

INFLUENCE OF NITROGEN FERTILIZATION AND AUTUMN MOWING ON DUAL USE OF THINOPYRUM INTERMEDIUM.

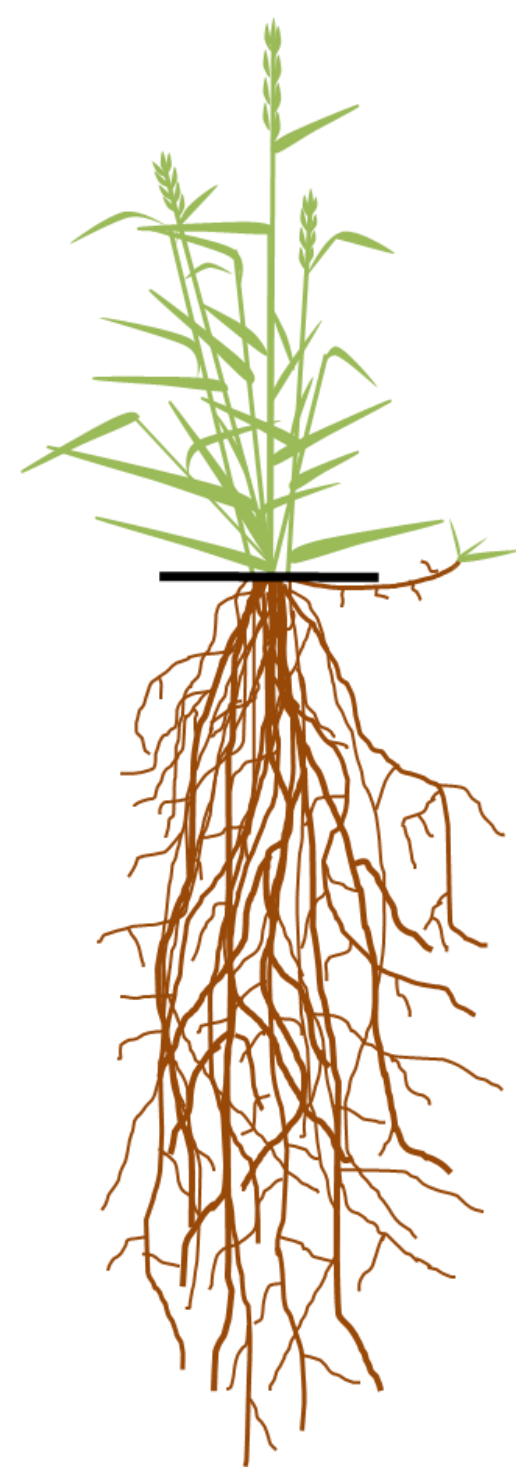
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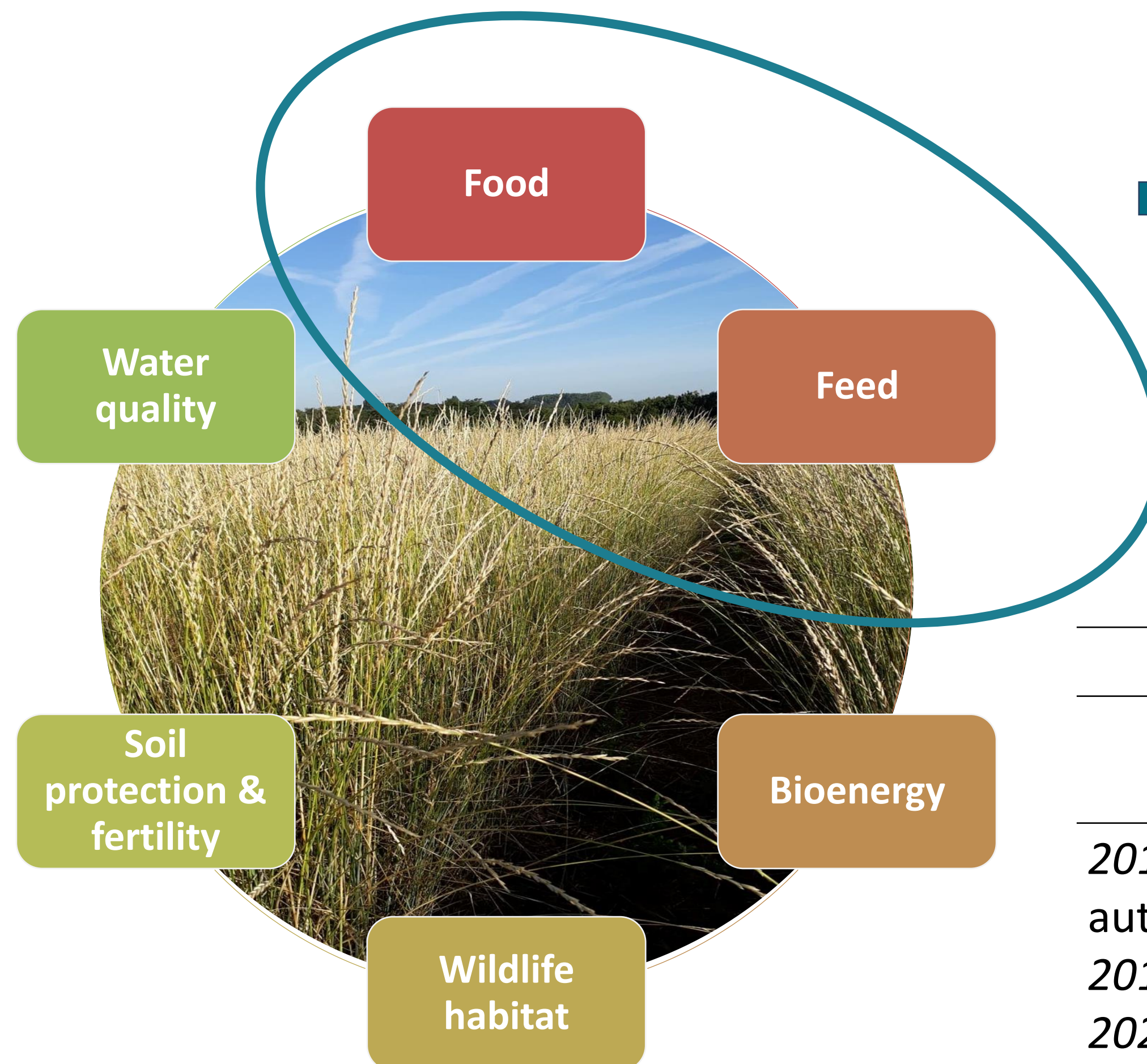
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Objectives

