

The Biobase Long-term experiment at Foulum and Flakkebjerg – Soil C development



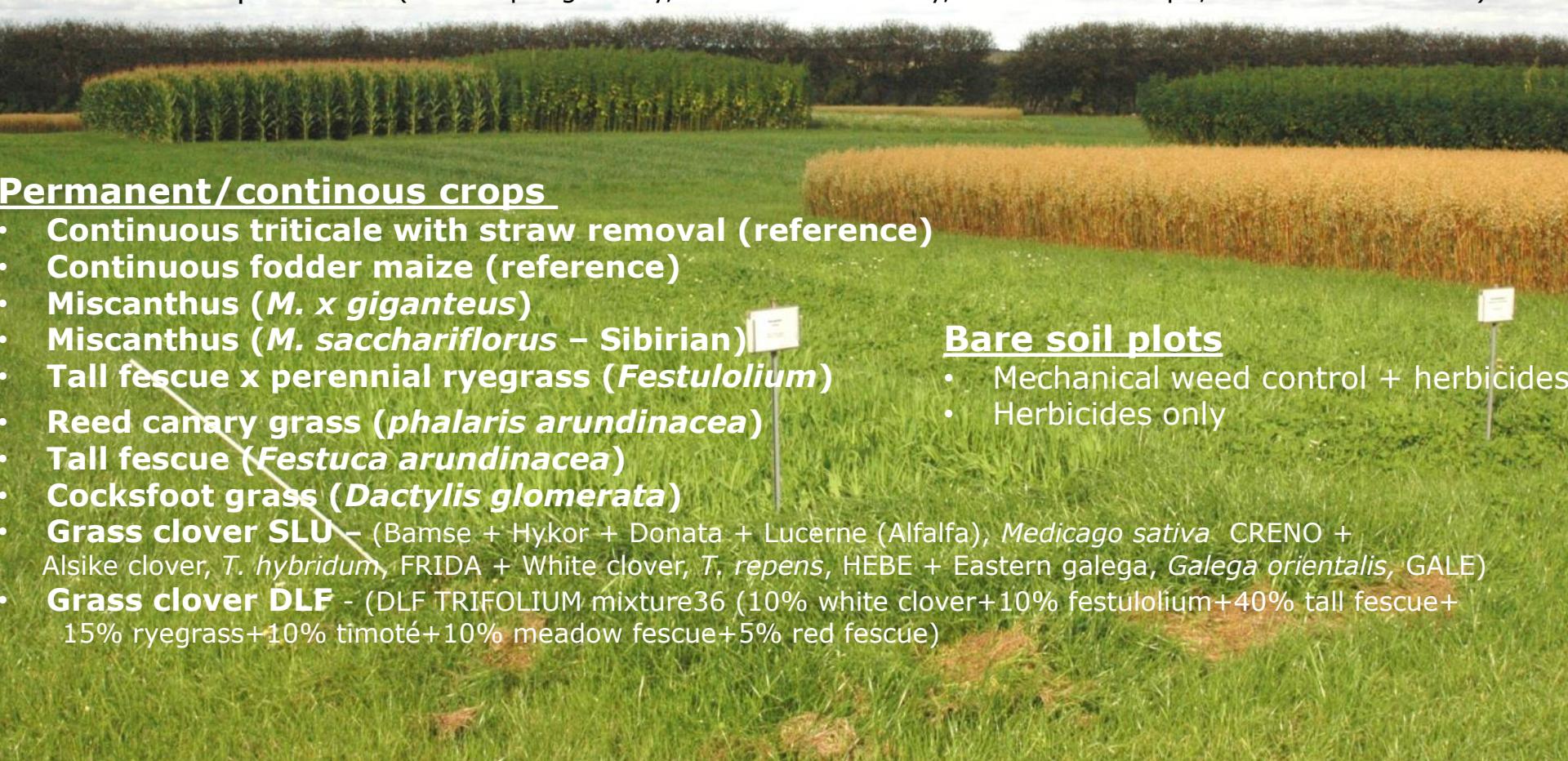
Production systems designed to cover the soil the whole year are investigated

