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Ensuring the Survival of Newborn Piglets: Importance of Selected Nutrients and Additives in the Feed of Pregnant Sows

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Introduction

The survival rate of new born piglets is crucial for the sustainability and profitability of swine production systems. The health and well-being of new born piglets largely depend on the nutritional status of the pregnant sow. Adequate nutrition during gestation not only ensures the health of the sow but also influences the development and survival of piglets. In this article, we will delve into the importance of selected nutrients and additives in the feed of pregnant sows for the survival of new born piglets [1]. Protein is essential for the development of fetal tissues and organs. During gestation, the protein requirements of pregnant sows increase to support the growth of the developing litter. Inadequate protein intake during pregnancy can lead to reduced birth weights, increased piglet mortality, and compromised immune function in newborn piglets [2]. Therefore, it is imperative to provide pregnant sows with diets containing sufficient levels of high-quality protein sources such as soybean meal, fish meal, and distillers' dried grains with solubles [3].

Description

Energy is another critical nutrient for pregnant sows to support fetal growth and development. Insufficient energy intake during gestation can result in poor reproductive performance, including smaller litter sizes and increased stillbirth rates. Moreover, low-energy diets can lead to inadequate milk production in lactating sows, affecting the survival and growth of piglets after birth. It is essential to formulate gestation diets with adequate energy content, considering the energy requirements of both the pregnant sow and the developing litter. Vitamins and minerals play crucial roles in various metabolic processes and physiological functions in pregnant sows and their offspring. Deficiencies in essential vitamins and minerals can impair fetal development and increase the susceptibility of new born piglets to diseases and other health issues. Therefore, gestation diets should be properly fortified with vitamins and minerals to meet the nutritional needs of pregnant sows and ensure the optimal health and survival of piglets [4].

Fiber is often overlooked but plays a significant role in the diet of pregnant sows. Adequate dietary fiber levels can improve gut health and promote optimal nutrient utilization, which is essential for maintaining the health and well-being of both the pregnant sow and her offspring. Moreover, fiber-rich diets can help prevent constipation and reduce the risk of metabolic disorders in pregnant sows, contributing to improved reproductive performance and higher survival rates of piglets. In addition to essential nutrients, certain additives can be included in the feed of pregnant sows to enhance reproductive performance and support the survival of new born piglets. Probiotics and prebiotics, for example, can modulate the gut microbiota of sows and piglets, improving nutrient digestion and absorption, as well as immune function. Furthermore, additives such as phytogenic compounds and antioxidants can have beneficial effects on sow health and reproductive outcomes, ultimately leading to higher survival rates of piglets [5].

Conclusion

The nutritional status of pregnant sows significantly influences the survival and growth of newborn piglets. By providing gestating sows with diets containing adequate levels of protein, energy, vitamins, minerals, and fiber, along with the inclusion of beneficial additives, producers can optimize reproductive performance and enhance the viability of piglet populations. Investing in proper nutrition for pregnant sows is essential for the long-term success and sustainability of swine production systems.

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Conflict of Interest

None.

References

1. Campos, Paulo Henrique Reis Furtado, B. A. N. Silva, J. L. Donzele and R. F. M. Oliveira, et al. "Effects of sow nutrition during gestation on within-litter birth weight variation: A review." *Anim* 6 (2012): 797-806.
2. McPherson, R. L., F. Ji, G. Wu and J. R. Blanton Jr, et al. "Growth and compositional changes of fetal tissues in pigs." *J Anim Sci* 82 (2004): 2534-2540.
3. Kim, Sung Woo, Walter L. Hurley, Guoyao Wu and Fei Ji. "Ideal amino acid balance for sows during gestation and lactation." *J Anim Sci* 87 (2009): E123-E132.
4. Ferguson, E. M., J. Slevin, S. A. Edwards and M. G. Hunter, et al. "Effect of alterations in the quantity and composition of the pre-mating diet on embryo survival and foetal growth in the pig." *Anim Reprod Sci* 96 (2006): 89-103.
5. Page, Matthew J., David Moher, Patrick M. Bossuyt and Isabelle Boutron, et al. "PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews." *BMJ* 372 (2021).

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