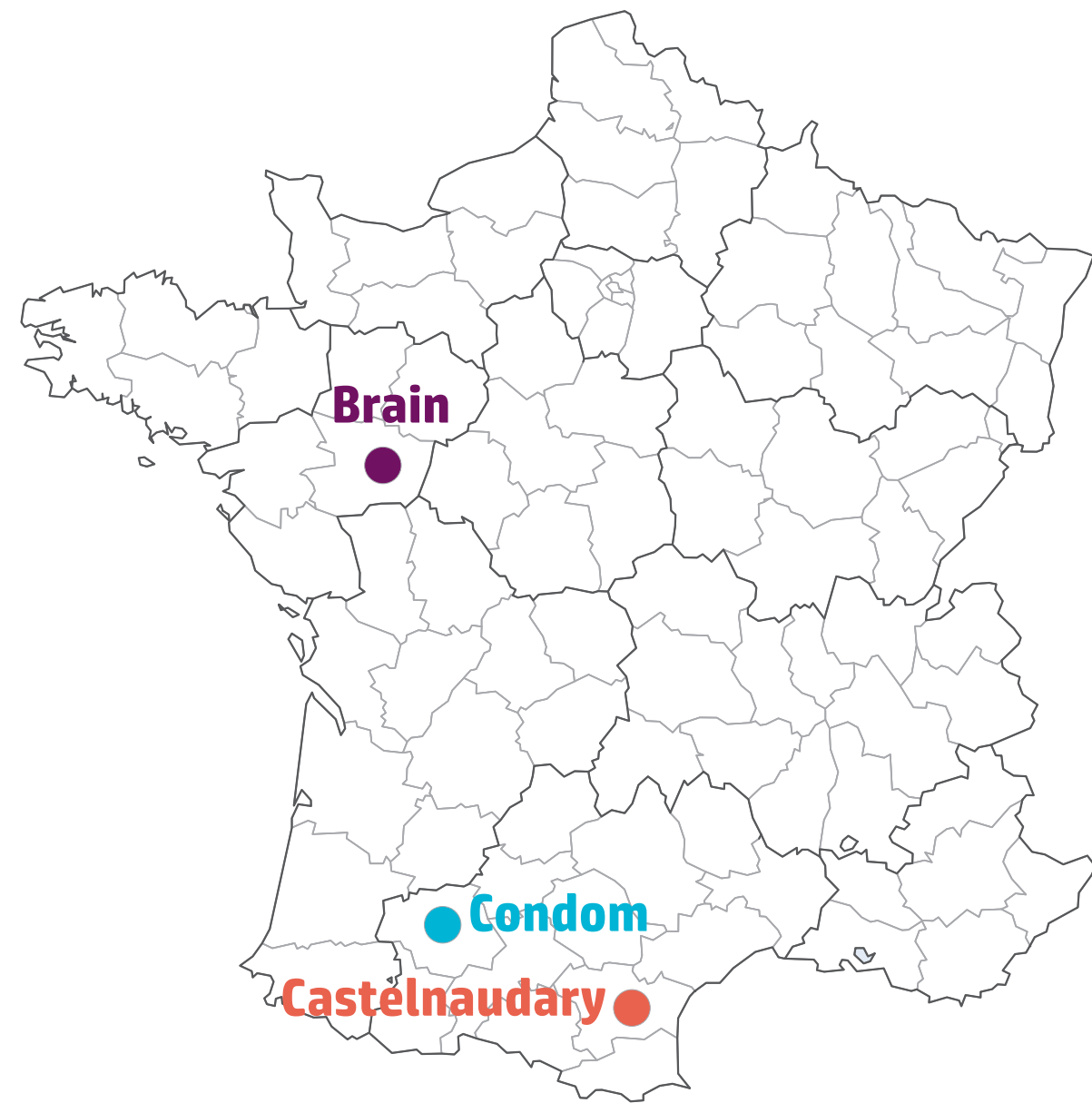


FNAMS

French Seed Growers' Association

Alfalfa seed production without pesticide

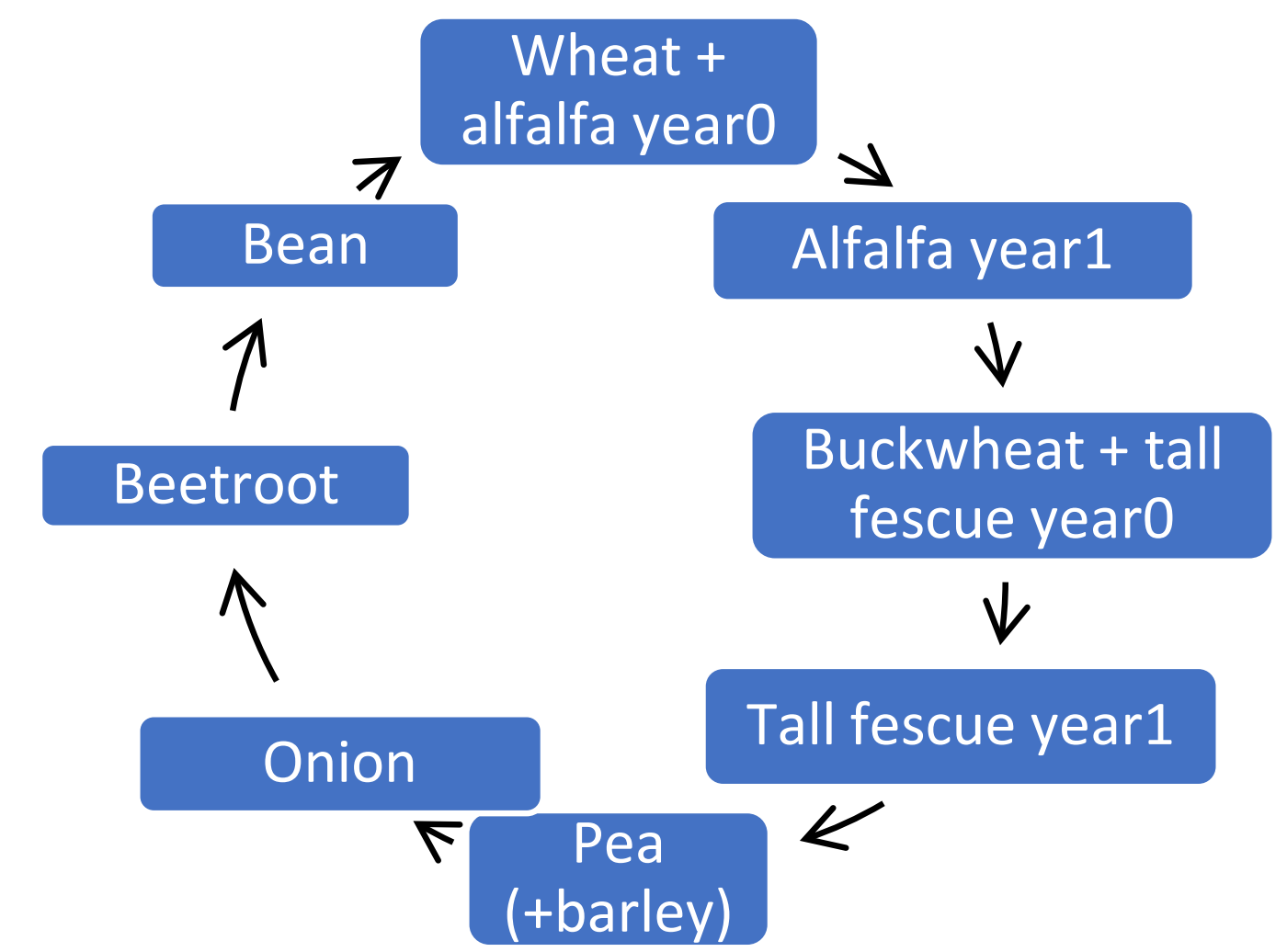


AgroSem : long term experiment (beginning in 2019)

Aim : producing quality seeds without using chemical pesticide

General agronomic levers :

- Long rotation (8 years, only seed production)
- Flower strips and grass strips
- Plowing 3 times on 8 years



ALFALFA ESTABLISHMENT

- 2019, 2020 : under winter wheat => **3/6 crops re-sown**
- 2021, 2022 : under winter wheat or spring barley => **5/6 crops re-sown**
- 2023 : test under buckwheat or sun-flower



