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We are proud to introduce our new swine & poultry biological vaccine range from Taiwan - **BESTAR**, with manufacturing plant in Singapore under AVA accreditation & compliant with OIE requirements.

**BESTAR** was established in 1967 and has more than 30 years of experience for vaccine production & marketed more than 50 types of vaccines globally.

**BESTAR** also manufacture a wide range of animal health products, with production sites in Taiwan & China:

- Pharmaceuticals
- Disinfectants
- Vitamin supplements
- Feed Additives
- Premixes

我们感到骄傲仅此介绍我们从台湾进口的新猪只和家禽生物疫苗制剂 - **BESTAR**，在新加坡的制造厂是由新加坡农粮兽医局 (AVA) 确认合格，并遵循国际畜疫会 (OIE) 的严格需求。

**BESTAR** 于 1967 年成立，拥有30年的疫苗生产经验和在全球销售超过50种疫苗。

**BESTAR** 也制造广泛系列的动物保健品，在台湾和中国设立生产设施：

- 药物
- 消毒剂
- 维生素补充剂
- 饲料添加剂
- 饲料预拌剂



Complete facilities of vaccine research center & manufacturing plant for international market established more than 23 years, located in Lim Chu Kang, Singapore.

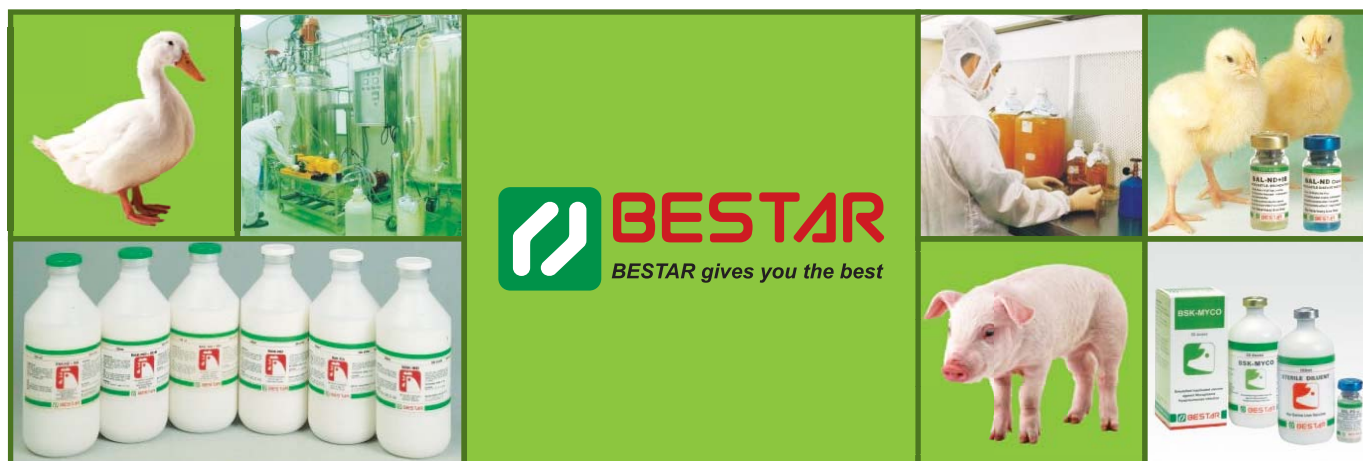
疫苗研究中心的完整设施和供国际市场的制造厂成立超过23年，坐落于新加坡林厝港。



Manufacturing plant,  
GMP Taiwan  
台湾GMP制造厂

Manufacturing plant,  
GMP China  
中国GMP制造厂





## BESTAR vaccine specialties:

### BESTAR 特制疫苗症状:

1. Wide range of bacterins & viral vaccines, to provide complete protection of current diseases in Asian countries.
2. Wide combination of different diseases as much as 4 types in a single vial/bottle.
3. Vaccine strains/types chosen to have closest antigenic similarity with the common field outbreak strains/types.
4. Mukteswar type of Newcastle Disease used in inactivated vaccine to provide most immunogenic & highest protection against the field ND challenge.
5. Live Newcastle Disease vaccine – Mukteswar type cause no undesirable effects of post-vaccination & able to protect the challenged flocks via oral administration at 1.5-2 times\* diluted dose under field condition.
- \* *The trial was conducted in broiler as last choice in the field during high ND outbreak that unable to be solved by conventional LaSota vaccines.*
6. Wide range of swine vaccines including Swine Fever, PRRS, Aujeszky's Disease, *Mycoplasma hyopneumoniae* infection, *Pasteurellosis* and *Actinobacillosis*.
7. *Pasteurella multocida* & *P. anatispestifer* bacterin for duck.

1. 广泛系列的菌苗和病毒疫苗，以提供亚洲目前流行疾病的完全保护作用。
2. 广泛混合不同疾病的毒株，每瓶单一剂量有4种毒株。
3. 选择的疫苗毒株/种类接近与一般农场爆发的毒株/种类的抗原性相同。
4. 在非活化疫苗里使用的新城鸡瘟 Mukteswar 种类，是用来提供对农场新城鸡瘟挑战的最具免疫性能和免疫保护作用。
5. 活毒新城鸡瘟疫苗 – Mukteswar 病毒种类不会产生不良的免疫注射后反应，并且经口服在农场情况下稀释 1.5 至 2\* 倍剂量，能对挑战的鸡群产生保护作用。
- \* *试验是以肉鸡进行，作为处在高新城鸡瘟爆发，不能以传统 Lasota 疫苗解决的最后选择。*
6. 广泛系列猪只疫苗，包括猪瘟，PRRS，假性狂犬病，猪肺炎霉浆菌感染病，巴斯德杆菌症和放线杆菌症疫苗。
7. 供鸭使用的败血性巴氏杆菌和 *Anatispestifer* 巴氏杆菌疫苗。

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



## Socorex® 187

### Pistol grip model 手枪枪把款型

Most commonly used, the 187 instrument is perfectly adapted for injecting aqueous, oily, viscous or heavy iron solutions as well as a variety of suspensions.

