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Virex - The proven disinfectant against Avian Influenza
Virex - 被证实对禽流感有效的消毒剂

Avian Infuenza viruses can cause infection in birds and humans. By definition, “highly pathogenic” AI viruses cause high mortality in poultry, while “low” pathogenic viruses result only in mild disease. The classification of avian influenza viruses as “low pathogenic” or “highly pathogenic” is defined either by the composition of the cleavage site in the haemagglutin (HA) gene or by the intravenous pathogenicity index in 6 week old chickens. Any detection of avian influenza viruses of the H5 and H7 subtype in poultry holdings during regular surveillance need to be notified and precautionary measures applied to prevent potential avian-to-human infection. Zoonotic transmission to humans from infected birds occurs either directly or through environmental contamination. Hence, almost all human infections have been related to close contact with infected or sick birds or their faecal products in domestic settings.

The World Organisation for Animal Health (OIE) compile regular overviews of the current situation regarding ongoing outbreaks of avian influenza viruses across the world. The current global situation (as of 18th September 2017) is summarized in the Table below.

禽流感病毒可引起鸟类和人类感染。根据定义，“高致病性”AI病毒致使家禽高死亡率，而“低”致病性病毒仅导致轻度疾病。禽流感病毒分类为“低致病性”或“高致病性”是由血凝素（HA）基因切割位点的结构或6周龄鸡的静脉致病性指数来定义。家禽定期监测期间检测到H5和H7亚型禽流感病毒需进行通报，并采取预防措施以防止潜在的禽与人之间的感染。人畜共患传染是透过直接接触受感染的鸟类或通过环境污染传给人类。因此，几乎所有的人类感染都与近距离接触病或受感染的鸟类或者在家中接触含其粪便的产品有关。

世界动物卫生组织（OIE）定期总结世界各地持续爆发禽流感病毒的现状。下表汇总了目前的全球情况（截至2017年9月18日）。

Region 地区	No Of Countries Affected 受影响的国家数量	% of Countries Within Region 地区内国家的百分比	List of Strains 菌株列表	Aggregated count of poultry destroyed for current ongoing outbreak 当前持续疾病爆发的家禽总数
Africa 非洲	8	15	H5N1, H5N8	1,478,697
America 美洲	0	0	NA	0
Asia & Pacific 亚洲和太平洋	8	22	H5N1, H5N2, H5N6, H5N8, H7N9	29,888,335
Europe 欧洲	7	13	H5N5, H5N8	665,556
Middle East 中东	0	0	NA	0
Total总数	23	13		32,032,598

Table: Regional Situation for on-going outbreaks (Sept 2017) of Highly Pathogenic Avian Influenza in poultry and wild birds.
表格：在家禽和野鸟中正在爆发高致病性禽流感的地区（二零一七年九月）情况。

Controls of Avian Influenza in Europe 欧洲禽流感的控制

Within the United Kingdom, the Department for Environment Food & Rural Affairs (DEFRA) are responsible for controlling and implementing the guidance and recommendations for management of notifiable disease outbreaks, in accordance with the associated animal health and welfare legislation. This includes providing guidance on biosecurity measures for preventing welfare impacts in poultry and captive birds, and the approval of disinfectants for use in disease outbreak scenarios.

In accordance with DEFRA advice for all poultry keepers, the following are some of biosecurity measures that are recommended as good practice, and should be implemented wherever practical. However, during outbreaks of notifiable avian disease or where an Avian Influenza Prevention Zone is declared, some or all of these measures could become mandatory requirements within relevant disease control zones:

- Wear clean overalls and footwear when entering poultry farms to avoid bringing infection onto your farm, or spreading it around farms, via your clothes, footwear or hands.
- Strictly limit and control access to poultry flocks. If possible, the site should be fenced with a controlled entry point.
- Have pressure washers, brushes, hoses, water, and fresh supplies of an approved disinfectant available at all points where people should use them.
- Make sure that disinfectant in boot dips is at the right concentration and that it is changed in accordance with the manufacturer's instructions.
- Clean and disinfect all vehicles which have been transporting poultry, poultry products or poultry by-products, after each journey. Clean and disinfect all crates, containers and equipment before and after use.
- At depopulation at the end of a production cycle thoroughly clean and disinfect the building and all equipment, including ducting, drains, and fans.

The use of disinfectants has been an integral component for infectious disease control program, but the appropriate disinfectant needs to be selected based on the susceptibility of the target virus, as well as the range of applications and surface types to be disinfected.

Avian Influenza Virus is an enveloped virus with a segmented RNA genome, and it is grouped in the category of viruses that are among the easiest to inactivate by chemical means.

As such, the range of target applications and scenarios of use becomes an additional prime factor in the choice of disinfectant. As can be seen in the general biosecurity recommendations this includes a number of applications, which are likely to have a relatively short contact time, - requiring the disinfectant used to be capable of inactivating and destroying the virus with a quick mechanism of action.