WEEDS MANAGEMENT

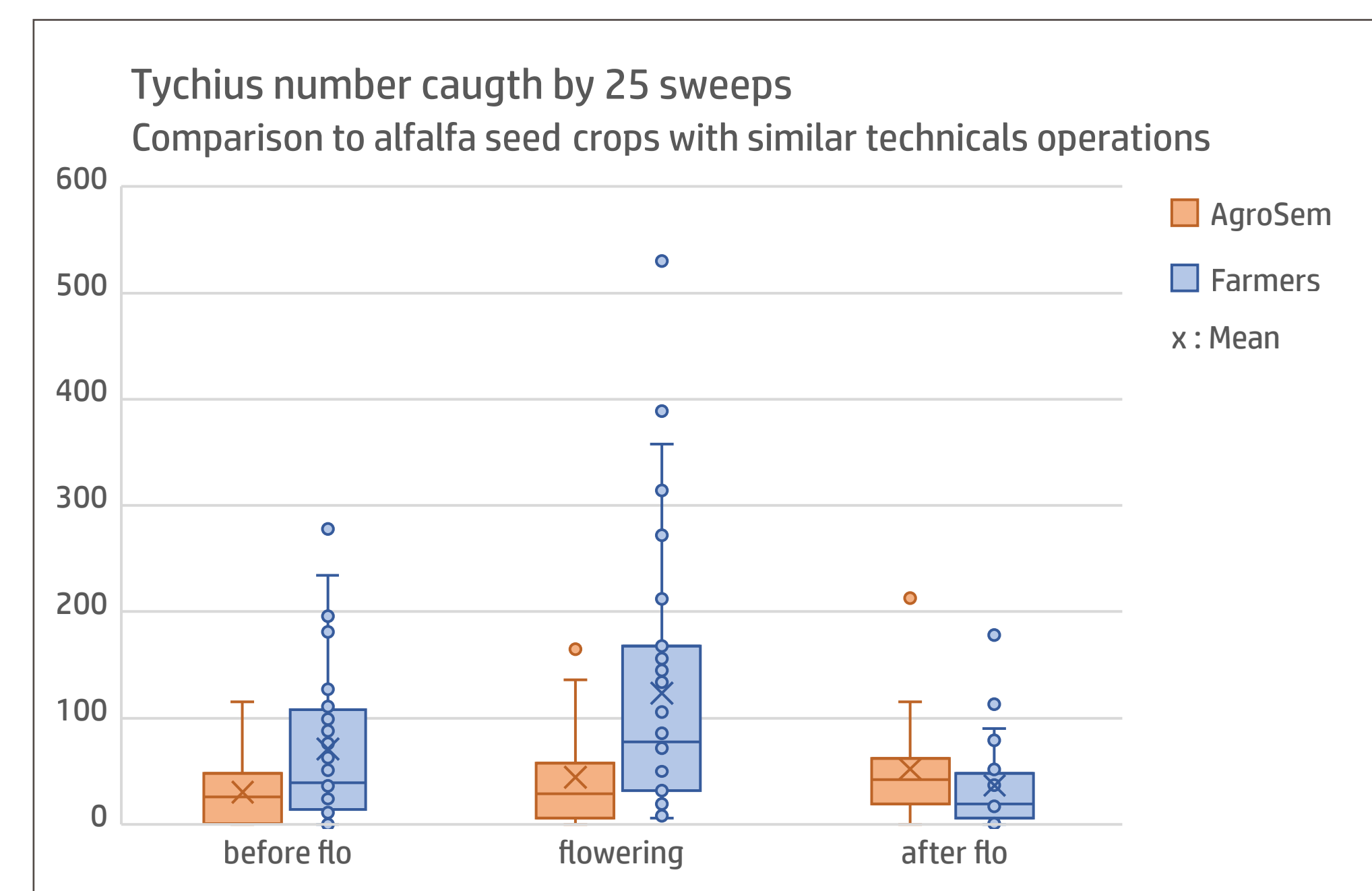
- Long rotation
- Under cover crop
- Seeding density enhanced
- Mechanical weeding in winter and/or in spring
- Eventually serving plants sown in falls
- Eventually 2 cuttings in spring
- Eventually manual weeding

The most frequently problematic weeds:

