



The performance of swine breeding herds in Malaysia in 2016

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The objective of this article is to compare the production figures of swine breeding herds in Malaysia between farms less than 1,000 sows (9 farms; 4,840 sows) and farms more than 1,000 sows (10 farms; 14,968 sows) in year of 2016 (Table 1). The performance figures from the PigLIVE software were 12 month-rolling averages summarized from 19 farms (total 55,053 mated sows and gilts).

Table 1. Comparison of production figures of swine breeding herd between farms less than 1,000 sows and farms more than 1,000 sows in 2016.

Performance Index	Farm < 1,000 sows (min - max)	Farm > 1,000 sows (min - max)	Differences (farm > 1,000 - < 1,000 sows)
Number of farms	9	10	
Number of sows	4,840	14,968	
Breeding performance			
Average of repeat services, %	20.2 (11.6 - 28.0)	12.2 (5.0 - 19.6)	- 8.0
Average weaning to 1st service interval, days	7.9 (4.4 - 12.3)	6.3 (4.8 - 8.6)	- 1.6
Average of sows bred by 7 days, %	83.3 (66.8 - 94.0)	87.0 (80.3 - 96.0)	+ 3.7
Farrowing Performance			
Average parity of farrowed sows, parities	4.3 (3.3 - 5.3)	3.9 (3.4 - 4.7)	- 0.4
Average piglets / litter, piglets	11.0 (10.1 - 11.6)	11.7 (10.6 - 13.6)	+ 0.7
Average piglets born alive / litter, piglets	10.0 (8.7 - 10.6)	10.8 (9.8 - 11.9)	+ 0.8
Average of still born piglets, %	8.3 (1.7 - 13.1)	6.2 (1.6 - 11.0)	- 2.1
Average of mummies, %	0.8 (0.0 - 2.0)	1.3 (0.5 - 3.5)	+ 0.5
Average of born alive < 7 piglets / litter, %	14.1 (5.7 - 21.6)	8.0 (1.6 - 11.1)	- 6.1
Average of birth weight, kg	1.5 (1.5 - 1.6)	1.6 (1.4 - 1.7)	+ 0.1
Average of farrowing rate, %	72.5 (63.7 - 85.7)	76.2 (56.7 - 87.6)	+ 3.7

Performance Index	Farm < 1,000 sows (min - max)	Farm > 1,000 sows (min - max)	Differences (farm > 1,000 vs - 1,000 sows)
Average farrow to farrow interval, days	161 (154 - 171)	153 (148 - 158)	- 8.0
Average litter/mated female/year (LSY), litters	2.12 (1.9 - 2.34)	2.18 (1.66 - 2.41)	+ 0.06
Weaning Performance			
Average piglets weaned/litter weaned, piglets	9.2 (8.5 - 9.9)	10.3 (9.5 - 11.9)	+ 1.1
Average piglets weaned/litter farrowed, piglets	8.9 (7.1 - 9.6)	9.8 (9.3 - 11.7)	+ 0.9
Average pre-weaning mortality, %	10.5 (3.8 - 16.2)	7.9 (1.1 - 17.3)	- 2.6
Average weaning weight, kg	6.6 (5.5 - 7.2)	7.0 (5.4 - 8.2)	+ 0.4
Average lactating length, days	26.6 (23.6 - 33.6)	25.9 (22.0 - 28.3)	- 0.7
Average piglet weaned/sow/year (PSY), piglets	18.8 (15.2 - 22.5)	21.4 (18.5 - 24.8)	+ 2.6
Population			
Average of sow parity	3.2 (2.2 - 4.1)	3.1 (2.7 - 4.2)	- 0.1
Average of replacement rate, %	45.3 (8.9 - 84.1)	49.4 (27.0 - 63.9)	+ 4.1
Average of culling rate, %	37.3 (23.3 - 40.1)	40.1 (28.0 - 51.4)	+ 2.8
Average parity of culled sows, parities	5.3 (3.7 - 6.8)	4.4 (3.1 - 5.9)	- 0.9
Average of sows death, %	5.4 (2.4 - 10.9)	6.4 (1.9 - 12.6)	+ 1.0

In 2016, most of the farms were increasing their productivity in term of PSY. Farms more than 1,000 sows have higher average PSY than farms less than 1,000 sows (21.4 vs 18.8). LSY is nearly the same for both category farms (2.18 vs 2.12). The average number of piglets weaned/farrowed sow has a big different between farms more than 1,000 sows and farms less than 1,000 sows (9.8 vs 8.9). These are some of the factors that contribute to the differences in the farm performance.

- Using hyperprolific sows genetics.
- Sows nutrition and feeding program particularly gestating sows.
- Treat ill sows with antibiotics and Flunixin is recommended.
- Inject vitamin AD₃E to weaned sows of 500,000-1,000,000 IU/sow.
- Feed weaned sows with lactation feed.
- Constantly checking boar semen quality to ensure the best quality of semen is used.
- Concentrate on heat detection and mating procedures.

Please contact PeterLabs representatives for more information.



