



Effects of regrowth periods on yield and quality traits in different grass clover mixtures

Frandsen, T.S., SEGES Innovation, Crops & environment, Agro Food Park 15, 8200 Aarhus N, Denmark; tsf@seges.dk

Aim: To evaluate the effect of increasing regrowth periods of 1st to 4th cut in different commercial grass clover mixtures for cutting on yield and forage quality.

Materials and Methods:

Two trials were established in 2017 in Denmark with 11 different commercial grass mixtures (6 shown) with different proportions of the grass and legume species based on weight proportion in seed mixtures as shown in table 1. The soil type of the trial sites was predominantly sandy soils with 6 and 12 % clay and the trials were not irrigated. All mixtures were yearly fertilised with 270 kg N, 32 kg P, 268 kg K and 68 kg S ha⁻¹ applied in descending quantity from the 1st to 4th cut.

Five plots per replicate with each mixture were subdivided into 3 subplots in a randomised split-plot design, so each plot was only used for one cut to avoid carry-over effects of previous cuts. In 2018-2020 the plots (1.5x12m) were harvested 4 times with a weekly interval from 1st to 4th cut with a Haldrup harvester.

Table 1. Seed composition (%) of 6 mixtures based on weight basis

Mixture no.	1	2	3	7	9	10
Perennial ryegrass (<i>Iolium perenne</i>)	87	52	57	37	32	15
Hybrid ryegrass (<i>Iolium hybridum</i>)						
Festulolium				45	33	
Tall Fescue (<i>Festuca arundinacea</i>)		30	30			70
Meadow fescue (<i>Festuca pratensis</i>)						
White clover (<i>Trifolium repens</i>)	13	9	13	7	5	6
Red clover (<i>Trifolium pratense</i>)		9		11	30	9

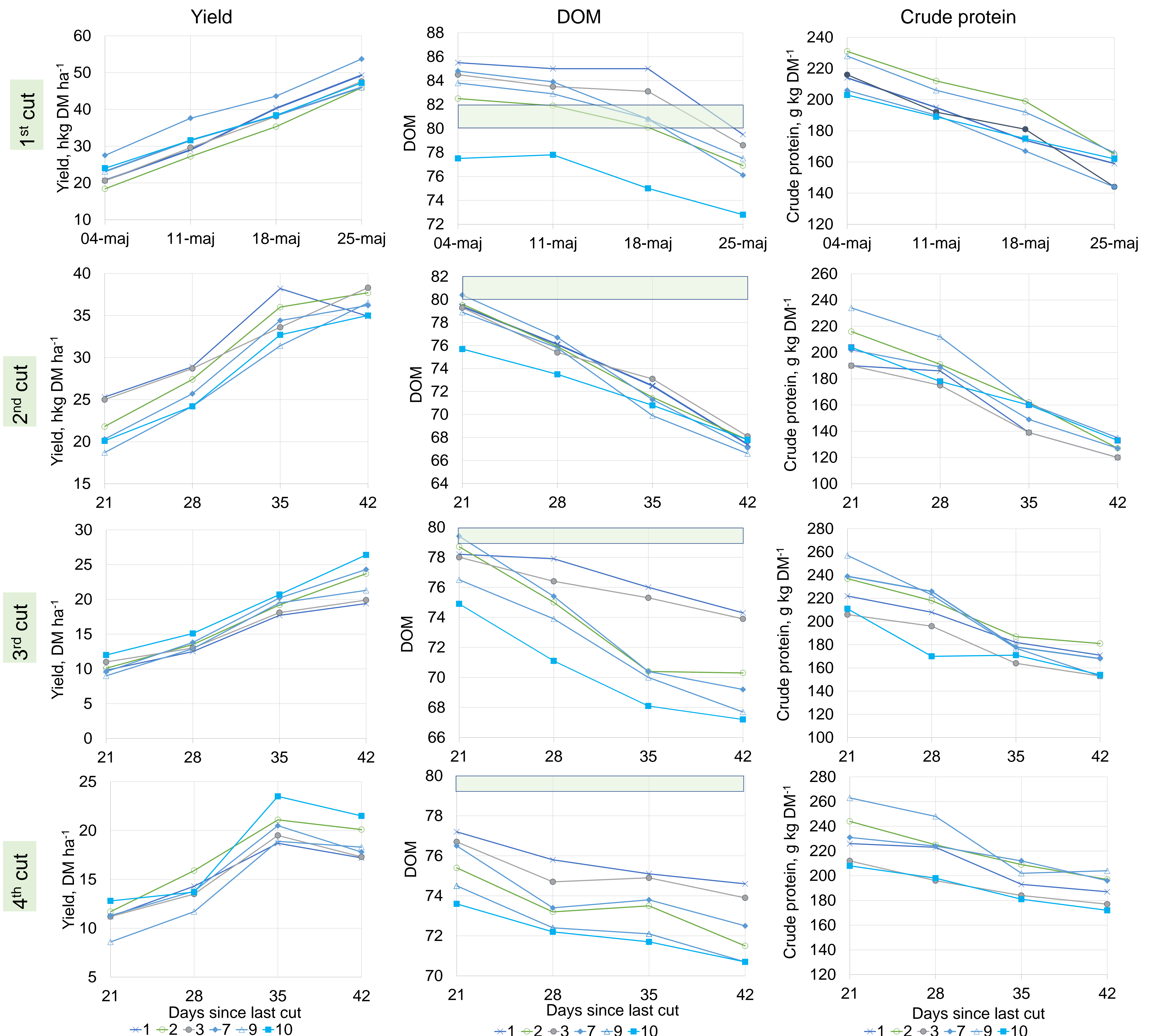


Figure 1. Yield of dry matter pr ha, digestibility of organic matter and content of crude protein. Values are means of 2019-2020 across both sites.

Conclusion: For 3rd and 4th cut, the mixtures containing only white clover as legume maintained a higher DOM than mixtures including red clover but also a lower yield and daily growth rate. Mixtures including red clover or tall fescue needs a shorter regrowth period to achieve a goal of DOM of 80% compared to mixtures containing only white clover as legume.