

The ensilability of different varieties of Festulolium

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Introduction

Festulolium varieties are hybrids of fescue (*Festuca*) and ryegrass (*Lolium*). Ryegrass varieties have wide adaptability, rapid establishment, a high response to high soil fertility and give high yields of highly digestible forage. In comparison, fescues contribute more mid-summer growth and have greater drought tolerance. Nevertheless, fescues have relatively poor palatability and digestibility. The Festulolium hybrids were developed to combine the positive characteristics of the two species, namely, yield and persistence. Between 2015 and 2017, Agroscope in Changins, Switzerland, tested different varieties of Festulolium, fescue and ryegrass for their agronomic properties. The aim of the investigation presented here was to compare the ensilability and silage qualities of the Festulolium varieties with those of the fescue and ryegrass varieties.

Materials and methods

Festulolium varieties: Felimare, Helus, Hopej, AberNiche, Bb 2540 and Fedoro.

Hybrid Ryegrass varieties: Daboya and Dorcas; **Fescue varieties:** Préval and Paradisia;

Forage were sown in small plots in Changins, Switzerland, in 2015. The experimental design was a randomized complete block design with four blocks (replicates), but only the forage of three blocks was used for the silage trial.

In 2016, the forage of the first cut, cutting date 9th of May, and the second cut, cutting date 27th of June, were wilted and ensiled in laboratory silos with a capacity of 1.5 L. No silage additive was added. Before ensiling and after 90 days of storage, samples were taken, and the dry matter (DM) and nutrient content were analysed using near-infrared spectroscopy (NIRS). Additionally, the fermentation parameters (pH, acids and ethanol) in the silages were analysed. The data were analysed by one-way ANOVA with the three species Festulolium, hybrid ryegrass and fescue as variables.



Photo: Agroscope

Results

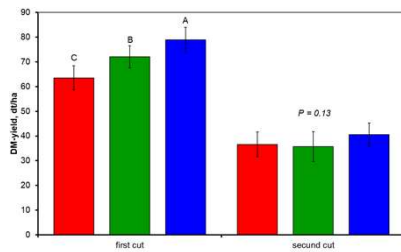


Fig. 1. DM-yield of the first and second cut

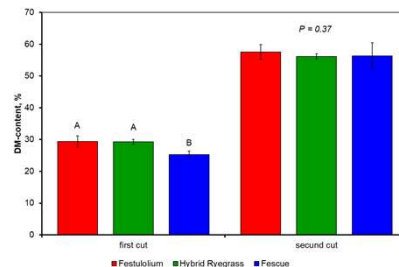


Fig. 2. DM-content of the wilted forage

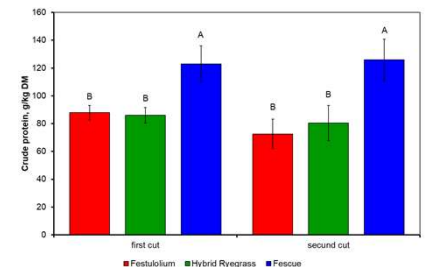


Fig. 3. Crude protein content of the wilted forage

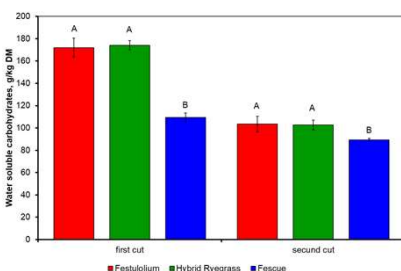


Fig. 4. Water soluble carbohydrates of the wilted forage

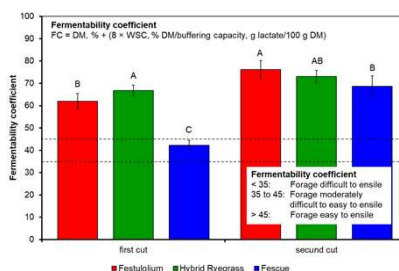


Fig. 5. Fermentability coefficient

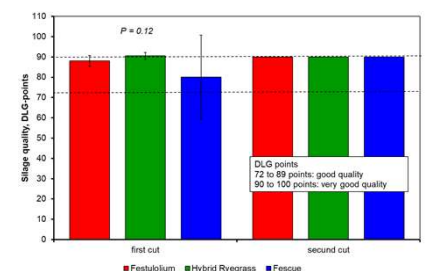


Fig. 6. Silage quality (DLG-points)

- The DM-yield was similar between the Festulolium varieties and the other varieties (Fig 1).
- The forage of the second cut had higher DM-contents at ensiling in comparison to the first cut (Fig. 2).
- The Fescue varieties had higher crude protein contents (Fig. 3).
- The Festulolium varieties had similar water soluble carbohydrate contents as the Hybrid Ryegrass (Fig. 4) and also the fermentability coefficients were similar (Fig. 5).
- All silages showed a good silage quality (Fig. 6).