**Tube feeding syringe** supplied with aspiration and vent cannulas, sinker, silicone tubing (1 meter), spare part kit and operating instructions (needle not included). – Fig. 1

**Vial feeding syringe** comes along with a rigid vial holder, rubber washer for bottle, spare part kit and operating instructions (bottle and needle not included). – Fig. 2

Size available 0.5ml, 1ml and 2ml for all model above.



Fig. 1 / 图1

最常使用，187款型注射器是完整调适作为注射液态，油性，黏液或重铁质溶液，以及多种悬浮液。

**管式投子注射器**，备有吸入和出口套管，铅锤，矽盐管子(1公尺长)，备件套和操作说明书(没有包括注射针)。-图1

**小玻璃瓶投子注射筒**备有稳固的瓶子握把，供瓶子用的树胶圈，备件套和操作说明书(没有包括瓶子和注射针)。-图2

以上所有款型大小刻度为0.5毫升，1毫升和2毫升。

### Save time and money by doubling your injection productivity output !

The **Socorex® 287 twin syringes** with spring-loaded plunger and three-way valve system are designed for serial precision injections.

Combining reliability with efficiency, they are intended for simultaneous administration of two distinct injectable. Both volumes can be adjusted separately.

- Ergonomic design, simple conception
- Perfect balance and ease of use
- Operator comfort, fatigue free fieldwork

Quality materials and one by one finish to the smallest details guarantee durability in most difficult conditions of use. Autoclavable fully assembled at 121°C.

### 借助加倍你的注射生产效率以节省时间和金钱！

**Socorex® 287双注射筒**装有弹簧活塞和3方面活瓣系统，专为连续精确注射而设计的。

结合可靠性和有效度，他们提供两种不同注射剂在同一个时间投子。两个容积可以个别加以调整。

- 精致的设计，简单的概念。
- 完整的平衡和容易使用
- 操作者感舒服，没有疲劳的农场工作。

具有品质的物质和一个接一个至整体最细小部分来完工的，在艰难使用情况下保证其坚固性能。耐高压蒸气消毒，于121°C下可完全加以装置。

An exceptional price/quality ratio makes Socorex® syringes all the more your automatic choice.

一种特别的价钱/品质比率，促使Socorex®注射筒是你自动选择的所有部分。



#### User comfort:

Both two-ring and pistol grip handles fit any hand in a most comfortable way. Activation performed with limited effort, guaranteeing the highest productivity level.

#### 使用者感舒适：

双指环和手枪握式这两种握把，是以最舒适的方法，来适合任何手指的使用，以有限的力量便可进行注射活动，确保最高的生产量。

#### Fast and reliable volume selection:

Volume is easily set by means of a micrometric screw. Each barrel of the Twin 287 syringe has independent volume-setting mechanism. Locking nut assures high dose-to-dose reproducibility even with small volumes. The broad volume range selection covers many applications in all animals

#### 快速和可靠的容积选择：

容积可容易地使用微测量螺旋加以设定。每一个双置287注射筒拥有独立操作的容积设定机制。锁定螺钉确保高度剂量至剂量的注射操作，甚至于小容积都能胜任。大容积的选择涵盖所有动物的多方面使用。



#### Plunger tightness without O-ring:

Smooth plunger travel and tightness achieved through high-precision stainless steel plunger and grounded glass barrel. No O-ring to mess with or replace.

#### 不需O环紧密不漏活塞：

滑活塞移动，以高度准确不锈钢活塞和玻璃底子注射筒促使紧密不漏。没有O环使其复杂或将它替代。

#### Maintenance and sterilization:

Syringe made of 6 main parts, easy to disassemble / reassemble. Fast access to all elements allows quick and efficient cleaning. Sterilization fully assembled in boiling water or in autoclave at 121°C / 250°F

注射筒由6个主要部分组成，容易拆散/重新装置。快速接触所有元素，提供快速和有效的清洗。消毒可完全在沸騰水或在气压锅121°C / 250°F 下行进。



Fig. 2 / 图2



For further information, please contact us at F.E Venture Sdn Bhd 03-5633 3493 or Mr. Gary Low 012-630 6097

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# NUTRITIOUS FOOD IS A NEED, SAFE FOOD IS A MUST!!!

营养食品是一种需求，安全食品是一种必需!!!



