

Diversity of Crop Rotations with Sugar Beet

- Results from a Farm Survey in Germany -

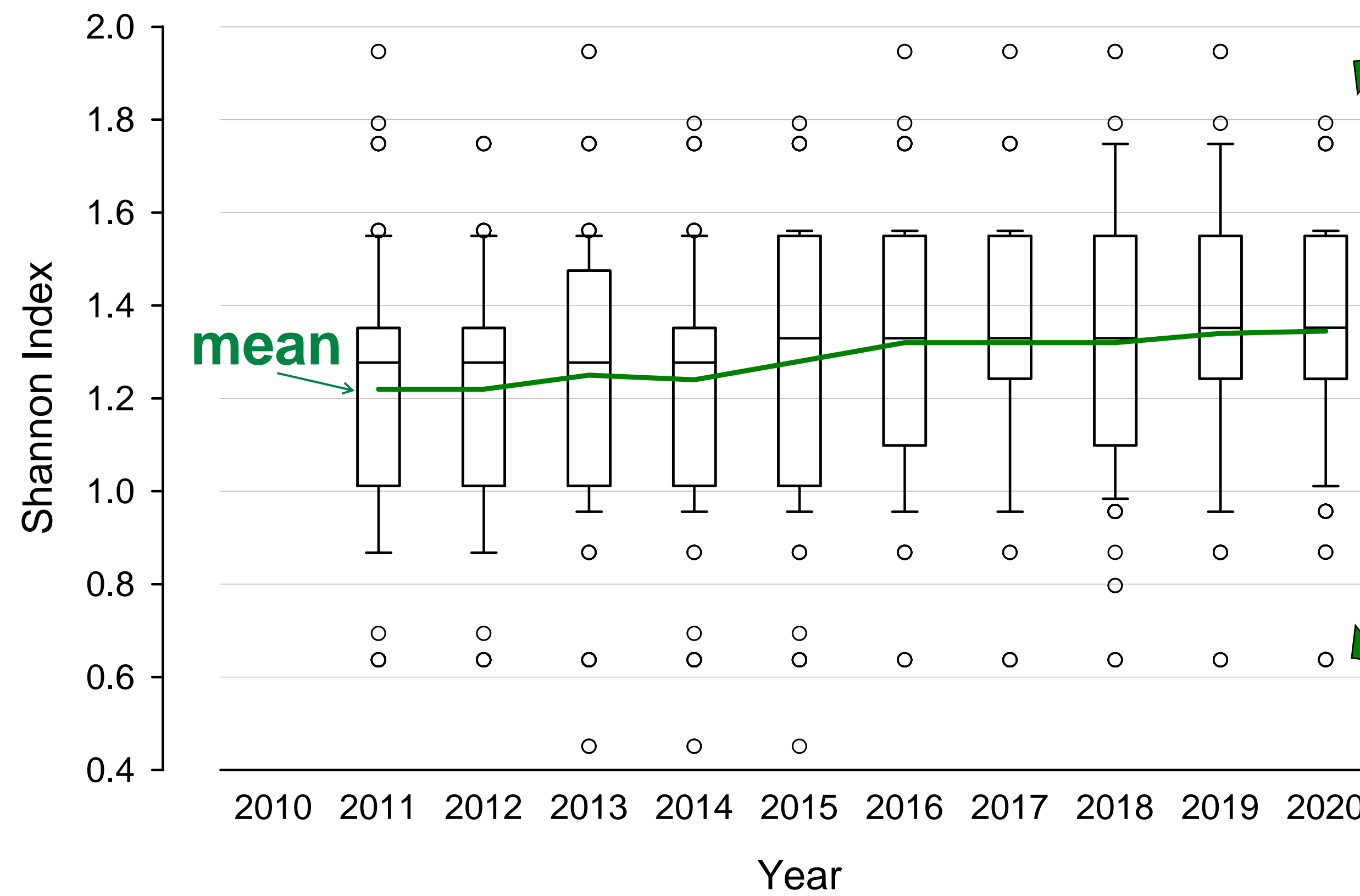
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The design of crop rotation is often mentioned as an important measure of integrated pest management (alternation between winter and spring crops, between cereals, root crops and legumes).

A well adapted and diverse crop rotation should help to reduce weeds and other harmful organisms. We investigated the diversity of crop rotations in sugar beet cultivation within the last decade.