在英国，环境食品和农村事务部（DEFRA）负责根据相关的动物健康和福利立法，控制和实施法定传染病暴发的管理指导和建议。这包括提供有关生物安全措施的指导为要预防家禽和圈养鸟的福利被影响，以及批准用于疾病暴发场景的消毒剂。

根据DEFRA对所有家禽饲养者的建议，以下是一些被推荐为良好做法的生物安全措施，并应在任何可行的情况下予以实施。不过，在爆发须呈报的禽鸟病或已宣布禽流感防疫区的情况下，相关疾病控制区可强制性要求实施部分或全部措施：

- 进入家禽养殖场时，请穿干净的工作服和鞋子，以避免将病毒传染带入农场，或通过衣服，鞋子或手在农场里将其传开。
- 严正限制和控制家禽与外界的进接。如果可行，该场地应被围起来，并有一个受控的入口点。
- 在人们应该使用的所有地方设有压力清洗器，刷子，软管，水和供应经批准的新鲜消毒剂。
- 确保浸渍靴子器具中的消毒剂浓度合适，并根据制造商的说明进行更换。
- 每次出外后，清洗和消毒所有运送家禽，家禽产品或家禽副产品的车辆。在使用前后清洗和消毒所有的板条箱，容器和设备。
- 在生产周期结束时，彻底清洁和消毒建筑物和所有设备，包括管道，排水沟和风扇。

消毒剂的使用已成为控制传染病程序的一部分，但需要根据目标病毒的敏感性以及消毒的应用范围和表面类型来选择合适的消毒剂。

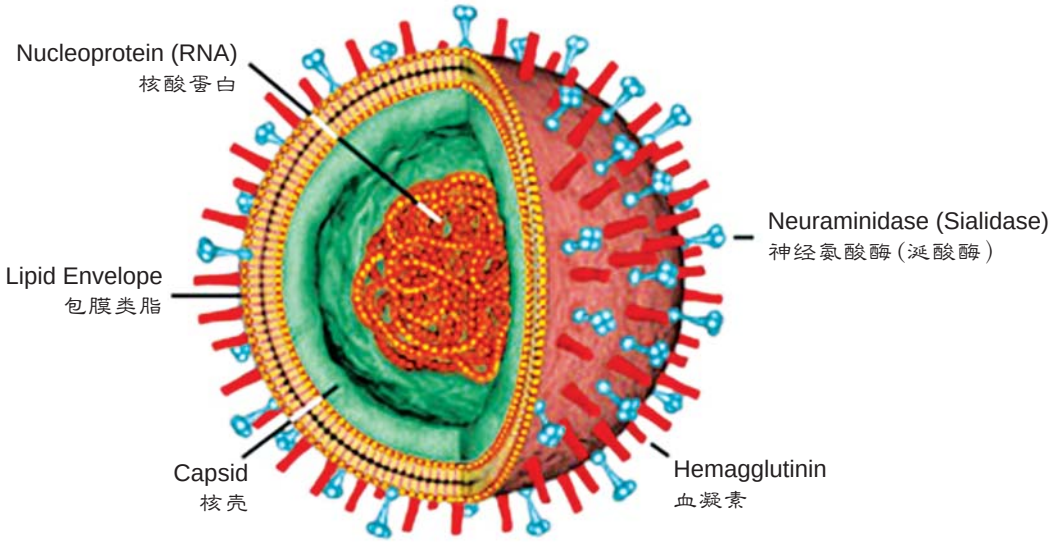
禽流感病毒是一种带有分段RNA基因组的包膜病毒，它被归类为最容易通过化学手段灭活的病毒类别。

因此，应用和使用场景的范围成为选择消毒剂的一个额外主要因素。从一般生物安全建议中我们得知，这包括许多消毒剂的应用，这些应用很可能具有相对较短的接触时间，要求使用的消毒剂能够通过快速的作用机制来除灭和摧毁病毒。

Virex is a peroxygen-based disinfectant approved for use on surfaces, equipment, footwear, vehicles and water systems. Unlike other regular chemical compounds, the active ingredients within Virex both inactivate the Avian Influenza virus through denaturing surface proteins and lipids (thereby preventing viral attachment) and degrading the nucleic acids (thereby preventing virus replication), giving it dual action on the virus to prevent replication, shedding and survivability in the environment.

Influenza Virus Anatomy

流感病毒的构造



The broad spectrum activity of this product relies on upon the synergistic combination of two key components - potassium peroxomonosulphate and sodium dichloroioscyanurate (NaDCC), which dissociate in solution leading to the generation of the active peroxygen and chlorine-based oxidising species.

Unlike other perxoygen based powdered products which utilise sodium chloride to provide a source of chlorine as part of a complex chemical pathway, Virex makes use of sodium dichloroisocyanurate (NaDCC) as a more traditional biocidal precursor. NaDCC dissolves in water to release free available chlorine (FAC) in the form of hypochlorous acid (HOCl).

