



TECHNICAL REPORT

by **Groupe Cérés and Nutrition Athéna**



SLOWING THE GROWTH OF FINISHER PIGS

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Over the last few weeks, the situation regarding the COVID-19 pandemic has had a significant impact on capacity of the packing industry to maintain the pace for a number of pigs processed weekly. In Canada, the impacts have been so far variable with a more marked effect in Quebec with the closure of Olymel A. Trahan plant for two weeks at the end of March and the reduction in slaughtering capacity in other packing plant.

In Ontario, the situation was stable until the Conestoga plant closed for the week of April 27th. In western Canada, slaughterhouses have maintained the rhythm so far and avoided an accumulation of waiting pigs. Finally, for our American neighbours, the situation has deteriorated in the past 3 weeks when several large slaughterhouses closed their doors or significantly slowed down their slaughter capacity.

We had the opportunity to talk with several of our customers in the past few weeks in order to implement, if necessary, strategies to slowdown pigs' growth. It is important to note that our work as nutritionists is to optimize pig performances and not to slow it down. Research and development efforts are not really oriented towards an approach to reduce animals' growth. However, there are data and ways that exist that can give us possible solutions and allow us to

implement certain strategies. Here is a summary of the different measures that could be implemented.

USE OF A DILUTED LATE FINISHER DIET WITH LOW ENERGY WITH A HIGHER FIBRE LEVEL

This approach aims to maintain ad libitum access to feed, but by providing pigs with a significantly lower energy diet and with a higher level of fermentable fibre. The goal is to limit the amount of energy ingested by the animal and to create a greater satiety and bulk effect. We want to maintain the animal's welfare and avoid behaviour and aggression problems. The use of ingredients like wheat shorts and soybean hull is necessary for this such feed. However, difficulties in wheat short supply at the moment can limit the implementation of this type of rations for some producers. We can also reduce density for some other nutrients in order to limit pigs' growth. It should be noted that the increase in fibre levels in the finishing diet may have a negative impact on the carcass dressing yield of pigs.

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CHANGE IN THE CALCIUM LEVELS IN FINISHING FEED

By increasing the calcium level, we will first reduce the energetic density in the diet. We will also increase the buffering capacity of the feed which can reduce the nutrients' digestibility. Finally, if we maintain the phosphorus level, we will have a higher calcium/phosphorus ratio, which can limit feed consumption without affecting bone mineralization.

Increasing particles' size can be an option to limit nutrients' digestibility.

RESTRICTING ACCESS TO FEED CAN BE EFFECTIVE IN LIMITING THE FEED INTAKE

Adjusted the feeding setting more tightly in order to reduce pan coverage, reducing the amount of feed in the feeder by adjusting the feed tube height are way of limiting feed quantity/access to pig. However, risks associated with animal behaviour problems must be considered. Most farms have feeding systems that allow feed to be dispensed ad libitum which mean it is not always easy to create a form of feed restriction. Moreover, this strategy would likely lead to an increase in pig weight variability. For us, this option is certainly not at the top of our list. In addition, a restricting access to water is not recommended.

Removal of feed additives that allow to maximize growth has to be considered.

However, growth factors such as ionophores will mostly have an effect on feed conversion, so their impact on ADG will be low.

IF WE LOOK AT AMINO ACIDS

An increase of the leucine/lysine ratio can also be considered while still maintaining a lower valine level.

To do so, we need to formulate with fairly high levels of corn DDGS, which is currently an issue as price and availability are limited. We can also look at lowering the tryptophan/lysine ratio at 16–17%, compared to the standard of 18–19% that is recommended in order to optimize the average daily gain.

Use of feed additives that can reduce feed intake can be looked at.

One of the products that could be considered is calcium chloride. A recent study undertaken in early April by a team of researchers of the Iowa University showed that adding 40 kg/t of calcium chloride had allowed to reduce consumption by 50% and gain by 86% compared with a standard finishing diet over a 3 week period. This is a major impact and, in this case, it represents an ADG of 180 g/day on average with the "test" diet compared to 1300 g/day with a normal feed. However, we need to specify that this trial was conducted on a small number of animals and under different conditions than large commercial herds. The impacts on the carcass quality and the pigs' behaviour are still not well-defined. There is also still some unknown about the effect related to the feeding duration over a longer period of time with such extreme diet. The study will go on for two other weeks in order to obtain more data on the longer-term impact. It should be noted that in that same study, strategies with diluted feeds and higher in fibre allowed a certain reduction in growth with a 20% decrease on average.

These strategies must be adapted according to the specific context for each producer and according to their specific objectives. Do not hesitate to contact your representative or a member of our nutrition team to discuss the best options for your herd.