



FARMER LIGHT



DANISH DESIGN | GERMAN QUALITY | GLOBAL EXPERIENCE

FARMER LIGHT

Natural control of viruses
and bacteria





FARMER LIGHT is based on the **DIL™ (Direct Intelligent Light)** method with UV LED package Chips.

It is a new method for more environmentally efficient production in agriculture through natural control of viruses and bacteria and healthier animals with natural D-vitamins through photosynthesis.

- Minimizing harmful viruses and bacteria, including resistant microorganisms.
- Providing **ND3-vitamin (natural D3)** to animals offers a wide range of benefits and positive properties.

FARMER LIGHT BENEFITS

FARMER LIGHT is a new method for more environmentally efficient production in agriculture through natural control of viruses and bacteria and healthier animals with natural ND3-vitamin through photosynthesis.

It is based on the **DIL™ (Direct Intelligent Light)** method with UV LED package Chips.

The FARMER LIGHT combination lamp solves two significant challenges in agriculture:

- Minimizing harmful viruses and bacteria, including resistant microorganisms.
- Providing ND3-vitamin (**natural D3**) to animals offers a wide range of benefits and positive properties.



KEY BENEFITS:

- Piglets exposed to this light, grow 30% larger at weaning compared to those not exposed (based on the scientific study).
- Significantly higher survival rate among piglets.
- Enhanced ND3-vitamin production, leading to a more robust immune system.
- As a result, there is a significant reduction in antibiotic usage.
- Improved growth conditions for animals.

These features collectively promote better animal health, increased productivity, and more sustainable farming practices.



No flies and cobwebs.

FARMER LIGHT BENEFITS

A significant reduction in the consumption of antibiotics is expected due to less illness and natural resistance from the immune system, as a result of less infection pressure and increased ND3 vitamin levels.

In 2023, in Denmark, 72,821 kg of antibiotics have been used in pig production, despite the total pig production having fallen by 10%. This is an increase of 12.2% compared to 2022.

With the use of DIL™ UV lightning system, it will be possible to reduce an annual consumption of antibiotics with 29,128 kg (in Denmark only).*



The environment will benefit from DIL™ as natural ND3 vitamin is necessary for an efficient utilization of the feed's calcium and phosphorus content, which reduces phosphorus discharge to the environment.

If 20% of pig producers in Denmark implement the DIL™ UV lighting system, their phosphorus emissions could be reduced by approximately 16%, equivalent to 823 tons per year.*

This reduction is achieved through improved feed efficiency and overall better animal health conditions, which result from specialized UV lighting.

* Based on the research in Denmark.



INNOVATIVE CHARACTER

FARMER LIGHT is an innovative solution that combines different UV wavelengths to improve agricultural efficiency and animal health. It operates in two separate zones, where the UV light is directional, thereby creating a safe zone for humans and animals and a dangerous zone, with high inactivation of microorganisms.

The *hazardous zone*, located at a height of 1.5 meters, emits UV waves that are harmful to pests and insects. It effectively eliminates flies, spiders, mosquitoes and other insects without the use of chemicals.

The *safe zone* provides UV exposure that facilitates the synthesis of ND3 vitamin in animals.

This boost in ND3 vitamin strengthens the animals' immune systems, reducing the need for antibiotics.

The lamp's dual-function design improves animal health and contributes to a more sustainable and environmentally friendly farming practice.

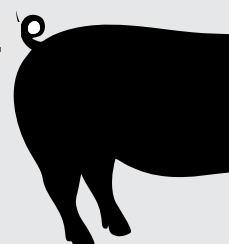


Upper Phase UV Light 265 nm

Kill virus, bacteria and insects

Lower Phase UV Light 285 + 297 + 302 nm

Kill virus, bacteria and insects.
Natural D-vitamin production(ND3).
Normal light 2700 Kelvin.





