银生命 .SIL-LIFE

高浓度纳米银纯水溶液

High Concentration Nano Silver Aqueous Solution

SIL-Life

材料介绍-银生命 SIL-LIFE
SIL-LIFE – Material Introduction

银生命™(SIL-LIFE)之技术历经长达15年研发而成，藉由特殊安定剂的控制，让纳米银可长时间稳定分散于纯水中。
SIL-LIFE纳米银可精准稳定的释放银离子，与细菌结合后将其消灭，达到长效的抗菌效果。

SIL-LIFE (TM) underwent a 15year development, and through special stabilizer's control, nanometer silver can stably dispersed in pure water for a long time.
SIL-LIFE can release silver ions with high precision and stability, and eliminate bacteria through integration to achieve long-lasting antibacterial effect.

产地 Origin	台湾 Taiwan
基材 Material	纳米银 Nano Silver
形貌 Appearance	棕色水溶液 Brown Aqueous Solution
溶剂 Solvent	纯水 Pure Water
粒径大小 Particle Size	5~7nm
浓度 Concentration	1万 ppm 10,000 ppm
密度 Density	1.01
pH值 pH Value	8
包装 Packing	20KG

实验数据仅供参考
The Experimental Data are just for Reference.

SIL-LIFE 银含量测试 – Intertek
SIL-LIFE Silver content test - Intertek

intertek
Total Quality. Assured.

Sample Description:

One (1) bottle of submitted sample said to be :

Item Name	: Ag. PURE 10000 ppm
Material Composition	: Nano Silver
Color	: Clear
Quantity	: 1 Bottle
Date Sample Received	: Aug 16, 2017
Date Test Started	: Aug 17, 2017

Test Conducted :

Total Silver (Ag) Content

Acid digestion method was used and total content was determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) analysis.

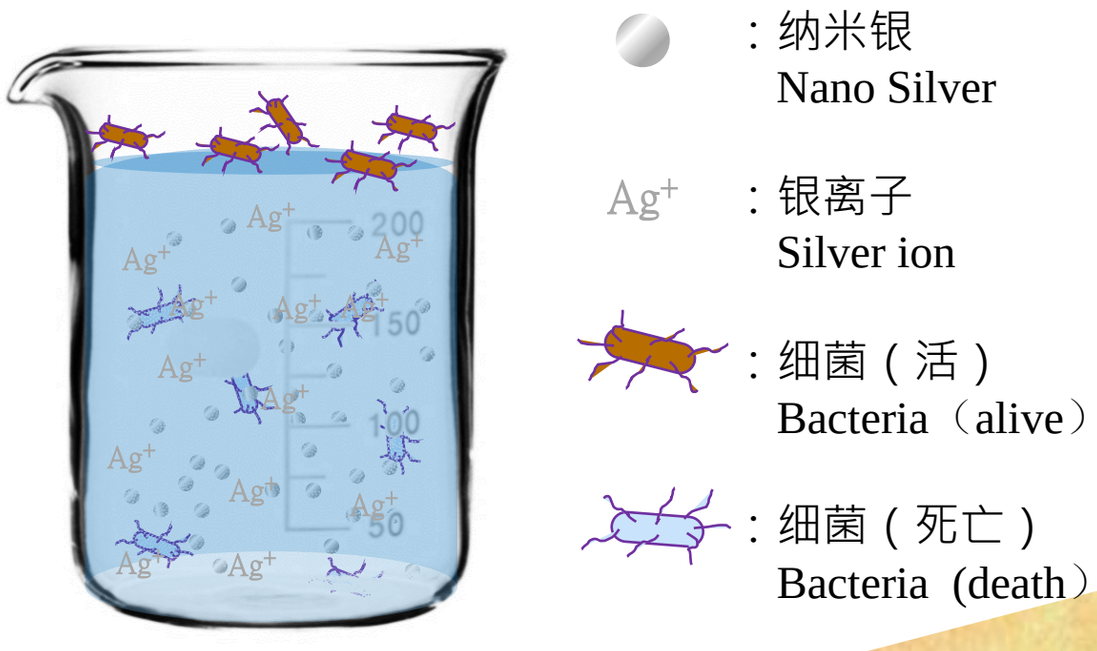
Tested Sample	Result (ppm)
Submitted sample	9730

Remarks : ppm = Parts per million = mg/kg
Detection limit = 2 ppm

SIL-LIFE银生命材料抗菌机制
Antibacterial Mechanism of SIL-LIFE Suppression Material.

SIL-LIFE通过特殊的加工技术，让纳米银非常均匀的分散于纯水溶液中。纳米银于含水或潮湿的环境下会稳定且适度释出可抗菌的银离子以达到抗菌的功效。

The SIL-LIFE could be dispersed and well-mixed in pure water solution by special processing technology. The SIL-LIFE could be stable and moderate releasing the antibacterial Ag ions so that to achieve its efficacy under the damply and humid environment.



：纳米银
Nano Silver

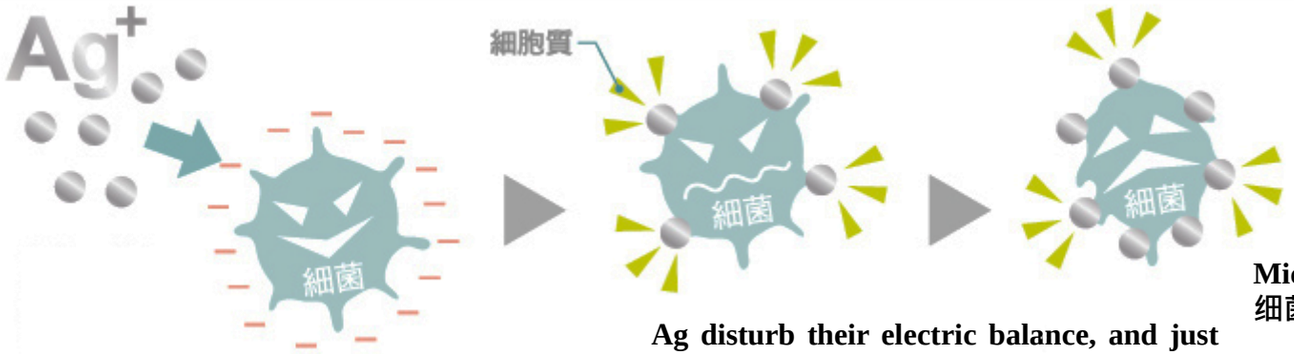
Ag^+ ：银离子
Silver ion

：细菌（活）
Bacteria（alive）

：细菌（死亡）
Bacteria（death）

银抗菌机制
Antimicrobial mechanism of silver.

Ag disturb and burst microbe's cell wall, then it would die out.
银使细菌的细胞壁产生破裂，造成细菌的死亡：



Ag with positively charged are drawn toward microbes with negatively charged.
银带有正电，细菌细胞壁带负电。银离子会被细菌的细胞壁所吸引。

Ag disturb their electric balance, and just then the microbes are burst their cell wall and cytoplasm flows out.
正负电不平均和造成细胞壁破裂，细菌内的细胞质从穿孔处流出。

Microbes shrivel and being extinguished.
细菌萎缩、死亡

Ag inhibit enzyme activity and growth rate to kill microbes.
银与细菌中的硫氢基结合，造成细菌的死亡：

After a period of time, Ag are taken into microbes, and react to the cellular enzyme microbes. This inhibits enzyme activity and multiplication of microbes, thus extinguishing the microbes.
若接触的时间够长，则银也会被负电荷吸引而至细菌体内，与硫氢基等催化系统的官能基结合，影响其生殖功能。

Ag have two ways to extinguish microbes(including super bacteria) and would not cause antibiotic resistance.

