



IMPORTANCE OF PASTURE FLORAL COMPOSITION IN SHEEP RAISING

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Abstract: This paper focuses on the importance of pasture floral composition in sheep raising. It presents the main factors to consider in pasture management: climate, floral composition, soil, terrain, and water supply. The floral composition of pastures has been one of the sheep feeding-related topics: biodiversity, floral composition of pastures, grazing systems, pastoral systems, pastoralism and conflict, pasture quality, and transhumance. The paper presents, in detail, the main types of pasture and hay forage crops for sheep (alternative/annual forages, cool season grasses, forbs/phorbs, legumes, and warm season grasses) currently found on Romanian pastures, and recommends a few mixtures of pasture and hay forage crops for sheep.

• Introduction

Pastures are the primary sources of food and nutrients for sheep, and pasture management can ensure safe grazing with minimum feed costs for the farmer and minimum damage to the pasture. To do so, farmers need to consider the following factors: climate, floral composition, soil, terrain, and water supply; :

- Climate can affect pasture growth and development through drought, moisture, temperature;
- Floral composition depends on climate and land conditions and should cover the needs of sheep (who can graze for up to seven hours a day);
- Soil allows grass to grow in adequate quantities; can ward off the growth of undesirable weeds and poisonous plants; may need fertilizing to improve soil fertility if the sheep do not do most of the fertilizing; needs testing in a lab for factors such as available phosphorous and potassium, Ph level, presence of salt and cations (calcium, magnesium, sodium); provides the groundwork for pasture management;
- Terrain can affect livestock grazing behaviour and pasture development because of the instability of the terrain, of the level of terrain, of the location of the pasture, of the steepness of its slope, or of the unevenness of the terrain.
- Water supply is vital on pastures because the soil needs moisture to nurture crop growth and, if not enough, it can also affect the health of the flock.

• Material and method

The material consists in publications on the importance of pasture floral composition in sheep raising, with focus on the main pasture management factors and on the most common types of pasture and hay forage crops for sheep. The research method, bibliographical, aimed at presenting, in a rigorous way, the main pasture management factors, the main sheep feeding-related topics, the main types of pasture and hay forage crops for sheep found in Romania, and a few mixtures of pasture and hay forage crops for sheep.

• Results and discussions

1. Types of Pasture and Hay Forage Crops for Sheep

According to Undersander (2020), "pasture and hay forage crops for sheep generally fall into four categories: alternative/annual forages, cool season grasses, legumes, and warm season grasses." A fifth category is that of forbs / phorbs.

1.1. Alternative/annual forages "should be considered for sheep pasture only in emergency situations" and include: all annual forage crops: broomcorn / sorghum (*Sorghum* spp.), Sudan grass (*Sorghum × drummondii*), and various millets and any perennial crops: comfrey (*Symphytum* spp.), kale / leaf cabbage (*Brassica oleracea*), and oilseed rape / rapeseed (*Brassica napus* subsp. *napus*).

1.2. Cool season grasses "start growing early in the spring and produce most of their growth in May and June, while some of them will continue to provide good forage through the summer and fall if nitrogen fertilizer is applied in June and August" and all into two categories: bunch forming grasses and sod forming grasses.

Table 1. Mixes of grasses and legumes for sheep

No.	Forage crops	Amount (kg)
1	Kentucky bluegrass	6,75
	Medium white clover	1,80
	Italian ryegrass	0,90
2	Bromegrass	45,00-50,00
	Red clover	1,80-3,60
	Italian ryegrass	0,90
3	Orchard grass	45,00
	Red clover	2,70
	Italian ryegrass	0,90

Conclusions

Pasture floral composition in sheep raising continue to be a topic of interest for researchers and is one of the sheep feeding-related topics: biodiversity, floral composition of pastures, grazing systems, pastoral systems, pastoralism and conflict, pasture quality, and transhumance. Sheep farmers need to consider pasture management, with focus on climate, floral composition, soil, terrain, and water supply. The mixtures of pasture and hay forage crops for sheep need to include alternative/annual forages, cool season grasses, forbs/phorbs, legumes, and warm season grasses in combinations of at least three forage plant species.