While both sodium chloride and NaDCC rely on the formation of hypochlorous acid as an active agent, there are important differences in the performance of the two compounds. Unlike sodium chloride which releases all of its chlorine as FAC, NaDCC releases only approximately 50% of the chlorine as FAC, with the balance remaining as “reservoir chlorine” (bound) in the form of chlorinated isocyanurates. When the FAC is used up, the equilibrium is disturbed, immediately releasing further FAC from the “reservoir” until the total available is used up.

This “reservoir” of FAC also enhances the biocidal protection of NaDCC (and hence Virex) when subjected to high or variable organic loads.

Virex has been shown to be effective against differing strains of Avian Influenza virus – including H5N1 and H3N2.Virex is also tested against major poultry diseases pathogen- including Gumboro virus, CAV , Avian influenza, EDS virus, Avian Reovirus, Salmonella spp, E.coli, Clostridium perfringens and others.

Similarly, the effectiveness of Virex as a disinfectant for footwear has been monitored using rapid assessment ATP readings. As can be seen in Table 2, below, 30 seconds after foot-dipping within a 1% Virex solution, the ATP readings reduced from a range of 800 - 1200 to less than 5.

Virex 是一种基于过氧化物的消毒剂，被批准用于表面，设备，鞋类，车辆和水系统。与其他常规化合物不同的是，Virex中的活性成分通过使表面蛋白质和脂质变性（从而防止病毒附着）和降解核酸（从而防止病毒复制）来除灭禽流感病毒，从而使其对病毒具有双重作用以防止病毒复制，洒落和继续在环境中存活。

该产品的广谱活性依赖于两种关键成分的协同组合 – 过氧化硫酸钾和二氯化二月桂酸钠（NaDCC），其在溶液中解离以产生活性过氧和种种氯基氧化物。

与其它使用复杂化学途径中的氯化钠来提供氯源的氧化铁粉末产品不同，Virex使用二氯异氰尿酸钠(NaDCC)，一个更传统的杀菌前体。NaDCC 溶解在水中以释放次氯酸（HOCl）形式的游离有效氯（FAC）。

虽然氯化钠和NaDCC都依赖于次氯酸的形成作为活性剂，但是两种化合物的性能有重要的不同。与氯化钠不同的是，氯化钠释放所有的氯作为FAC，NaDCC只释放大约50%的氯气作为FAC，剩下的余氯作为氯化异氰脲酸盐形式的“储存氯”（结合）。当FAC用完时，化学平衡将受到干扰，“储存库”会立即进一步释放FAC，直到总可用量用完。

在受到高或变动的有机负荷时，FAC 的这种“储库”增强并维护了NaDCC（也就是Virex）的杀生力。

Virex已被证实是有效的对抗不同禽流感病毒株（包括H5N1和H3N2）。Virex对主要家禽疾病病原体的有效性已被测试 – 包括Gumboro病毒，CAV，禽流感，EDS病毒，禽呼肠孤病毒，沙门氏菌，大肠杆菌，产气荚膜梭菌等。

同样的，Virex 作为鞋类消毒剂的有效性也以快速评估 ATP 读数为监测。如下图表2所示，在1% Virex 溶液中浸泡30秒后，ATP 读数从800 - 1200 的范围降至少于 5。

Before Dipping 在溶液中浸泡前	After 30 sec dipping 浸泡30秒之后
800-1200 ATP	0 -5 ATP

Table 2: ATP readings on soles of footwear before and after 30 seconds immersion in a 1% solution of Virex.
图表2：鞋底在1%的Virex溶液中浸泡30秒之前和之后的ATP读数。

For further information, please contact us at F.E Venture Sdn Bhd 03-5633 3493 or Dr. Jolene Poo 012-455 7827
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New collaboration between F.E Venture & TEGASA to enhance Poultry Gut Health

F.E Venture与TEGASA 加强家禽肠道健康的新合作

TEGASA's central office is located in Barcelona, Spain, with its lab and factory facilities located in Valls (Tarragona). TEGASA has 50 years' experience in the animal nutrition, where they are specialize in developing, manufacturing and commercializing nutritional products for various livestock species. TEGASA pursues an innovative, client-oriented marketing strategy to help producers attain excellent results and high profits.

TEGASA的中央办公室位于西班牙巴塞罗那，其实验室和工厂设施位于塔尔戈纳（Valls）。TEGASA在动物营养方面拥有50年的经验，专门从事开发，生产和销售各种家畜品种的营养品。TEGASA奉行创新，以客户为导向的营销策略，帮助家畜生产商取得优异的业绩和高额的利润。

TEGASA's facilities are both ISO 22000 and FAMI-QS accredited in order to produce reputable and consistent to products worldwide.

We have incorporated one of their top selling products called TEGACID L-PLUS into our Poultry Gut Health Program.

