

PeterLabs Bulletin was founded in year 2012 by technical team of the company. The biannual Bulletin aimed to provide and share some livestock issues, such as swine and poultry production trends, management programme, animal nutrition, feed additives or some of the newly developed animal technology in the market. It shows us that, "agriculture feeding the world." In livestock industry, besides productivity, we are also concerning on the production efficacy and environmental sustainability so as to achieve eco-effectiveness. Thus, variety of animal health and nutritional products have developed to meet the needs of current industry.

In order to ensure we have delivered relevant and reliable information to our valued customers, we are trying our best to study and analyse the present condition of livestock market, well chosen some potential and exploratory articles for public reference. This is also in compliance with the title of PeterLabs Bulletin, which named "*always SHARE*", or translated as "keep on sharing." At the same time, we would like to share some activities that organized or participated by our company with all the readers for further understanding on our company's dynamics.



New Editor's Speech



Ng Weng Yee
Nutritionist
PeterLabs Sdn Bhd

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The performance of swine breeding herds in Malaysia during year 2014

By Dr. Paiboon Sungnak, D.V.M., InterCons 3P Co., LTD., Email: paiboon_sungn@intercons3p.com

The aim of this article is to compare the production figures of pig farms in Malaysia between year 2013 and 2014 (Table 1). These figures were 12 month-rolling averages summarized from 24 farm units (total 47,387 mated sows and gilts).

Table 1: Production figures of swine breeding herd in Malaysia during 2013 compared to 2014

Breeding Performance	Unit	Average 2013	Average 2014	TOP 5 Farms 2013	TOP 5 Farms 2014
Repeat Service	%	15.0	16.5	6.5	8.1
Weaning-1st Service Interval	Days	7.8	7.6	5.8	5.8
Sows Bred by 7 Days	%	84.7	84.9	90.7	92.1
Average Parity of Farrowed Sows	Parity	3.8	3.7	3.1	3.2
Average Pigs / Litter	Pigs	10.8	11.3	12.0	12.3
Average Pigs Born Alive / Litter	Pigs	10.2	10.6	10.9	11.3
Still Born Pigs	%	5.3	6.0	0.9	2.5
Mummies	%	1.0	1.3	-	-
Farrowing Rate	%	77.4	74.0	85.8	83.2
Litters / Mated Female / Year	Litters	2.2	2.1	2.4	2.35
Average Pigs Weaned / Litter	Pigs	9.6	9.9	10.4	10.8
Pre-Weaning Mortality	%	7.6	6.9	2.4	1.3
Average Weaning Weight	Kg	7.2	7.7	8.6	8.6
Average Lactating Length	Days	27.7	26.5	30.4	28.7
Pig Weaned/Mated Female/Year	Pigs	20.2	20.2	23.5	23.5
Average Parity	Parity	2.9	3.0	2.3	2.4
Replacement	%	46.4	44.9	62.3	62.5
Culling Rate	%	38.6	38.4	58.1	54.0
Average Parity Of Culled Sows	Parity	4.9	4.3	6.9	5.7
Sow Death	%	6.6	5.8	1.9	2.5

Top 5 farms production figures highlights

The average number of pigs weaned/sow/year from top 5 farms is 23.5. It is same as year 2013. The main issue resulting this figure is that during May to July 2014, corn and soya bean meal were detected with highly contamination of mycotoxins such as Zealarenone, Fumonisin and Trichothecenes (T₂) (Table 2). These contaminations caused high abortion rate in sows, high repeated service, low farrowing rate, weak piglets at birth, high still born and small litter size.

Table 2: Mycotoxins test results from corn and soy bean meal in Malaysia during May to July 2014

Raw materials	Fumonisin (ppb)	T ₂ (ppb)	Zearalenone (ppb)	DON (ppb)
Corn Type A	700	161	352	53
Corn Type B	200	148	785	62
SBM Type A	200	130	394	34
SBM Type B	300	144	335	27

Around 20 % of feed samples analyzed were contaminated with Zearalenone. It intoxication is generally manifested when concentration surpass 100 ppb. However, we have overcome this problem by using high quality of toxin deactivated product (T5X premium, 1-2 kg/ton). We took around 3 to 4 months to recover the productivity.

Guidelines to improve number of Pigs Weand/Sow/Year (PSY)

➤ Replacement Gilts

- 40-45 % of replacement rate (1,000 sows * 0.40 = 400 gilts/year; 33 gilts/month)
- All vaccinations must be done before mating such as PRRS, FMD, SF, AD, PCV2, and PPV.

➤ Boar semen quality

- Ensure that boar semen is not clumping.
- Sperm clumping must be tested before mating gilts and sows (less than 25% of coverage of microscopic field). A reliable data suggested that sperm clumping has a significant negative effect on fertility which might be associated with individual boars, semen diluents interactions, and farm management.

➤ Water quality

- Ensure that sows drink enough water (20 liters/day).
- Maintain water temperature as low as possible.

➤ Feed quality

- Ensure that sows consume enough nutrient requirements. Well balanced of amino acids profile, Vitamin E and Betaine added diet is recommended for sow.
- Do not feed too much to gestating sows.
- Avoid feeding sows between 10.00 am - 4.00 pm. It is the hottest period of the day.