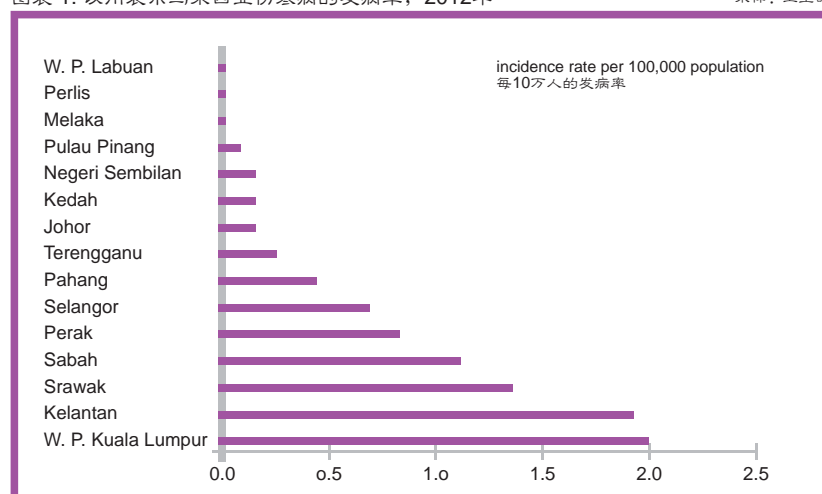
In year 2011, Centers for Disease Control and Prevention (CDC) recorded an estimated one million people in the U.S who became ill from food-borne pathogen Salmonella, resulting in over 19,000 hospitalizations and nearly 400 death.

于2011年，美国疾病控制和预防中心记录，估计大约一百万美国人由于经食物传染沙氏杆菌的感染患病，导致超过1万9千人住院和将近400人死亡。

## How about in Malaysia? 马来西亚是如何的情况？

Chart 1: Incidence rate for typhoid by state, Malaysia 2012  
图表 1: 以州表示马来西亚伤寒病的发病率，2012年

Source: Ministry of Health  
来源: 卫生部



Historically, the primary means of reducing Salmonella has been through interventions at the processing plant. However, on-farm live bird intervention can also be an effective means of significant reduction in the amount of Salmonella arriving to the plant. By reducing the level of Salmonella coming into the poultry slaughter plant, it is quite a bit more effective to reduce Salmonella there and in the final product.

Effective salmonella intervention is a multi-step approach while vertical transmission is a significant contributor to Salmonella incidence. Hence, intervention should start with the breeder flock, and follow through the grow-out system, in order to significantly minimize contamination load coming into the plant. Similarly, layer birds that are kept for long period will need some intervention to prevent Salmonella infection during the production stage.

There are many researches shown that Diamond V's products can be an effective Salmonella control:

- ✓ Proven efficacy in layers
- ✓ Proven efficacy in broilers
- ✓ Proven efficacy in turkeys
- ✓ Reduced positive Salmonella counts
- ✓ Reduced salmonella cecum counts
- ✓ Reduced positive salmonella environmental swab

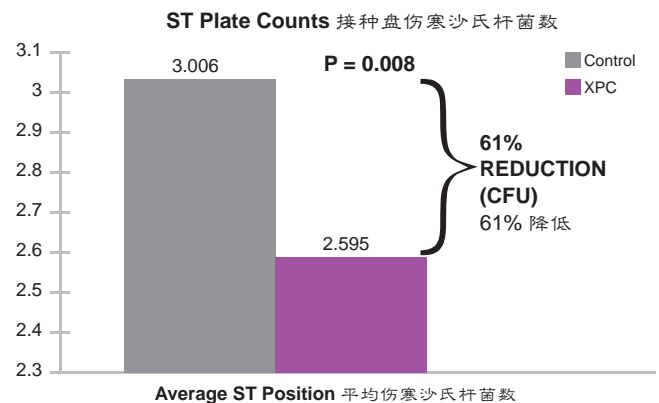
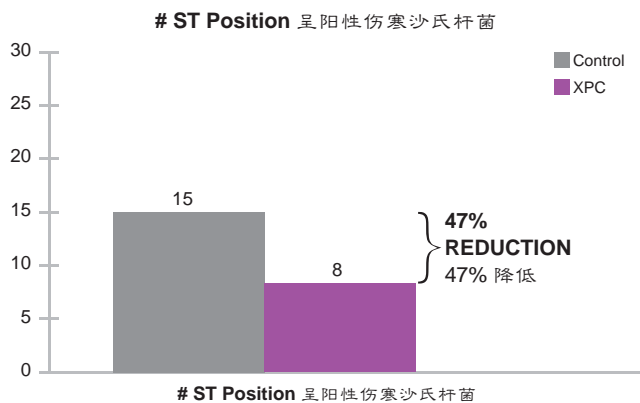
历史上，降低沙氏杆菌的主要方法是通过屠宰加工场的预防措施。然而，看手于农场活体鸡只体内的沙氏杆菌，也是显著降低抵达屠宰场时沙氏杆菌数的有效方法。在家禽抵达屠宰场前降低沙氏杆菌数目，可以比较有效地在屠宰场和经处理后的家禽产品中降低沙氏杆菌数。

虽然垂传播是沙氏杆菌发生的主要导因，要有效地阻扰沙氏杆菌的传播需要多管齐下。因此，阻扰沙氏杆菌必须从育种鸡群开始，并跟随整个成长期，以便显著降低抵达屠宰场时的污染负荷。同样的，饲养长时期的产蛋鸡需要某些阻扰，以便预防产蛋期受沙氏杆菌的感染。

有许多研究证明Diamond V's 产品可以有效控制沙氏杆菌：

- ✓ 对蛋鸡证实有效
- ✓ 对肉鸡证实有效
- ✓ 对火鸡证实有效
- ✓ 降低呈阳性沙氏杆菌数
- ✓ 降低盲肠沙氏杆菌数
- ✓ 降低环境涂抹片上的正性沙氏杆菌数