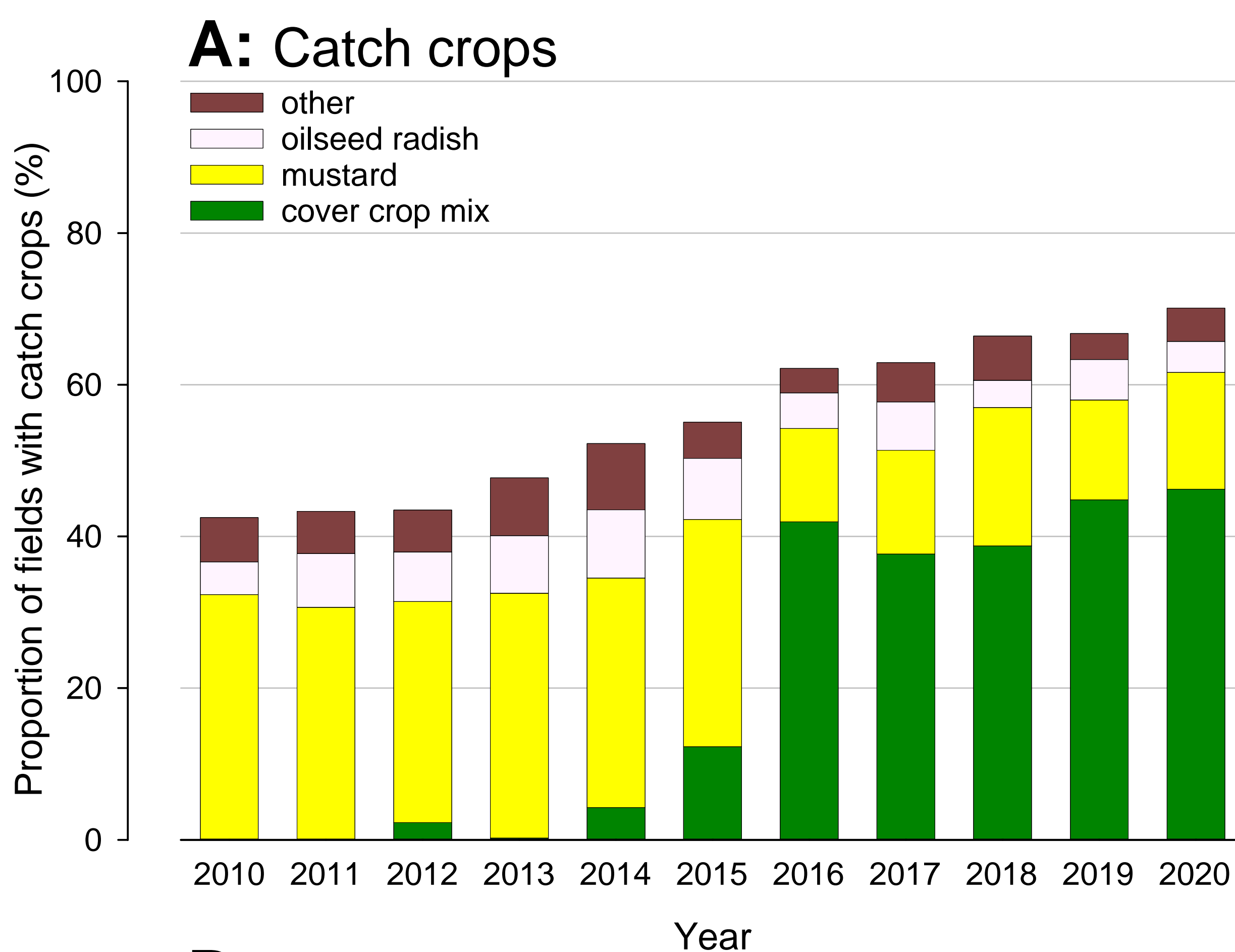
Material & methods:

- Data from a farm survey on sugar beet cultivation in Germany 2010 – 2020, data from more than 300 different fields/farms each year
- Information on the crops that were grown in the 5 years prior to the sugar beet
- Shannon Index was calculated for all crops, including catch crops