Optimized Crop Rotation

- Energy maize + Winter rye (direct sowing end October – one cut spring)
- Energy beets
- Hemp + Triticale
- Triticale early harvest (10-15 July) + undersown grass clover/rape (two cuts: autumn and spring)

Conventional crop rotation

- Cereal crop rotation (2013: spring barley, 2014: winter barley, 2015: winter rape, 2016: winter wheat)



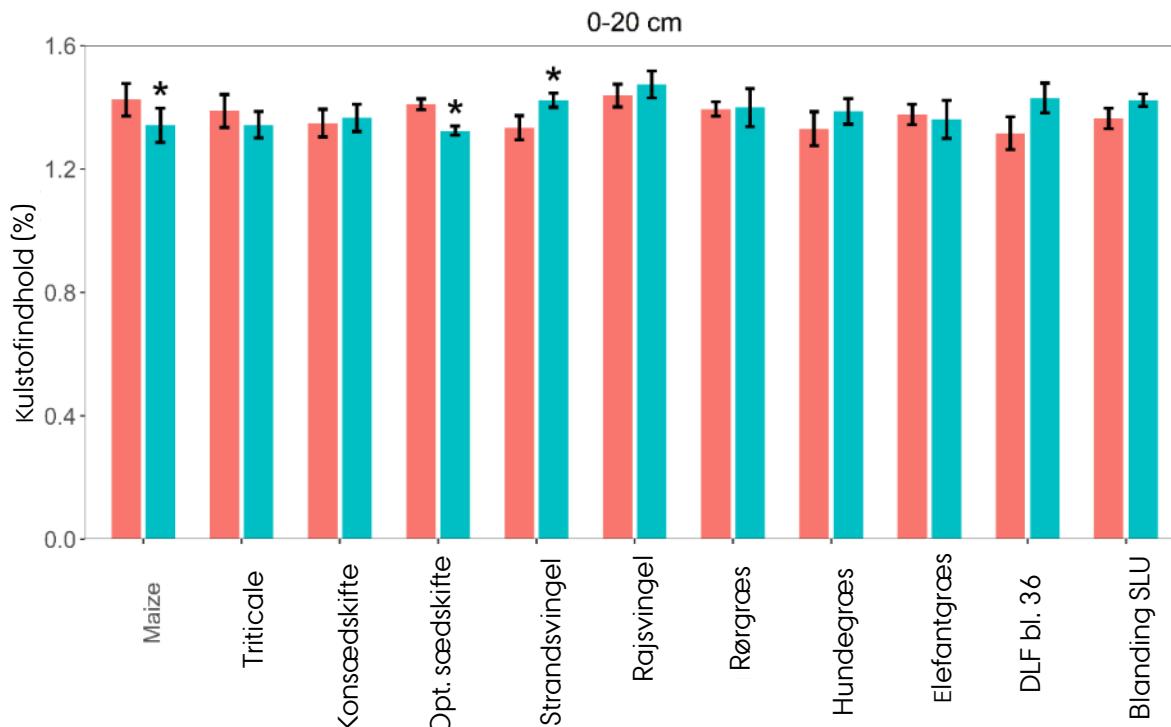
Permanent/continuous crops

- Continuous triticale with straw removal (reference)
- Continuous fodder maize (reference)
- Miscanthus (*M. x giganteus*)
- Miscanthus (*M. sacchariflorus* – Sibrian)
- Tall fescue x perennial ryegrass (*Festulolium*)
- Reed canary grass (*phalaris arundinacea*)
- Tall fescue (*Festuca arundinacea*)
- Cocksfoot grass (*Dactylis glomerata*)
- Grass clover SLU – (Bamse + Hykor + Donata + Lucerne (Alfalfa), *Medicago sativa* CREN + Alsike clover, *T. hybridum*, FRIDA + White clover, *T. repens*, HEBE + Eastern galega, *Galega orientalis*, GALE)
- Grass clover DLF - (DLF TRIFOLIUM mixture36 (10% white clover+10% festulolium+40% tall fescue+15% ryegrass+10% timoté+10% meadow fescue+5% red fescue)