➤ Sanitation procedure

- Remove all dirt from gestation and farrowing crates and the flooring by pressure washing and rinsing.
- Need a drying period of at least 6 hours after washing and rinsing.
- Disinfectant process should done by spraying high quality of disinfectant product with proper concentration on the crates and flooring surfaces. For example, using glutaraldehyde, iodine, quaternary ammonium compounds, hydrogen peroxide or aldehydes.
- An adequate drying period (at least 24 hours) for the crates and flooring surfaces before move in the new sows.

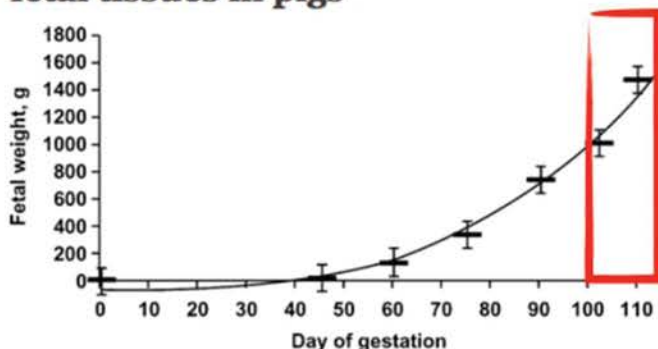
Maximizing sow performance: OptiCell® is a key tool to employ in advance of parturition and after.

By Dr. Arthur Kroismayr, Agromed Austria.

One to two weeks prior to farrowing, it is common practice to move gestating sows from the gestation area to the farrowing area. Coupled with this change is a move from lower nutrient density gestation diets to diets containing higher energy and protein levels to support the needs of the sow and piglets during lactation. At parturition and soon thereafter we note, more often than not, constipation, MMA (mastitis, metritis and aggalactica), greater than 10 % of the piglets with a birth weight less than 1 kg, still borns, piglet scours, higher non-productive open days following weaning and sometimes higher pre-weaning mortality.

OptiCell®, a fermentable dietary component for diets, can be this solution to help address the above challenges. It would be an easy and profitable decision to implement.

Growth and compositional changes of fetal tissues in pigs



The above graph shown foetus growth rate curve over the 2 to 3 weeks prior to parturition represents 50 % of the foetus weight addition for the piglet. For this reason, a focus on achieving a high plane of nutrition for energy and protein is required to support the higher piglet birth weights and thus increase survivability.

To maximize this growth, we must consider an often forgotten fact that 25 % of the energy requirements of the sow comes from hind gut fermentation (Shi and Noblet 1993), also recently noted in 2012 NRC recommendations for swine.

Any feed component that can positively influence hind gut fermentation should be considered as essential in pre-farrow and lactation sow stages. Thus, a unique source of micronized fibre (particle size less than 200 microns) has been created which is best described as a eubiotic lignocellulose OptiCell®, which produced by Agromed Austria.



It is a natural product sourced from fresh wood with high concentration of fermentable and non-fermentable fibre making it a low inclusion and safe fibre source for high density diets such as the lactating sow diet. The ultra fine particles of OptiCell® not only provide stimulation for the intestine's peristaltic movements but also move the digesta for the hind gut fermentation. It provides an increased surface area for beneficial bacteria which use the fermentable component to generate volatile fatty acids (VFA), in particular, lactic acid and butyric acid. These VFAs are key elements to support the energy system of the sow, improved gut health, hence, it is called eubiotic fibre.

Eubiotic lignocellulose – unique because of Lactobacillus growth stimulation.

The key feature of OptiCell® is the fermentable component that stabilizes Lactobacilli populations.

Role of Lactobacilli

- Act as a protective barrier to inhibit the growth potential of pathogens
- Produce lactic acid as energy source
- Reduce ammonia production in the gut
- Protect the gut wall (Blaut, 2002)

Key benefits of OptiCell®

- Increase piglet survival rate
- Increase weaning weight
- Lower incidence of piglet scours

Application

Gestating sow: Diet at 2.5 % OptiCell® for maximum benefits in terms of satiety for limit fed sows.

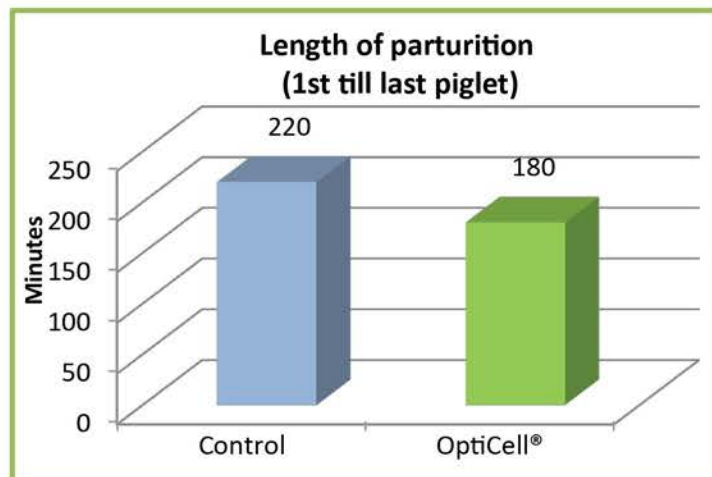
Lactating sow: Diet at 1 % OptiCell® on top or replace other sources of fibre including wheat or rice bran.

Piglet: Diet at 1.5 % OptiCell® with growing benefits.

