

Organic field trials of winter and summer crop mixtures of grain legumes and cereals in Belgium



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Summer- and wintersown crop mixtures of faba beans or fodder peas together with wheat/barley/triticale were tested in field trials in the growing seasons 2013-2014 and 2014-2015. Different regionally available varieties and European plant material of faba bean and fodder pea were harvested together with cereals as dry grain.

Special attention was paid to weed suppression capability and crop reliability.

Materials & methods

3 locations in Belgium (sandy loam; fertile without limitations)
Legume varieties: selection of suitable offer EU breeding companies

Summer crop mixtures

Field trials 2014 – 2015 (Figure 3)

- barley + fodder pea, wheat + faba bean
- commercial varieties

Weed suppression sufficient, low reliability end of season

Suggested focus:

- Faba bean: early ripening, lodging resistance (shortness, sturdiness)
- Fodder pea: lodging resistance (semileafless, short, twining types)

Winter crop mixtures

Field trials 2013 – 2015 (Figure 4 & 5):

- triticale + fodder pea, triticale + faba bean
- commercial varieties + organic breeding lines (D)

Weed suppression good (triticale), more reliable crop

Suggested focus:

- Faba bean: winter hardiness, lodging resistance (shortness, sturdiness)
- Fodder pea: winter hardiness, post-winter resilience (slugs, birds, wildlife) and growth vigour, lodging resistance (semileafless, short, twining types)



Figure 1. Summer crop mixture barley with fodder pea, May 2014.



Figure 2. Winter crop mixture triticale with faba bean, June 2015.