银可以利用这两种机制杀死细菌体(包括现有的超级细菌)，且不会产生抗药性。

Aquaculture

水产养殖

水产养殖-纳米复合材料于养殖业应用
Aquaculture – Nano Composites in Aquaculture.

01 腸道疾病防制
Intestinal Diseases Prevention

02 降低自生餌帶來的病原體汙染養殖池
Reduce the pathogen from the bait which brought the pollution to the pond.

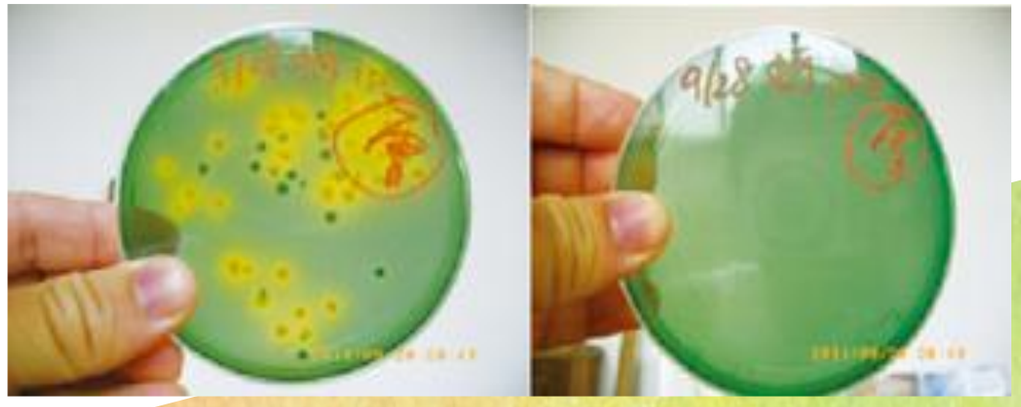
03 汙染水質的治理
Pollution of Water Control.

04 預防傷口感染發炎
Prophylaxis in wound Infections.

05 活魚蝦貝養過程與運送全程防護
Cultivation and Transportation of live fish, shrimp, and shells.

水产养殖- 细菌简介
Aquaculture- Bacteria Introduction

致病菌 Pathogenic Bacteria	菌属 Genus	症状 Symptom
溶藻弧菌 Vibrio Alginolytica	葛兰氏阴性菌 Gram-Negative Bacteria	表皮溃疡/出血、眼球凸起/充血，腹部充水肿胀，肾脏发白，脾脏肿大、鱼鳍溃烂，严重最终导致死亡。 Epidermal Ulceration, Bleeding, Eye Bulge, Congestion, Abdominal Swelling, Kidney became white, Spleen Enlargement, Fins Ulceration, then seriously to the death.
肠炎弧菌/副溶血弧菌 Vibrio Enterocolitica/ Vibrio Parahaemolyticus.	葛兰氏阴性菌 Gram-Negative Bacteria	病虾表现为离群独游，行动呆滞，不能控制行动方向。感染的病鱼出现下颌与鳍条充血发红、腹部肿胀出血、肛门发红，然后出现行动迟缓，经常浮出水面，最后死亡。 The sickness of shrimp performed as the outliers with sluggish actions. They could not control the direction. The sickness of fish showed the redness from their jaw and fins , with abdominal swelling and bleeding, anal redness with slow action, floating to the water surface then finally lead to the death.
爱德华氏菌 Ed wardsiella	葛兰氏阴性菌 Gram-Negative Bacteria	腹腔涨气、皮肤溃烂、腹水、肝脏囊肿等。 Such as Abdominal flatulence, Skin Ulceration, Ascites, Liver Cysts and so on.
产气单孢菌 Aeromonas Aeruginosa	葛兰氏阴性菌 Gram-Negative Bacteria	鱼鳍出血、体表溃烂/出血、肠发炎、肝肾肿大，严重引发败血症死亡。 Fin bleeding, Skin ulceration/Bleeding, Intestinal Inflammation. Liver and Kidney Enlargement. Seriously being septicemia and then to the death.



水产养殖-纳米银对于溶藻弧菌效果
Aquaculture-The Effect of Vibrio Alginolytica from Nano Silver.

实验结果显示， 添加纳米银2ppm 及4ppm（ 产品浓度） 于含10^3溶藻弧菌养殖水中2 及1/6 小时，已测不出菌数
The result after the experiment, the number of bacteria could not be measured each 2 hours and 10 minutes after adding 2ppm and 4ppm (product concentration) Nano Silver in the aquaculture water which contains **10^3** Vibrio Alginolytica.

纳米银浓度及处理时间长短对海水中溶藻弧菌(Vibrio alginolyticus) (10^3 CFU/mL) 之抑菌效果(三次平均结果)
The Bacteriostasis Effection of Nano Silver concentration and treatment time on the Virbrio Alginolyticus(10^3 CFU/mL) in the seawater. (the results after 3-time measurement in average.)

浓度（ppm）	初始菌数 1000 CFU/ml Initial Number of Bacteria 1000 CFU/ml								
	Time(hours)								
	0	1/6	1/2	1	2	4	8	16	24
0	1100	1240	1570	2030	2950	3890	4650	5950	7190
0.25	1210	980	560	470	950	1460	3710	3790	5610
0.5	1240	1010	570	570	710	490	290	2390	5920
1	1220	880	480	250	10	10	50	310	2090
2	1210	550	80	40	0	0	0	0	0
4	1100	0	0	0	0	0	0	0	0

实验数据仅供参考
The Experiment Data are Just for Reference

水产养殖 -不同浓度纳米银材料在水中对四种病菌(10^3CFU/ml) 抑菌程度结果
Aquaculture-The results of inhibition from different concentration of Nano Silver to four Bacterias(10^3CFU/ml) in the water.

菌种 Bacteria	浓度 Concentration（ppm）	10^5 CFU/ml								
		时间 Time								
		0	10min	30min	1hr	2hr	4hr	8hr	16hr	24hr
溶藻弧菌 Vibrio Alginolytica	1.5	1210	1210	80	40	0	0	0	0	0
溶藻弧菌 Vibrio Alginolytica	3	1110	0	0	0	0	0	0	0	0
肠炎弧菌 Vibrio Enterocolictica	0.8	1150	350	350	160	0	0	0	0	0
肠炎弧菌 Vibrio Enterocolictica	3	1060	0	0	0	0	0	0	0	0
产气单孢菌 Aeromonas Aeruginosa	0.2	1030	460	460	0	0	0	0	0	0
产气单孢菌 Aeromonas Aeruginosa	0.4	1080	0	0	0	0	0	0	0	0
产气单孢菌 Aeromonas Aeruginosa	0.2	1010	460	460	20	20	0	0	0	0
爱德华氏菌 Edwardsiella	0.8	980	0	0	0	0	0	0	0	0
爱德华氏菌 Edwardsiella	3	1010	0	0	0	0	0	0	0	0

实验数据仅供参考

The Experiment Data are Just for Reference

水产养殖 -不同浓度纳米银材料在水中对四种病菌(10^5CFU/ml) 抑菌程度结果
Aquaculture-The results of inhibition from different concentration of Nano Silver to four Bacteria (10^5CFU/ml) in the water.

