

## **Phytogenics for sows: beyond the expected performance**

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Lactation is a stressful time in a sow's life where sufficient amounts of milk have to be produced to meet the needs of newborn piglets. There is no question that sows will lose weight during lactation because of protein and energy deficits. Consequently, sows will have longer wean-to-estrus period and this effect will extend to the next farrowing, resulting in a pronounced reduction in the number of weaned piglets per litter and also litter weaning weight.

Feed intake is considered a limiting factor of sows' productivity, and producers therefore always offer unrestricted amounts of fresh feed. In practice, some farms do restrict feed in the first week to avoid some health complications (ex. constipation) but several studies have shown that even for short periods, feed restriction has a negative impact on the performance of sows as well as newborn piglets.

Sufficient feed intake means sufficient milk production and higher milk availability for the piglets. As the vast majority of postnatal mortality is due to lower milk production and piglets after birth are known to have insufficient stored energy in their bodies, it is critical that this energy should come from immediate milk consumption.

Some antibiotics have been shown to slightly increase feed intake during lactation and hence decrease losses in body weight. Unfortunately, the use of antibiotics could not do any more than that, and their usage is currently limited by consumer demands and preferences for antibiotic-free meat.

Due to their nature, phytogenic feed additives have been shown to exert several positive effects in different animal species. Specifically for swine, phytogenics have been proven to increase feed palatability and hence feed consumption. Moreover, phytogenics are known to optimize gut microflora which leads to higher nutrient uptake (digestibility) and relief from the immune stress due to the high pathogenic load.

Several trials have shown that phytogenics can help sows in lactation periods by reducing body weight loss and ensuring a successful weaning period for piglets. It was clear that supplementing feed with phytogenics can result in enormous improvements in different parameters compared with untreated sows. Feed intake was improved by about 10%. Consequently, sows fed phytogenics had 6.6% higher number of piglets born alive, 3.6% higher body weight at birth, 8.6% more piglets weaned per litter, 9% higher litter weaning weight, lower mortality and most interestingly a 45% reduction in body weight loss during lactation.

In a recent trial, a total of 60 sows (Yorkshire x Landrace) were distributed into 2 groups as following;

- Group 1: basal diet
- Group 2: basal diet + a phytogenic feed additive in sows' diet (150 ppm) and in piglet starter (300 ppm).

The experimental feeding started on day 80 of gestation until weaning.

Table 1 shows that phytochemicals increased lactation feed intake (+ 10%), thus increased sow milk production (+ 15%). Consequently, the number of weaned piglets per litter increase by 4.6%. Moreover, diet supplementation with phytochemicals resulted in higher piglets weaning weight. As a result of an improved metabolic status, sow body weight loss during lactation was decreased. Not less important, the incidence of diarrhea was reduced by 50% indicating better health status.

We can conclude that phytochemical feed additives serve as a powerful tool in feed that can improve sows' performance. This leads to higher Performance for piglets and enables sows to reach the next estrus more quickly because of the reduced loss in body weight.

Phytochemicals as powerful feed additives have more to offer than performance enhancements. Human food safety is an additional important benefit for phytochemicals as there is neither toxicity nor resistance known for such functional compounds. A win-win strategy between producers and customers can thus be achieved.

*Table 1.* Effect of a phytochemical feed additive on Sows during lactation

	Control	Phytochemicals
Sows daily feed intake (kg)	5.77	6.35
Milk yield per sow l/d	10.17	11.7
Weight loss during lactation (kg)	16.39	13.45
Weaned piglets per litter	9.33	9.9
Piglets survival rate	96.28	97.54
Piglets weaning weight (kg)	7.31	7.78
Piglets with diarrhea %	14.84	7.19