Thinopyrum intermedium subsp. *intermedium* (Kernza®)



- Grains
- Vegetative biomass
- Permanent soil cover
- Deep and dense root system



How to optimize the dual production of the crop in our pedoclimatic conditions ?

Nitrogen fertilization		Mowing
Time of application	Dose of application	
2018 : Tillering, flowering, autumn 2019 : Tillering, autumn 2020 : Tillering, flag leaf, autumn	0, 50 or 100uN/ha	Grain harvest + autumn Grain harvest

Results

Grain yield (T/ha) :

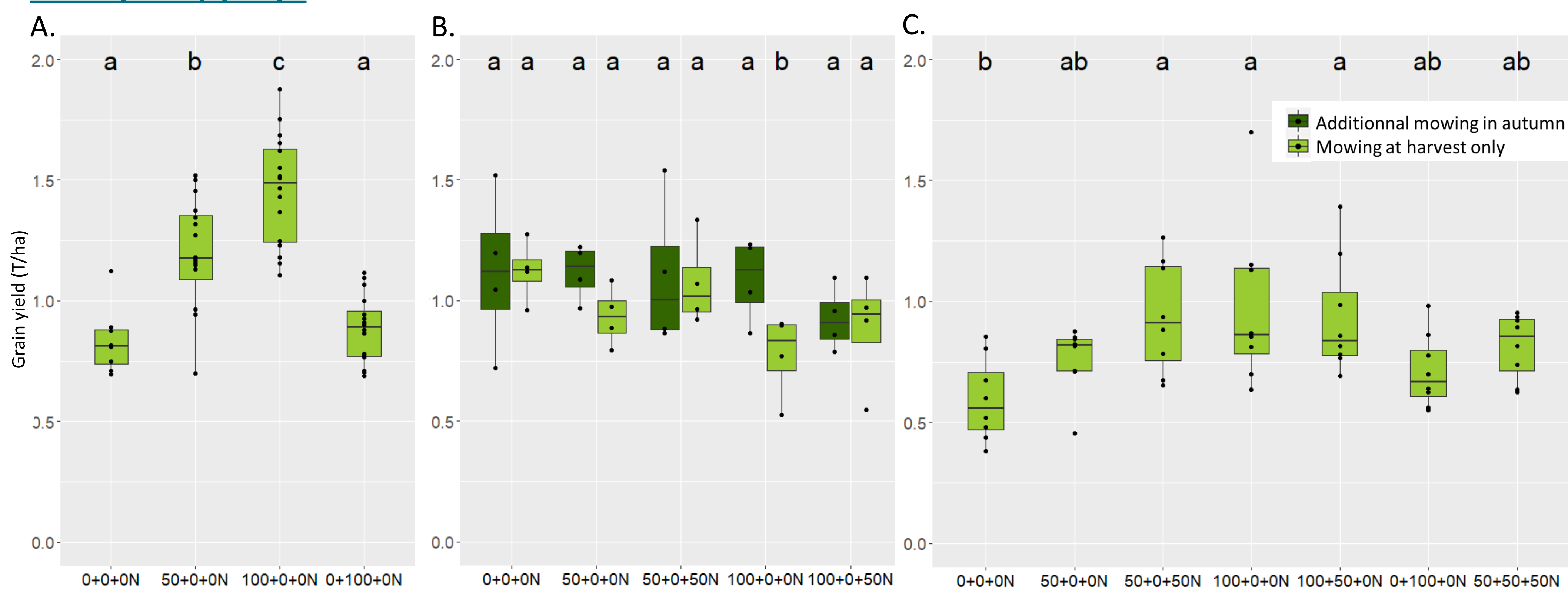


Figure 1 – Grain yield by fertilization and mowing for 2018(A), 2019(B) and 2020 (C). The letters represent statistical groups between fertilizer levels (A) and (C) or between mowing levels (B).