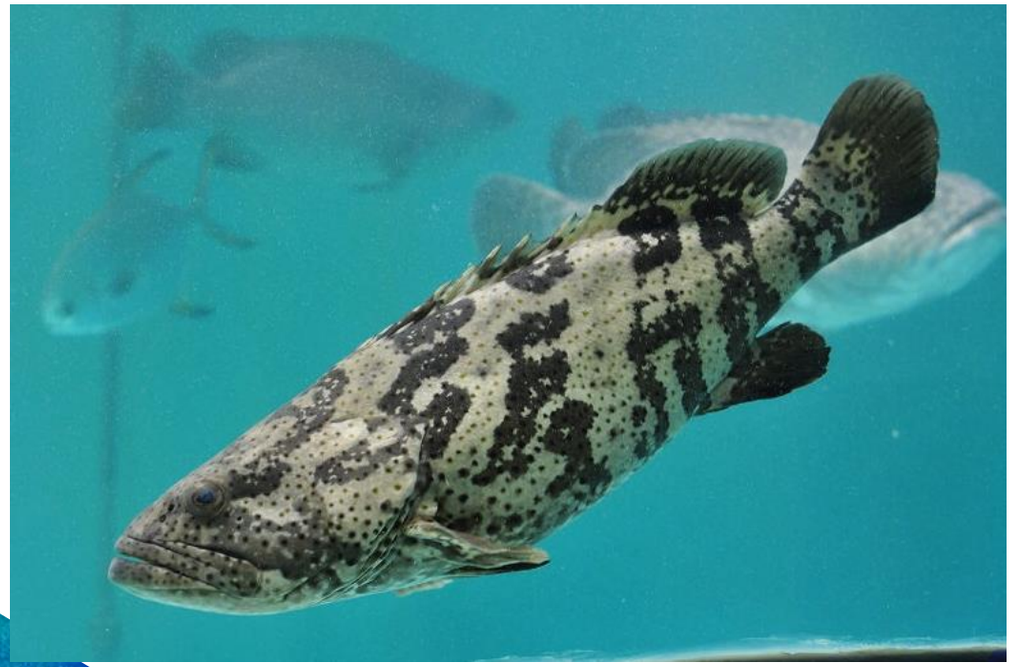
菌种 Bacteria	浓度 Concentration (ppm)	10^5 CFU/ml								
		时间 Time								
		0	10min	30min	1hr	2hr	4hr	8hr	16hr	24hr
溶藻弧菌 Vibrio Alginolytica	1.5	10500	3200	1300	400	200	0	0	0	0
溶藻弧菌 Vibrio Alginolytica	3	10200	100	0	0	0	0	0	0	0
肠炎弧菌 Vibrio Enterocolictica	1.5	10100	900	200	0	0	0	0	0	0
肠炎弧菌 Vibrio Enterocolictica	3	10500	0	0	0	0	0	0	0	0
产气单孢菌 Aeromonas Aeruginosa	0.2	10900	6700	1900	0	0	0	0	0	0
产气单孢菌 Aeromonas Aeruginosa	0.4	10800	2200	0	0	0	0	0	0	0
产气单孢菌 Aeromonas Aeruginosa	3	10900	0	0	0	0	0	0	0	0
爱德华氏菌 Edwardsiella	0.2	10300	6400	5500	2200	0	0	0	0	0
爱德华氏菌 Edwardsiella	0.8	10200	0	0	0	0	0	0	0	0

实验数据仅供参考
The Experiment Data are Just for Reference

水产养殖 –不同浓度纳米银饲料喂食石斑之银残留测试
Aquaculture –The residual test of different concentrations of nano silver to feed grouper.

将4~400 ppm 浓度纳米银饲料投喂带点石斑持续8周，显示鱼只在摄入纳米银后并未在肌肉中产生累积。因此可将纳米银应用于养殖石斑鱼消毒抑菌方面，同时也不会对养殖生物的成长及存活率造成影响，更不会有肌肉残留银的问题。

The 4~400 ppm concentration nano silver feed was fed to orange-spotted grouper for 8 weeks, indicating that the fishes did not accumulate in the muscle after ingesting the nano silver. Therefore, nano silver can be applied to the disinfection and bacteriostasis of cultured grouper, and it will not affect the growth and survival of cultured organisms, there will be no problem of silver remain in muscle.



纳米银加入饲料投喂带点石斑鱼8周对其残留之影响
Effects of nano-silver feed was fed to orange-spotted grouper for 8 weeks on the residues.

纳米银浓度 ppm	银残留量 silver residue ppm
	肌肉 muscle
4	0.007±0.002
200	0.004±0.002
400	0.004±0.002

实验数据仅供参考

The Experiment Data are Just for Reference

案例一：银生命有效控制石斑鱼苗场的弧菌数量提高育成率
Case 1: SIL-LIFE can effectively control the number of Vibrio in grouper fish farm and improve the rate of breeding.

健康的石斑白身鱼苗
Healthy grouper fry with white body

客人从洗受精卵到生物饵料和水体的消毒，均采用银生命做全程防疫。客人说，今年2 至5 月间已顺利收成两批石斑白身苗（每批使用150 万粒受精卵，收成白身苗8 万尾和14 万尾，育成率5% 和9%），并且接手的吋苗场，该场所产的白身苗健康度和成长状况极佳（如图、健康的石斑白身苗活动情形），第一批收成的两吋苗高达95% 的育成率。

From the fertilization spawn to biological bait and water disinfection, all use SIL-LIFE to do the whole epidemic prevention. The client said that between February and May this year, two batches of grouper fry with white body were successfully harvested (each batch of 1.5 million fertilized spawn, the harvest of 80,000 tails and 140,000 with the breeding rate of 5% and 9%).
Furthermore, the health and growth status of grouper fry with white body is excellent in the took over fish farm (such as the photo, the activity situation of healthy grouper fry with white body). The breeding rate of two inches fry is up to 95% in the first harvest.

育苗池水的弧菌量每ml 有效控制在500 CFU 以下。
The amount of Vibrio in the nursery pond is effectively controlled below 500 CFU per ml.

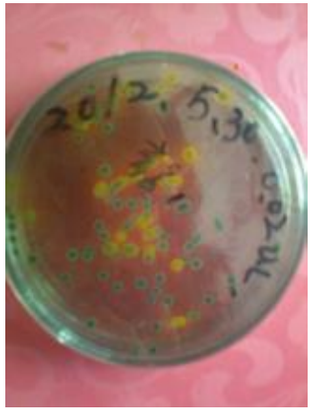
全程的弧菌数量在0 至500CFU/ml（育苗池水的弧菌量每ml 控制在500 CFU 以下）。

The total number of Vibrio in the whole is 0 to 500cfu/ml. (amount of Vibrio in the nursery pond is controlled below 500 CFU per ml).

实验数据仅供参考
The Experiment Data are Just for Reference

案例二：银生命有效降低弧菌数量减少龙胆石斑的损失

Case 2: Reducing the number of Vibro. Reducing the damage of the grouper.



使用银生命前弧菌数量每ml 高达5,000 CFU 以上
the number of vibrio will up to 5,000 CFU per ml before using the Sil-Life

2分地饲养200多尾的龙胆石斑，已养殖约6个月（盐度千分之22），每日有1～2 尾（约3 公斤）的鱼只死亡（体表严重溃疡），其养殖池水经画菌后发现，总生菌数高达10 万CFU/ml 以上， 弧菌数高达5,000CFU/ml（如图、使用银生命前弧菌数量每ml 高达5,000CFU 以上）以上。

We have been bred more than 200 pieces of grouper in the large area which is 950 square meters for about 6 months already. (22 percent of salinity). There are 1 to 2 fish die in daily.(sever ulcer on body surface). After the research, we found that the total number of bacteria reached as high as 100,000 CFU/ml, and the number of vibrio is up to 5,000 CFU/ml. (As the picture shows, the number of vibrio will up to 5,000 CFU per ml before using the Sil-Life.)

使用银生命后弧菌数量每ml 降至500 CFU 以下。
the number of vibrio will reduce to 500 CFU per ml after adding 0.4ppm of Sil-Life

经添加银生命0.4ppm 后，有效将弧菌降低至500 CFU/ml（ 如图、使用银生命后弧菌数量每ml 降至500CFU 以下），投喂的下杂鱼每公斤添加银生命5c.c. 杀菌，经养殖业主表示，使用银生命后第3 天，即没有死亡的现象。

由此案例显示，高弧菌量造成的成鱼体表溃疡进而死亡，用银生命处理可以降低弧菌量而减少损失。

The vibrio will reduce to 500CFU/ml after adding 0.4 ppm of Sil-Life effective. (As the picture shows, the number of vibrio will reduce to 500 CFU per ml after adding 0.4ppm of Sil-Life). We added 5 c.c Sil-Life to the feed per kilogram for sterilization. The owner said that there is no phenomenon of death after the first 3 days of using the Sil-life.