LIFE START SETS LIFE PERFORMANCE

Sustainable growth for greater performance

Successful piglet rearing is based on a 'virtuous circle' of quality nutrition, good health and effective farm management. LifeStart proactively and positively influences all three of these essential components during a piglet's early life from birth through to weaning to ensure the best piglet performance in later life.

Early quality nutrition equals higher growth



To achieve optimal pig performance, it is crucial to prepare a piglet's intestine for feed digestion as early as possible. The sooner the gut is mature, the sooner a piglet is able to digest solid feed, which leads directly to greater long-term growth. A newborn piglet's gastrointestinal system develops rapidly, and high amounts of dry-matter feed intake support this process. The best approach, therefore, is to start the piglet off with supplemental feed alongside the sow's milk. Milkiwean Best Start feeding programme is designed to maximise early feed intake from day one to support gut maturation. The benefits this delivers include improved uniformity in litters, more piglets weaned per litter, and increased slaughter weight.

Improving and maintaining animal health



A key contributor to profitable farming is maintaining good animal health. Providing proper care and the right nutrients has, without question, a positive impact on livestock performance. Feed additives are often used in animal nutrition to improve gut health, and to protect and preserve the nutritional value of feed which enables



animals to get the maximum nutritional benefit from it. The Selko products included in the Milkiwean feed are specifically designed to stimulate gut maturation and early immune system development to support and maximise growth.

Effective farm management for better results



Effective farm management is crucial to running a profitable business. Piglets need a lot of care, as they are quite vulnerable the first few weeks after birth. What's more, the number of piglets born per sow per litter continues to significantly increase. Weak piglets, which are easily crushed or do not have enough energy to reach the sow's udder for vital milk and colostrum intake, need better farm support. To maximise growth and reduce mortality farmers need to adapt their farm management to the new challenges and deal more effectively with factors such as housing and climate control, biosecurity, cleaning and disinfection, and data management.



Six critical phases of a piglet's life

In a piglet's life, there are six critical phases that are connected to the virtuous circle of good health, high quality nutrition and effective farm management. Together, these lead to a healthy and productive nursery phase.

1. Healthy sow for the best next litter

- Stimulate gradual feed intake during previous lactation to avoid extensive body weight loss and restore body condition in early gestation.
- Encourage sufficient water intake for smooth colostrum and milk production in the farrowing house.
- Monitor the gestation period according to a fixed protocol for the best next litter.*

2. Follow the birth process closely

- Ensure strict hygiene in the farrowing house.
- Provide the sow with sufficient, clean water.
- Monitor the birth process according to a fixed protocol.*

3. Colostrum - the most important piglet feed

- Distribute the available colostrum evenly among all the piglets according to a fixed protocol.*
- Support weak piglets by giving them an energy booster.

4. Optimal usages of sow milk

- Keep all the piglets with the mother sow, unless the number of piglets exceeds the number of functional teats.
- Cross-foster heavy piglets within 48 hours after birth, according to a fixed protocol.*
- Create a foster sow when cross-fostering is not possible.

5. The best start with supplemental pre-weaning feeding

- Feed piglets Milkiwean products as a supplement to sow milk to stimulate early feed intake, improve digestion and support gut development.
- Train piglets to eat according to a fixed protocol.*
- Keep feeding troughs clean, which will encourage piglets to use them.

6. Easy weaning

- Maintain feed intake after weaning with the same Milkiwean feed that was given before weaning according to a fixed protocol.*
- Offer extra water in a round trough the first days after weaning.
- Ensure good temperature and ventilation in the nursery house.
- Keep stress factors to a minimum during and after weaning.



* For more information on the farm management protocols and how to support and optimize your pig rearing process, please contact your local contact person.

lifestartscience.com

HiZox®: Potentiated zinc oxide at low dosage for healthy piglets

Issues with pharmacological dosage of zinc oxide

At weaning, when the intestinal microbiota changes and the immune system is not fully developed, pathogenic bacteria like enterotoxigenic E. coli (ETEC) find a favourable environment to multiply and colonise the gastrointestinal tract of piglets. This manifests in the diarrhoea that we frequently observe post-weaning, combined with reduced growth.

Among all the additives available to the feed industry, pharmacological dosage of zinc oxide (3kg/t) is a very popular solution. It is indeed well established that zinc oxide exerts antimicrobial activity. Unfortunately, this practice is not without its own problems. First, zinc becomes toxic for animals at high concentration, especially if fed for prolonged periods of time. Then, zinc oxide contamination by heavy metals like cadmium, arsenic and lead is a real problem when zinc quality is not strictly controlled. High level of zinc can also lead to negative nutritional interaction which we can quote among others: inhibition of phytase activity, increased acid binding capacity with reduced feed acidifiers efficacy, reduced iron status and increased anemic piglets... Most importantly, the reason why pharmacological dosage of zinc oxide is under authorities scrutiny currently in many countries is that zinc oxide is an environmental hazard, polluting the soil and water and also generating bacterial resistance.