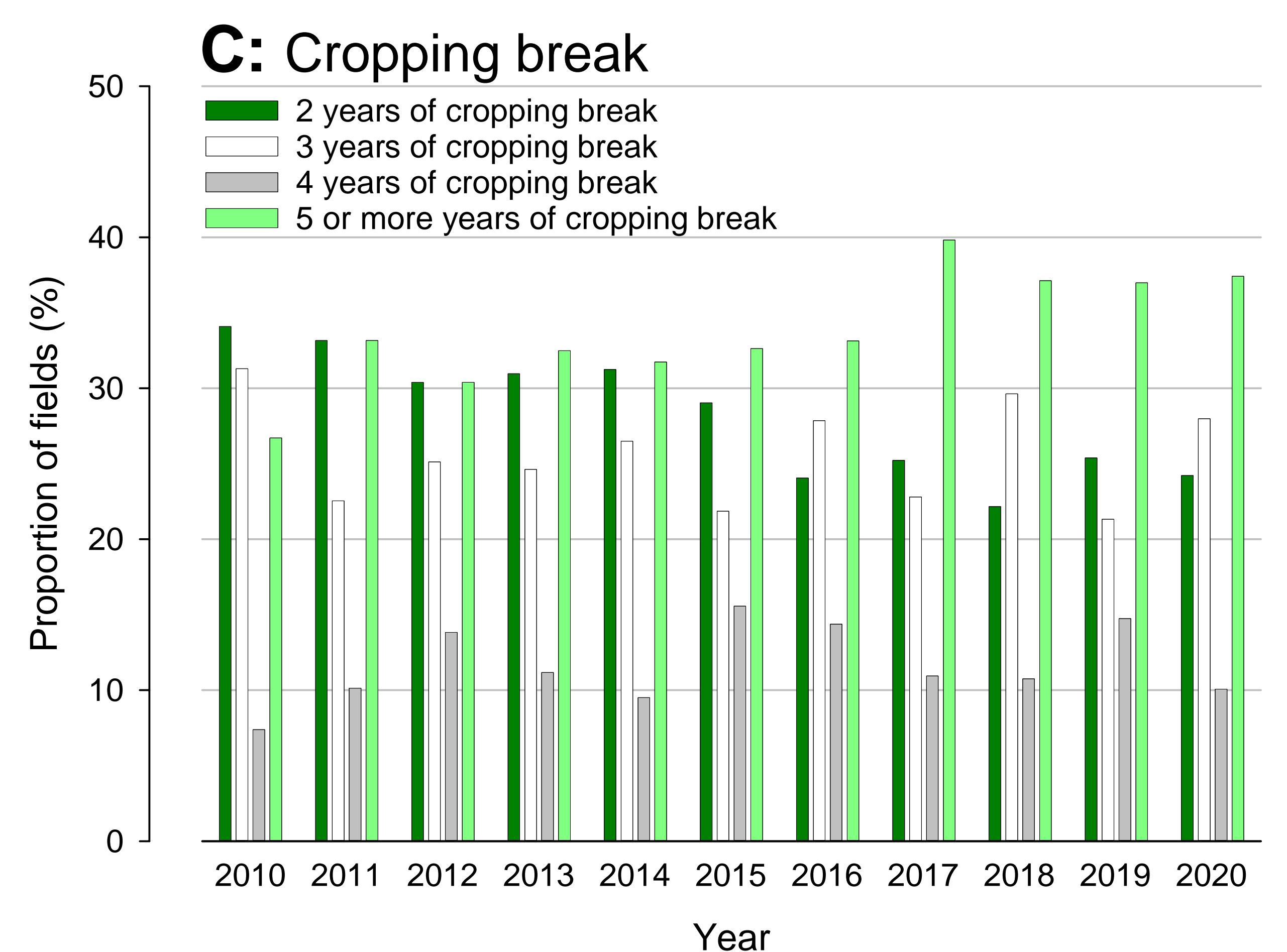
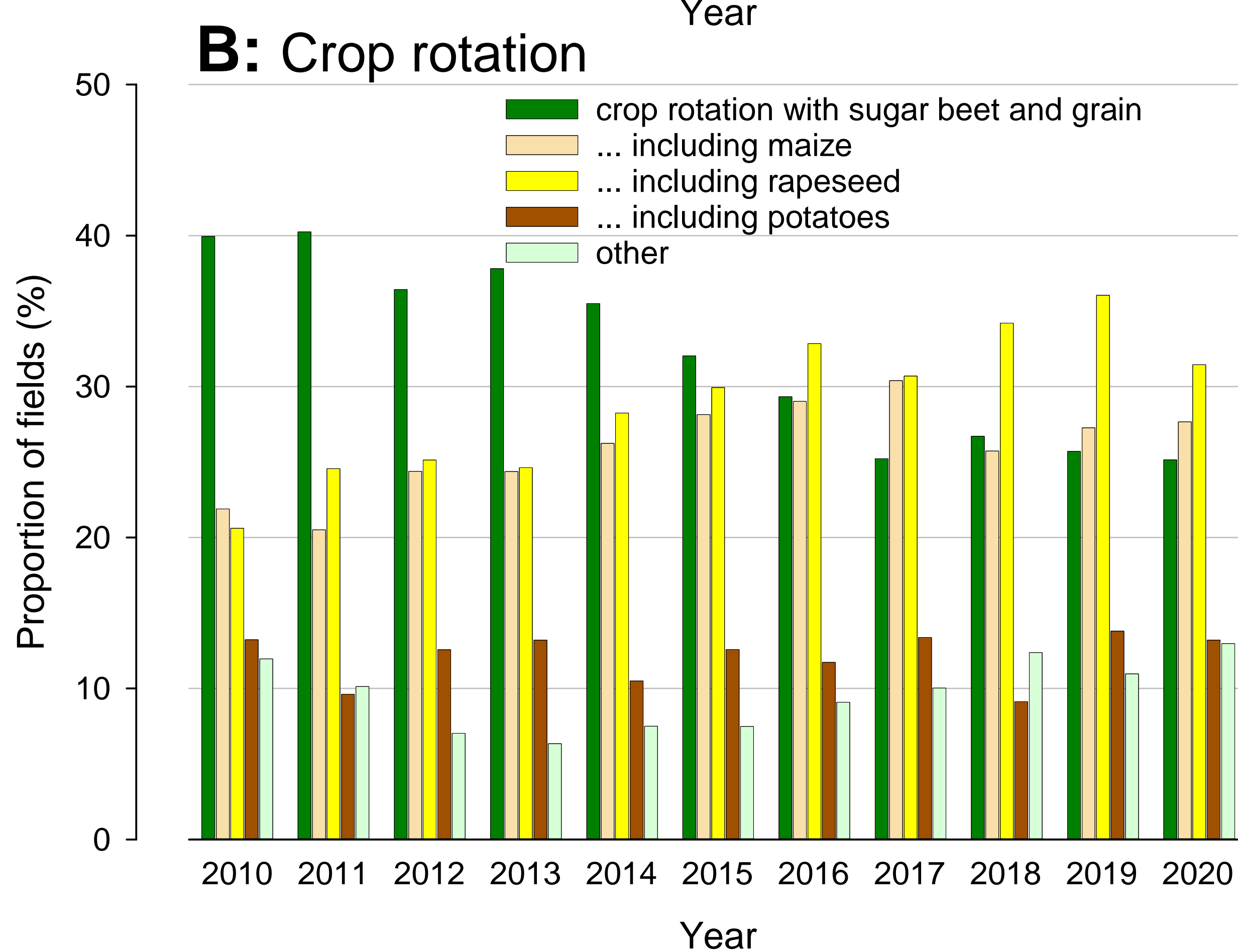
Shannon Index 1.94 for the most diverse rotation: triticale – maize – winter wheat – rapeseed – winter barley – catch crop – sugar beet