TRIPLE-PHASE LIGHTING SYSTEM:

■ UPPER PHASE:

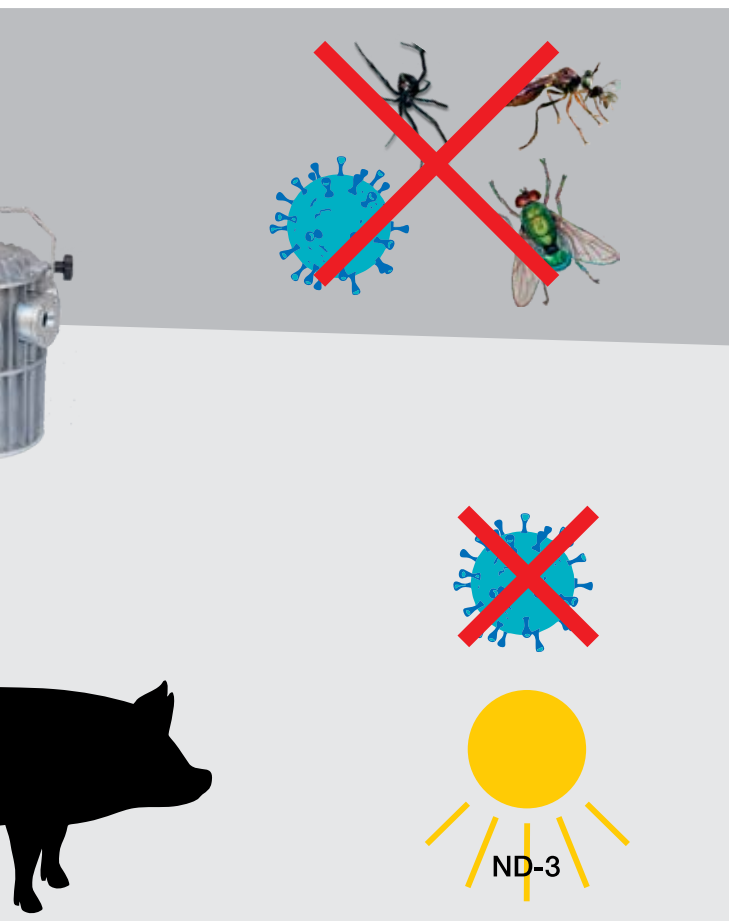
It emits intense UV light at 265 nanometers, targeting areas without animals or humans to eliminate bacteria effectively.

■ DIRECT EXPOSURE PHASE:

Utilizes UVB light at 285, 297, and 302 nanometers, directly benefiting animals by promoting ND3-vitamin production, which strengthens their immune systems.

■ WARM YELLOW LIGHT PHASE:

It provides corrected daylight at 2700° Kelvin, which reduces animal stress by creating a more natural and comfortable environment.



FARMER LIGHT FEATURES

- TARGETED BACTERIAL CONTROL

The lamp's design ensures the safe use of UV light to eliminate harmful bacteria without harming animals or humans.

- REDUCED ANTIBIOTIC USAGE

Enhancing animals' natural immune defenses significantly reduces the need for antibiotics.

- IMPROVED ANIMAL HEALTH AND GROWTH

The controlled environment supports better growth conditions, leading to healthier and larger animals.

