

Carbohydrates are the most important source of energy. The energy needs of dairy cows can be divided between those of maintaining a cow and those related to milk production. If energy is not supplied in fodder, the bacteria in a dairy cow's rumen cannot convert proteins and milk production falls. Forage contains from 30 to 90% fibres, the percentage increasing with the age –ripening or maturity- of a plant. However, an increase in the fibre content of a plant also means an increase in the amount of lignin present and carbohydrates become less available to the microbes in a cow's rumen and, as a result, the energy value of the forage falls. Thus, ideally, forage should be grazed or harvested at an early stage of a plant's life cycle in order to maximise the energy it contributes. (Forage maize silage is an exception due to the high content of digestible starch –fibre- in its grains. Maize is not grown on the Vista Alegre farm but is a bought-in as a fodder supplement). The average carbohydrate content of the pea family (Leguminosae) is 60%. Grasses (Gramineae) such as cocksfoot (*Dactylis glomerata*), fescue (*Festuca* sp.) and the rye-grasses (*Lolium* sp.) contribute more energy.



