

# Needs and behaviour of the animals in the pasture

Pasture management requires combining the performance characteristics of the vegetation with the needs and behaviour of the animals. Aspects to consider for pasture management are: **1) the way the animals eat, 2) the amount they eat, 3) the nutritional needs they have, and 4) the impact they cause on the plot.** These aspects vary considerably if **free grazing** is carried out on the entire pasture area, or if **intensive controlled grazing**, in which the pasture is divided into plots and the herd only enters one of them each day, is followed.



**Figure 1.** Herd of cows following free grazing in Pla de la Calma (Montseny, Barcelona). Photo: MJ Broncano.

To achieve maximum performance in pasture management, the characteristics of the functioning of the plants must be combined with the animals' behaviour and needs. **Aspects to consider for pasture management** are: 1) **the way the animals eat, 2) the amount they eat, 3) the nutritional needs they have, and 4) the impact they cause on the plot.** To understand how the animal works, we will consider a pasture with food to feed a herd of cows for 10 days. Throughout this sheet we will compare two different situations: (i) **free grazing**, in which the animals have the entire pasture surface from the first day to the last (**Figure 1**); (ii) **intensive controlled grazing**, in which the pasture is divided into 10 plots and the animals are introduced to a different plot each day (**Figure 2**).

## ■ The way the animals eat

Animals eat differently if they have a large area available for several days or if the area is smaller and they graze it for less time.

- **In free grazing, animals roam the pasture area and choose the plants that interest them most,** grazing them selectively. This means that the animals eat the plants that they like the most on the first day. In the following days, **as the best plants are exhausted, they begin to eat the plants that attract them the least,** and so on until the last days when the least beneficial plants are eaten. Free

grazing implies that the animals change their diet every day, in a way that has a negative effect on production.

- **In intensive controlled grazing,** the animals only have the necessary amount of feed each day (one tenth of the meadow) (**Figure 3**). In these conditions, the grazing behaviour of the animals changes and they graze in a more aggressive way, in which **they know that they must eat everything in the field.** When it comes to a herd, as the animals are in high densities, the presence of the other animals in a reduced area causes the cows to acquire this **aggressive grazing pattern.** The result of this behaviour in the feeding of the cows is that the animals eat the same quality of grass every day (mixture) and there is no change in feeding, as in the case of free grazing.

## ■ The amount the animals eat

The amount the animals eat also **varies depending on whether they have a large area for many days or a small area for less time.**

- **In free grazing,** it has been observed that the **amount of food a cow eats from the moment it enters a new pasture decreases significantly over the days.** This behaviour is not due to the decrease in the quantity or quality of the pasture, but is linked to the fact that the pasture is being trampled on and dirtied and to the behaviour of the animals themselves.



**Figure 2.** Herd of cows in a plot following intensive controlled grazing on the Planeses farm (Girona). Photo: MJ Broncano.

- In **controlled intensive grazing**, this effect of reducing the amount of grass eaten does not occur because it is **new pasture each day**.

### ■ The nutritional needs of the animals

The type of grazing distinguishes the different nutritional needs that the animals may have in a herd.

- In **free grazing**, all animals have the same diet, regardless of whether their nutritional needs are different (nutritional needs depend on the age, sex and reproductive status of each individual).
- In **intensive controlled grazing**, the farmer **can divide the herd into two batches**, one with the **highest nutritional needs**, and the other with the individuals with the **least nutritional needs**. The batch with the highest nutritional requirements can enter the plots first and will take advantage of the upper parts of the plants, which have a higher nutritional value. Once this group leaves, the second batch, with lower nutritional needs, enters and eats the intermediate and lower parts of the plants.

### ■ The impact the animals cause on the plot

Finally, **the impact of the animals on the plots is different** depending on the type of grazing, since overgrazing of the pasture and compaction of the soil depend on whether they spend more or less time in the plot.

- In **free grazing**, the animals **remain in the field for several days**, and in favourable growing seasons, the resprouting of the first eaten plants (the best for the cow) begins while the animals are still in the field. The animals mainly select these sprouts, so the **plant's needs are not respected and overgrazing occurs**. In addition, the wandering behaviour of the animals throughout the entire plot during their entire stay (several days in many cases of free grazing), has an important effect on the compaction of the soil.
- In **intensive controlled grazing**, cows are only in each plot for one day and therefore, **do not have time to eat the sprouts of the first plants that were eaten**. Furthermore, the trampling compaction effect disappears because the cows are only in the field for one day, they move less and the field has a very high recovery (i.e. rest days) time.



**Figure 3.** In intensive controlled grazing, the pasture is divided into plots, and the animals spend a short time in each one. Photo: Ángela Justamante.