## Number Birds Positive & ST counts 呈阳性反应鸡数和伤寒沙氏杆菌数

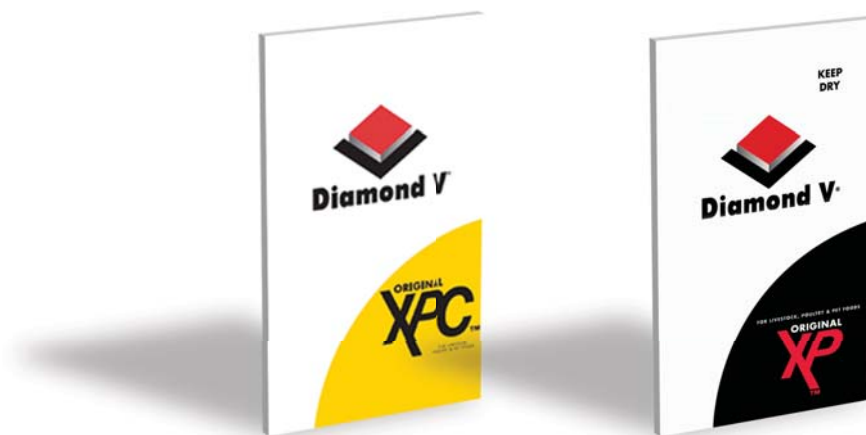


In a *Salmonella typhimurium* challenge trial performed in layer birds, the Diamond V's treatment group shown reduction of *Salmonella typhimurium* positive birds by 47%. In addition, the average colonization rate of *Salmonella typhimurium* in cecum of *Salmonella* positive birds is reduced by 61%.

Consequently, Diamond V's product could be used as in-feed intervention to handle a *Salmonella*-free farm.

在蛋鸡进行的一项鼠伤寒沙氏杆菌挑战试验，以Diamond V's 处理治疗的蛋鸡组别显示，呈阳性感染鼠伤寒沙氏杆菌的蛋鸡减低47%。除此之外，有鼠伤寒沙氏杆菌呈阳性感染的蛋鸡，其盲肠沙氏杆菌平均群集率降低61%。

因此，Diamond V's 产品可以当作饲料内干扰沙氏杆菌生长繁殖的制剂，以协助处理一个没有伤寒沙氏杆菌的农场。



# MAJOR CAUSES OF BACTERIAL DIARRHOEA IN POULTRY

## 家禽细菌感染腹泻的主要原因

***E. coli (Escherichia coli)*** is a common bacterial found in normal flora and intestine of warm blood animals.

### Poultry

- ⇒ Most *E.coli* strains are harmless but virulent strain of *E.coli* is the causative agent of diarrhea.
- ⇒ May lead to CCRD (Complicated Chronic respiratory disease) infection. Major disease that adversely affects the growth and productive performance of broilers.

***Salmonella spp*** causes typhoid fever, paratyphoid fever, and the food borne illness salmonellosis in human.

### Poultry

- ⇒ *Salmonella spp.* can be found in egg due to external contamination and if the eggs are eaten raw or undercooked, the bacterium can cause illness.
- ⇒ *Salmonella enteritidis* silently infects the ovaries of healthy appearing hens and contaminates the eggs before the shells are formed.

大肠杆菌常发现在正常微菌从和热血动物肠道的细菌。

### 家禽

- ⇒ 多数大肠杆菌菌株无害，但是致病性菌株是引起下痢的病因
- ⇒ 可导致复合慢性呼吸器官病 (CCRD)。严重影响肉鸡生长和生产表现的主要疾病。

沙氏杆菌引起人类伤寒，副伤寒热，和借食物传播的沙氏杆菌症。

### 家禽

- ⇒ 由于外部污染和鸡蛋生吃或没煮熟的话，沙氏杆菌可在蛋里找到，这细菌可引起疾病。
- ⇒ 肠炎沙氏杆菌静悄悄感染看来健康的母鸡卵巢和在蛋未形成前造成污染。



Watery diarrhea in infected chicken  
患鸡的水样性下痢



Abnormal egg follicles in the ovary seen in *Salmonella* carrier chicken  
携带沙氏杆菌鸡只卵巢所见的  
不正常滤泡

EU Regulation 1003/2005 ensures that all breeder flocks are tested regularly for salmonella. If the breeder flock is positive, it is slaughtered and the eggs may not be used.

欧盟法规1003/2005确保所有种鸡群定期测试沙门氏菌。如果种鸡的沙门氏菌测试是阳性，它将被屠宰和其鸡蛋可能不被使用。

**Ditrim Oral (Better Pharma)** suspension is a synergist combination of Sulfadiazine and Trimethoprim active against diarrhea in poultry.

### Indications:

Broiler chickens, ducks and piglets

- ⇒ For prevention and treatment of upper respiratory disease, infectious coryza caused by bacteria in respiratory system or complication with Chronic Respiratory Disease (C.R.D)
- ⇒ For prevention and treatment of diarrhea caused by *E.coli*, *Chlorella spp.*, typhoid fever and Salmonellosis.

### Administration:

- ⇒ Broiler chickens, ducks: Administer in drinking water.
- ⇒ Prevention: 1 ml. in 5 liters of drinking water. Treatment should be given for a period of 7 consecutive days.
- ⇒ Treatment: 2 ml. in 5 liters of drinking water. Treatment should be given for a period of 3 consecutive days.
- ⇒ Piglets: 1 ml. per 30kg of body weight, twice a day. Treatment should be given for a period of 3 consecutive days.

### Precautions:

- After mix product into drinking water should be used within 1 day.
- Do not administer in chickens producing eggs for human consumption.
- Shake well before use.

