

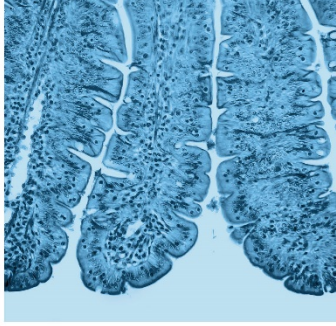


MODULE 3, 4 AND 5 | APPLIED SWINE NUTRITION

WEDNESDAY 15 JUNE, THURSDAY 16 JUNE, FRIDAY 17 JUNE

Feedstuff composition, presentation and dietary nutrient content have a great impact on performance of reproductive sows, suckling and weaned piglets, and growing-finishing pigs. The effects can differ depending on age and development of the pig, e.g. piglets are physiologically not capable of coping with feedstuffs in the same way as a sow does. In order to achieve optimal animal performance at the farm, it is of great importance to know the relations between nutrition, animal health and technical performances. Swine nutritionists need to combine the theoretical knowledge about digestive physiology of swine and biochemistry of feedstuffs to formulate diets. Therefore the goal of nutrition is to provide essential nutrients to the animal for an efficient (re)production, but also to assure animal welfare and health, and a low excretion of non-digested nutrients to the environment.

Learning objective

- To obtain knowhow to apply theoretical and practical nutritional knowledge to improve animal performance.
- To obtain knowhow to meet nutritional requirements of sows, piglets and growing-finishing pigs, as well as how to face the certain dilemma like efficiency and intestinal health or reproductive performance and longevity.

Physiology of the gastro-intestinal tract

To understand how nutrients are digested, it is important to know how the gastrointestinal tract works. Which enzymes are responsible for the breakdown of the nutrients on which the feed is formulated?

Nutrients and nutrient digestibility

Nutrients are the substances that an animal needs in order to live, grow and produce. They deliver energy, are building blocks and regulate body processes. In this presentation the characteristics and digestion of protein, fat, carbohydrates will be discussed briefly followed by an introduction to energy evaluation.

Nutritional strategies for breeding gilts

A good start is half the work! During the rearing phase, several factors are important for a breeding gilt to develop into a high productive sow. Due to genetic improvement, growth rate of breeding gilts can be similar to growing-finishing pigs. A high growth rate can be beneficial for reproductive performance but negatively affect leg conformation and therefore longevity of the sow. How to find a balance between growth rate and longevity?

Nutritional strategies for high prolific gestating sows

The significant increase in litter size in the last years has resulted in lower average piglet birth weights and decreased uniformity within the litter. Consequently, piglet viability decreased, resulting in decreased piglet growth and increased mortality, especially during the first days after farrowing. What nutritional strategies can help our modern sows to improve litter uniformity and piglet's birth weight?

Nutritional strategies for lactating sows

The lactation period can be split into two phases: 1) transition phase which focuses on the farrowing process and start-up of milk production and 2) the remainder of lactation which focuses on milk production. Both phases require different nutrients to optimize performance of the sow and piglets. Therefore the focus of the presentation will be on how to combine nutritional strategies of the two phases in order to support the sow as much as possible to improve litter growth and minimize piglet mortality?

Growing-finishing pigs nutrition

Genetic selection has resulted in leaner pigs which affects the nutritional requirements. Due to the difference in leanness there are first of all differences in nutritional requirements between the genetics, but also boars, gilts, castrates and immune vaccinated pigs have different requirements. How can the different nutritional requirements be combined in feeding strategies that will result in optimal performance? Furthermore, performance is affected by the health status, and especially intestinal health, of the animals. How can nutritional strategies help to face the dilemma between efficiency and intestinal health?

Promoting intestinal health of piglets

The post-weaning period of piglets is a period associated with stress, changes in nutrition and other factors that will affect feed intake and the intestinal health of piglets and therefore performance. Currently, zinc oxide is used all over the world to minimize the negative effects of weaning. However, more and more countries are banning the use of pharmacological levels of zinc oxide. Feeding strategies both before and after weaning can positively affect the intestinal health and therefore minimize the post-weaning (diarrhoea) problems. How can early nutrition affect the development and composition of the microflora to better prepare suckling piglets for

weaning? And what feeding strategies, without zinc oxide, will support optimal intestinal health of the piglets around weaning to improve growth performance?

Feed technology; dilemma between efficiency and health

A healthy animal is a happy animal. But how can we improve health without having a negative effect on the presentation? What happens to nutrients during the production process, and how the latest technologies can be used to promote both animal health and performance. What dilemmas do we run into?

DAY 3: FRIDAY 17 JUNE

Introduction Introduction

Learning objective

- Learning objective 1
- Learning objective 2

Trainers: Trainer 1, Trainer 2,

Remarks:

- Please be aware that SFR recommendations will not be presented during the course.
- Remark 2
- More experienced participants can also attend module 7 Nutrient Evaluation Swine which will focus on energy and protein evaluation to improve nutrient utilisation and therefore feed efficiency and carcass quality.