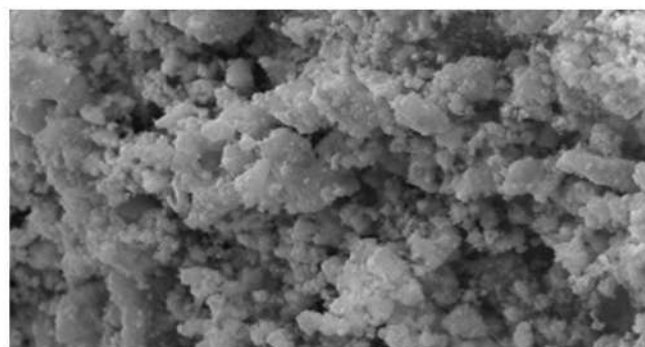
Solution from Animine

A patented manufacturing technology is at the origin of a potentiated form of zinc oxide, HiZox®, which has been developed for animal nutrition. The physico-chemical properties of this novel zinc oxide source are unique with an increased specific surface area (10 to 15 times higher than conventional sources) which drastically increases the interaction with the gastrointestinal environment including bacteria. The high porosity of the powder amplifies the anti-bacterial activity of this potentiated zinc oxide.

The specific technology used to produce HiZox® guarantees excellent flowing characteristics, superior to normal zinc oxide, which is usually very dusty and compact, ensuring a better distribution in premix. In addition, the production of HiZox® from high grade zinc guarantees much lower concentration in undesirable substances like heavy metal.



HiZox®



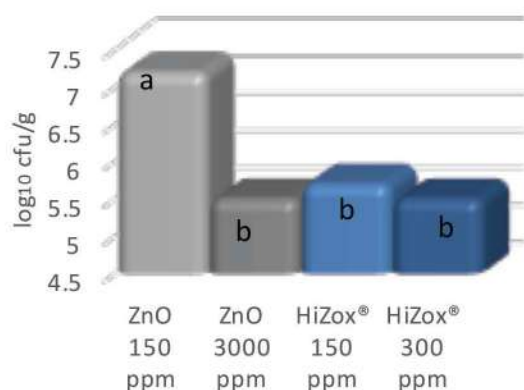
High porosity of HiZox® (seen under electronic microscope)

HiZox® has been tested all around the world in renowned universities confirming its positive effects at low dosages on below trial.

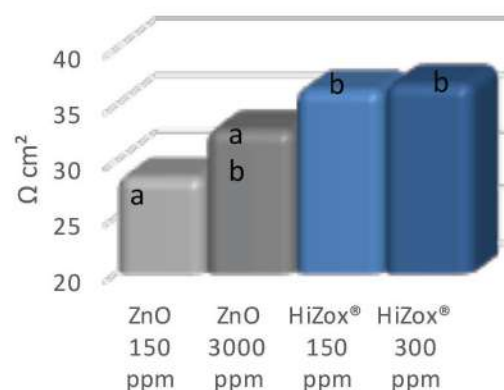
- In the condition of bacterial overgrowth
- Gut barrier function
- Growth performance of piglets



Coliforms count in small intestine of weaned piglets

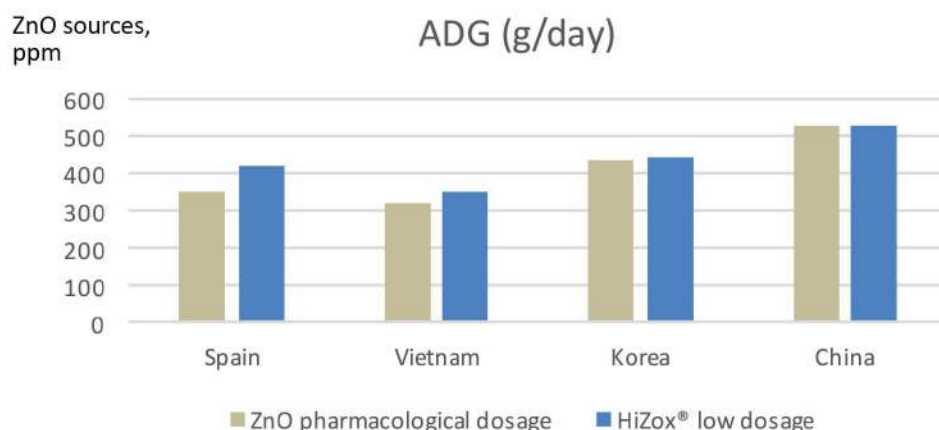


Transepithelial electrical resistance (TEER)



Trial in Ghent University, 2016, $P < 0.05$

In a wide range of sanitary conditions, HiZox® at low dosages (from 150 ppm to 300 ppm) showed equivalent or superior effect on piglet growth performance in direct comparison to the pharmacological dosage of the standard zinc oxide:



Centre Experimental y de Porcino, Segovia, Spain / Institute of Agricultural Sciences for Southern Vietnam / Dankook University Research Center, South Korea / Institute of Subtropical Agriculture, CAS, China

Conclusion

There is growing pressure on the reduction of antibiotics and pharmacological dosage of zinc oxide in piglet diets. Excessive and prolonged use of ZnO are known for negative consequences. Feed formulators are seeking feed ingredients and feed additives which can reduce the risk of digestive disorders in critical phases like the post-weaning period. HiZox® can be used, in combination with alternatives to AGPs, in a preventive way to improve intestinal health and reduce the need for non-sustainable practices.