**Ditrim** 口服悬浮液是 Sulfadiazine 和 Trimethoprim 的协同混合制剂，有效对抗家禽的下痢疾病。

**适应症：**

肉鸡，小鸡，鸭和仔猪

⇒ 用于预防治疗上呼吸道疾病，呼吸系统内细菌引起的传染性可利查疾病或由慢性呼吸器官病复合的感染症。

⇒ 预防治疗由大肠杆菌，小球藻属引起的下痢，伤寒热和沙氏杆菌症。

**投予方法：**

⇒ 肉鸡，鸭：经饮用水投予。

⇒ 预防：5公升饮用水使用1毫升。必须连续7天投予。

⇒ 治疗：5公升饮用水使用2毫升。治疗必须连续3天投予。

⇒ 仔猪：每30公斤体重使用1毫升，每天两次。治疗必须连续3天投予。

**留意事项：**

- 产品在饮用水里混合后，必须在一天内使用。
- 不要投予产蛋供人类食用的鸡只。
- 使用前摇晃。



0 hour / 0小时



6 hour / 6小时



24 hour / 24小时

Ditrim Oral has an advantage over other brand due to:

- Clear and high quality suspension
- Premium quality raw material for long lasting suspension
- Balanced ratio of 4:1 composed of Sulfadiazine and Trimethoprim
- Easily mixed upon gentle shaking

Ditrim 比其它品牌的产品拥有好处是由于：

- 清晰和高品质的悬浮液
- 高品质的原料所赐予的良好悬浮液
- 平衡比率 4:1 含有 Sulfadiazine 和 Trimethoprim
- 轻微的摇晃即可容易加以混合

For further information, please contact us at F.E Venture Sdn Bhd 03-5633 3493 or Dr. Jolene Poo 012-544 7827

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# LEG PROBLEMS IN BROILER

## 肉鸡的脚部问题

Vast improvement in modern poultry farming over the past few years has resulted in pronounced increment in growth rate of poultry, especially in muscles growth. Yet, the skeletal development is yet to catch up. This imbalance has increased the incidence of leg weakness and deformities in broiler. This can inflict a considerable monetary loss to the production in terms of slow growth due to mobility difficulties, culling on the farm, condemnation or downgrading at the processing plant. Moreover, the affected birds' welfare to access feed and water is also denied due to lameness and pain.

Angular bone deformity (valgusvarus), dyschondroplasia, spondylolisthesis (kinky back) and ruptured tendons are the common problems seen, which make up 70-90% of the leg deformity and lameness in broiler chickens on a high density, nutritionally adequate ration. Leg deformity may be the result of uneven growth in the growth plate or abnormal position of the leg, however, it is more likely to be the result of muscle or tendon tension on the joints or on the bone, pulling the bones out of line or bending weak bones as they grow.

Numerous causes of skeletal deformities in poultry have been identified. Nutrients (toxicities, deficiencies, and imbalances), genetics, pathogens, mycotoxins, and management practices have all been shown to directly affect normal skeletal growth and development.

In terms of nutritional deficiency, lameness due to vitamin deficiency may be the result of insufficient nutrient for the growth rate of the birds, which is why it is seen first in the males. The problem may be poor quality vitamin, failure to add the vitamin premix, and inadequate mixing of feed. Nevertheless, nutrient deficiency secondary to viral or bacterial damage to the intestinal epithelium affecting digestion and absorption of nutrients cannot be missed too.

Nutrient imbalance such as electrolytes imbalance, high nutrient dense diets and diets high in protein energy can also predispose the birds to leg problems. Mycotoxin such as Fusarium mycotoxin, fusachromanone, has been shown to be a potent inducer of tibial dyschondroplasia (TD). Other chemicals known to induce TD include thiram (a fungicide), antabuse (drug), homocysteine, cysteine, and histidine.

Breeder and hatchery management is another big chunk of the picture. A well balanced diet and timely vaccination are essential in breeder to prevent leg problems in the progeny. Culling of breeder birds with visible, prominent leg problems should be done to reduce progeny lameness due to genetic predisposition. Optimum egg storage condition and accurate incubation temperature are vital to promote good embryo development and reduce musculoskeletal deformities such as crooked toes, angular bone deformity, spraddled leg, slipped tendon and rotated tibia.

At farm level, there are a few things that we can do to reduce leg problems in broiler:

1. Proper brooding temperature
2. Proper ventilation
3. Good litter quality and floor condition (reduce slipperiness)
4. Provide enough feeder and drinker space
5. Supplementation of vitamins in drinking water (Vitamin D, C and B-complex)
6. Adequate floor space with less stocking density
7. Proper handling of birds
8. Feed program – slowing growth rate in first 10 to 14 days to ensure optimum skeletal development

Aquadex B, a solution product focused on providing animals with vitamin B-complex and D can be used in leg problems caused by nutrient insufficiency. Other than that, a good choice of electrolytes supplement to avoid electrolytes imbalance during heat stress can help to reduce leg weakness in broiler. The incidence of leg problems varies from farm to farm. Adjusting the birds' environment and diets according to their needs and problems is important to reduce the incidence effectively.



