

Manual diet formulation

Formulate a diet for your cows manually using the five step process set out in **Section 7 (Example 7.1)**, bearing in mind you may have to try various combinations of forage and concentrate feeds in turn to achieve a balanced ration within the constraints of your animals' daily dry matter intake.

PHOTOCOPY THIS SHEET TO ALLOW REPEATED USE

1 Cow performance			
B	Milk yield		litres/day
C	Butterfat		%
D	Protein		%
E	Pregnant		
F	Weight change		kg/day
2 Feeds available			
	Grass silage		
G	Dry Matter		%
H	Metabolisable Energy		MJ/kg DM
I	Crude Protein		g/kg DM
	Dairy cake		
J	Dry Matter		%
K	Metabolisable Energy		MJ/kg DM
L	Crude Protein *		g/kg fresh
3 Daily energy requirements			
M	ME for maintenance	$(A \times 10 \div 100) + 10$	MJ/day
N	ME for reproduction	Value from Page 7-3	MJ/day
O	ME for milk yield	$B \times \text{Value from Table 7.2}$	MJ/day
P	ME from body reserves	$F \times 28 \text{ or } 32$	MJ/day
Q	Total ME Required	$M+N+O+P$	MJ/day
4 Daily energy intake			
R	Dry Matter intake	$A \times 3 \div 100$	kg/day
S	ME from forage (at 10kg DM /day)**	$H \times 10$	MJ/day
T	ME from concentrates (at 8kg DM/day)**	$K \times 8$	MJ/day
U	Total ME Supplied	$S + T$	MJ/day
5 Protein supply			
V	CP from forage (at 10kg DM/day)**	$I \times 10$	g/day
W	CP from concentrates (at 8kg DM/day)**	$(L \div J \times 100) \times 8$	g/day
X	Total CP Supplied	$V + W$	g/day
Y	CP content of ration	$X \div (10+8)$	g/kg DM

* WARNING: The protein content of concentrate feeds is often stated in terms of fresh weight so will require conversion into DM terms.

** Select your own levels to add up to the daily DM intake (row R).