TEGACID L-PLUS is a synergistic combination of organic, inorganic and volatile fatty acids that could be used for acidification of drinking water and exerts their beneficial effects in the intestine. This concentrated combination of three categories of acids is the first product that could be found in Malaysia's market. This unique combination could exert various beneficial effects to different parts of intestines and the effects are superior since the acids have different pKa values that work synergistically.

TEGASA 的设施均通过 ISO 22000 和 FAMI-QS 认证，以便在世界各地生产信誉良好的产品。

我们已经将其最畅销产品之一 TEGACID L-PLUS 纳入我们的家禽肠道健康计划。

TEGACID L-PLUS 是有机，无机和挥发性脂肪酸的协同组合，可用于饮用水的酸化，并在肠道内发挥其有益作用。这是马来西亚市场上第一个由三种酸浓缩组合而成的产品。这种独特的组合可以对肠的不同部位施加各种有益效果，多酸不同的 pKa 值具有协同作用，从而达到优异的果效。

Composition per kg 每公斤成分

Formic acid 甲酸	280g
Lactic acid 乳酸	130g
Propionic acid 丙酸	40g
Ammonium formate 甲酸铵	55g
Carriers & enhancers upto 载体和增强剂高达	1000g

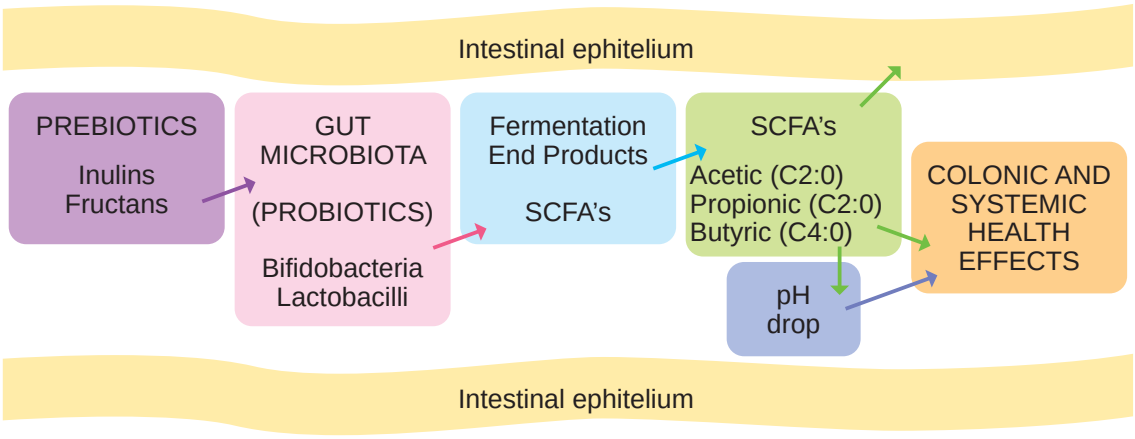
Dosage 剂量

0.5-1.0L per 1,000 litres of water, for 3-5 days
每1000 升水 0.5-1.0L，连续3-5天

Indication 指示

It could be used in poultry for:
- -drinking water sanitization
- -improve feed intake, feed digestion & utilization
- -bacterial infection (bactericidal & bacteriostatic effect)
- -improved gut health (promote good gut microbiome & gut villi)
- -mycotoxicosis (anti-fungal property)
- -growth promotion
- -heat stress
- -after vaccination

它可以在家禽中用于：
- –消毒饮用水
- –改善采食量，饲料消化和运用
- –细菌感染（杀菌和抑菌作用）
- –改善肠道健康（促进良好的肠道微生物群和肠绒毛）
- –霉菌病（抗真菌性）
- –促进生长
- –热紧迫
- –接种疫苗后



TEGACID L-PLUS is packed into 5L drum, to ease daily medication and workers workflow. The acidification starts in the water, killing the pathogens that could appear in water and water pipe system. Besides, the acidification also stimulates water and feed intake. The release of hydrogen ions in the stomach activates pepsinogen to form pepsin and improves protein digestibility. The undissociated form has anti-bacterial effect where the hydrogen ions could cause the pH of bacterial cytoplasm to drop and subsequently cell death. Propionic acid has anti-mould effect where it could help in the mycotoxicosis condition. Volatile fatty acids could act as source of energy for gut cells, promote good gut health and hence better villi growth that could in turn improve feed utilization.

TEGACID L-PLUS could be used together with our current prebiotic-like product (AviCareTM) to further enhance Poultry Gut Health Program. Of course, it could be use alternatively with anti-bacterial products such as Neomycin, colistin or sulfadiazine-trimethoprim. We believe that TEGACID L-PLUS is a novelty combination of acids that could bring tremendous benefits to poultry farmers in Malaysia market.