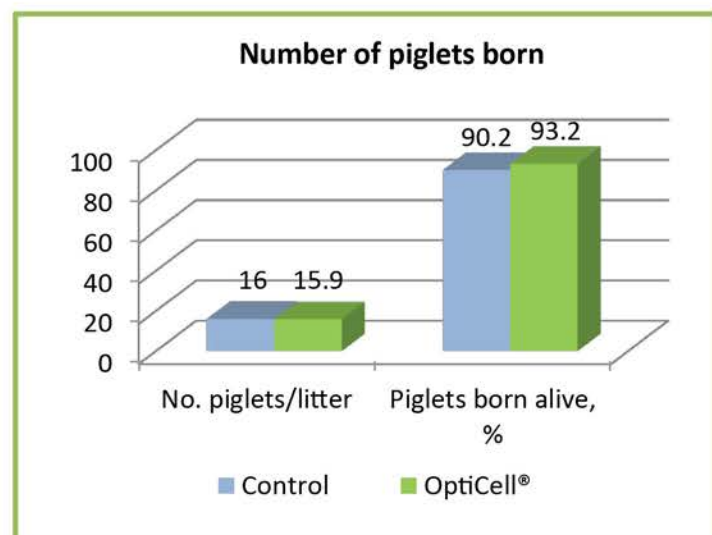
Parturition time – shorter farrowing period means more newborn piglets survive

A scientific trial was conducted to study the effect of 1 % Opticell® in lactation feed on sow performance at Netherlands, published by *Baarslag et al, 2013*. The data was recorded 1 week before farrowing till weaning.

Parameters	Control	OptiCell®
No. of sows	20	19
Parity	5.1	5.2
Inclusion rate	-	1 % OptiCell®
Average weight at birth, g/piglet	1127	1241



Graph 1: Length of parturition is shorter for sows consumed OptiCell® added diet.



Graph 2: The number of piglets born is similar for both group but the number of piglets born alive was 3 % higher for the sow consumed OptiCell® added diet.

Conclusion

OptiCell® 1 % added diet significantly increased average birth weight of piglets (+10 %). The reduced parturition time of sows was due to the positive effect of OptiCell® on peristaltic movements in the colon. These benefits can be improved when OptiCell® is used in lower crude fibre diets or when fed longer before farrowing.

Yoghurt for stronger suckling piglets and sows

By Dr Gerhard Stalljohann and Reinhard Schulte–Sutrum, Landwirtschaftskammer NRW (Haus Düsse), Germany

Feeding yoghurt to suckling piglets, starting the day after birth improves the piglets' feed intake in the first weeks of life. This results in higher weaning weights and higher growth rates after weaning. Also, the sows lose less weight during lactation and gain more weight during the following gestation.

Large litters put a strain on the lactating sow, leading to impaired growth rate of her offspring. Sustaining a high level of milk production requires a lot of energy. With large litters, sows are unable to nurse their litters sufficiently to reach piglets' genetic growth potential. Large litters often contain small piglets and it is a challenge to provide these small piglets with enough nutrients to increase survival rates, and reach adequate weaning weights and growth rates after weaning. A key factor to obtain healthy sows and piglets is a higher feed intake of piglets in the suckling period.



Comparing yoghurt and milk replacer

In order to meet the requirements of young piglets, Dutch animal nutrition company Sloten developed a new sustainable feeding concept, called Nuklospray Yoghurt. The yoghurt is fed in liquid form to suckling piglets starting the day after birth. To prove that the concept improves the piglets' feed intake in the first week of life, increases weaning weights and growth rate after weaning, a study was performed in LZ Haus Düsse in Germany.

The trial was conducted with 92 litters, divided into two groups: from day two after birth 49 litters received the yoghurt and 43 litters were offered another milk replacer.

On the first day, 250 ml of the yoghurt (400 g powder per litre) was provided, and 500 ml of the control milk replacer (125 g powder per liter). The yoghurt was given during three weeks, while the control milk replacer was fed for two weeks. The offered amount of milk replacer during the suckling period increased up to 2.5 litres per little per day. Piglets were subsequently offered a pre-starter (Mikiwean Granito Premium) in the yoghurt litters and a commercial pre-starter in the control groups. Table 1 shows the results of the two trial groups.



With large litters, sow milk production is often insufficient to make use of piglets' growth potential.



Parameters, Unit	Nuklospray Yoghurt + Prestarter (Milkiwean Granito Premium)	Control
Number of Litters	49.00	43.00
Mean parity of sow	3.70	3.80
Birth weight piglets (kg)	1.46	1.42
Number of piglets/litter at day 2	12.50	11.90
Number of piglets weaned	11.80	11.10
Suckling period (days)	27.00	27.20
Weaning weight piglets (kg)	7.80	7.72
Weaning weight litter (kg)	91.70*	85.30
Milk replacer intake(kg/litter)	6.20*	2.00
Pre-starter feed intake (kg/litter)	3.30*	2.80
Piglet mortality (%)	5.30	6.60
ADG first week after weaning (g/d):		
Piglets from large litters (>12 piglets)	177.00*	157.00
Piglets from small litters (<11 piglets)	149.00	153.00
ADG in six weeks after weaning (g/d):		
Piglets weighing < 7.8 kg at weaning	452.00	432.00
Piglets weighing >7.9 kg at weaning	476.00*	469.00
Weight loss sow (kg)	31.10*	41.40
Weight loss sow (%)	12.10	16.30
Back fat sow at partus (mm)	24.00	26.00
Back fat sow at weaning (mm)	19.00	21.00

Table 1: Trial outcomes comparing technical results from litters fed Nuklospray Yoghurt and a prestarter diet versus control groups.

* Indicated a significant different between both group.