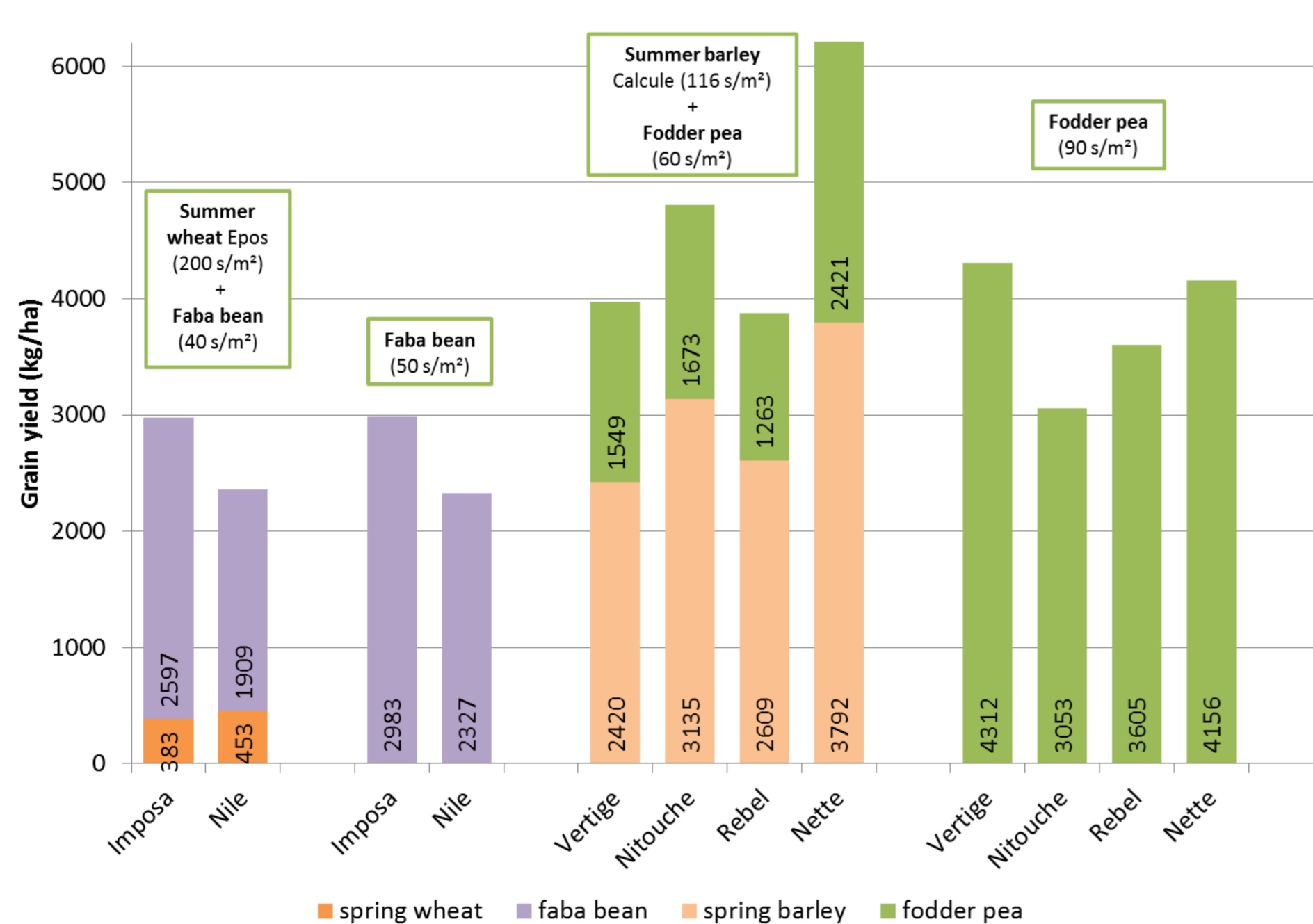


Figure 3. Yield of summer crop mixtures wheat / barley with faba bean / fodder pea in Beitem, season 2014.

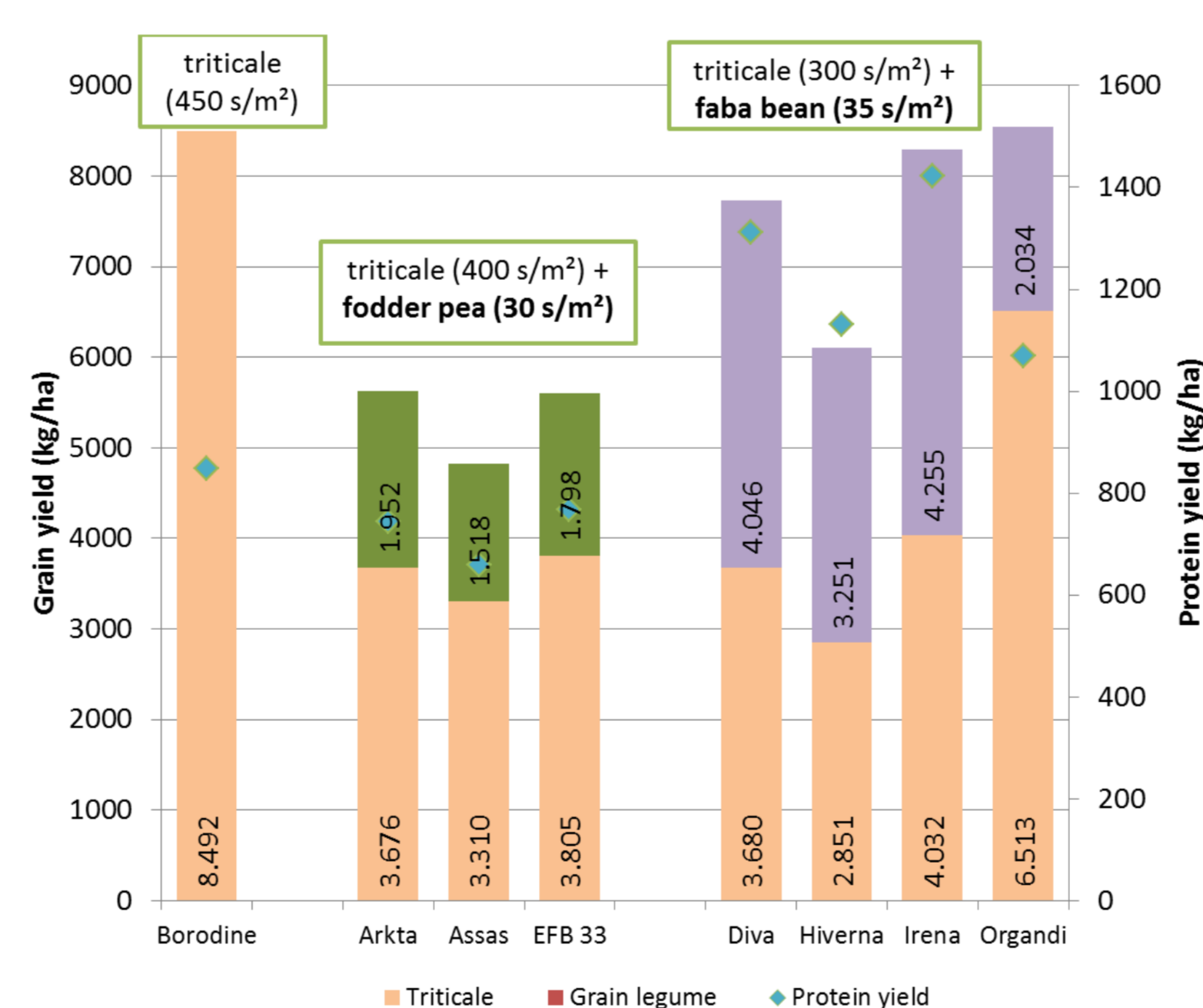


Figure 4. Winter crop mixtures triticale with fodder pea / faba bean in Lo-Reninge, season 2013-2014.