From this case, we can found out that the high amount of vibrio cause the sever ulcer on body surface, and then further to be death. But we can use the Sil-life for vibrio killing to reduce the damage.

实验数据仅供参考
The Experiment Data are Just for Reference

案例三：银生命有效控制丰年虾和泰国虾苗场的弧菌，提高平均育成率-1
Case 3:The Sil-Live can control the Vibrio from the Viburnum shrimp & Thai Shrimp farm effective. It can also improve the average breeding rate. -1

ATM 为研磨后的丰年虾画出弧菌每ml 高达10,000 CFU 以上，SW 为该丰年虾孵化时的海水- 无弧菌。
(the ATM one is the sample which has the vibrio that more than 10000CFU per ml after grinding of brine shrimp. The SW one is the sample of the seawater with no vibrio that is in hatching.)

泰国虾繁殖场主表示，按照过去的生产经验，时好时坏，也不知道其成功与失败的原因，常凭运气或感觉在生产、孵化。造成泰国虾苗暴毙的主因可能是病毒或弧菌，其来源有三：水源、种虾以及饵料生物。

因此，泰国虾繁殖场主就以杀菌灵(中性二氧化氯)0.2ppm 来处理林园载来的海水（处理前海水弧菌2,500CFU/ml，处理后海水弧菌0 CFU/ml）；种虾以5ppm 银生命药浴30 分钟后才置入孵化池，并定期使用1 ~ 3ppm 的银生命做水体的防疫。

然而水源以及种虾经过完整的杀菌处理，在泰国虾苗孵化第三日后，经画菌结果，竟然在育苗池水中发现有200 CFU/ml 的弧菌，其弧菌来源应是丰年虾所带来，丰年虾池水弧菌高达7,800 CFU/ml，研磨后的丰年虾弧菌数量更无法计数（10,000CFU/ml 以上）（如图、ATM 为研磨后的丰年虾画出每ml 高达弧菌10,000CFU 以上，SW 为该丰年虾孵化时的海水- 无弧菌。）

The Thai shrimp farmer said that it is good times and bad according to the past produce experience. They did not know the reasons for its success and failure. They usually depend on the luck or the feeling for the production and the incubation. The main cause of the sudden death to the Thai shrimp might be the viruses or vibrios, which comes three sources；water, shrimp and food organism.

Therefore, the Thai shrimp farmer treated the seawater from Linyuan, Kaohsiung (2500 CFU/ml before treatment, 0 CFU/ml after treatment) with the carbendazim which is 0.2ppm(Neutral Chlorine Dioxide). The shrimp entered to the hatch pool after doing the medicated bath for 30 minutes with the 5 ppm Sil-life. And we use 1-3ppm Sil-life to do the epidemic prevention for the water in regularly.

However, after the third day of hatching Thai shrimp, we found that the water still contained 200 CFU/ml of Vibrio with the sterilization treatment.

According to the research, the source of vibrios should be brought by the brine shrimp. The number of vibrio from the brine shrimp in the pond is up to 7800 CFU/ml. The number of vibrio from the broken one can not be counted.(10000 CFU/ml or more.) (As the picture shows, the ATM one is the sample which has the vibrio that more than 10000CFU per ml after grinding of brine shrimp. The SW one is the sample of the seawater with no vibrio that is in hatching.)

实验数据仅供参考
The Experiment Data are Just for Reference

案例三：银生命有效控制丰年虾和泰国虾苗场的弧菌，提高平均育成率-2
Case 3:The Sil-Live can control the Vibrio from the Viburnum shrimp & Thai Shrimp farm effective. It can also improve the average breeding rate. -2

泰国虾
Thai shrimp

丰年虾
Brine shrimp

泰国虾繁殖场主于丰年虾孵化的过程中加入银生命1ppm 来杀菌，接着再将丰年虾无节幼虫以银生命2ppm 药浴30 分钟，做第二次处理，丰年虾孵化时的海水则无弧菌了，以此消毒后的丰年虾再来投喂泰国虾苗，经过20 日后，泰国虾苗顺利收成育成率约20%。 由本案例可知，大量的弧菌就是泰国虾苗繁殖场失败的主因，因此掌控繁殖过程的所有弧菌来源是泰国虾苗繁殖场的首要任务，银生命正是杀灭弧菌的最佳利器。

The Thai shrimp farmer adding 1ppm of Sil-life during the processing of brine shrimp hatching for sterilization. Then they did the second time used 2ppm of Sil-life for medicated bathing for 30 minutes with nauplius. The seawater of the brine shrimp hatching will be vibrios-free.

The rate of the Thai shrimp harvest bred is about 20% with the feeding from the sterilized brine shrimp after 20 days.

It can be seen from this case that the main cause of the failure Thai shrimp is the large number of vibrios. Therefore, making the vibrios sources controlling is the primary task during the processing of the Thai shrimp. The Sil-life is the best weapon for the vibrio killing.

实验数据仅供参考
The Experiment Data are Just for Reference

水产养殖 SIL-LIFE使用方法（种虾）
Aquaculture – The Usage of SIL-LIFE (Parent Prawn)

种虾添加 银生命方法：
投入于公种虾与母种虾的池子中，投入量为 每吨水 / 2.5c.c 银生命/天，产卵池不需投入银生命。

Parent Prawn:
Put the parent prawns into the pond; pour 2.5cc of SIL-LIFE per 1000Litre of water per day.
Spawning pool will not require pouring of SIL-LIFE.

水产养殖 SIL-LIFE使用方法（红筋期 到 虾苗）
Aquaculture – The Usage of SIL-LIFE (Postlarva & Shrimp Seeding Stage)

虾苗期添加 银生命方法：

1. 从孵化期到红筋期之前，都不需要使用银生命。
2. 红筋期之后，每吨水投入 0.2c.c 银生命 （例如水体有 50mt, 就投入 10c.c 银），只需投入一次，不需每天投。 后续于换水时，再补足换水时消耗掉的银生命（例如每次换水，换掉10吨水，就补足10 吨水的银生命即可）。
3. 银添加于水体中，从红筋期到吋苗期皆可使用，使用银生命可以大幅度提升红筋期到虾苗的存活率。

Shrimp Seeding Stage:

1. Before PL-15 (N1~P14), there is no need to pour in SIL-LIFE
2. Starting from PL-15, pour in 0.2CC of SIL-LIFE per 1000Litre of water mass (so if there is a mass of 50000Litre of water, pour in 10cc of SIL-LIFE). Every time when changing water, you must add in the sufficient amount of SIL-LIFE to compensate the water changed (for example, if you changed 10000Litre of water, you must add in 2cc of SIL-LIFE).
3. SIL-LIFE could be applied to shrimp larvae from P15 to P22 and after.During P15 to post-22, applying SIL-LIFE could greatly increase shrimp larvae’s survival rate.

虾苗运送添加 银生命方法：

虾苗长成黑壳之后要出货给养殖场，普遍运送过程中，运送时间超过16小时，死亡率都会超过50%。若在运送的水中加入每吨水/2.5cc银生命，则存活率会超过90%以上，而且到国外检验局不会有细菌超标问题。

Once the shrimp larvae has grown pass P22 and is ready for shipping to the aquatic farm, if the transportation period is longer than 16hrs, we see the mortality rate going up to 50%. During this time, add 2.5cc of SIL-LIFE per 1000Litre of water into the transported shrimp larvae tank, the survival rate during transportation could be increased to over 90%, and inspection bureaus will not see an excessive bacteria issue during inspection.