** ADG is average daily gain.

In conclusion

The improvements in piglet and sow performance with the yoghurt addition include: a higher feed intake of suckling piglets, less piglet mortality, higher weaning weights of the litters, and better fertility and condition of the sows. This new feeding concept clearly improves the performance of piglets and helps the sow to raise well-performing litters and stay in a good condition. This may benefit fertility and longevity of high-producing sows.



Zigbir – Leading the phytochemical era in liver care

By Dr. Ruturaj B. Patil and Dr. Vikash Kumar

Zigbir as hepatoprotective

Liver is a target organ for any mycotoxins or chemical toxins attack in body. Being a major detoxifying organ of body; liver plays an important role in overall digestion and metabolism of feed.

Zigbir with its hepatoprotective activity exerts potent effect on the development and efficient functioning of liver under normal or challenged condition.

Zigbir against fungal toxin



Group (A)
AFB₁ 0.5 ppm



Group (B)
AFB₁ 0.5 ppm + Zigbir
supplementation

A study was undertaken in commercial broilers to investigate the effect of Aflatoxin B₁ (AFB₁) on performance and to evaluate the efficacy of Zigbir as a hepatoprotective agent. The gross pathology of liver at the end of trial in AFB₁ challenged untreated group (A) has revealed hepatomegaly, severe discoloration, blunt edges and fragility. While in group (B), AFB₁ challenged and supplemented with Zigbir, gross pathology of liver found closer to normal.

Therefore, Zigbir is able to counteract ill effect of fungal toxins.

Thermostability data



Zigbir Thin Layer Chromatography (TLC) profiles of the autoclaved samples

- STD: Reference standard
1: Without autoclaved
2: Autoclaved samples (12 psi, 115 °C, 2 min)
3: Autoclaved samples (15 psi, 121 °C, 2 min)

The TLC profile has confirms that, Zigbir is thermostable even at pelletizing temperature. The product efficacy will not be affected after pelletization process. Therefore, Zigbir can be very well recommended in pelleted feed.

In short, Zigbir can be looked upon a sustainable solution to reduce the dependence on antibiotics or toxin binder and help in promoting overall growth. The assumption of phytogenic feed additives may have the potential to promote production performance and productivity is going to be strengthened in near future.

Seminar - Be Future Ready: Challenges and way forward in poultry nutrition

In order to promote this phytogetic feed additive to public, PeterLabs and Natural Remedies jointly organised a seminar on 14 May 2015, focused on "challenges and way forward in poultry nutrition." This seminar was successfully held at Holiday Villa Hotel & Suites Subang.



The main speaker Dr S.V. Rama Rao, an expert in poultry research in India has delivered an interesting and powerful presentation showing the current challenges in sourcing raw material and forecast in the future. He analysed some alternative raw material that can be used to substitute corn and soya at the meanwhile also shared about poultry nutritional challenges to us. These included how to improve nutrient digestibility such as using digestive tonic, probiotics, organic acids, essential oils and enzymes; management of stress nutrition, and other miscellaneous approaches. Dr Rao also wrapped up by revealing his thought on the future scenario if raw material in shortage.



The second speaker, Dr Vikash Kumar from Natural Remedies introduced his company's product, Zigbir, the signature product that proven to be liver protection formula complimenting toxin binder. He also introduced Natchol which successfully replaced synthetic chlorine chloride with added benefits such as easier handling and free from toxin that might appear in traditional chlorine chloride.



Audience who mostly comprised of nutritionist and formulator raised a lot of constructive questions and suggestions. The discussion continued until the lunch has ended. -- KF Lim



PeterLabs Annual Dinner 2015

PeterLabs Holdings Berhad organised its annual dinner with the aim to unite all employees especially those from outstation and east Malaysia and at the same time share the happy moment with our principles. We are honoured to have Agromed, LinkAsia Partners, and Natural Remedies to join this event.



The dinner started at 6 pm where everyone gathered in front of our office. Canopies were set up and nicely decorated with the help from our colleague. Katherine Stothard hosted the night and with a short but precise speech from our Managing Director, Mr Lim Tong Seng, the dinner get started.



This event also a great opportunity for our guests from a far to taste and to understand our Malaysian cuisine.



Apart from the mouth watering food, the other highlight of the night was the lucky draw which feature iPad Air as the grand price (Congratulation to Syafawati!). Some 25 prizes were given away to lucky winners and made their day. Some of our staff even went on stage to perform songs. Group photos with our guests was also taken for memory. The dinner was officially ended at around 9pm. -- KF Lim



新任主编的话

PeterLabs 的期刊成立于 2012 年，由本公司的技术团队携手编辑。这半年期刊主要宗旨是为了提供与分享一些与畜牧业有关课题的文章，例如家禽产量的趋势，管理方案，动物营养，动物保健品或一些在市面上新的动物科技等等。正所谓，“农业足以养活全世界。”在畜牧业里，除了注重家禽的产量以外，我们也关注其生产效能以及持续性的环境环保并且从而达到生态的效益。因此，各种各类的动物保健和营养产品早已被研发来符合现今的市场所需。

为了确保传达可靠的相关资料予我们尊贵的客户，我们尽心尽力，钻研并分析畜牧业市场的最新实况，精心挑选出一些具有潜质性和探讨性的文章以让大众参考。这也配合了 PeterLabs 的刊名，名为“always SHARE”，也译为“经常分享”。与此同时，我们也将与读者们分享我们公司所举办或参与的一连串活动和项目，以让大家更进一步地了解我们公司的动态。



