CHAPTER-9

Calculation feed fodder requirements using thumb rules methods for various categories of dairy animals

Objectives

Practical feeding of animals under field conditions.

Introduction

Maintenance ration may be defined as the feed required to maintain the essential body processes at their optimum rate without gain, loss in body weight or change in body composition. Under Indian condition, farmers fed their animals very little concentrates unless the animal is in productive stage. Organized farms, progressive farmers and now a days farmers with medium producing animals are also practicing scientific feeding for more returns. Typical thumb rule feeding for maintenance of zebu cattle weighing about 400 kg body weight is straw 4 kg and concentrate mixture 1.1.25 kg while for crossbred cows or buffaloes and pure bred Indian breeds are 4-6 kg straw and 2.0 kg concentrates with little green.

Illustration 1. Feeding of maintenance requirement of crossbred cows weighing 450 kg body weight.

(a) DCP requirement of the animal is around - 0.28 kg an TDN requirement is 3.37 kg.

(b) Straw 5.0 kg (DCP-0%, TDN 42%) will supply DCP- 0 while TDN- 2.10 kg.

(c) Concentrate mixture (DCP-14% and TDN-68%) will supply DCP-0.28kg and TDN-1.36 kg.

So, total DCP supplied to the animal is 0.28 kg and TDN supplied is 3.46 kg which are same to the requirement of the animal.

Illustration 2. Calculate the requirement of a cow weighing 450 kg milk with 4% fat.

Requirement	DCP, kg	TDN, kg	Remark
For maintenance	0.28	3.37	
For production	0.45	3.16	
Total requirement	0.73	6.53	
To be fulfilled through			
Straw, 5.0 kg	0.00	2.10	Straw contains DCP- 0, TDN-42%, green contains- DCP-8% and TDN-60%, concentrate-DCP-14 and TDN-68%.
Green, 3.0 kg (legume + nonlegume)	0.24	1.80	
Concentrate mixture, 4.0 kg	0.56	2.80	
Supplied	0.80	6.70	

Sample questions

1. Calculate the maintenance requirement of a cow weighing 450 kg. The available feeds are concentrate mixture 14% DCP, 68% TDN, Straw and berseem fodder.