水产养殖 SIL-LIFE使用方法（养虾场）
Aquaculture – The Usage of SIL-LIFE （Breeding Period ）

银生命改添加于饲料之中。

一般预防：
每吨饲料添加 250 c.c 银生命 一周喂食1~2次（如果一天喂食2餐，就一个礼拜两天投入含银生命的饲料。如果一天喂食四餐，就一个礼拜一天投入含有银生命的饲料）

发病状态：
每吨饲料添加 1500~2500 c.c 银生命，餐餐喂食持续到疫情稳定，后续再改回一般预防浓度。

During breeding period, the same amount of SIL-LIFE (2.5cc) is added to per 1tons of feed.
General Disease Prevention (bacteria & germ):
For every 1ton of feed, add in 250cc of SIL-LIFE and feed to the shrimps 1~2 times per week. If you feed twice a day, then feed shrimp with SIL-LIFE twice a week. If you feed 4 times a day, then feed shrimp with SIL-LIFE once a week.

During Illness (bacteria & germ caused):
Every 1ton of feed add in 1500~2500cc of SIL-LIFE for every feed until illness has been stabilized and then go back to feeding cycle in General Disease Prevention.

水产养殖 SIL-LIFE使用方法（鱼苗）
Aquaculture – The Usage of SIL-LIFE（ Fish Fry ）

鱼苗（2.5cm以下） 到 2吋苗或3吋苗期，容易有皮肤病问题。

发现此问题时，需进行药浴。 药浴浓度为每吨水添加 2.5c.c 银生命，药浴时间 4~6小时。 再来进行换水（依照换水的比例，补上每吨水/0.2c.c 银生命。如换掉 10吨水，即补上2c.c 银生命）

Fry stage (below 25mm) up to fingerling (2inches or 3inches) period is a period where the fish could easily be infected with skin diseases.

When such problems are discovered, we recommend undergoing medicated bath. Medicated bath means with ever 1ton of water, 2.5cc of SIL-LIFE is to be added and the fish bathed for 4~6hrs. When changing water, every 1ton of water changed should see 0.2cc of SIL-LIFE re-added (for example, if 10ton of water is changed, 2cc of SIL-LIFE should be re-added).

水产养殖 SIL-LIFE使用方法（养殖期）
Aquaculture – The Usage of SIL-LIFE（Breeding Period）

银生命改添加于饲料之中。
一般预防：
每吨饲料添加 500 c.c银一周喂食1~2次 （如果一天喂食2餐，就一个礼拜两天投入含银生命的饲料。如果一天喂食四餐，就一个礼拜一天投入含有银的饲料）

发病状态：
每吨饲料添加 2500~5000 c.c 银生命 餐餐喂食，持续到疫情稳定，后续再改回一般预防浓度

During breeding period, the same amount of SIL-LIFE (2.5cc) is added to per 1tons of feed.
General Disease Prevention:
For every 1ton of feed, add in 500cc of SIL-LIFE and feed the fish 1~2 times a week. If you feed twice a day, then feed SIL-LIFE to the fish for 2 days a week. If you feed the fish four times a day, then SIL-LIFE should be fed to the fish for 1 day a week.

During Illness (bacteria & germ caused):
Every 1ton of feed should add 2500~5000cc of SIL-LIFE for every single feeding period until the disease is stabilized, then change back to General Disease Prevention feeding cycle.

Animal Husbandry

畜牧业

畜牧业 -纳米复合材料于畜牧应用
Animal Husbandry - Application of Nanocomposites in Livestock.

腸道疾病防制
Intestinal Diseases Prevention

禽流感的防治
Prevention and Control of Avian Flu.

汙染水質的治理
Pollution of Water Control.

預防傷口感染發炎
Prophylaxis in wound Infections.

畜禽類飼養過程與運送全程防護
Whole Protection for the Livestock and Poultry Breeding and Transportation

畜牧与农业 -纳米复合材料于畜牧应用
Livestock and Agriculture - Application of Nanocomposites in Livestock.

通过在猪的饲料或者饮水中添加纳米银复合材料，可以达到以下明显效果：

1. 提高公猪的精子品质；
2. 降低断尾率；
3. 提高免疫力；
4. 解决拉肚等消化道问题；
5. 防护呼吸道疾病；
6. 添加到饲料中可以有效杀灭细菌，防止饲料发霉或变质导致的疾病问题。

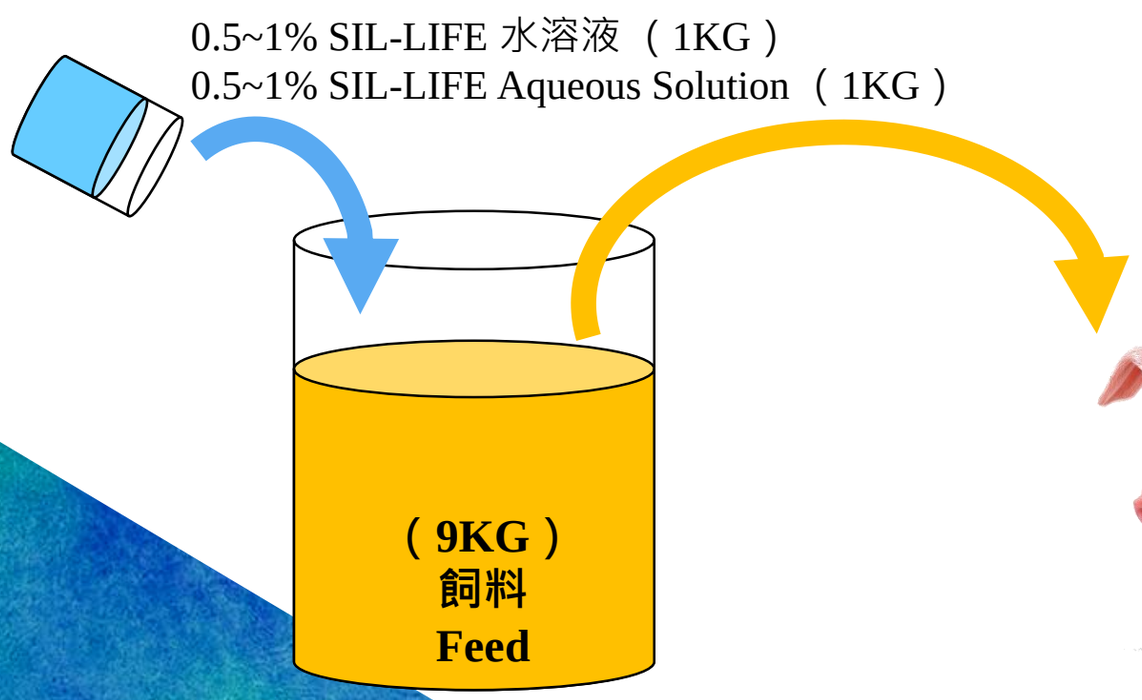
By adding the Nano Silver composite material to the forage and drinking water for pigs, effects can be achieved obviously as follows:

1. Improve the sperm quality of boars.
2. Reduce the tail cutoff rate.
3. Promote the immunity.
4. Solve the digestive tract problems: diarrhea and so on.
5. Protect respiratory system from disease
6. Effectively annihilate bacteria then prevent the forage from moldy or deteriorated which is the root of disease problems.

畜牧业(小猪) SIL-LIFE使用方法（下痢或口蹄疫防制）
Animal Husbandry(Piggy) – The Usage of SIL-LIFE (The Diarrhea, Food-and-Mouth Disease Control).

1. 将5~10g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 将稀释后的SIL-LIFE溶液加入9KG的猪饲料中，搅拌均匀后放置3~5分钟，让溶液可以被饲料完全吸收。
3. 使用这10KG饲料喂食猪只。

1. We added 5-10g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We added the dilution into 9kg of the feed. Then we stirred them evenly about 3-5 minutes, so that the solution will be slowly absorb to the feed.
3. Finally, we fed the piggy with these 10kg feed.