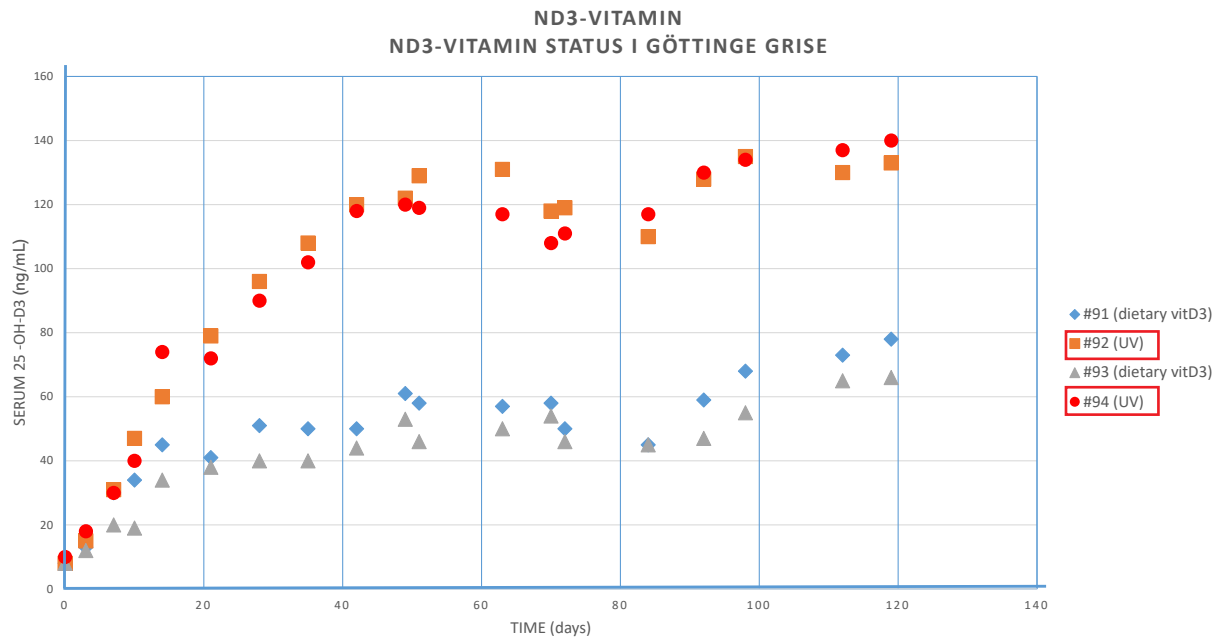
- REDUCED STRESS

The warm yellow light reduces animal stress levels, contributing to overall well-being and productivity.





UV LAMP RESEARCH



Results of tests from the Technical University of Denmark.

Pigs 91 and 93 have received vitamin D3 via the diet.
Pigs 92 and 94 have been illuminated with a UV lamp from FARMER LIGHT with enhanced specific UV energy 1 min. per day.



INFLUENCE OF D-VITAMIN ON PIGS:

FOULUM National Center for Foodstuff in Denmark is at the forefront of research on ND3, particularly its importance in colostrum for newborn piglets, which helps reduce mortality rates.

Unlike synthetic SD3, ND3, produced via photosynthesis or DIL™ LED exposure, cannot cause toxicity due to the body's regulatory mechanisms, making it safer and more effective.

Research indicates that ND3 significantly enhances the immune system and bone development in pigs, while synthetic SD3 has limited transfer to piglets and can cause health issues like blood clots and kidney failure if overdosed.

ND3 also aids in preventing joint diseases like osteochondrosis by improving calcium and phosphorus absorption.

The DIL™ system helps inactivate up to 85% of harmful microorganisms, including MRSA and other zoonoses, in the environment.

It significantly reduces the high piglet mortality rate in Denmark by providing a safer, ND3-enriched environment and minimizing microbial pressure, thus reducing the need for antibiotics.



INFLUENCE ON A PIG BARN

BACTERIA AND VIRUSES IN ANIMALS

Diseases caused by resistant bacteria and viruses that are mostly transmitted via aerosols, including zoonoses, which are diseases that are transmitted between animals and humans.

Among zoonoses, the most well-known is Methicillin-resistant *Staphylococcus aureus* (MRSA). Approx. 88% of the Danish pig herds are infected with MRSA and in Spain approx. 91.4%.

MRSA CC398 and diabetes can cause Diabetic Foot Disease (DFD) diseases.

Besides that, we have the bird flu H5N1, the parrot disease bacterium *Chlamydia psittaci* and many other diseases which are transmitted via aerosols.

Approx. 85% of the microorganisms in the aerosols are inactivated and minimized with DIL™.





REDUCE MORTALITY AMONG PIGLETS

Approx. 8 million teats and piglets die every year in Denmark.

Here, DIL™ will benefit due to a high ND3 in the breast milk and the UV LED package chips' formation of ND3 in the plasma as well as the inactivation of bacteria and viruses, especially in the aerosols.

The combination creates a high immune defense and a minimal microbial pressure in the stables, this together reduces mortality among the animals.



IMPACT ON THE ENVIRONMENT

The environment will benefit from DIL™ as natural ND3 vitamin is necessary for an efficient utilization of the feed's calcium and phosphorus content, which reduces phosphorus discharge to the environment.

CO₂ LOAD CAN BE REDUCED BY, FOR EXAMPLE:

- Lower mortality rates among piglets are projected to decrease by approximately 30%, leading to a more efficient CO₂ footprint per slaughter-ready animal.
- Improved feed intake and utilization reduce the overall CO₂ emissions associated with feed production.
- With decreased disease prevalence due to better immune defenses and reduced viral and bacterial pressure, animals utilize feed more efficiently, further lowering CO₂ emissions.





These features make the Farmer Light an advanced and effective modern, sustainable farming tool.

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