TEGACID L-PLUS包装成5L桶装，以方便日常用药和工作流程。酸化起始于水中，杀死水和水管系统中可能出现的病原体。此外，酸化还会刺激水和饲料的采食量。胃中氢离子的释放激活胃蛋白酶原以形成胃蛋白酶并改善蛋白质消化率。氢未离解的形式具有抗菌作用，其中氢离子可导致细菌细胞质的pH下降，随后导致细菌细胞死亡。丙酸具有抗霉菌作用，可以帮助治疗霉菌病。挥发性脂肪酸可作消化道细胞的能量来源，促进良好的肠道健康，从而提升绒毛生长，进而提高饲料运用率。

TEGACID L-PLUS 可与我们目前的益生元样产品（AviCare™）一起使用，进一步加强家禽肠道健康计划。当然，它也可与抗菌产品，如新霉素，粘菌素或磺胺嘧啶 – 甲氧苄氨嘧啶交替使用。我们相信TEGACID L-PLUS 是一种新奇的酸性组合，可以为马来西亚市场上的家禽养殖户带来巨大的收益。

For further information, please contact us at F.E Venture Sdn Bhd 03-5633 3493 or Dr. Ray Tan 017-475 8679
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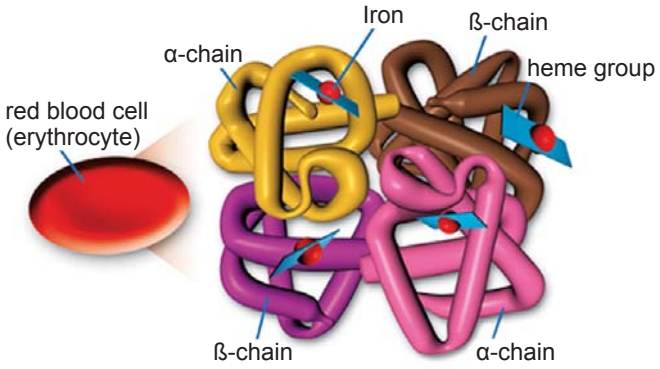
Iron Injection is A MUST in Piglets!!!

注射铁质在仔猪是必须的！！！



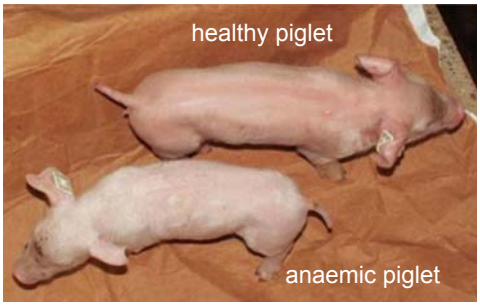
Piglet Anaemia is due to Iron **Deficiency Anaemia (IDA)**. Suckling piglets are susceptible to IDA because of their rapid growth, a low iron storage capacity, kept in confinement and a lack of sufficient dietary intake (sow's milk is poor in iron as 1mg iron per liter milk). However a piglet requires 7-10mg iron daily. Piglets whichare raised in natural environment as wild boars do not develop IDA because they can access to soil constantly to avoid lack of iron intake. Copper deficiency can lead to IDA because copper promote iron absorption for the incorporation of iron into hemoglobin. Basically, piglets are born with normal level of hemoglobin in blood of **120-130g/L** and then rapidly drop to **60-70g/L** by 10-14 days of age. Iron is a vital component in forming hemoglobin which is needed in red blood cell. Hemoglobin within red blood cell has a unique function to carry oxygen from lungs to the tissue of body in support of cellular metabolism. Therefore, a shortage of iron will result in low level of hemoglobin and then lower capacity forthe carriage of oxygen to whole body cell of piglets.

仔猪贫血是由缺铁性贫血（IDA）引起的。哺乳仔猪由于其生长迅速，铁储存能力低，处于被困状态，缺乏足够的膳食摄入量（母猪奶的铁含量低1升奶1毫克铁），易受到IDA的影响。然而仔猪每天需要7至10mg的铁。小猪若是像野猪在自然环境中成长，就不会发展IDA，因为它们可以不断地接触土壤，以避免摄入不够的铁。缺乏铜可导致IDA，因为铜促进铁吸收以将铁掺入血红蛋白。基本上，新产仔猪血液中的血红蛋白在120-130g/L正常水平，10-14天后迅速降至60-70g/L。铁是形成红血球所需的血红蛋白的重要组成部分。红血球内的血红蛋白具有独特的功能，可将氧气从肺部带到身体组织，支持细胞代谢。因此，铁的短缺会导致血红蛋白水平降低，从而导致仔猪输送氧气至全身细胞的能力下降。

