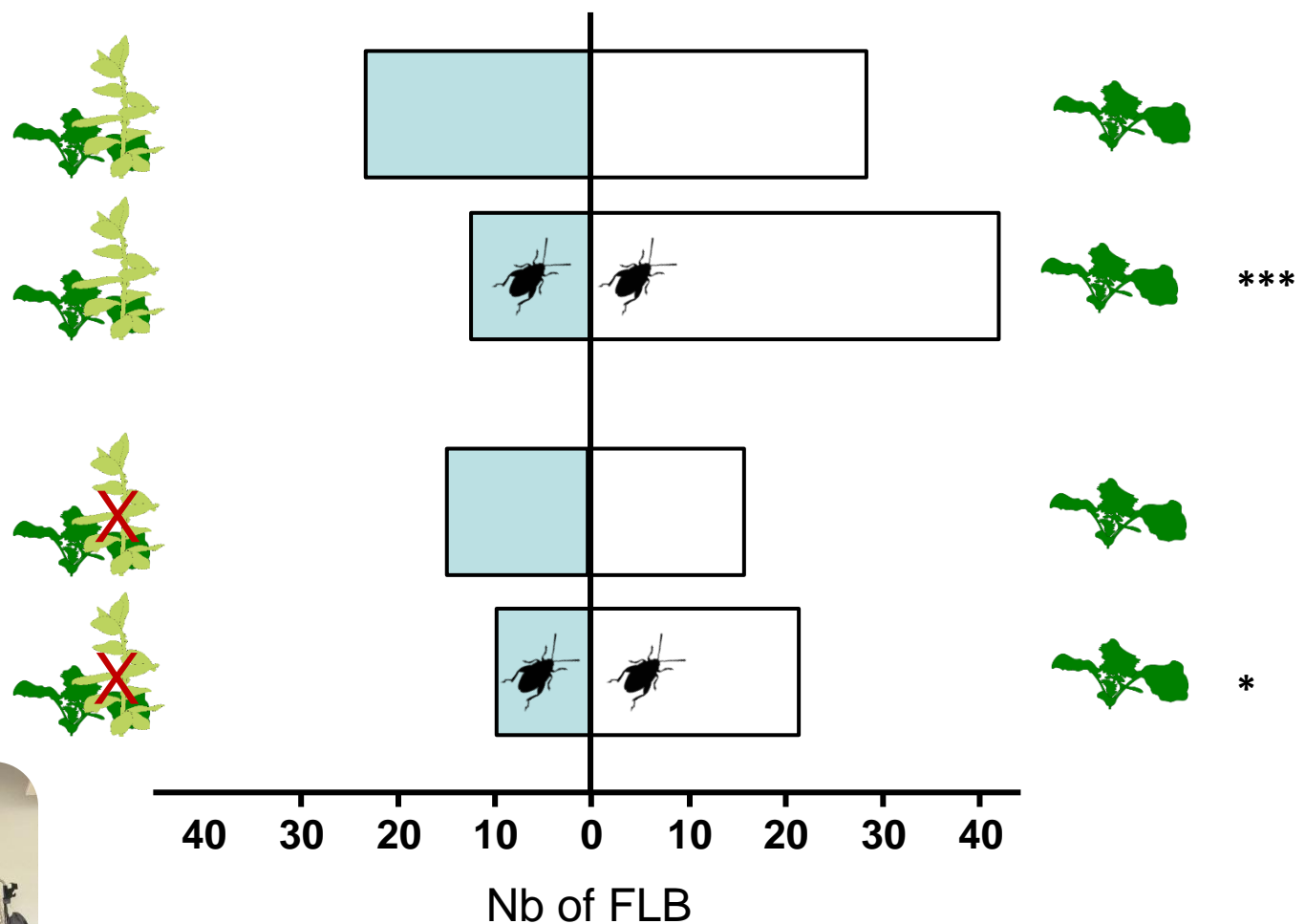




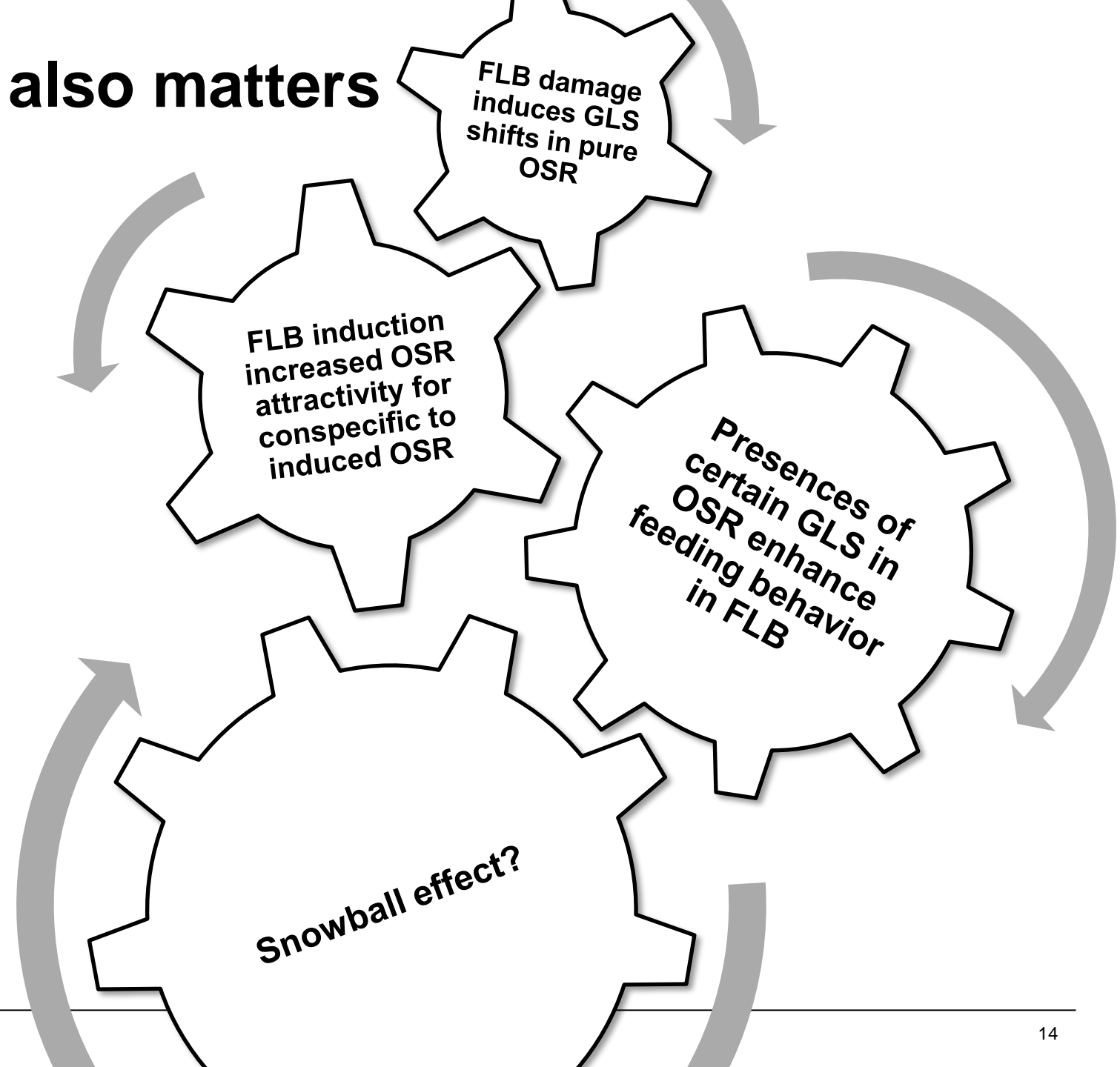
Plant chemistry also matters VOC



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Plant chemistry also matters



Acknowledgements



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Ufficio federale dell'agricoltura UFAG
Uffizi federal d'agricultura UFAG