Improving sow and piglet performance using BioPlus® YC

By Jens Noesgaard Jørgensen PhD, Global Product Manager, Chr. Hansen A/S

Probiotics and BioPlus® YC

Using the definition adapted by FAO probiotics are “live microorganisms which when administered in adequate amounts confer a health benefit on the host”. BioPlus® YC is such a probiotic feed additive to be applied in feed pellets or mash feed for swine.

BioPlus YC has been proven through scientific research to depress the growth of disease causing bacteria in the alimentary tract of pigs, such as Clostridia, Staphylococcus and Streptococcus. It has been shown to reduce that ability of *E. coli* to adhere to the intestinal epithelia and to modulate the composition of the microflora in the gut so that it contain more beneficial bacteria like e.g. *Lactobacillus spp.* and less harmful bacteria like e.g. *E. coli*. Application of BioPlus is thus stabilizing the development of the microbial community in the gut and reducing diarrhea related issues in swine production. At the same time the two probiotic strains in BioPlus YC excrete digestive enzymes into the intestinal digesta which support the degradation of feed and increase feed digestibility of fiber and proteins. Furthermore, BioPlus YC can be pelleted without losing activity. Altogether, this makes BioPlus YC an ideal feed additive in sow and piglet diets.

By combining information from production recording and economic it has been shown that it has been shown that variation in the profitability of sow units mainly can be explained by variation in sow reproduction performance and variation in pre-weaning mortality. Variation in feed price could not explain much of the variation in profitability. Good sow reproduction and piglet livability is thus important in order to obtain high profitability in the sow unit.

Promoting livability in the suckling period

A recent study on causes of pre-weaning mortality showed that app. 70% of the pre-weaning mortality occur before day 5 of life and that the most frequent causes were crushing, hunger and weak born, e.g. related to the design of the farrowing pen, the functionality of gut and the nutrient supply to the gut. The remaining 30% of the pre-weaning mortality occurring later in the suckling period were mainly caused by blood poisoning originating from infections related to teeth and tail cutting and iron injections, e.g. insufficient education of staff.

Prevention of pre-weaning mortality should thus focus on staff training, improving the farrowing pen design, improving sow milk yield through sow feeding management and securing optimal development of the gut of the suckling piglet. The later require reduction of the bacterial load on the suckling piglets, which can be obtained by improved cleaning procedures and by application of BioPlus YC.

Applying BioPlus YC in lactation feed has shown a reduction of harmful bacteria and an increase in beneficial bacteria, including the BioPlus bacteria, in sow manure. The load of harmful bacteria in the pen is thus reduced leading to a more stable and normal development of the gut of the suckling piglet.

A meta-analysis involving more than 20 research trials with BioPlus YC supplementation of lactation feed have shown that this application of BioPlus YC can reduce the pre-weaning mortality by 3%, which correspond to approximately 1 more PSY (weaned piglet per sow per year).



Promoting sow reproduction

In order to optimizing the lifetime performance of sows it is important to maintain a constant optimal body condition score. Skinny sows have poorer reproduction performance than sows in optimal condition and it is feed consuming to improve their body condition. It is not unusual that it will require 3.2 kg or more feed to increase the weight of the sow by 1 kg. On the other hand fat sows have high maintenance requirements and often farrowing issues.

During gestation it is thus important frequently to check the body condition score of the sows and to adjust the daily feed supply accordingly to secure a constant optimal body condition score. During lactation feed intake has to be increased with increasing milk production. It is recommended to increase the daily feed supply gradually by 5 - 10% depending on the feed intake of the sow. Sufficient feed intake during lactation can only occur with sufficient good quality drinking water in a water system delivering approximately 4 liter per minute in periods with high water consumption.

Advantages of BioPlus® YC

BioPlus YC has been proven to enhance the utilization of the nutrients in the feed. Meta-analysis of sow trials have shown that with supplementation of BioPlus YC sows can maintain optimal body condition score during gestation on 5% less gestation feed and increase lactation feed consumption by 8%. BioPlus YC supplemented sows are thus leaving lactation period with a reduced body weight loss and enhanced body condition score. As a consequence BioPlus YC supplemented sows showed reduced return to estrus rate and non-production days compared to non-supplemented sows.

The beneficial modulation on the gut microflora of BioPlus YC has been documented to reduce pre-weaning mortality by 4% units.

The combined effect of the research based effects of BioPlus YC on sow reproduction parameters and livability of suckling piglets can be shown to increase the number of weaned piglets per sow per year (PSY) by 1 piglet.