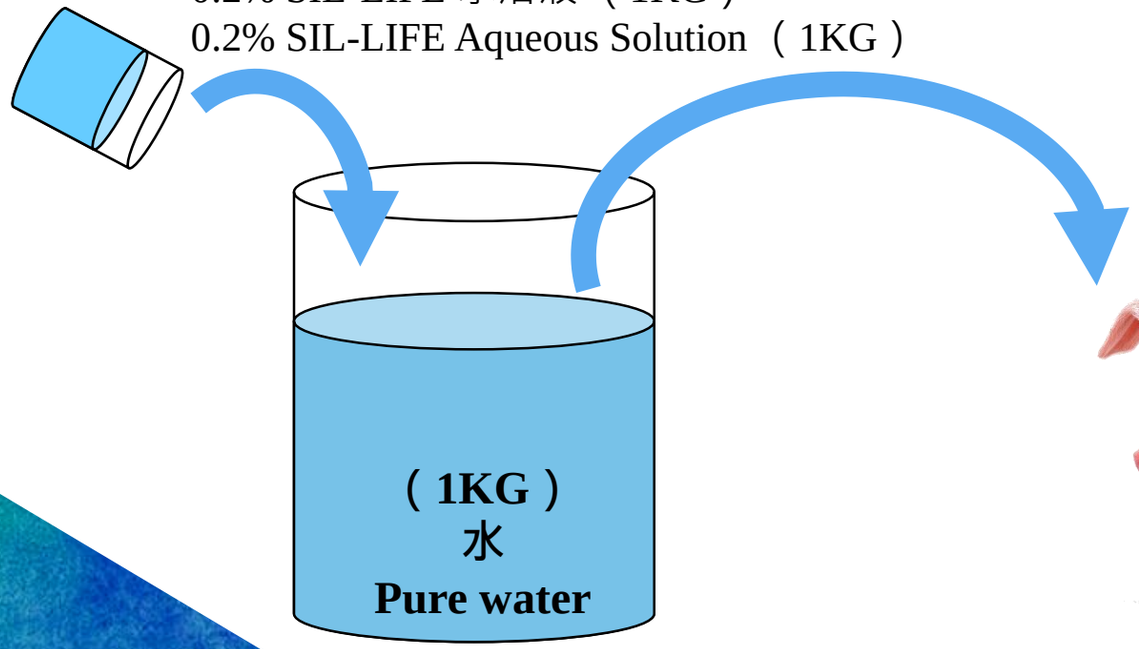


銀生命添加率：5~10ppm
Usage Amount: 5~10ppm

畜牧业(小猪) SIL-LIFE使用方法（已经产生下痢或口蹄疫-直接灌食）
Animal Husbandry(Piggy) – The Usage of SIL-LIFE (The Diarrhea, the Food-and-Mouth Disease has already occurred-Feeding directly.).

1. 将2g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 使用喂食器将稀释后的银生命灌食于小猪口中，每次30c.c，一天2~3次。

1. We added 2g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We used the feeder to feed the piggy with the dilution of the SIL-LIFE. 30c.c for each time. 2 to 3 times a day.



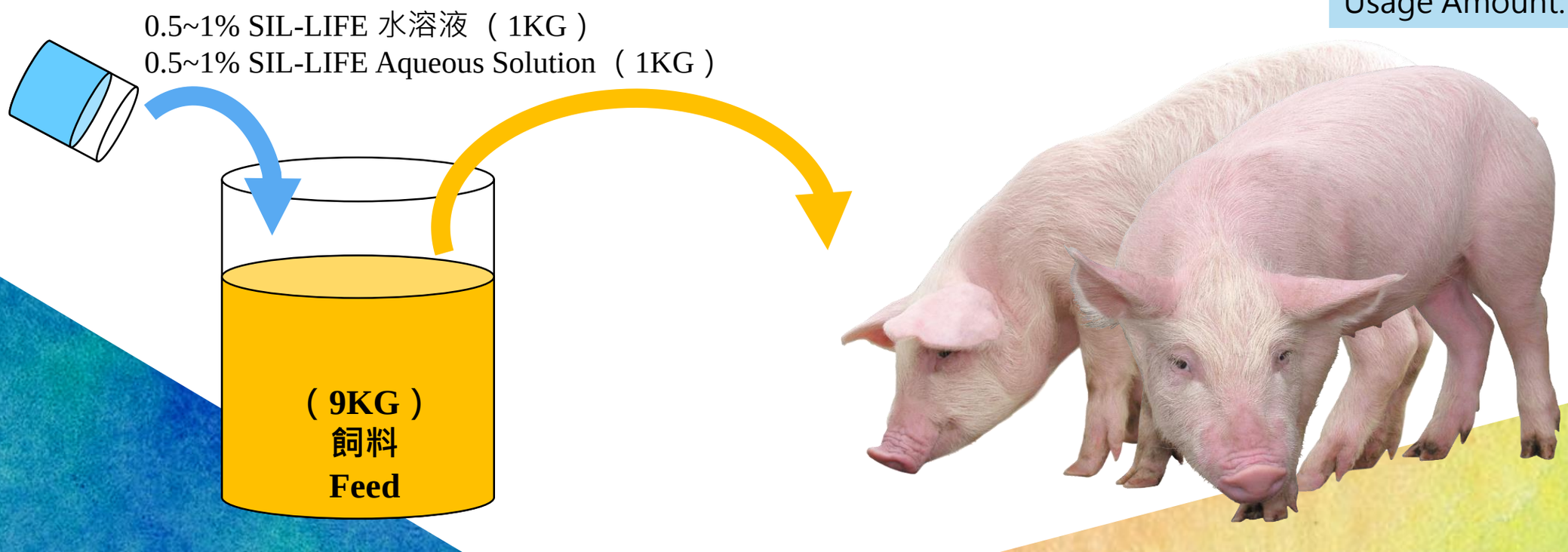
銀生命添加率：20ppm
Usage Amount: 20ppm

畜牧业(成猪) SIL-LIFE使用方法（下痢或口蹄疫防制）
Animal Husbandry(Hog) – The Usage of SIL-LIFE (The Diarrhea, Food-and-Mouth Disease Control).

1. 将5~10g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 将稀释后的SIL-LIFE溶液加入9KG的猪饲料中，搅拌均匀后放置3~5分钟，让溶液可以被饲料完全吸收。
3. 使用这10KG饲料喂食猪只。

1. We added 5-10g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We added the dilution into 9kg of the feed. Then we stirred them evenly about 3-5 minutes, so that the solution will be slowly absorb to the feed.
3. Finally, we fed the hog with these 10kg feed.