Total dry matter yield at grain harvest (T/ha) :

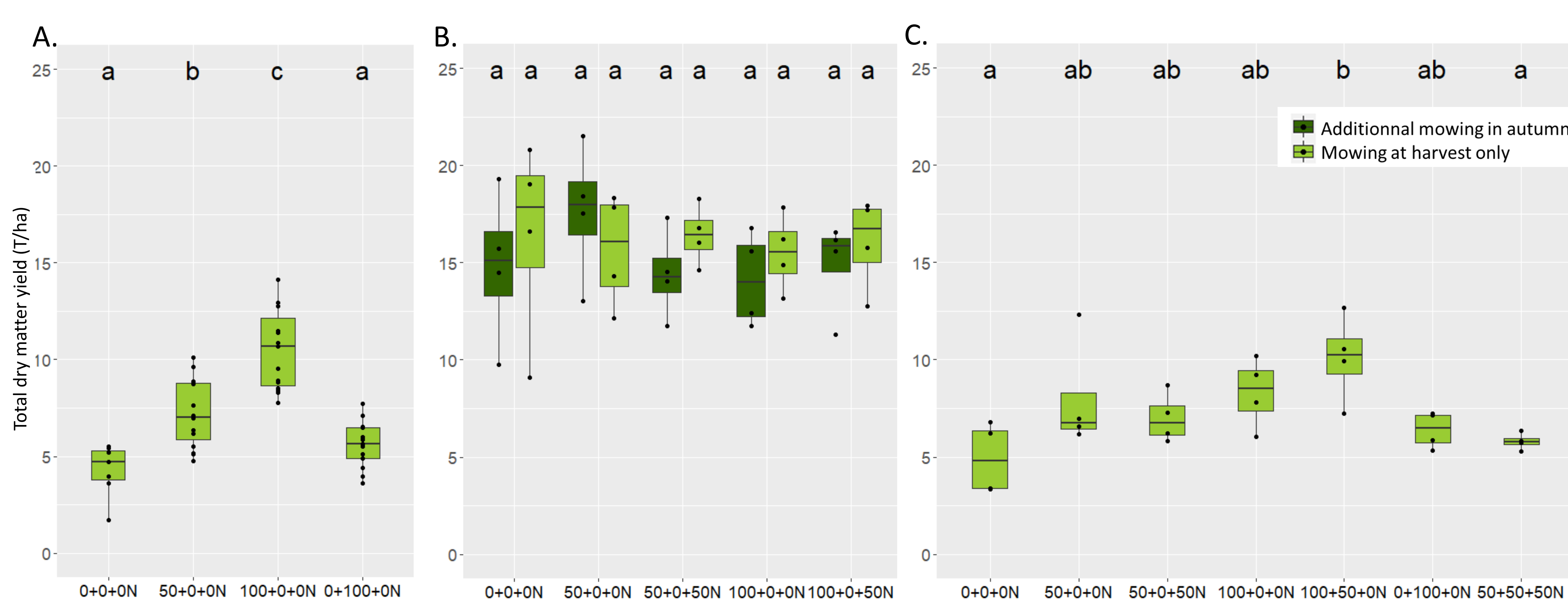


Figure 2 – Total dry matter yield at grain harvest by fertilization and mowing for 2018(A), 2019(B) and 2020 (C). The letters represent statistical groups between fertilizer levels (A) and (C) or between mowing levels (B).

Nitrogen fertilization :

- ↗ Grain yield (2018, 2020)
 - ↗ TKW
 - ↗ Number of ears/m²
- ↗ Dry matter yield (2018, 2020)
 - ↗ Number of tillers/m²
 - ↗ Plant height
- No effect on grain and dry matter yields in 2019
 - Hypothesis : Maximum potential reached & intraspecific competition
 - ↘ number of ears/m² when plots were not mowed in autumn 2018

Autumn mowing :

- Additional harvest in autumn
 - Good quality fodder
- Possible reduction of intraspecific competition
 - ↘ Dry matter production in the season following mowing
 - ↘ Number of tillers /m²
 - ↗ Grain yield for the fertilization 100+0+0N
- Possible reduction of plant lodging
 - ↘ plant height at low nitrogen input