过去几年现代家禽饲养业的巨大改善，导致家禽的生长率有明显的增进，尤其是肌肉的生长方面。但是，骨骼的发育还得追上。这种不平衡的现象，已增加肉鸡脚部无力和畸形的发生。由于行动上的困难，这可在缓慢的生长方面，对生产产生影响，农场鸡只的淘汰，屠宰场的鸡只废弃或低劣质鸡只，造成生产上相当大的经济损失。然而，由于脚软无力和疼痛，患病鸡只采食饲料和饮水的福利也受到拒绝。

具棱骨畸形，软骨增生不良，脊椎脱位和肌腱破裂是常见的问题，对密集饲养，饲料营养充足的肉鸡，脚畸形和软弱无力，占70-90%。脚部畸形可能由于生长地板条架的不平均，或脚部不正常的站立位子，然而，很大的可能是由于关节或骨头上肌肉或肌腱的张力所致，拉撒骨头至站立外的线上，或者当鸡只生长时，身体屈向于较弱的骨骼。

多种家禽骨骼畸形的原因已被确认。营养素(毒素，缺乏症和不平衡)，遗传，病原菌，霉菌毒素，以及管理措施，都显示可直接影响正常的骨骼生长和发育。

在营养缺乏方面，由于维生素缺乏的脚软无力，是由于供鸡只生长率的营养不足所致，这是为何在雄性鸡只先观察到。这个问题可能是不良的维生素品质，没有加入维生素预拌剂，以及饲料混合不足。然而，由于病毒或细菌损坏肠道壁上皮组织，影响营养分的消化和吸收的营养性缺乏，也不能忽略。

营养不平衡，如电解质不平衡，高营养密度饲料和含有高量蛋白质热能的饲料，也可诱导鸡只发生脚部问题。霉菌毒素如，梭霉属霉菌毒素，fusachromanon毒素，已证明是胫骨软骨质发育不良的潜能性导因。已知的其他化学物质，包括 thiram (一种杀霉菌剂)，antabuse(一种药物)，同质半胱氨酸，半胱氨酸和组氨酸。

种鸡和孵化场管理是问题的另外一个重大主因。为种鸡提供一个良好平衡的饲料和准时投于免疫注射是必须的，以预防后裔的脚部问题发生。必须进行淘汰有明显脚部问题的种鸡，以降低由于遗传倾向，而产生脚部软弱无力的后裔。适宜的种蛋贮存状况和正确的孵化温度，对促进良好的胚胎发育和降低肌肉骨骼畸形，如歪曲脚趾，具棱角骨骼畸形，外张脚，滑脱肌腱和旋转胫骨，是非常重要的。

在农场里，我们可进行一些事情以便降低肉鸡的脚部问题：

1. 正确的育雏温度
2. 正确的通风
3. 良好的垫料和地板状况(减低滑度)
4. 提供足够的饲料槽和饮水器空间
5. 饮用水内补充维生素(维生素D ,C 和B-复合维生素)
6. 足够地板空间以及低饲养密度
7. 正确处理鸡只
8. 饲养计划—首10至14天让鸡只缓慢生长，以确保适宜的骨骼发育

脚部问题的发生因农场而异。依据肉鸡的需求和问题，调节鸡只的环境和饲料，对有效降低问题的发生是重要的。

Aquadex B，一个专注提供动物复合维生素 B 和 D 的液态产品，可用于预防由营养素缺乏所引起的脚部问题。除此之外，选择Eleveex，一个好的电解质补充剂，以避免肉鸡在热紧迫下造成电解质不平衡，可协助降低脚部问题的发生。脚部问题的发生因农场而异，依据鸡只需求和问题，调节鸡只环境和饲料，以有效减轻脚部问题的发生，是重要的。



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# AMMONIA CONTROL IN POULTRY FARMS

## 家禽农场的氨气控制

Ammonia gas in poultry houses can affect the health condition of the birds if do not treat it properly. Ammonia is a colourless, lighter than air, highly water soluble gas present in the atmosphere of every poultry houses. The buildup of ammonia in the chicken houses will lead to negative impact on both farm workers and birds.

In the United States, according to the National Institute of Occupational Safety and Health (NIOSH), the maximum levels of ammonia in the poultry house have been set at 25ppm. If exceeds the maximum level, it has a chance to damage the bird's respiratory system and allow infectious agents to become established.