銀生命添加率：5~10ppm
Usage Amount: 5~10ppm

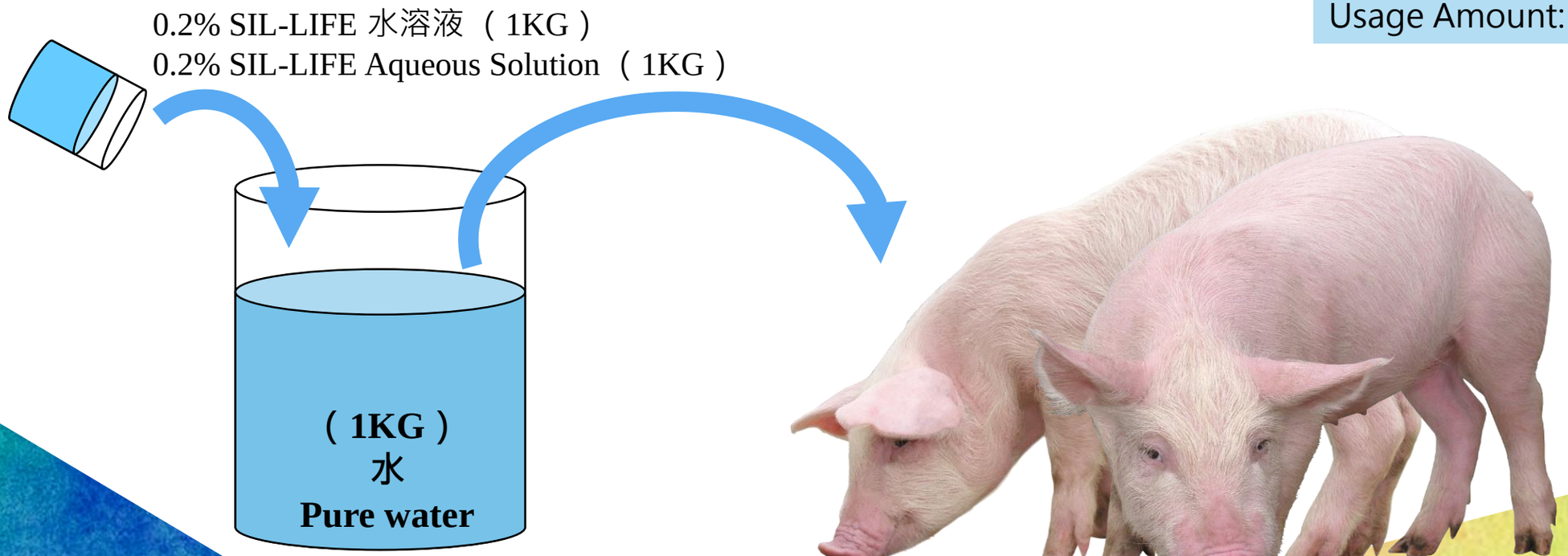


畜牧业(成猪) SIL-LIFE使用方法（已经产生下痢或口蹄疫-直接灌食）
Animal Husbandry(Hog) – The Usage of SIL-LIFE (The Diarrhea, the Food-and-Mouth Disease has already occurred-Feed fed.).

1. 将2g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 使用喂食器将稀释后的银生命灌食于成猪口中，每次50~100c.c，一天2~3次。

1. We added 2g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We used the feeder to feed the hog with the dilution of the SIL-LIFE. 50~100c.c for each time. 2 to 3 times a day.

銀生命添加率：20ppm
Usage Amount: 20ppm

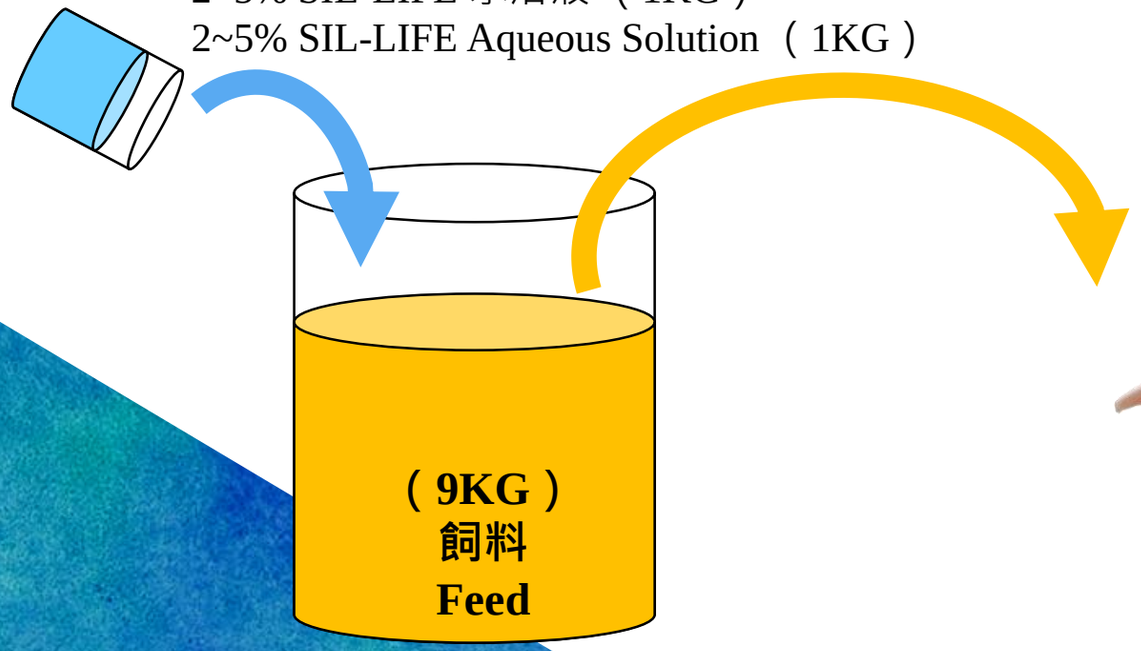


畜牧业(成猪) SIL-LIFE使用方法（已经产生下痢或口蹄疫-饲料喂食）
Animal Husbandry(Hog) – The Usage of SIL-LIFE (The Diarrhea, Food-and-Mouth Disease Control).

1. 将20~50g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 将稀释后的SIL-LIFE溶液加入9KG的猪饲料中，搅拌均匀后放置3~5分钟，让溶液可以被饲料完全吸收。
3. 使用这10KG饲料喂食猪只。

1. We added 20-50g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We added the dilution into 9kg of the feed. Then we stirred them evenly about 3-5 minutes, so that the solution will be slowly absorb to the feed.
3. Finally, we fed the hog with these 10kg feed.

銀生命添加率：20~50ppm
Usage Amount: 20~50ppm



畜牧业(家禽 - 鸡、鸭、鹅) SIL-LIFE使用方法（鸡瘟防制）
Animal Husbandry(Poultry-Chickens, ducks, gooses) – The Usage of SIL-LIFE (Chicken Pest Control).

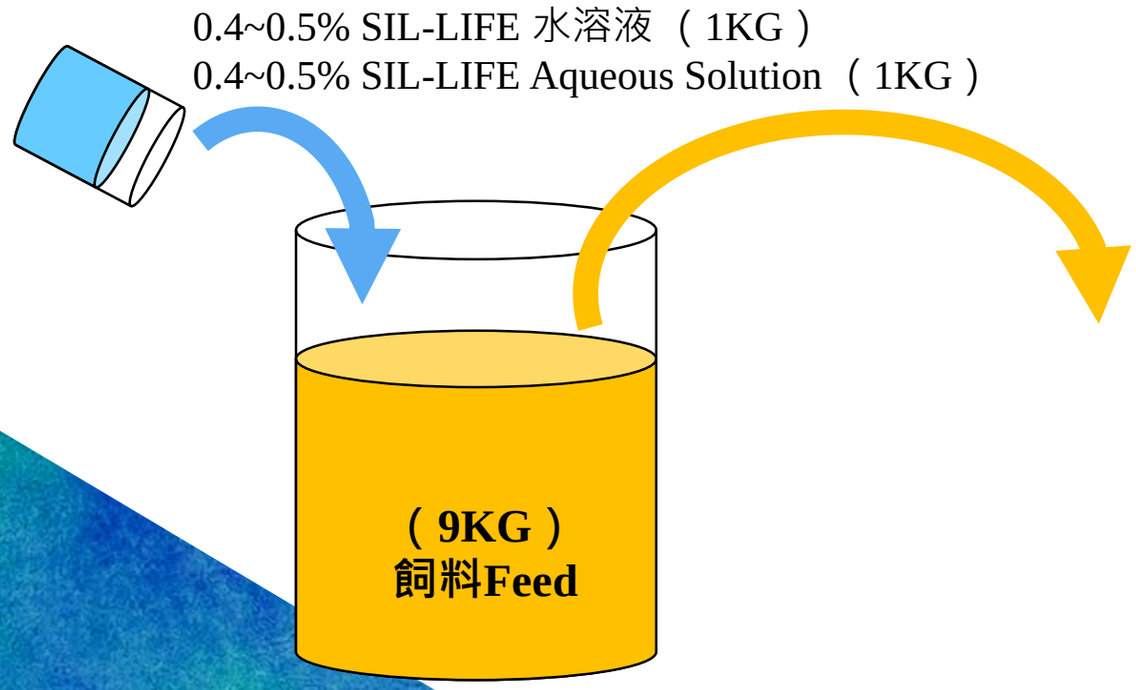
1. 将4~5g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 将稀释后的SIL-LIFE溶液加入9KG的家禽饲料中，搅拌均匀后放置3~5分钟，让溶液可以被饲料完全吸收。
3. 使用这10KG饲料喂食家禽。