2016 年马来西亚种猪性能

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本报导主要的目的是比较马来西亚于2016年少于1,000头母猪（9家；4,840头母猪）及多于1,000头母猪（10家；14,968头母猪）的农场生产值（图表1）。这些生产数值由PigLIVE软件集合了19家农场（共 55,053 头母猪及新女猪）总结了12个月的平均值。

图表 1: 2016 年少于 1,000 头母猪及多于 1,000 头母猪的农场生产数值比较。

生产数值	少于1,000头 母猪的农场 (最低 - 最高)	多于1,000头 母猪的农场 (最低 - 最高)	差数 (多于1,000头母猪 - 少 于1,000头母猪)
农场数量	9	10	
母猪头数	4,840	14,968	
配种性能			
平均重发情率, %	20.2 (11.6 – 28.0)	12.2 (5.0 – 19.6)	- 8.0
平均离乳母猪首次发情的间距, 天	7.9 (4.4 – 12.3)	6.3 (4.8 – 8.6)	- 1.6
平均七天内配种的母猪, %	83.3 (66.8 – 94.0)	87.0 (80.3 – 96.0)	+ 3.7
生产性能			
分娩母猪之平均胎数, 胎	4.3 (3.3 – 5.3)	3.9 (3.4 – 4.7)	- 0.4
平均每胎出生仔猪, 头	11.0 (10.1 – 11.6)	11.7 (10.6 – 13.6)	+ 0.7
平均每胎活仔猪, 头	10.0 (8.7 – 10.6)	10.8 (9.8 – 11.9)	+ 0.8
平均死胎数量, %	8.3 (1.7 – 13.1)	6.2 (1.6 – 11.0)	- 2.1
平均黑胎数量, %	0.8 (0.0 – 2.0)	1.3 (0.5 – 3.5)	+ 0.5
平均每胎少于7头活仔猪, %	14.1 (5.7 – 21.6)	8.0 (1.6 – 11.1)	- 6.1
平均仔猪出生体重, 公斤	1.5 (1.5 – 1.6)	1.6 (1.4 – 1.7)	+ 0.1
平均母猪分娩率, %	72.5 (63.7 – 85.7)	76.2 (56.7 – 87.6)	+ 3.7

生产数值	少于 1,000 头 母猪的农场 (最低 - 最高)	多于 1,000 头 母猪的农场 (最低 - 最高)	差数 (多于 1,000 头母猪 - 少 于 1,000 头母猪)
平均母猪两胎之间距, 天	161 (154 - 171)	153 (148 - 158)	- 8.0
平均胎数/配种母猪/年 (LSY), 胎	2.12 (1.9 - 2.34)	2.18 (1.66 - 2.41)	+ 0.06
离乳表现			
平均离乳仔猪/离乳窝数, 头	9.2 (8.5 - 9.9)	10.3 (9.5 - 11.9)	+ 1.1
平均离乳仔猪/出生窝数, 头	8.9 (7.1 - 9.6)	9.8 (9.3 - 11.7)	+ 0.9
平均离乳前死亡率, %	10.5 (3.8 - 16.2)	7.9 (1.1 - 17.3)	- 2.6
平均离乳仔猪的体重, 头	6.6 (5.5 - 7.2)	7.0 (5.4 - 8.2)	+ 0.4
平均哺育期, 天	26.6 (23.6 - 33.6)	25.9 (22.0 - 28.3)	- 0.7
平均离乳仔猪头数/母猪/年 (PSY), 头	18.8 (15.2 - 22.5)	21.4 (18.5 - 24.8)	+ 2.6
母猪头数			
平均母猪胎数, 胎	3.2 (2.2 - 4.1)	3.1 (2.7 - 4.2)	- 0.1
平均替代率, %	45.3 (8.9 - 84.1)	49.4 (27.0 - 63.9)	+ 4.1
平均淘汰率, %	37.3 (23.3 - 40.1)	40.1 (28.0 - 51.4)	+ 2.8
平均淘汰母猪胎数, 胎	5.3 (3.7 - 6.8)	4.4 (3.1 - 5.9)	- 0.9
平均母猪死亡率, %	5.4 (2.4 - 10.9)	6.4 (1.9 - 12.6)	+ 1.0

于2016年, 大多数农场的母猪生产数值提升了, 尤其是母猪一年平均的离乳仔猪头数。多于1,000 头母猪相较少于 1,000 母猪的农场拥有更多的离乳仔猪头数 (21.4 及 18.8)。两组农场配种母猪的平均胎数十分相近 (2.18 及 2.12)。相比多于 1,000 头母猪及少于 1,000 母猪的农场, 平均离乳仔猪的头数差距较大 (9.8 及 8.9)。以下是一些影响农场表现差异的因素。

- 使用拥有高生产率基因的母猪。
- 母猪的营养所需及喂饲方案特别着重于怀孕母猪。
- 推荐使用抗生素和 Flunixin 治疗生病母猪。
- 为离乳母猪注射维他命 AD₃E: 每头母猪 500,000-1,000,000 IU。
- 饲喂离乳母猪哺乳期饲料。
- 经常检查公猪精液质量, 以确保良好的精液质量。
- 多关注母猪发情和配种的过程。