黄咏儀
营养师
比德生物营养有限公司



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年度晚宴

2014年马来西亚种猪性能

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本报导的目的主要是比较马来西亚养猪场介于 2013 和 2014 年的生产值 (表一)。这些数值分别为 24 户农场 12 个月内的平均值 (总数 47, 387 头母猪和新女猪)。

表一: 与 2013 年相比, 2014 年马来西亚种猪的生产数值

生产性能	单位	平均 2013	平均 2014	2013 年前5 名农场	2014 年前5 名农场
重发情	%	15.0	16.5	6.5	8.1
离乳至第一次发情的间距	天	7.8	7.6	5.8	5.8
在7天内配种的母猪	%	84.7	84.9	90.7	92.1
分娩母猪之平均胎数	胎	3.8	3.7	3.1	3.2
平均仔猪/胎	只	10.8	11.3	12.0	12.3
平均活仔猪/胎	只	10.2	10.6	10.9	11.3
死胎	%	5.3	6.0	0.9	2.5
黑胎	%	1.0	1.3	-	-
分娩率	%	77.4	74.0	85.8	83.2
胎数/配种母猪/年	胎	2.2	2.1	2.4	2.35
平均离乳仔猪/胎	只	9.6	9.9	10.4	10.8
离乳前死亡率	%	7.6	6.9	2.4	1.3
平均离乳体重	公斤	7.2	7.7	8.6	8.6
平均哺乳期	天	27.7	26.5	30.4	28.7
离乳头数/配种母猪/年	只	20.2	20.2	23.5	23.5
平均胎数	胎	2.9	3.0	2.3	2.4
替换率	%	46.4	44.9	62.3	62.5
淘汰率	%	38.6	38.4	58.1	54.0
平均淘汰母猪之胎数	胎	4.9	4.3	6.9	5.7
母猪死亡率	%	6.6	5.8	1.9	2.5

前 5 名农场之数值

前 5 名农场的平均离乳头数/配种母猪/年有 23.5 只。此数据皆与 2013 年相同。主要原因是在于 2014 年 5 月至 7 月之间，玉米和黄豆粕被检测出有含量高的霉菌毒素，例如，玉米赤霉烯酮（Zearalenone），伏马镰孢毒素（Fumonisin），和单端孢霉烯类毒素（Trichothecenes, T₂）（表二）。这也导致母猪流产率高，重发情机率增加，分娩率低，出生仔猪体弱，死胎高和窝仔数减少。

表二：2014 年 5 月至 7 月在马来西亚针对玉米和黄豆粕的霉菌毒素验测结果

原料	伏马镰孢毒素 (Fumonisin) (ppb)	单端孢霉烯类毒素 (T ₂) (ppb)	玉米赤霉烯酮 (Zearalenone) (ppb)	唐毒素 (DON) (ppb)
玉米 A 种类	700	161	352	53
玉米 B 种类	200	148	785	62
黄豆粕 A 种类	200	130	394	34
黄豆粕 B 种类	300	144	335	27

大约 20 % 的饲料样本检出被玉米赤霉烯酮所污染。一般当毒素高于 100 ppb 将列为中毒症状。虽然如此，我们使用了质素高的吸毒剂（T5X premium, 1-2 公斤/吨）克服了这问题。我们花了大概 3 至 4 个月来恢复如往常般的生产效能。

增加离乳头数/配种母猪/年的方针

➤ 替代新女猪

- 40-45 % 的替代率 (1,000 头母猪 * 0.40 = 400 头新女猪/年; 33 头新女猪/月)
- 所有的疫苗必须在开始配种前完成，例如 PRRS, FMD, SF, AD, PCV2, 和 PPV。

➤ 公猪精液质量

- 确保公猪精液不结块。
- 精液结块症状必须在母猪或新女猪配种前检验（需少于 25 % 显微镜视野的覆盖）。一个可靠的数据表明，结块的精子对生育力有负面的影响，原因与个别公猪，精液稀释剂的混合，以及农场的管理有关。

➤ 水的质素

- 确保母猪的饮水量充足（20 公升/天）。
- 尽可能提供低温度的水。

➤ 饲料的质素

- 确保母猪摄入足够的营养需求。建议以均衡的氨基酸，维生素 E 和甜菜碱（Betaine）添加在母猪的饲料中。
- 不要喂饲太多予怀孕母猪。
- 避免在上午 10:00 时至下午 4:00 之间喂饲母猪。这是一天中最热的时段。

➤ 卫生程序

- 通过高压洗涤器冲洗排栏和分娩栏，产仔箱和地板上所有的污物。
- 洗涤后需要至少 6 小时以达到干燥效果。
- 在消毒排栏和地面表层过程中应利用高素质的喷洒消毒剂产品而且要配合适当的浓度。例如，可利用戊二醛，碘，季铵化合物，过氧化氢或醛。
- 在迁移新批母猪前，排栏和地面表层需要一段充分的干燥时间（至少 24 小时）。

