RED CLOVER – ANALYSIS ON THE YIELD AND QUALITY OF FEED

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RESEARCH ARTICLE

Abstract

Red Clover (Trifolium pratense) is a perennial plant of the legume family (Fabaceae). It is grown both in pure culture and in crops with perennial grasses.

Red clover is a very good quality forage, rich in protein, minerals and soluble carbohydrates, which develops very quickly. Suitable for grazing or as dry fodder for cattle, sheeps and pigs, it helps them mature and gain weight faster and contributes to milk production.

This study aims to assess the yield of red clover for hay use in Romania. .

Keywords: red clover, hay use, forage, grazing, protein.

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INTRODUCTION

Trifolium pratense L. is the second-ranked fodder legume in Romania, after alfalfa (Medicago sativa L.) in the number of variaties created, produced and sold seeds.

Red clover has a special importance for animal husbandry, through its multiple biological and fodder properties.

This study is focused on the forage yield of red clover.

MATERIAL AND METHOD

Red clover has varied and nutritional components , depending on numerous factors, such as the variety, harvest period and preservations conditions.

Starting from these factors, in this study we present the content of carotenoid, vitamin C, vitamin E and the level of raw nutrients, harvested at different stages of vegetation.

RESULTS AND DISCUSSIONS

Red clover is used in animal feed, in the form of green mass, hay, hay meal or silage. Harvested at flowering, clover hay contains about 14.5% crude protein, 20.4% crude cellulose, 22-26 mg carotene/kg feed and significant amounts of vitamins (B, C, D, E, etc.). The digestibility of organic substances has high values, both in green mass (>70%) and in hay (60%). The nutritional value of a kilogram of clover harvested at the beginning of flowering is 0.62 UN for hay and 0.18 UN for green mass.

In the fresh state, it can cause weathering in ruminants.

Red clover is a perennial legume, productive for 2 to 3 years. Maximum yields and the highest quality are realised in the second year of its life if the first cutting is done in early flowering (20%) and further cuttings abot 45 days after the previous cut (Wiersma et al.,1998).

It's important to note that the nutritional composition of red clover can change as the plant matures. The stage of maturity at harvest significantly influences the levels of protein, fiber, and other nutrients. For optimal nutritional value, red clover is often harvested during the early flowering stage when protein content is typically highest.

Red clover is a highly adaptable species to various climatic conditions and soil types and therefore grows widely in numerous regions of the country.

Table 1

The content of red clover in vitamins (mg/kg fodder)

Product	Carotenoid	Vitamin C	Vitamin E
Green mass- young phase	84	360	169
Green mass- at flowering	49	-	134
Green mass- after flowering	36	-	111
Hay	24	32	22
Silage	26	-	-

Table 2

The absolute amount of raw nutrients in red clover, harvested at different stages of vegetation kg/ha

Stage of vegetation	Protein	Fat	Non-nitrogenous extracts	Cellulose	Ash
The beginning of sprouts	110	20	155	74	33
Formed sprouts	212	35	389	174	71
Bud 3%	311	50	861	350	137
Flowering 5%	475	87	1673	659	232
Flowering 50%	552	92	1923	861	266
Flowering 100%	589	102	2270	1164	301

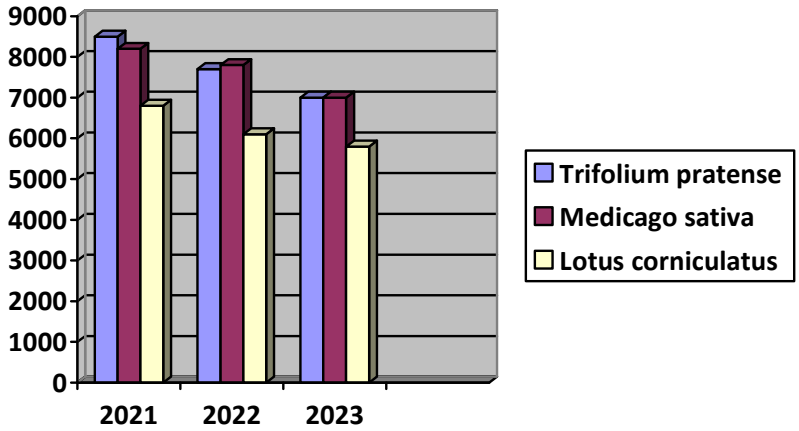

Figure 1 **Production of hay obtained in 3 years of vegetation**

CONCLUSIONS

The research results highlights that the red clover ensure one of the highest forage quality.

Red clover can successfully be grown across Romania in areas not characterized by drought. It is most suitable for the production of preserved winter feed for cattle, pigs and sheeps.

The quality of the forage produced from red clover is excellent, provided that the harvest is made at early phenological stages and the crop is well preserved.

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