

# FEEDS AND NUTRITION COURSE 2019

ZAANDAM | THE NETHERLANDS | JUNE 3 - 7, 2019

'The course is specially designed for animal nutrition specialists'

## MODULE 15 | APPLIED DAIRY NUTRITION

**Ration composition and nutrient contents have a great impact on the health and production performance of dairy cows. Variation in roughage and diet quality can have a large impact on this performance and can be used to manipulate production level. Better knowledge of the effect of dry cow nutrition gives you the tools to reduce the incidence of metabolic diseases and to improve health and fertility. Optimal levels of for example phosphorus and nitrogen help to reduce environmental impact of dairy production.**

### Learning objective.

- Learn about optimal feeding strategies in transition period to reduce the incidence of metabolic diseases and improve fertility and health.
- Learn about the prevention of subacute rumen- and hindgut acidosis.
- To obtain further knowledge how to improve young stock rearing.
- To obtain further knowledge how to reduce the environmental impact of dairy cow husbandry.
- Further understand effect factors that influence forage quality.

### DAY 1: WEDNESDAY JUNE 5

#### 15.1 Welcome and introduction

#### 15.2 Optimal transition cow management to reduce metabolic disorders

The transition period in dairy cows is important to reduce the incidence and severity of metabolic diseases. In this presentation the relationship between nutrition in dry period and hypocalcaemia and ketosis is explained. Newest insight in feeding strategies to reduce problems in energy balance and mineral status are presented.

#### 15.3 Prevention of subacute rumen acidosis and effects on locomotion and immune system

In diets for high yielding dairy cows there is an increased risk for (subacute) rumen acidosis. Rumen acidosis does not only have a direct negative impact on animal production, but also on long term locomotion and occurrence of infectious diseases. The effect of feeding strategies on the occurrence of LPS in rumen and blood is proposed as mechanism behind those problems. Also feeding strategies to reduce these problems are presented.

#### 15.4 Calf and heifer rearing

Young stock is an important part of dairy farming because calves and heifers are the future dairy cows. Feeding strategies affect the rumen development, growth, maturation and, health of calves. Recent research on the effect of intensive milk replacer scheme's on growth and development will be discussed. Also, the impact of starter feed on rumen development and early nutrition on performance of dairy cows is presented.



### **15.5 Feeding strategies to improve fertility**

In this presentation the relationship between nutrition and health and fertility is described. The direct and indirect effect of nutrients on the hormone system is described and an overview of nutritional strategies to improve fertility is presented.

## **DAY 2: THURSDAY JUNE 6**

### **15.6 Nitrogen and phosphorus efficiency and methane emission**

The dairy industry has an important contribution to methane and ammonia emission, and nitrogen and phosphorus excretion to the environment. This presentation will focus on dietary strategies to reduce the environmental impact of ruminants. Focus will be on improving nitrogen efficiency and reducing ammonia emission, feeding low phosphorus diets and the strategies to reduce the excretion of methane by ruminants.

### **15.7 New insights in forage quality: effects of harvesting method and additives**

In this presentation the results of recent research toward forage quality are presented: the effect of chop length and harvesting method of corn on feed intake, digestibility and milk production, the effect of additives during the ensiling process and the effect of storage time on forage quality.

### **15.8 Excursion**

The module 'Applied Dairy Nutrition' will finish with an excursion to give an impression of the Dutch dairy husbandry. We will visit a cheese factory and a dairy farm.

**Trainers:** Ant Koopmans, Edwin Westreicher-Kristen, Ivonne Kok, Lydia Kroon and Wilfried van Straalen

#### **Remarks:**

- Please be aware that SFR recommendations will not be presented during the course.
- As a preparation to understand nutritional feeding strategies it is recommended to attend Module 14 Advanced Dairy Nutrition which will focus on feed evaluation strategies for dairy cows and how to manipulate milk production and milk composition.
- To be able to apply the information from this module into feeding management and practical ration optimisation, it is advised to attend Module 16 Feeding Management and Ration Formulation Dairy.