Shannon Index 0.64 for the simplest rotation: winter wheat – winter wheat – sugar beet – winter wheat – winter wheat – sugar beet

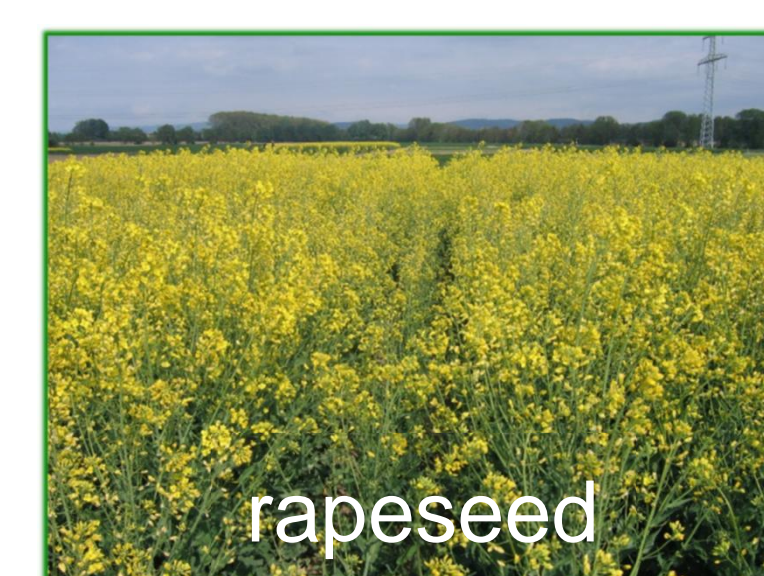


The diversity of crop rotations with sugar beets has increased since 2016.

This increase is driven by a higher proportion of inter-cropping before sugar beet ⁽¹⁾(A), a lower proportion of crop rotations with sugar beet and grain only (B) and a greater proportion of cropping breaks of 5 or more years (C).



The 5 most common crops in 6-year sugar beet rotations



(1) C. Roß, N. Stockfisch, 2022: Catch crop cultivation – A contribution to the EU Green Deal. Sugar Industry 147, 42 – 45, DOI: 10.36961/si28255