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Université de Neuchâtel



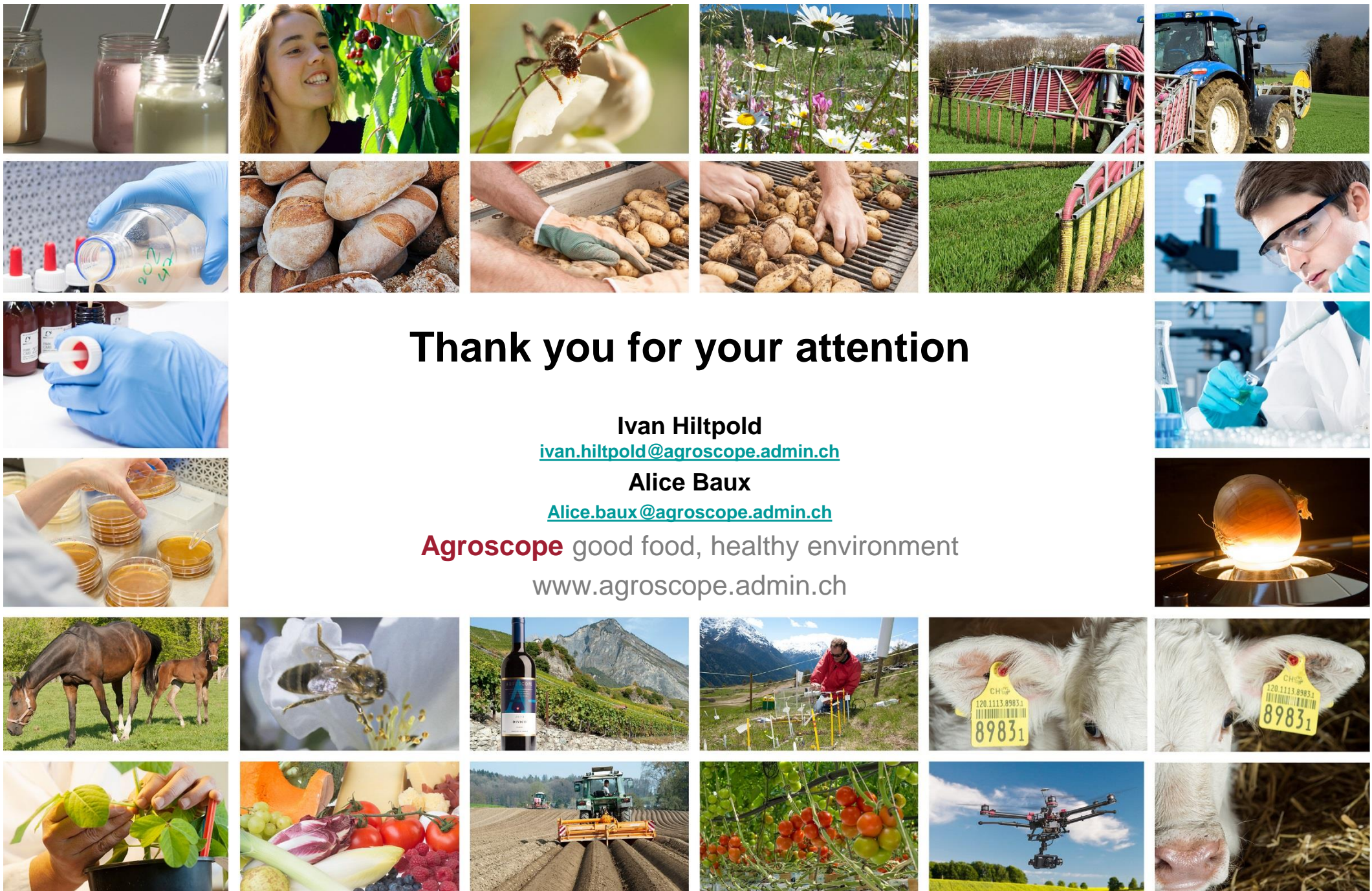
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And you all for your attention!!



Thank you for your attention

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