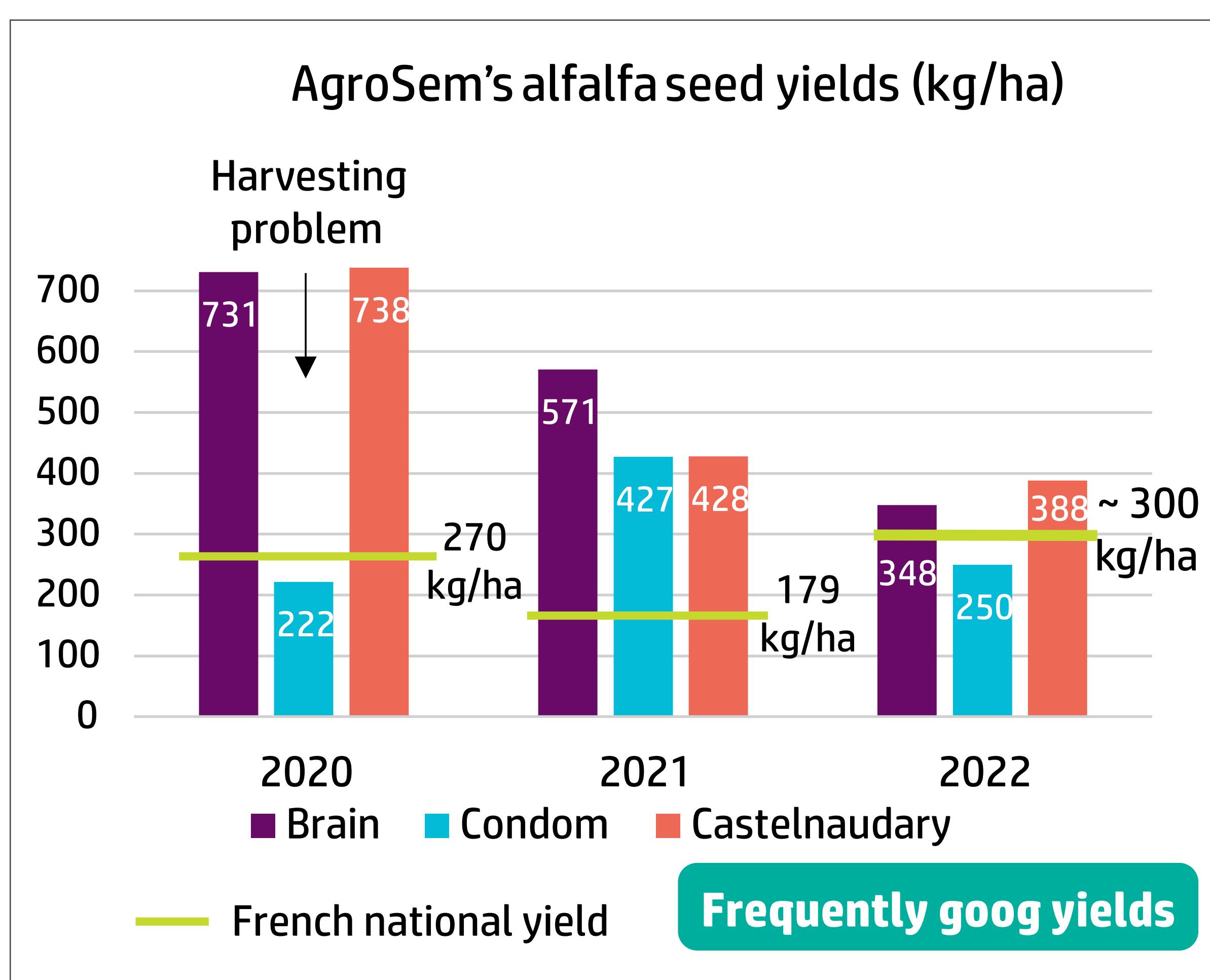
- *Helminthotheca echioides*
- *Rumex sp.*
- *Sonchus oleraceus...*

PESTS MANAGEMENT

- Late cutting to reduce vegetative phase pests' populations (*Apion pisi*, *Hypera postica...*)
- Flower strips
- Small size parcels (good circulation of auxiliaries and pollinators)
- Eventually Spinosad application