附注：也可以直接将调配好的银生命稀释液给家禽，与饲料交替使用。

1. We added 4~5g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We added the dilution into 9kg of the poultry feed. Then we stirred them evenly about 3-5 minutes, so that the solution will be slowly absorb to the feed.
3. Finally, we fed the poultry with these 10kg feed.

P.S You can also feed the dilution which has already mixed to the poultry. We can alternately dilution and feed.

銀生命添加率：4~5ppm
Usage Amount: 4~5ppm



畜牧业(家禽 - 鸡、鸭、鹅) SIL-LIFE使用方法（已经产生鸡瘟）
Animal Husbandry(Poultry-Chickens, ducks, gooses) – The Usage of SIL-LIFE (The chicken pest has already occurred).

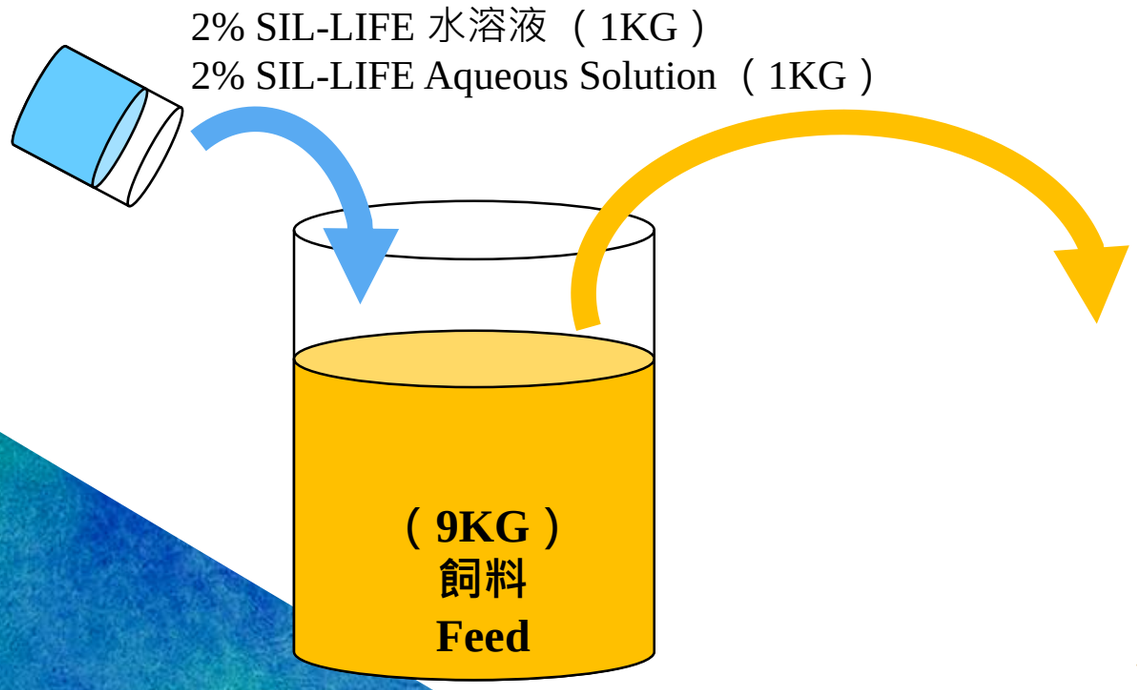
1. 将20g的SIL-LIFE 与1KG的纯水或是矿泉水均匀混合。
2. 将稀释后的SIL-LIFE溶液加入9KG的家禽饲料中，搅拌均匀后放置3~5分钟，让溶液可以被饲料完全吸收。
3. 使用这10KG饲料喂食家禽。

附注：也可以直接将调配好的银生命稀释液给家禽，与饲料交替使用。

1. We added 20g SIL-LIFE into 1kg of pure water or mineral water. Then they will mix together evenly.
2. We added the dilution into 9kg of the poultry feed. Then we stirred them evenly about 3-5 minutes, so that the solution will be slowly absorb to the feed.
3. Finally, we fed the poultry with these 10kg feed.

P.S You can also feed the dilution which has already mixed to the poultry. We can alternately dilution and feed.

銀生命添加率：20ppm
Usage Amount: 20ppm



银生命全国公证RoHS 2.0检测报告
SIL-LIFE-Intertek RoHS 2.0 Test Report

物质 Material	单位 Unit	结果 Conclusion
Cadmium (Cd) Content 镉含量	ppm	ND(未检出)
Lead (Pb) Content 铅含量	ppm	ND(未检出)
Mercury (Hg) Content 汞含量	ppm	ND(未检出)
Chromium VI (Cr6+) Content 六价铬含量	ppm	ND(未检出)
Polybrominated Biphenyls (PBBs) 多溴联苯 Monobrominated Biphenyls MonoBB) 单溴联苯 Dibrominated BiphenylsDiBB) 二溴联苯 Tribrominated Biphenyls TriBB) 三溴联苯 Tetrabrominated Biphenyls TetraBB) 四溴联苯 Pentabrominated Biphenyls PentaBB) 五溴联苯 Hexabrominated Biphenyls HexaBB) 六溴联苯 Heptabrominated Biphenyls HeptaBB) 七溴联苯 Octabrominated Biphenyls OctaBB) 八溴联苯 Nonabrominated Biphenyls NonaBB) 九溴联苯 Decabrominated Biphenyl DecaBB) 十溴联苯	ppm	ND(未检出)
Polybrominated Diphenyl Ethers (PBDEs) 多溴联苯醚 Monobrominated Diphenyl Ethers(MonoBDE) 单溴联苯醚 Dibrominated Diphenyl Ethers(DiBDE) 二溴联苯醚 Tribrominated Diphenyl Ethers (TriBDE) 三溴联苯醚 Tetrabrominated Diphenyl Ethers (TetraBDE) 四溴联苯醚 Pentabrominated Diphenyl Ethers (PentaBDE) 五溴联苯醚 Hexabrominated Diphenyl Ethers (HexaBDE) 六溴联苯醚 Heptabrominated Diphenyl Ethers (HeptaBDE) 七溴联苯醚 Octabrominated Diphenyl Ethers (OctaBDE) 八溴联苯醚 Nonabrominated Diphenyl Ethers (NonaBDE) 九溴联苯醚 Decabrominated Diphenyl Ether (DecaBDE) 十溴联苯醚	ppm	ND(未检出)
Phthalates 邻苯二甲酸酯 Di(2-ethylhexyl) Phthalate (DEHP) 邻苯二甲酸二(2-乙基己基)酯 Dibutyl Phthalate (DBP) 邻苯二甲酸二丁酯 Benzyl Butyl Phthalate (BBP) 邻苯二甲酸苯基丁酯 Diisobutyl Phthalate (DIBP) 邻苯二甲酸二异丁酯	ppm	ND(未检出)

实验数据仅供参考
The Experiment Data are just for Reference.

SIL-Life