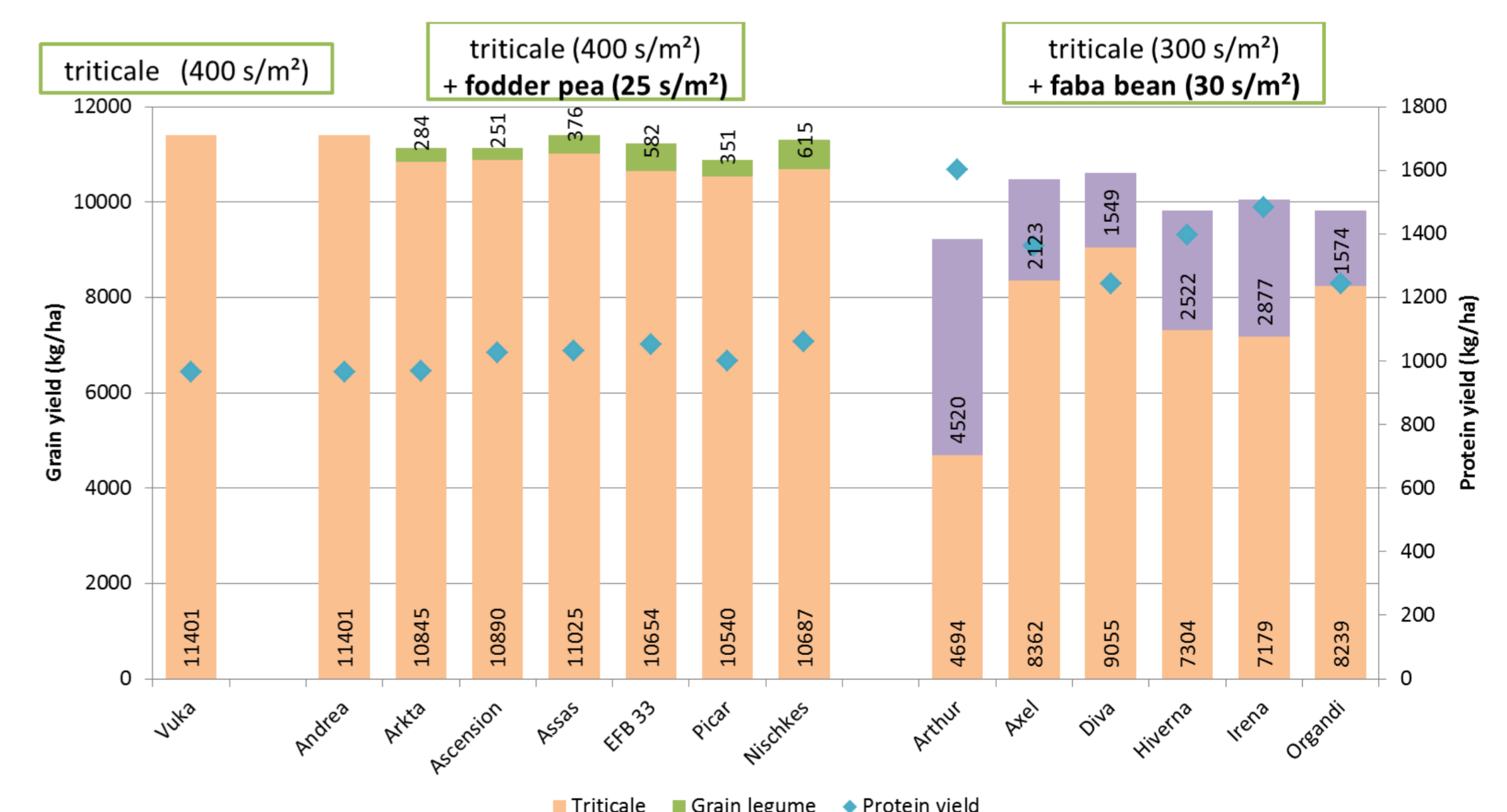


Figure 5. Winter crop mixtures triticale with fodder pea / faba bean in Lo-Reninge, season 2014-2015.

References

- Dissemination reports to organic farmers in Flanders: www.biopraktijk.be and www.inagro.be
- Quendt, U. Haase, T., Hess, J. 2014. Breeding winter peas in diversity for diversity. In: Diversity strategies for organic and low input agricultures and their food systems. Proceedings of SOLIBAM congress 7-9 July 2014. 41-42.

The COBRA project is part of Core Organic II ERA-NET. Financial support provided by the CORE Organic II ERA-NET Funding Bodies and the Flemish Government, Department of Agriculture and Fisheries. www.cobra-div.eu



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