

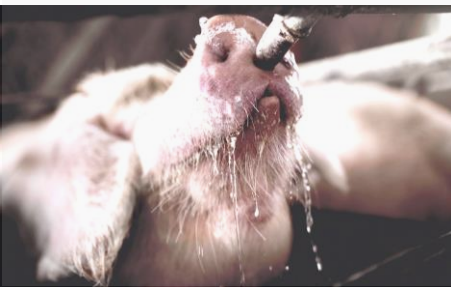


Centre de développement  
du porc du Québec inc.

## Warm temperatures - Adaptation measures to encourage food intake

Laetitia Cloutier, agr., M.Sc., CDPQ  
Collaborator : Francis Pouliot, Eng., CDPQ

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# Warm temperatures - Adaptation measures to encourage food intake

## Feeding strategies to reduce the impact of heat stress

An increase in ambient temperature leads to a drop in feed consumption regardless of the physiological stage of the animal → search for feeding strategies to reduce the effects of heat stress on feed intake, growth performance and reproductive performance in sow. **Two categories of feeding strategies :**

### Feed management

Meal splitting

Feeding schedule

### Nutritional composition of feed

Less thermogenic foods

Additiives

## ▶ FEED MANAGEMENT

### Meal splitting

#### Why ?

The larger the meal, the greater the amount of heat produced !

#### How ?

Whenever possible, dividing meals into smaller portions reduces the amplitude of heat peaks (e.g. lactating sows).

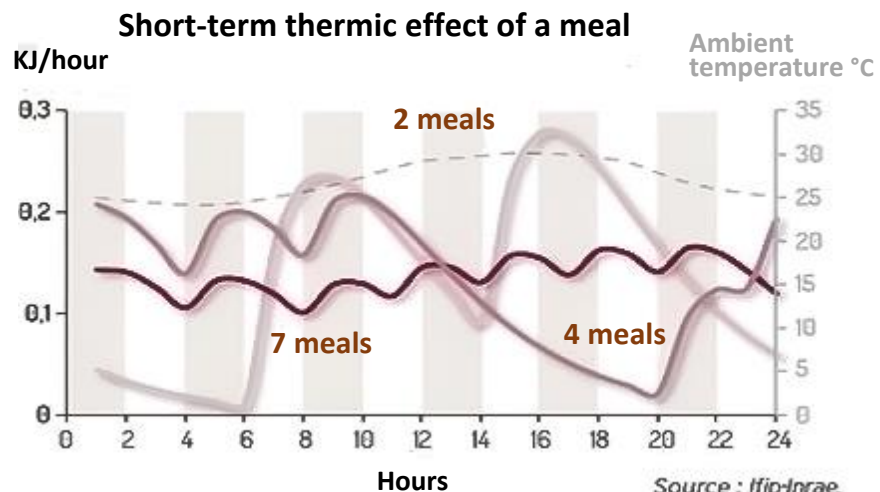
### Feeding schedule

#### Why ?

Following the ingestion of a meal, the animal produces heat. The hotter it is, the more difficult it is for the animal to evacuate heat!

#### How ?

Shifting meals to cooler periods reduces the impact of heat stress (e.g. at night).



Evolution of heat production after each meal for the same consumption (adapted from " Réussir porc ")

## Encourage food intake during the coldest part of the day, between 9 p.m. and 9 a.m.!

- Modify light opening hours
- Activate feeding systems during the cold period between 9 p.m. and 12 p.m. to stimulate animals to eat

9 p.m. to 1 p.m.

1 p.m. to 9 p.m.

# Warm temperatures - Adaptation measures to encourage food intake

## ▶ Nutritional composition of feed

### Less thermogenic feed

#### Why?

- Digestion of certain types of nutrients causes the animal to produce more or less heat (Protein, Fiber >> Fat).

#### How?

- Limit excess crude protein and fiber intake
- Increase energy intake to compensate for reduced food intake

#### → Adapt the feed formula

*To be implemented more as a preventive measure and during targeted periods (summer weeks/months), as it is more difficult to implement quickly*

#### → Application of precision feeding strategies

*The use of feeding systems that allow two feeds to be mixed, one high-protein and one low-protein, could enable more dynamic adjustment as the days go by*

## Additives

#### Why?

- Heat stress has metabolic impacts in pigs
  - Causes an inflammatory response, thus activating the immune system
  - Reduces insulin sensitivity

#### How?

- Adding additives to food with anti-inflammatory effects, increasing insulin sensitivity, or possessing functional molecules with immunomodulatory effects.

**Several studies are underway to test different additives...**

#### Antioxydants

- Selenium
- Vitamin E
- Vitamin C

#### Amino acids

- Glutamine
- Betaine

#### Minerals

- Zinc
- Chromium

#### Others

- Yeast
- Sodium bicarbonate
- ...

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Plan pour une  
économie  
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**Thank you to the collaborators for their contribution!**