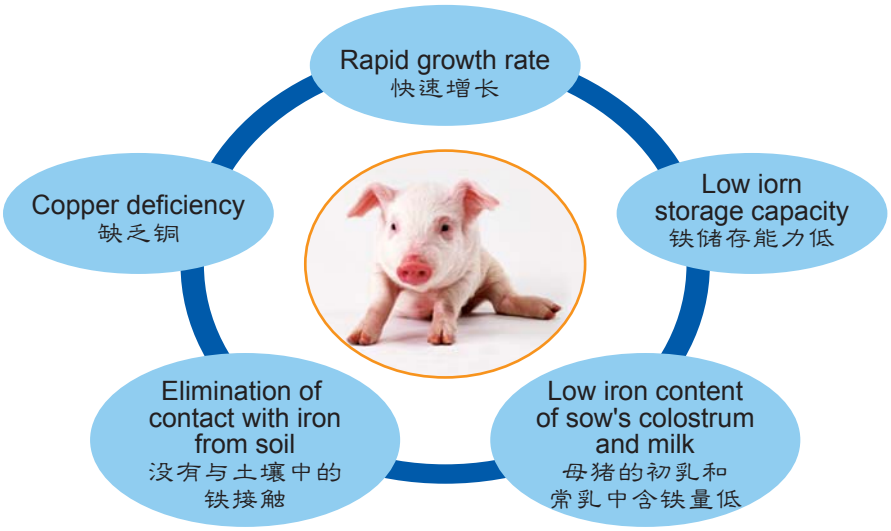
Clinical Signs of IDA in Piglets 仔猪IDA临床症状

Pale and unthrifty, rapid breathing during exercise, predispose to scour, edema of muscle and connective tissue at 1-3 weeks of age.

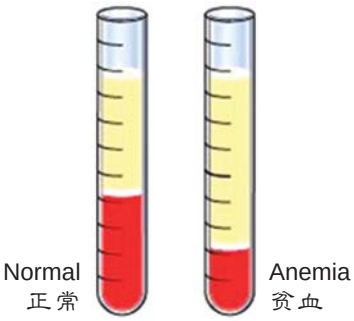
苍白虚弱，运动时呼吸急促，容易下痢，1-3周龄时肌肉和结缔组织水肿。



Causes of IDA / IDA 发生的主因



Diagnosis 诊断

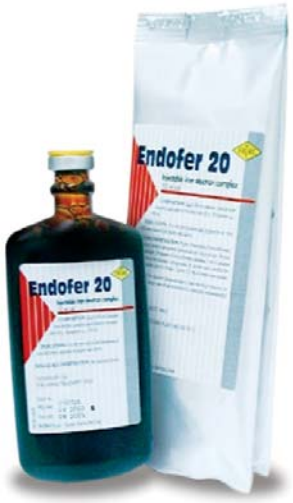


- ✓ Clinical signs 临床症状
- ✓ Blood test-Hemoglobin level <80g/L 血液检验 - 血红蛋白水平<80g/L

Treatment and Prevention 治疗和预防

1. Most effectively and easiest method is to give an intramuscular injection of 200mg of iron dextran.
2. Endofer 20 (20% Iron Dextran Complex) is best given from 3 to 5 days of age, 0.5 to 1ml per piglet as prevention, repeat it after 3 weeks if necessary.
3. Treatment of anemia: 0.5 to 1ml Endofer 20 per animal and double the dosage or repeat injection after 10-14 days.

1．最有效和最简单的方法是肌肉注射200mg右旋糖酐铁。
2. 最好在3-5天龄时给予Endofer 20（20%铁葡聚糖复合物），每头仔猪0.5至1ml作为预防，如有必要，在3周后重复。
3. 治疗贫血：每只动物0.5至1ml Endofer 20，10-14天后加倍或重复注射。



Thinking??? Iron supplement by parenteral injection or orally for piglets???
Efficacy of dietary chelated iron or inorganic iron supplementation may be varied depending on its bioavailability and physiological of piglets. According to iron absorption theory (Miller and Ullrey, 1997; O'Dell, 1989; Wood and Han, 1998), efficiency of iron uptake by intestine mucosal cells is regulated with iron status in body. Only in iron-deplete condition, both heme or non-heme iron absorption is well regulated. However, 3-5 days of age postpartum, iron status in piglets is adequate. Hence absorption of iron will be reduced when the uptake from orally. This result in depletion of iron as piglets grow up and significant reduces weight gain.

想一想？？？给仔猪通过肠胃外注射或口服铁补充剂?
膳食螯合铁或无机铁补充剂的功效会根据其生物利用度和仔猪的生理而改变。根据铁吸收理论（Miller和Ullrey，1997； O'Dell，1989； Wood and Han，1998），肠粘膜细胞对铁的摄取效率受体内铁状态的调节。只有在铁耗尽的情况下，血红素或非血红素铁的吸收才能得到很好的控制。但是，产后3-5天，仔猪的铁质量是足够的。因此，从口服摄取时，铁的吸收将减少。这导致仔猪长大后铁消耗，并显着的减少体重增加。

VAIOL-VAC

Freeze-dried live vaccine against Fowl Pox 针对禽痘的冻干活疫苗

Fowl Pox is a viral disease commonly present in avian flocks. The poxvirus persists for a long period in the environment and, as it can be transmitted through insect bites, it is easily transmitted from one poultry farm to another. Control of the disease is possible only through correct immunisation of birds.

