

Nutrition of working animals

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People living in the developed countries of the world often overlook the reliance that many people in the world still place on the working animal. It provides power in food and cash crop production and transport for goods, people and household essentials such as water and fuel in many tropical and sub-tropical areas and in some small scale systems in temperate areas. It is impossible to determine accurately the total number of animals that are used for work in the world. Some animals are used daily and others seasonally. Numerically the most important animals used for work are cattle, followed by water buffalo, donkeys, horses and mules. Llamas, yaks, elephants, dogs, reindeer, sheep and goats are also used by some people for work, but in smaller numbers. In recent years numbers in some countries have declined, notably in SE Asia, however in other countries, notably in sub-Saharan Africa, they have increased. Working ruminants and equids are characteristically kept on small mixed farms, mainly in tropical and sub-tropical regions, where it is not economic to use motorised power or the terrain is too steep and inaccessible for machines to reach. In recent years the trend has been to consider multipurpose use of working animals – The female animals kept for breeding and milk, and animals ultimately destined for meat are used for work, in addition to their other productive functions. Working equids are also found around urban areas in Asia and Africa where they are used almost entirely for short distance transport of people and goods.

The major requirement of the adult working animal is for energy. Additional requirements for protein, minerals and vitamins during work are relatively low. These can usually be met by the additional food given to meet the extra energy requirements and additional salt given to meet the mineral losses incurred in sweating and salivation during work. Energy requirements of working cattle and buffalo are relatively well understood and daily requirements can be calculated provided the duration, and amount of work is known (1).

Feeding working animals to meet these requirements is not without problems in many situations: The main working period in the year, when the nutritional needs for working animals are greatest, is usually at the time when feed supplies are at their lowest – at the start of the wet season. The basic feeds that are available to feed most working animals at this time are the high fibre, low protein forages such as mature tropical grasses, bush hays and cereal crop residues. These feeds are not easily processed by the animal and are of low digestibility, so the animal needs to have plenty of time to feed. Work encroaches on the time available for feeding so voluntary feed intake of forages usually decreases on a working day. Many of the people who keep working animals have little cash available to purchase good quality supplementary feeds always assuming that these are available. The main challenge in feeding the working animal is to provide it with sufficient nutrients to meet its requirements for work from the resources that are available given the constraints above. There is no single answer. Options available – increasing ration quality, use of body energy reserves – are discussed and examples are provided of how these can be achieved and situations where these options are most feasible.

1. Lawrence PR, Pearson RA. Feeding standards for cattle used for work. CTVM, Univ of Edinburgh, 1998.