强化母猪性能：OptiCell® 成为关键工具帮助分娩前后的母猪。

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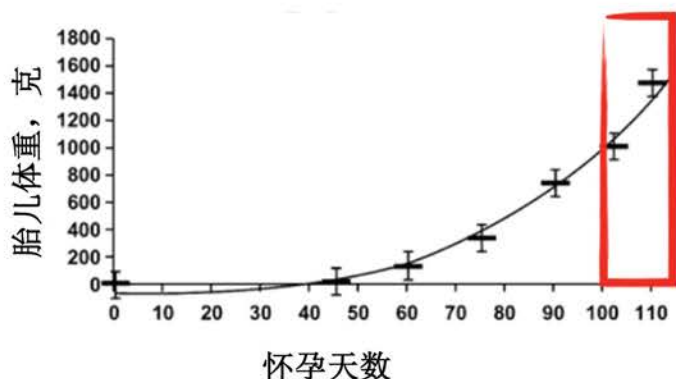
怀孕母猪分娩前一至两周通常会从排栏被搬移到产房。这也从低营养密度的母猪前期料转换至高热能和蛋白的后期料，以提供哺乳母猪和仔猪的营养需求。母猪分娩后我们常见母猪便秘，MMA（乳房炎，子宫炎，无乳），超过 10 % 出生仔猪的体重少于 1 公斤，死胎，仔猪下痢，离乳后的配种母猪面对空胎现象和仔猪离乳前较高的死亡率。

OptiCell®，一个可发酵性纤维添加予饲料中，可以帮助解决以上的挑战。这只是一个简单和有利可图的决策。

为了提高成长率，我们必须考虑到一个常被遗忘的景况，母猪的 25 % 能量需求来自于肠道后端的发酵（Shi 和 Noblet, 1993），也是 2012 年美国国家研究委员会所推荐的。

任何可积极影响肠道后端发酵的原料将是母猪分娩前和哺育仔猪过程中所不可缺少的。所以，如今特设了一个微粉化纤维（颗粒尺寸小于 200 微米），取名为优质木质纤维素 OptiCell®，由 Agromed 奥地利所生产。

猪胎儿组织的成长和变化



以上图表显示胎儿在 2 至 3 周分娩前，胎儿体重迅速增加了 50 %。因此，营养成分浓缩的饲料如高热能和蛋白是需要提供予体重逐增的胎儿以便提高其生存率。



这是个天然的产物，取之于新鲜木材，含有高浓度的发酵性和不发酵性纤维，使之成为低摄取量的纤维素及安全用于高密度的哺乳母猪料。此细颗粒的 OptiCell® 不仅能促进肠道蠕动，而且能够帮助运行食糜到肠道后端产生发酵，同时提供更大的表面积让肠道的有益菌充分利用这可发酵性成分来生产挥发性脂肪酸（VFA），特别是乳酸和丁酸。这些挥发性脂肪酸是关键要素，它帮助支持母猪的能量系统，也能改善肠道健康，因此它被称为优质纤维。

优质木质纤维素 - 独特地促进乳酸杆菌的滋长

OptiCell® 主要是一个能够稳定乳酸杆菌群的发酵性纤维。

乳酸杆菌的作用

- 作为保护屏障，抑制病原菌的生长潜力
- 生产乳酸作为能量的来源
- 降低合成氨在肠道的生产
- 保护肠壁 (Blaut, 2002 年)

OptiCell® 的主要优点

- 提高仔猪存活率
- 提高仔猪的断奶体重
- 减低仔猪腹泻的发生率

应用方法

怀孕母猪：前期料添加 2.5% 的 OptiCell® 有利于增加限制饲喂母猪的饱腹感。

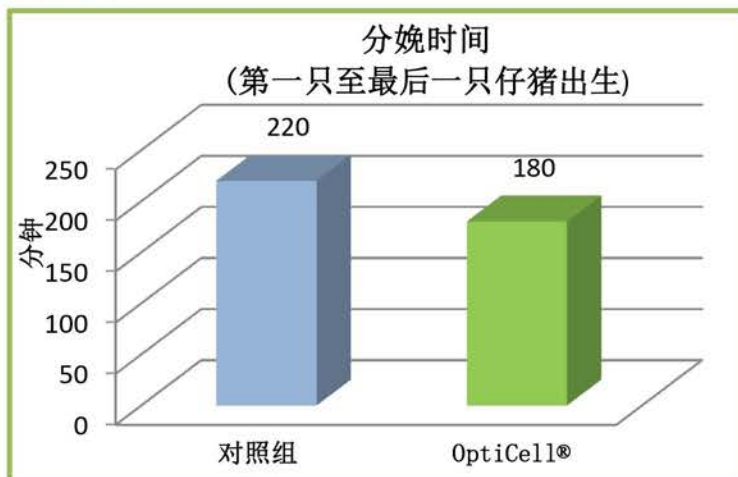
哺乳母猪：后期料添加 1% 的 OptiCell® 或用来替代部分的纤维来源包括麦糠或米糠。