Fowl Pox tends to spread slowly within a birdhouse and, if an outbreak should start, the birds which are still healthy can be vaccinated immediately to prevent further spread of the disease.

High titre 高滴度 10^4 EID_{50}

Long-lasting protection 持久的保护

Rapid immunization 快速免疫

禽痘是禽群中常见的病毒性疾病。痘病毒可持续很长一段时间存留在环境中，并且因为它可以通过昆虫叮咬传播，所有很容易从一个家禽场传播到另一个家禽场。只有通过正确的免疫鸟类才能控制疾病。

禽痘趋于禽舍内慢慢扩散，如若疾病开始爆发，那么可以立即为仍然健康的禽类接种疫苗，以防止疾病的进一步扩散。

VAIOL-VAC

VAIOL-VAC is a safe and efficacious vaccine whose safety and efficacy characteristics protect vaccinated birds rapidly and for a long period of time.

VAIOL-VAC 是一个安全有效的疫苗，其安全性和有效性可快速并长期保护免疫接种的禽类。

PROPERTIES 性能

The HP2 strain-2 was selected owing to its safety and immunogenicity characteristics.

Tests in the laboratory and in the field have demonstrated that VAIOL-VAC induces protection which is rapid, necessary for cases of urgent vaccination, and prolonged over time for birds with a long productive career.

HP2 菌株–2的安全性和免疫原性特征，使其被选中。

在实验室和实地进行的实验显示，VAIOL-VAC 诱导快速保护，这在紧急疫苗接种中是必需的，而且它会延长其在长时间生产性鸟类当中的保护时间。

COMPOSITION 成分

1 dose of vaccine contains:
not less than 10^4 EID_{50}

1 剂疫苗含有：
不少于 10^4 EID_{50} 成分

ADMINISTRATION 投药

By wing web stab
In broilers:
The vaccination can be performed on healthy chickens of all ages and during any season of the year.

In layers and breeders:
Chickens vaccinated earlier than 5-6 weeks of age may acquire a short-lasting immunity. In this case, it is advisable to revaccinate parents and layers before going into lay.

透过刺翼网
在肉鸡中：
可在所有年龄层的健康鸡只，和一年中的任何一个季节，接种疫苗。

在蛋鸡和种鸡：
早于5-6周龄接种的鸡可能获得短期的免疫力。在这种情况下，建议种鸡和蛋鸡在进入产蛋之前重新接种。

STORAGE AND PACKING 存储和包装

VAIOL-VAC must be stored in a refrigerator at +2°C to +8°C.

1000-dose vials + diluent

VAIOL-VAC必须储存在+2°C至+8°C的冰箱中。

每小瓶1000剂量+稀释剂

Safe 安全

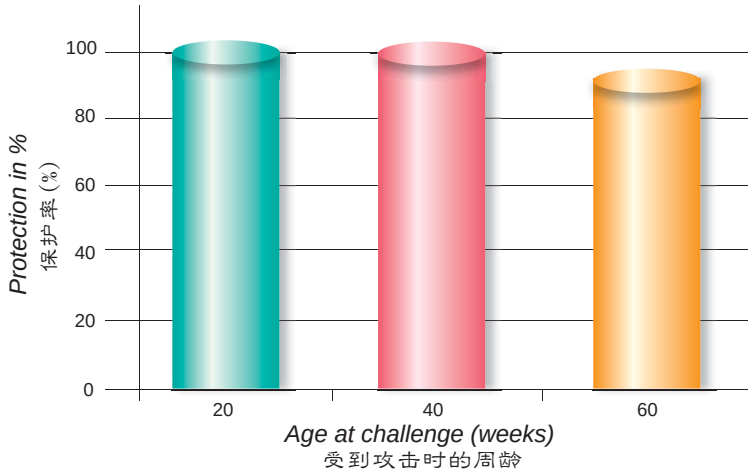
The stability of the attenuation of HP2 strain has been demonstrated through 6 back passages in chickens.

HP2菌株减毒的稳定性已透过在鸡细胞的六代回传被证实了。

Prolonged protection over time 长时间的保护

The birds vaccinated with VAIOL-VAC remain protected for the entire duration of their economic lives, although in layers and in breeders vaccinated prior to 5-6 weeks of age a second vaccination is recommended before going into lay.

接种VAIOL-VAC的禽类将在其整个经济寿命期间持续受到保护，但建议那些在5-6周龄之前就接种疫苗的蛋鸡和种鸡在进入产蛋前进行第二次接种。



Protection against challenge of layers vaccinated with VAIOL-VAC at 14 weeks and subjected to challenge at 20, 40 and 60 weeks of age.

14周时接种了VAIOL-VAC的蛋鸡在20，40和60周龄受到攻击时是受保护的。

Rapid immunization 快速免疫

Field trials have demonstrated that VAIOL-VAC is already able to establish complete protection 10 days after vaccination.

VAIOL-VAC, as the field trials conducted demonstrate, is able to establish a rapid immunity which protects the birds until the end of their productive careers.

