

Book review — Boekresensie

Response in the yield of milk constituents to the intake of nutrients by dairy cows. AFRC Technical Committee on Responses to Nutrients, Report No. 11

P C Thomas, D E Beever, P J Buttery, J C MacRae, J D Oldham and C Thomas

1998. CABI Publishing, CAB International, Wallingford, UK, 96 pp., paperback. £19.95 (\$35.00). ISBN 0 85199 284 6.

This publication was prepared by the Working Party under the auspices of the former AFRC Technical Committee on Responses to Nutrients, owing to the inadequacy of existing United Kingdom energy and protein requirement systems for dairy cattle to predict responses in milk yield and composition to changes in nutrient supply. This report considers the energy and protein feeding systems for dairy cows currently used in the UK, their limitations and their relevance to the needs of the industry.

Current systems of diet formulation adopted for use in the UK, based on the ARC metabolisable energy and AFRC metabolisable protein proposals, use factorial assessments of the cow's nutrient requirements to calculate the supply of energy and protein that must be provided in the diet to meet those requirements. Little or no consideration of the animal's response to changes in the nutrient supply is given. The systems do not satisfactorily accommodate interactions between dietary constituents in their effects on digestion and metabo-

lism. The systems also fail to comment on the effects of diet on the partition of nutrient use between milk and body and on the individual yields of milk fat, protein and lactose. A new approach is thus presented along with the outline of a model for its implementation. The Working Party thus considers that a new feeding system for dairy cows should aim to predict: voluntary food intake; the partition of nutrient use between milk production and tissue deposition; and the yield of milk fat, protein and lactose in relation to both short- and long-term effects of nutrition. The physical and biological characteristics of the cow must also be recognised and incorporated into any model for response prediction.

This publication is an authoritative review and a must for advanced students, researchers, scientists, nutritionists and advisors in animal nutrition and dairy science.

G E Schroeder
Xantah Research Farm
Pretoria