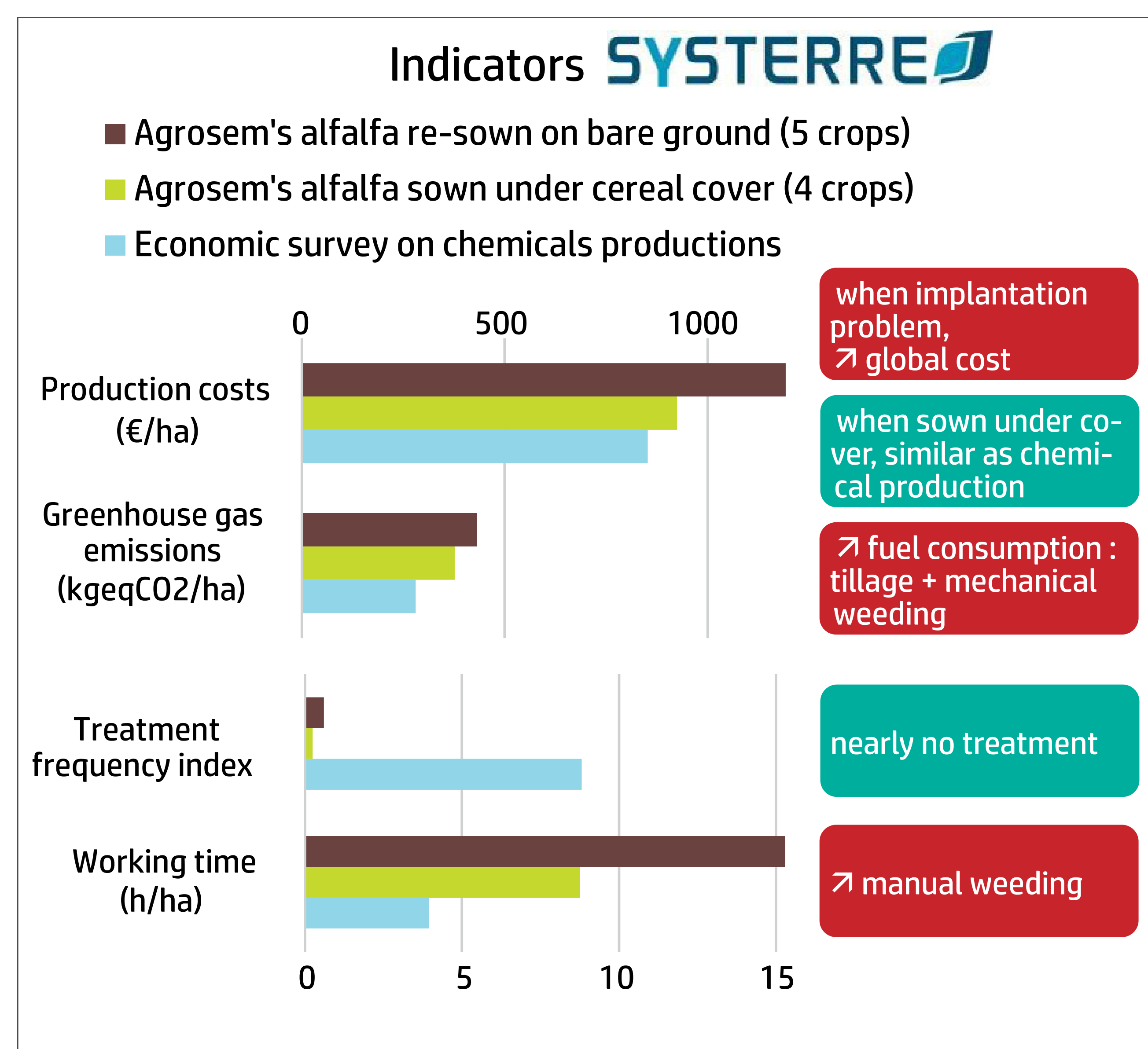


Significantly lower populations (non-parametric test)



Germination faculty mean: 91,2% (all crops > 80% standard)

Specific purity mean: 99,6% (all crops > 97% standard)



when implantation problem, ↗ global cost

when sown under cover, similar as chemical production

↗ fuel consumption : tillage + mechanical weeding

nearly no treatment

↗ manual weeding

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Action du plan Ecophyto piloté par les ministères en charge de l'agriculture, de l'écologie, de la santé et de la recherche, avec l'appui technique et financier de l'Office Français de la Biodiversité

