

Artigos

Pasture Management

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Pastures represent the main and cheapest source of feed for ruminants, but are not always managed properly, often due to lack of knowledge about their physiological conditions of growth and nutritional composition. Manage pasture with adequate means to produce food in large quantities, but to seek the maximum nutritive value of forage. Forage production significantly affects the carrying capacity of pastures (number of animals grazing behavior without your productivity or persistence are affected), being influenced by soil fertility management and climatic conditions.

The nutritional value of forage, represented by the chemical composition, digestibility and utilization of forage digestible, affects the production per animal (kg meat / animal production / cow) and depends primarily on forage intake, which is affected by palatability, passing speed and availability of forage. Joining a support capacity and production per animal has been the production per area of grassland is the main factor that determines the efficiency in pasture management.

Pasture management should be sought: a) maintain the population and productivity of forage species, aiming to use even during the year; b) adjust the maximum yield and quality of forage produced on the basis of controlled grazing, aimed at producing economic per animal and per area, c) nutritional requirements according to different categories of animal and production cycle, and d) to properly manage the complex soil / plant / animal for economic production, for both the producer and the consumer products animal. Of the factors related to grassland management, the more subject to the direct intervention of man are: a) the production and forage quality, b) animal consumption; c) grazing system; d) balance of pasture botanical composition, and , e) correction and soil fertilization on the formation and maintenance of the pasture.

The efficient and sustainable management of pastures can be characterized as the control of the relations of the pastoral system, aiming at its increased production, better use and persistence. In practical terms, a grazing animal is the simplest form of the soil-plant-animal. Soil is the system and source of nutrients for grazing. The plant is the source of nutrients for the animal and affects the physical and chemical conditions of the soil. The animal acts as a modifier of soil conditions and plant. Factors such as temperature, light, water and nutrients influence the photosynthetic potential of grasses as a result of changes in leaf area index (LAI) and canopy photosynthetic capacity.

Forage production results from the conversion of solar energy into organic compounds through photosynthesis, where the carbon dioxide (CO₂) from the atmosphere is combined with water and converted into carbohydrates using solar energy. The conversion of energy, however, is a relatively inefficient, because only 2-5% of the light energy reaching the surface can effectively be used in the canopy growth. The light radiation is the primary determinant of plant growth through its effects on photosynthesis and other physiological processes such as sweating and nutrient absorption. Efficient use of light can be a competitive advantage to plants in the transformation of light energy into chemical energy.

Environmental inputs available for the primary production of biomass, solar radiation is most likely to optimize, by selecting more efficient forage germplasm in their interception and use, concurrently with the adoption of management practices that maximize light absorption and translocation of assimilates (planting density, intercropping of grasses and legumes, grazing systems). Considering the existence of 12 million ha of natural grasslands in southern Brazil, estimates that the efficiency of collection of primary productivity of the pasture, combined with the efficiency of conversion of light energy into organic compounds increased only 0.01%, would possible to increase the supply of animal products in about 19 billion MJ (800,000 t of meat / year) only in this region and at zero cost.

The efficient and sustainable management of pastures can be characterized as the control of the relations of the pastoral system, aiming at its increased production, better use and persistence, with positive effects on the performance of animals. Forage production results from the conversion of solar energy into organic compounds through photosynthesis, where the carbon dioxide (CO₂) from the atmosphere is combined with water and converted into carbohydrates using solar energy, the process responsible for more than 90% of biomass accumulation in plants. Factors such as temperature, light, water and nutrients influence the photosynthetic potential of grasses as a result of changes in its leaf area index and canopy photosynthetic capacity.

The light radiation, since it has unlimited availability, is a determining factor for plant growth through its effects on photosynthesis and other physiological processes such as transpiration and uptake of water and nutrients. The selection of forage germplasm with plant architecture and canopy structure, which maximize the interception and use of light is a competitive advantage, greater efficiency in converting light energy into chemical. In this context, suitable management practices are essential to optimize the generation and flow dynamics of tissues in the pasture ecosystem in order to balance the conflicting demands of plants per leaf area, and its removal through the constant animal intake.

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