欲知更多详情, 请联络 PeterLabs 销售与技术人员。



持续成长以争取更优越的生长性能

成功的仔猪养殖是建立在高品质营养，健康状态良好及有效农场管理的“循环”中。LifeStart着重于这三个基本要素，特别在仔猪的早期生长过程，即从出生到断奶期间以确保仔猪后期成长的最佳的表现。

早期的营养品质 等同更理想的成长



为了达到最佳的猪性能表现，至关重要的是尽早为仔猪的肠道准备好消化饲料的功能。肠道越早成熟，仔猪就能够越早消化固态饲料，这间接提供更理想的成长时期。新生仔猪的胃肠系统发展迅速，大量干物质的摄食量可撑持这个过程。因此，始于最好的方法训练仔猪是用额外的补充饲料配合母猪的母乳。Milkiwean最佳的喂养计划是由初生的第一天开始，极限化早期的摄食量，以支护肠道的发育。它的好处包括改善仔猪的整齐度，增加每窝离乳仔猪的头数，以及提高肉猪的屠宰重量。

改善与维护动物健康



畜牧生产的盈利关键是动物能够保持良好的健康状态。无可否认，提供适当的护理和正确的营养物质对家畜的性能表现有着相当积极的影响。在动物营养学里，饲料添加剂一般用于改善肠道健康，保护及保持饲料中所含的营养价值并且确保



动物从中获得最大的营养益处。Milkiwean 饲料中所含有的 Selko 产品是专用于刺激肠道发育和早期免疫系统的发展，以支持和激化动物生长表现。

有效的农场管理足以 争取更好的成绩



有效的农场管理对业务盈利是非常关键的。仔猪需要大量的照料，它们在出生后的首几个星期比较脆弱。此外，每头母猪的窝仔数持续大幅度增加。稍微体弱的仔猪，较容易遭压踏或没足够体力到达母猪乳房摄取初乳，因此它们需要更好的农场管理照料。为了最佳生长和减低死亡率，农户需要应对农场的全新挑战，有效地处理猪舍的气温控制，生物安全保障，清洁与消毒方案以及农场数据管理等因素。



仔猪生长过程的六个关键阶段

在仔猪的生长过程中，有六个关键阶段。健康良好，高品质营养效农场管理都息息相关。总而言之，这一切都把哺乳阶段领向健康及提升生产性能。

1. 健康的母猪孕育优异的新生儿

- 缓增母猪前哺乳期的摄食量，以避免妊娠早期的体重下降，及修复体态。
- 在产房内，尽可能提高母猪饮水量，以确保初乳和乳产量。
- 根据规定的指南，监测母猪的妊娠阶段，培育最佳的新生儿。*

2. 密切关注分娩过程

- 严格确保产房内的环境卫生。
- 为母猪提供足够且清洁的水源。
- 根据规定指南，监控分娩过程。*

3. 初乳 - 最重要的仔猪饲料

- 根据规定指南，均匀分配母猪的初乳予所有的仔猪。*
- 提供能量补助品予弱小的仔猪。

4. 母猪母乳最佳的运用

- 保留所有的仔猪予母猪，除非仔猪的头数多于性能良好的奶头数。
- 根据规定的指南，在出生后 48 小时内寄存体型较重的仔猪。*
- 当不能够寄存仔猪，则寄养替代母猪。

5. 离乳前补充饲养的最佳方案

- 喂饲 Milkiwean 产品作为补充母乳以提高早期采食量，改善消化性能和刺激肠道发育。
- 按照规定的指南训练仔猪采食。*
- 保持饲料槽的清洁，以鼓励仔猪使用它。

6. 轻松离乳

- 离乳后使用与离乳前相同的 Milkiwean 饲料，并根据规定指南维持摄食量。*
- 在离乳后的第一天，以圆形水槽中提供额外的水。
- 确保哺育室的温度和通风良好。
- 尽量减少在离乳期间和离乳之后的紧迫因素。



*欲知更多有关农场管理指南及如何支持和优化您的养猪流程，请联系您当地的代理。

lifestartscience.com

HiZox®: 低剂量的高效活性氧化锌以确保仔猪的健康

氧化锌药理剂量议题

离乳期间，肠道微生物群体发生变化，仔猪免疫系统未能完全发育，病菌如毒素性大肠杆菌（ETEC）在仔猪肠道合适的环境下繁殖并定殖。这昭示于我们常见的离乳后腹泻，随之延缓生长。

在饲料行业的所有添加剂中，氧化锌的药理剂量（3公斤/吨）是非常普遍的解决方案。而氧化锌确实具有抗菌活性。不幸的是，这种做法存在一些问题。首先，高浓度的锌对于动物是有危害的，尤其是长期的喂养。不但如此，当锌品管不严格时，氧化锌受重金属如镉，砷和铅的污染是不容忽视的问题。