小猪：小猪料添加 1.5% 的 OptiCell® 有利于其增长过程。

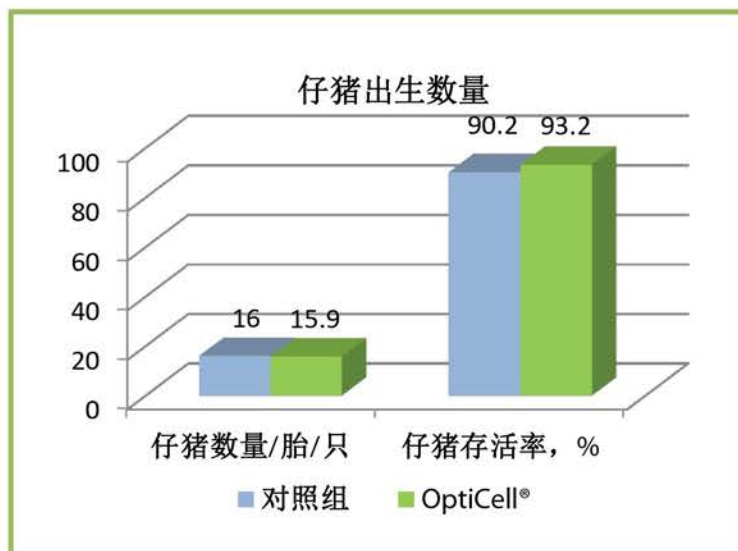
分娩时间 - 缩短生产时间意味着更多的新生仔猪存活

一项在荷兰的科学试验研究了在哺乳期饲料中添加 1% 的 OptiCell® 以探讨哺乳母猪的表现，报导通过 (Baarslag et al, 2013 年) 所发表。数据记录是从母猪分娩前一星期一直到离乳。

参数	对照组	OptiCell®
母猪数量	20	19
母猪胎数	5.1	5.2
使用量	-	1 % OptiCell®
平均仔猪出生体重, 克/只	1127	1241



图表一：母猪喂饲添加 OptiCell® 的饲料有较短的分娩时间。



图表二：两组仔猪出生的数量相似，但添加 OptiCell® 组的仔猪存活率比对照组提升了 3%。

结论

添加 1% 的 OptiCell® 在饲料中明显的增加了仔猪出生体重 (+10%)。母猪分娩时间缩短是因为 OptiCell® 能够帮助促进肠道的蠕动。OptiCell® 若添加在低纤维饲料中或增长喂饲时间可以达到更好的效果。



Yoghurt - 使乳猪和母猪更强更壮

作者: Dr Gerhard Stalljohann, Reinhard Schulte - Sutrum, 德国 Landwirtschaftskammer NRW (Haus Düsse), 和荷兰 Carolien Makkink.

从刚出生就让哺乳仔猪使用Yoghurt, 能提高仔猪在出生后一周内的采食量, 并且增加仔猪断奶重量以及提升断奶后的生长速度。同时, 母猪在哺乳期间的失重将降低, 而在下一个怀孕期的体重增加更多。

窝产仔数变大也增加了哺乳母猪的压力, 小猪的生长速度也受到影响。持续进行高水平的泌乳需要很多的能量。窝产仔数大, 母猪就不能高效地哺乳仔猪, 因此小猪的遗传生长潜力就受到了限制。大窝产仔数中通常会出现弱仔, 因此如何给这些弱仔提供充足的营养以便提高存活率, 达到良好的断奶体重和断奶后的增重已成为一个挑战。使母猪和小猪都健康的一个关键是在哺乳期间时提高小猪的采食量。



比较Yoghurt和人工奶粉

为了满足小猪的需求量, 荷兰动物营养公司 Sloten 开发了一套可持续的饲喂理念, 即 Nuklo-spray Yoghurt。Yoghurt以液态形式饲喂给哺乳仔猪, 可以从出生后开始。为了证明这种理念能提高小猪在第一周的采食量, 并且使断奶体重和断奶后的增重变高, 德国的 LZ Haus Düsse 进行了一项研究。

该试验使用了 92 只小猪, 分为两组: 从出生后第2天开始, 第一组 49 只小猪使用Yoghurt, 第二组 43 只小猪使用对照人工奶粉。

试验第一天, 第一组饲喂了 250 毫升的Yoghurt (每升 400 克奶粉), 第二组饲喂了 500 毫升的对照人工奶粉 (每升 125 克奶粉)。Yoghurt使用三周, 对照人工奶粉使用两周。两组人工奶粉在哺乳期间的使用量都增加到 2.5 升予每只小猪每一天。第一组小猪用完Yoghurt接着饲喂Milkiwean Grantino Premium 过渡料, 人工奶粉组使用另一种商品过渡料。表一列举了两个试验组的结果。



窝产仔数大的母猪产奶量往往不足以供应导致仔猪的成长潜力受影响。



参数, 单位	Nuklospray Yoghurt+ Milkiwean Granito Premium 过渡料	对照组
仔猪数量	49.00	43.00
平均母猪胎次	3.70	3.80
小猪出生重, 公斤	1.46	1.42
出生后 2 天窝产仔数	12.50	11.90
断奶仔数/窝	11.80	11.10
哺乳期, 天	27.00	27.20
断奶体重, 公斤	7.80	7.72
断奶窝重, 公斤	91.70*	85.30
人工奶粉采食量, 公斤/窝	6.20*	2.00
过渡料, 公斤/窝	3.30*	2.80
小猪死亡率, %	5.30	6.60
断奶后一周日增重, 克/天:		
大窝产仔数, > 12 只	177.00*	157.00
小窝产仔数, < 11 只	149.00	153.00
断奶后六周日增重, 克/天:		
断奶体重小的仔猪, < 7.8 公斤	452.00	432.00
断奶体重大的仔猪, > 7.9 公斤	476.00*	469.00
母猪失重, 公斤	31.10*	41.40
母猪失重率, %	12.10	16.30
分娩时母猪背膘, 毫米	24.00	26.00
断奶时母猪背膘, 毫米	19.00	21.00

表一: 使用Yoghurt和人工奶粉的结果对比。

* 说明两组的显著性。

结论

使用Yoghurt后小猪和母猪的性能都提高了, 其中包括: 哺乳仔猪的采食量增加, 小猪死亡率降低, 断奶窝重提高以及母猪得到更好的身体状况及配种表现。这套新的饲喂理念明显地提高了小猪的各种性能, 帮助母猪更好地哺养仔猪并保持更佳的状态。这对高产量母猪的繁殖和寿命都会有益。