现场试验已经证明，在接种VAIOL-VAC10天后鸡只已经能够建立完备的保护。

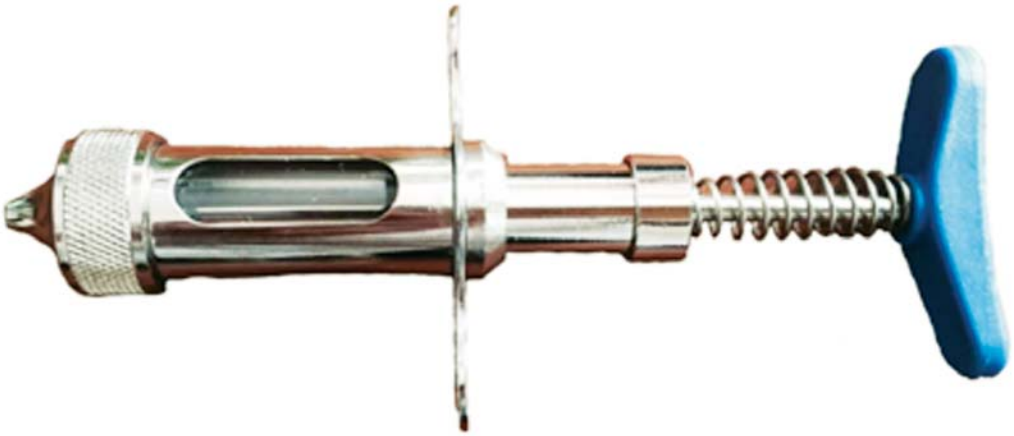
如所进行的实地试验所证明的，VAIOL-VAC能够建立快速的免疫力，且保护鸟类直至其生产性事业结束。

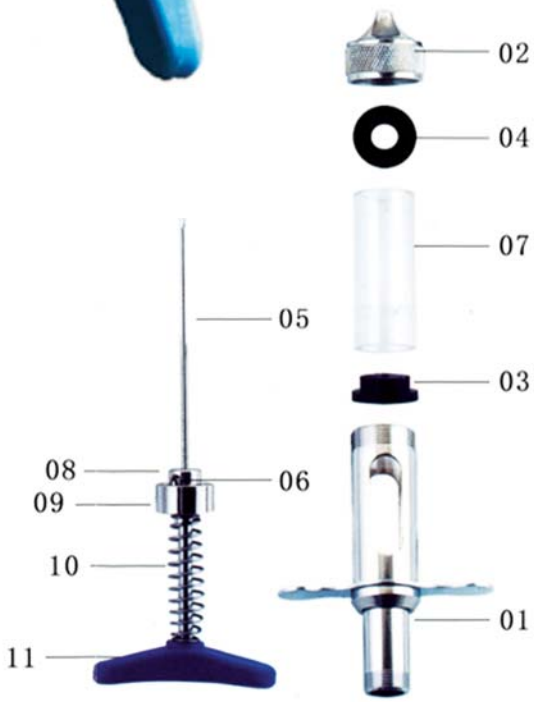
For further information, please contact us at F.E Venture Sdn Bhd 03-5633 3493 or Dr. Ong 012-329 1854
有关详细的资料，请联络F.E Venture Sdn Bhd 03-5633 3493 或 Dr. Ong 012-329 1854

Fowl Pox Vaccinator, 3ml
禽痘接种器，3毫升

- This automatic fowl pox vaccinator is made of super high quality material and also non-corrosive that is specially custom made for F.E Venture with better /comfortable grip by operators to ensure a smooth vaccination operation can be done rapidly under high population of birds at one time.
- The vaccinator & its accessories can be sterilized under high temperature of 1200C.
- The replacement parts of 03, 04, 05 & 07 are affordable & available to purchase from our sales persons. Regular replace the parts will prolong the lifespan of the vaccinator.
- The fowl pox vaccinator has been proven to work efficiently with our **VAIOL-VAC**.

- 自动接种器为新型产品由优质材料制成和耐腐蚀为远东特定制作，此款接种器灵巧的人性化设计，使接种更安全，均匀和短时间内完成。
- 此接种器和配件可在下次使用前，在1200C的高温情况下消毒。
- 合理价格配件03，04，05 和 07 可向有关销售员订购。定期更换这4种配件可延长接种器的寿命。
- 用此接种器接种鸡痘疫苗**VAIOL-VAC**可达到最佳功效。





Parts Number/Description 零件编号/说明

01: Steel Body 接种器钢体
02: Cap 接种器前旋帽
03: Rubber Glass Plug 橡胶瓶塞
04: Piston O-Ring 橡胶垫圈
05: Stainless Steel Needle 不锈钢针
06: Needle Screw 不锈钢针螺丝
07: Glass Barrel 玻璃管
08: Needle Tube 不锈钢针针管
09: Brass Hub 接种器钢体盖
10: Handle Spring 手柄弹簧
11: Rear Handle 手柄

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