高剂量的锌也可能导致负面的营养相互作用，举例出其中的因素包括：抑制植酸酶活性，增加日粮系酸力并降低饲料酸化剂的功效，影响铁的供应，致使仔猪患贫血的机率增加。。。更为重要的是，目前在许多国家，氧化锌的药理剂量受到当局的监督，氧化锌不但导致环境，土壤和水源污染，也生成病菌的抗药性。

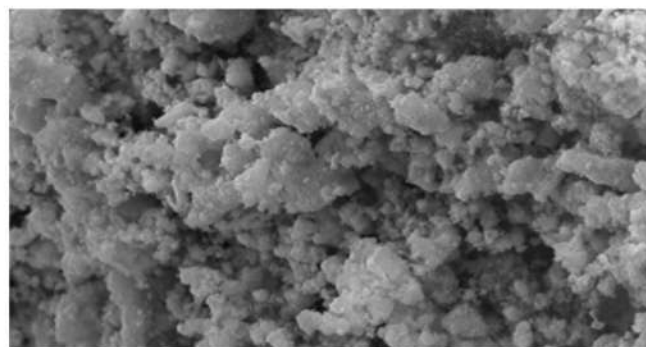
Animine 的解决方案

一个源自生产高效活性氧化锌 HiZox® 专利工艺的技术，被用于研发动物的营养。这种新型的氧化锌拥有独特的物理化学性质，它具有特大的表面面积（比常规来源高出 10 至 15 倍），显着肠胃中菌群的相互作用。多孔性的粉粒状加倍提升了高效氧化锌的抑菌作用。

用于生产 HiZox® 的特定技术能确保它最佳的固态流动特性，素质优于一般的氧化锌（极粉尘和凑实），以确保在预混料中有更均匀的分布。此外，由高品质锌所生产的 HiZox® 可以确保含量更低的不良物质尤其是重金属成份。



HiZox®



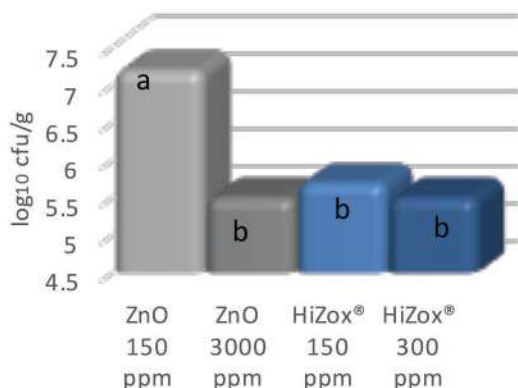
高量多孔性氧化锌 HiZox®（电子显微镜图）

HiZox® 已经在全球知名大学进行了各种测试，以下试验证实了在低剂量所发挥的效果：

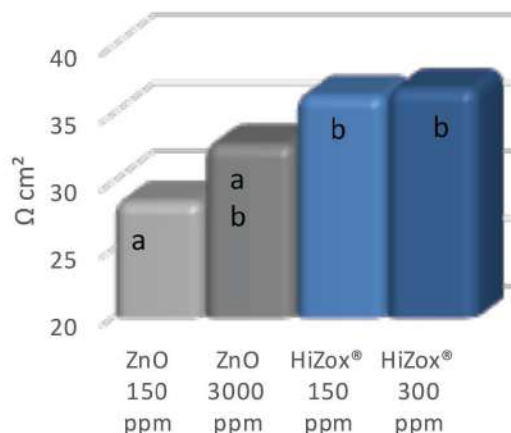
- 在细菌过度生长的环境下
- 肠道屏障功能
- 仔猪的生长性能



离乳小猪肠道的大肠菌群数量

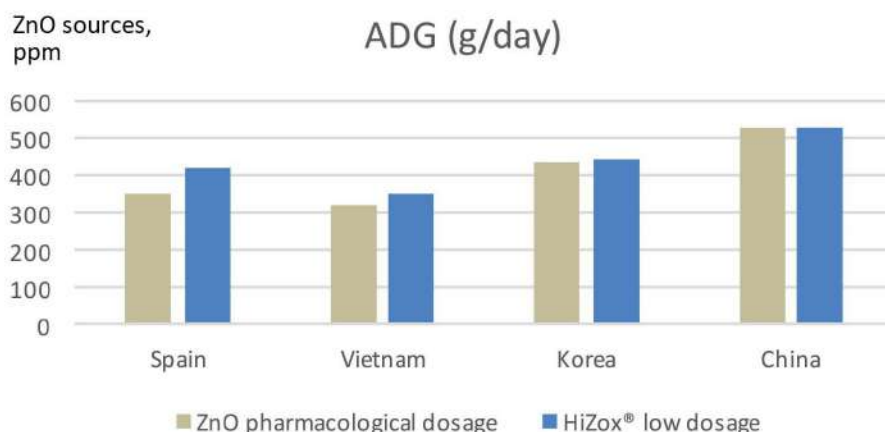


跨膜细胞电阻值(TEER)



Ghent大学的试验, 2016, P<0.05

在普遍的卫生条件下, 与一般氧化锌的药理剂量直接相比, 微量的 **HiZox®** (150ppm 至 300ppm) 对仔猪的生长性能具有相对或更好的效果:



Centre Experimental y de Porcino, Segovia, Spain / Institute of Agricultural Sciences for Southern Vietnam / Dankook University Research Center, South Korea / Institute of Subtropical Agriculture, CAS, China

结论

现今, 越来越多人关注如何减少抗生素的使用及仔猪日粮中氧化锌药理剂量。过量和长期使用氧化锌已证实会带来负面的后果。饲料配方师正在寻求一些可在离乳后这关键阶段降低消化系统疾病的原料及饲料添加剂。 **HiZox®** 可以与抗生素促长剂的替代品配合使用, 预防式地改善肠道健康的状态, 从而减少不该持续的作业。



应用BioPlus® YC 以改善母猪和仔猪性能

By Jens Noesgaard Jørgensen PhD, Global Product Manager, Chr. Hansen A/S

益生菌与BioPlus® YC

根据 FAO 对益生菌的定义，“益生菌是一种有效的活性微生物，通过适当的摄取量，对使用者的身体健康十分有益”。BioPlus® YC 是一种益生菌饲料添加剂，适用于粒状或粉状的猪只饲料。

研究证明，BioPlus® YC 可降低猪只消化道内病原菌的生长，如梭菌，葡萄球菌和链球菌。研究已证实 BioPlus® YC 可减少大肠杆菌附着在肠道上皮中并调节肠道环境，从而有利于益生菌（如乳酸杆菌）的生长并减少有害细菌（如大肠杆菌）的生长。因此，在猪只养殖中应用 BioPlus® YC 能稳定肠道内的微生物菌群，减少腹泻等问题。而 BioPlus® YC 中的两种益生菌菌株亦可在肠道中分泌消化酶，以辅助饲料中的纤维和蛋白质的消化。此外，BioPlus® YC 经由制粒后也不会丧失活性。整合而言，这些特性使得 BioPlus® YC 成为母猪和仔猪日粮的理想饲料添加剂。

结合生产记录与经济信息显示母猪单位的盈利能力变异主要以母猪生产性能和仔猪离乳前死亡率的差异来判断。饲料价格的变异不能全译盈利的变异。优等的母猪繁殖率和仔猪存活率对母猪单位达到高利润是很重要的。

提高哺乳期存活率

最近一项关于离乳前死亡原因的研究表明，70% 的离乳前死亡发生在出生后 5 天内，最常见的原因是仔猪被挤压、遭受饥饿和出生体弱，而这与产仔栏设计、肠道机能和肠道营养供应有关。其余 30% 的离乳前死亡原因主要由剪齿，剪尾以及铁质注射后所引起血液的中毒和感染，这些始于农场里的工作人员缺乏相关知识。

离乳前死亡的预防应注重对员工的培训，改良产仔栏的设计，由母猪的饲养管理提高产乳量及确保乳猪消化道的最佳发育。另外，可通过改善清洁程序及应用 BioPlus® YC 来减少乳猪被细菌附着。

使用 BioPlus® YC 于哺乳期饲料可减少母猪粪便中的有害细菌，同时增加益菌群（包括 BioPlus 细菌）。因此，产仔栏内附着的有害细菌得以降低，从而使乳猪肠道更加稳定且正常地发育。

一项综合分析以 20 多个研究试验的数据表明，应用 BioPlus® YC 于哺乳期饲料可降低 3% 的离乳前死亡率，这相当于每头母猪每年可多产一头仔猪。



促进母猪繁殖率

为了最佳化母猪的生产性能，保持稳定的最佳体况评分是非常重要的。瘦弱母猪的繁殖能力比最佳体况的母猪要来的差。母猪每增加 1 公斤体重需要喂食 3.2 公斤以上的饲料也并不无道理。另外，肥胖的母猪需要更多的治理，特别是分娩的问题。

因此，妊娠期间需经常检查母猪的身体状况，并相应调整日粮供应量以确保维持最佳的身体状况。哺乳期的采食量必须随着产乳量的提升而增加。一般建议依据母猪的采食量逐步增加每日的饲料供应量。哺乳期间，除了提供充足的饲料同时也必须提供足够的优质饮水。顶峰耗水量可达每分钟 4 公升饮水。

BioPlus® YC 的优势

已经证实 BioPlus® YC 可提高饲料中营养物质的利用率。一项母猪实验的综合分析显示供应 BioPlus® YC 能减少 5% 的妊娠期饲料和增加 8% 的哺乳期采食量，而且还能保持母猪最佳的体况评分。有补充 BioPlus YC 的母猪在结束哺乳期后失重较少并且身体健康水平较高。

实验结果显示，与对照组相比之下，使用 BioPlus® YC 的母猪有较低的重发情率及空胎天数。

也经证明，BioPlus® YC 可调节肠道益生菌并减少 4% 的离乳前死亡率。

总结 BioPlus® YC 对母猪繁殖性能指数和乳猪存活率的影响研究结果表明，每头母猪每年可增加 1 头离乳仔猪（PSY）。