Zigbir - 肝脏保健的草药先驱

作者: Ruturaj B. Patil 兽医 和 Vikash Kumar 兽医

Zigbir 为保肝剂

肝脏是一个主要被任何种类的霉菌毒素或化学毒素侵袭的身体器官。作为一个主要的身体解毒器官，肝脏在整体的消化和饲料的代谢中扮演了重要的角色。

无论在正常或具挑战的环境下，Zigbir 的保肝功能不管在肝脏成长或高效运作方面都能发挥有效的作用。

Zigbir 对抗霉菌毒素



(A) 组
B₁黄曲霉毒素
0.5 ppm

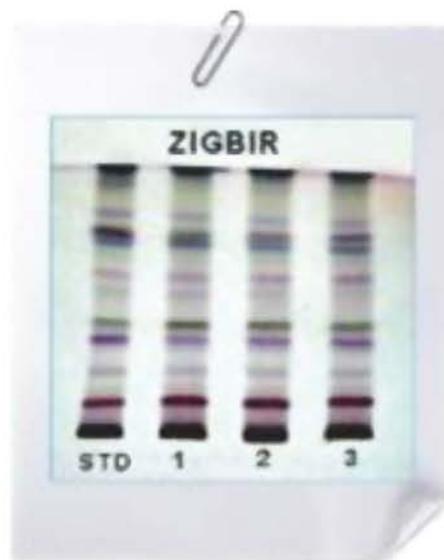


(B) 组
B₁黄曲霉毒素 0.5
ppm + Zigbir

一项研究进行以探讨B₁黄曲霉毒素 (AFB₁) 对肉鸡性能之影响和关系 Zigbir 作为保肝剂的功效。研究结果显示肝脏的病理总额，在具有 AFB₁ 挑战的(A)组，可检测出肝脏肿大，肝脏严重的变色，钝边和比较脆弱。相比(B)组，具有 AFB₁ 挑战但添加了 Zigbir，肝脏的病理总额是接近正常的。

整体来说，Zigbir保肝剂能够有效的抵制霉菌毒素的侵蚀。

耐热度数据



Zigbir 在高蒸汽灭菌下样品的薄层色谱法 (TLC)

STD: 参考标准

- 1: 无蒸汽
- 2: 蒸汽样品 (12psi, 115°C, 2分钟)
- 3: 蒸汽样品 (15psi, 121°C, 2分钟)

该薄层色谱法 (TLC) 确认了 Zigbir 是耐高温的，即使处于高造粒温度，该产品的功效将不会受到影响。因此，Zigbir 是可以被添加在颗粒饲料中的。

简而言之，Zigbir 是一个可持续解决减少对抗生素及吸毒剂的依赖，并且有帮助增长的作用。此植物性饲料添加剂有着促进生产性能的潜力，其生产性能的表现将预料在不久的将来得到更大的效应。



为未来做好准备的研讨会一向家禽的营养挑战迈进

为了推展这植物性饲料添加剂给公众，PeterLabs 和 Natural Remedies 于 2015 年 5 月 14 日合力协办了一项研讨会，专注于“向家禽的营养挑战迈进。”该研讨会成功的在梳邦假日别墅酒店举办。



研讨会主讲人是 S.V. Rama Rao 兽医，是一名印度的家禽研究专家，他传递了一个有趣和有说服力的演说，也展示了现今采购原料的挑战以及在未来的趋势。他也分析了一些可用来替代玉米和黄豆的替代原料，还与我们分享一些家禽营养的障碍。当中包括如何提高营养物质的消化率如采用消化补品，益生菌，有机酸，精油和酶；营养挑战以及其他各类的管理。Rao 博士也表态了他对未来面对原料短缺情况的看法。



第二主讲人，Natural Remedies 的兽医 Vikash Kumar 介绍了他公司的招牌产品，Zigbir，也是受认证的保肝配剂及毒素吸附剂。他还介绍 Natchol，它能够替代合成氯化胆碱，还附加额外的好处比如更容易处理，相比早期的氯化胆碱，它是无毒素的。



出席者大多是营养师和配方师，他们提出了很多建设性的问题与方案。研讨会一至持续到午餐结束后才圆满落幕。-- 林欽發



PeterLabs年度晚宴 2015

PeterLabs Holdings Berhad 举办的年度晚宴，目的是为了全体员工作尤其是在外坡和东马的同事聚集一堂，并与我们的供应商一齐共度美好的时光。我们很荣幸这回有 Agromed, LinkAsia 合作伙伴, 及 Natural Remedies 一同参与这晚宴。



晚宴于下午6点开始，大家陆续地聚集在公司门前。我们的晚宴筹委早已把设立好的帐篷装饰得精美漂亮。卡特菱是当晚的大会司仪，当我们的董事经理林宗成先生演说一段简短而精确的开幕词后，晚餐就开始了。



这活动让也我们远道而来的贵宾有机会品尝和了解一些马来西亚的道地美食。



除了令人垂涎的美食，当晚的另一亮点就是幸运抽奖了。大奖是 iPad Air（恭喜幸运得主 Syafawati!）。另外 25 个奖项也被幸运之星各自带回家。一些员工也兴奋地轮流上台高歌一曲。我们也不忘和贵宾们合影留念。直到晚上 9 点左右晚宴才正式结束。
—— 林欽發