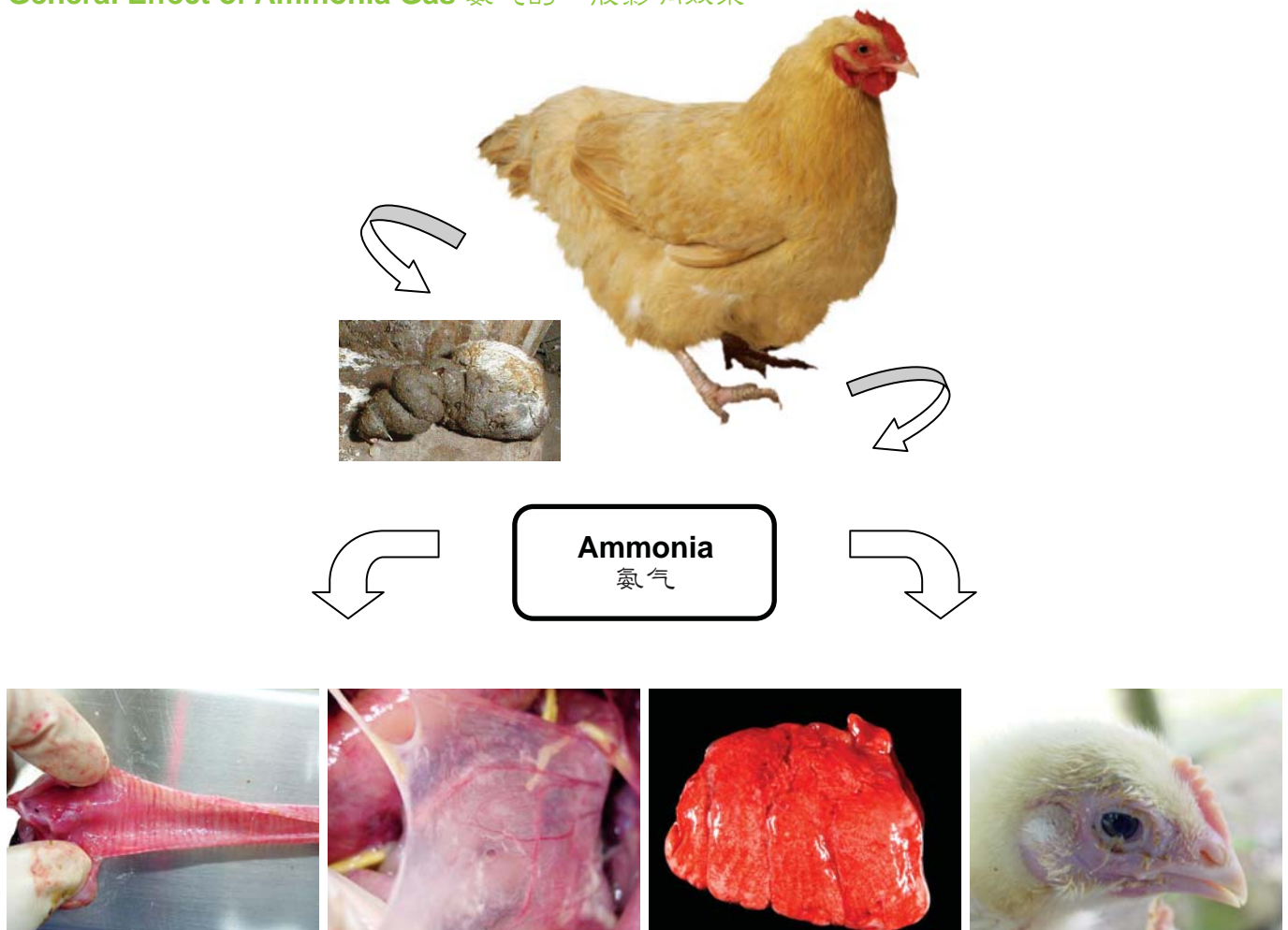
High concentration of ammonia will irritate the mucous membrane of the respiratory tract and conjunctivae. Damage to the mucous membrane of the respiratory system increases the susceptibility of birds to bacterial respiratory infection, especially E. coli. Devitalisation of the tracheal mucosal surface may lead to high incidence of tracheitis, airsacculitis, pneumonia and septicemia. Swelling and reddening of the eyelids, reddening of the conjunctiva and nictating membrane, and partial or complete closure of the eyes are common clinical signs.

如果没有正确地加以处理，鸡舍内的氨气可影响鸡只的健康状况。氨气是存在于每一个鸡舍空气里的一种无色，比空气轻，高度水溶性气体。鸡舍内氨气的累积将对农场员工和鸡只产生负面的影响。

在美国，根据国立职工安全和保健机构，鸡舍内氨气的含量最高设定在 25ppm。如果超过最高含量，它有机会损害鸡只的呼吸系统，并且让传染性病原菌的感染。

高含量氨气将会刺激呼吸道的黏膜和结膜。呼吸系统黏膜的损坏增加鸡只对呼吸性细菌感染的感受度，尤其是大肠杆菌。气管表面黏膜的损害可导致气管炎，气囊炎，肺炎和败血症的高度发生。眼睑的肿胀和发红，结膜和瞬膜的红肿，部分或全部眼睛关闭，是常见的临床症状。

### General Effect of Ammonia Gas 氨气的一般影响效果



### How to minimize ammonia odour in farm?

1. Keep organic matter dry
2. Check regularly for leaks from drinking water source
3. Ensure good ventilation systems
4. Use Effective Microorganism (EM) or probiotic in feed or spray on manure

### What Effective Microorganism (EM) does?

1. Acts as strong sterilizer to suppress harmful microorganisms and increases rapid decomposition of organic matter.
2. Produce antimicrobial substances to kill off all harmful pathogens.
3. Enhance the quality of the soil environment by increasing the antimicrobial activity of the soil.
4. Suppress odors and prevent infestation of harmful insects and maggots.
5. Balance the microflora within the animal's digestive tract.

### FARM FRESH – A new generation of probiotics & sanitizer in farming system!

A combination of beneficial microbes to work coordinately for environment and health of chicken

### What FARMFRESH helps?

- Regulates gastric-intestinal microbial ecology, stimulates animal growth
- Inhibits pathogen in stomach
- Increases immunity
- Eliminates unpleasant smell in farm
- Facilitates manure composting

### Why FARMFRESH?

- Natural and non-toxic
- High stability
- Inhibits pathogens and reduces infection
- Convenient application

### How to apply?

You can dilute and spray on the surface of surrounding or feces. It is safe to let your animal drink routinely.

### 如何降低农场内的氨气?

1. 保持有机物质干燥
2. 经常检查饮水源是否有遗漏
3. 确保良好的通风系统
4. 在饲料内使用有效的微生物或益生菌或喷雾在粪便上

### 有效微生物进行甚麽事情?

1. 作为压制有害病原菌的强劲灭菌制剂和增加有机物质的快速分解
2. 产生抗微生物物质杀灭有害病原菌
3. 借助增加土壤抗微生物的效力提升土壤环境的品质
4. 压制臭味和预防有害昆虫和蛆的感染
5. 平衡动物消化道内的微生物

### FARM FRESH - 农场系统的新一代益生菌和灭菌剂!

对环境和鸡只健康同等作用的有益微生物混合制剂

### FARMFRESH 协助些甚麽?

- 调节胃肠道微生物生态, 刺激动物的生长
- 抑制胃内的病原菌
- 增加免疫力
- 排除农场内的不良味道
- 方便堆肥

### 如何使用?

你可稀释和喷雾在周围的表面或粪便上。你可让你的动物惯例饮用, 它是安全的。



### 为甚麽使用FARMFRESH?

- 天然和无毒性
- 高度稳定性
- 抑制病原菌和降低感染
- 方便使用



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## WHAT IS PARAFORM PRILLS? PARAFORM PRILLS是何物?