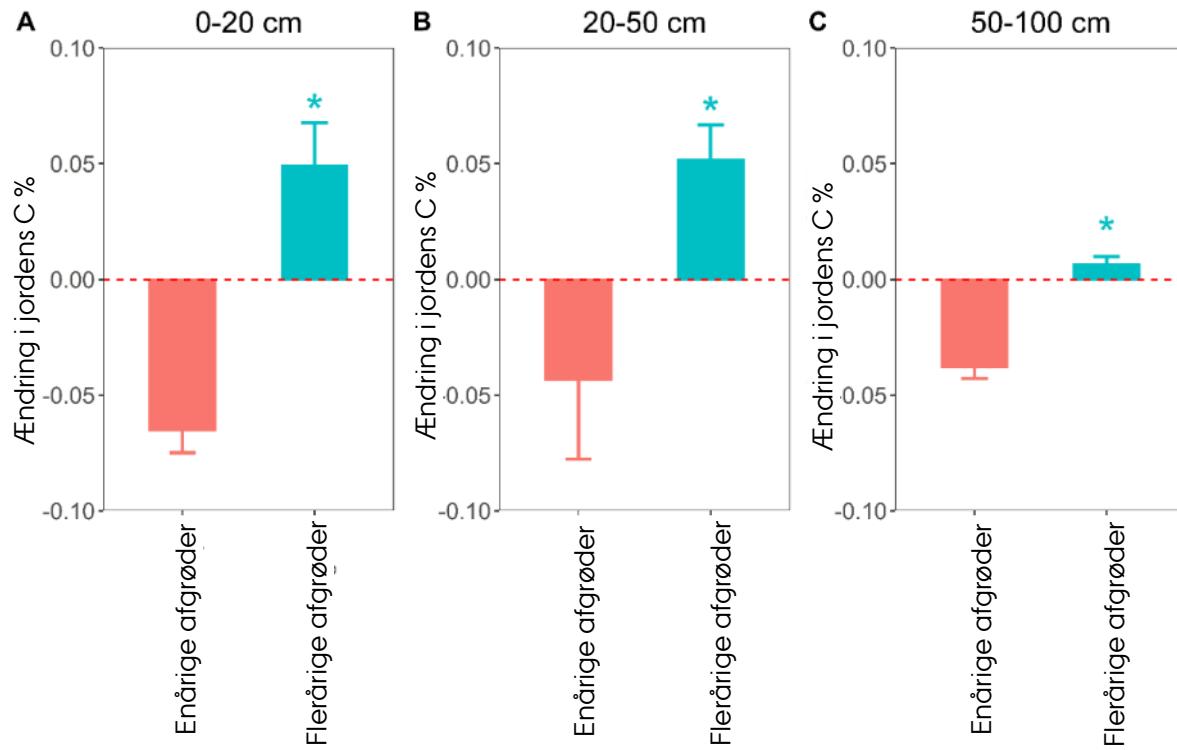
Bare soil plots

- Mechanical weed control + herbicides
- Herbicides only

AFGRØDEVALGETS BETYDNING FOR ÆNDRINGER I JORDENS KULSTOFINDHOLD MELLEM 2012 OG 2017



SIGNIFIKANT FORSKEL MELLEM GENNEMSNIT AF EN- OG FLERÅRIGE AFGRØDER I ALLE DYBDER



SAMLET ÅRLIG KULSTOFÆNDRING PER HA I 0-100 CM'S DYBDE

Enårige afgrøder: -1,3 ton C/ha

Flerårige afgrøder: + 0,8 ton C/ha

Samlet forskel på ca. 2,1 ton C/ha årligt svarer til ca. 7,7 tons CO₂ årligt

Forbehold: Der er benyttet standardværdier (Taghizadeh -Toosiet al., 2014) for jordens vægtfylde – resultaterne kan ændres lidt ved anvendelse af lokale værdier