Paraform Prills is a Paraformaldehyde which is defined as a white solid polymer of formaldehyde. Paraformaldehyde has been widely used as part of livestock biosecurity program.

### How does Paraform Prills works as a fumigating disinfectant?

When paraformaldehyde is heated, it generates formaldehyde fumes, which will fill the entire airspace in a closed environment. During contact of the fumes with the clean surface, it will release the activity of formaldehyde in a suitable environment with a relative humidity (RH) of 70 to 80 %. The aim of fumigating such as using Paraform Prills provides the final disinfection after proper washing and cleaning practice has taken place, prior to restocking. The penetrating nature of the product ensures contact on all surfaces.

\* However, paraformaldehyde should not be applied as a single/ concluding disinfectant, but it should be a part of a complete and proper cleaning and disinfection program.

### Where Can Paraform Prills be Applied?

1. Terminal Disinfection in Closed Poultry House
2. Fumigation and Sanitisation of hatching eggs
3. Slow release disinfection when placed in breeder nest - box

### How is Paraform Prills a better choice?

When heated, Paraform releases formaldehyde gas, which is actually a decontaminant. It is highly effective against viruses, bacteria and fungi giving a complete and concluding protection before poultry entering the closed house.

Paraform is safer and easier to handle than liquid formalin because it does not gives out formaldehyde fume in its solid form. Conventional formalin solution that contains 37% w/v formalin is known to be corrosive and releases extremely pungent fumes. Paraform has been widely used in many countries as a specialized fumigant for hatcheries and closed poultry houses whereby handling of liquid formalin and potassium permanganate is classified as highly dangerous to the operator.

On the other hand, Paraform usage has been proven to be highly cost effective, compared to the conventional method. Due to overwhelming price increase of potassium permanganate and recently price increase of 37% formalin solution has drawn many users to opt to use paraformaldehyde. Scarcity of potassium permanganate due to its hazardous nature under strict control by our local authorities is making the price of this product more expensive.

Paraform Prills 是指对甲醛，对甲醛是一种白色固体聚合物。  
在最近几年里，对甲醛已广泛地使用，作为禽畜生物防御计划的一部分。

### 对甲醛如何发挥作用以成为熏蒸消毒剂?

当对甲醛加热时，它释放甲醛烟雾，弥漫着封闭式环境内的整个空间。当烟雾与干净表面接触时，它将在具有相对湿度(RH) 70 至 80% 的适合环境下释放甲醛的工作效力。熏蒸的目的如使用 Paraform Prills (Kilco) 是在未把禽畜赶进农场前，经过正确洗刷清洗干净后，提供最后的消毒作用。产品具渗透能力特质将确保能接触到所有的表面。其杀菌作用机序与甲醛液剂和多数甲醛组别消毒剂是一样的。

\* 然而，对甲醛不能使用作单一终结的消毒剂，  
它必须是一个完整和正确清洗及消毒的一部分。

### 在何处使用对甲醛?

1. 封闭式鸡舍内的终端消毒
2. 孵化蛋的熏蒸和消毒
3. 放置种鸡巢箱时缓慢释放消毒

### 为何对甲醛是一个更好的选择?

当对甲醛加热时，释放甲醛气体，它其实是一个除污剂。它高度有效对抗病毒，细菌和微菌，在家禽还未进入封闭式鸡舍前提供一项完整和终结性的保护作用。

对甲醛比液 蚁醛（福马林）容易处理及安全使用，是因为固体对甲醛不会释放甲醛烟雾。含有 37% W/V 蚁醛的传统性福马林液剂已知具有腐蚀性和释放非常刺激性的烟雾。对甲醛已在许多国家广泛地使用为孵化室和封闭式鸡舍的特别熏蒸剂，因为处理蚁醛液剂和高锰酸钾被列为对操作员有高度的危险性。对甲醛比较使用传统37%福马林液剂和高锰酸钾产生了强烈，化学反应的明显益处是安全性的问题，这常是我们忽略的。曾发生危险物质处理不当造成人类灾害的许多例子。

反之，相比较于传统的方法，对甲醛的使用已经证明非常经济有效。由于高锰酸钾的价格提高和近来37%福马林的价格也升高，已促使许多使用者选择对甲醛。由于高锰酸钾的危害性特质，并且本地有关当局的严格管制下，货源缺乏，促使这产品的价格飙升。



Paraform Prills (white flowing powder)  
Paraform Prills (白色粉末)



The fumigating pot in closed house  
在封闭房子的熏锅

### Wear Protective clothing, full face respirator, gloves and footwear

穿上保护衣着，盖脸呼吸器，戴手套和穿上鞋袜



### "YOUR SAFE AND CHEAPER OPTION TO FORMALDEHYDE & POTASSIUM PERMANGANATE" – Paraform Prills by Kilco

“为了您的安全及更经济效应，这是使用甲醛和高锰酸钾的好选择” - Paraform Prills by Kilco



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