



Agricultural Lighting Induction Systems

Maximising Productivity for Poultry, Swine and Cattle Environments



Enlightened Farming

Welcome to Greengage

We are the agricultural technology experts, on your side, working to improve the efficiency and livestock productivity of your farming business.

Greengage was founded in 2008 and is based on site at the Roslin Institute Edinburgh University. Our presence at the universities campus for veterinary studies, demonstrates our focus on delivering innovative and applicable technologies to the agricultural sector. We work for farmers improving the overall well-being and productivity of their livestock.

production, helping to ensure the sustainable and profitable development of agriculture in the 21st century.

Lighting is an essential part of the agricultural process, Greengage provides market leading LED lamps to serve the farming industry with a simple and highly effective solution you can rely on.

We employ engineers and agriculture experts to enhance the development and expand the application of our Agricultural LED solutions.

All of our products are specifically designed for improving the efficiencies that modern farmers demand. Our LED lamps and Power Hubs are as rugged as they are innovative in their design.

Our research and development projects have helped us in minimising costs to farmers while maximising



Roslin Institute

Better Efficiency & Productivity

The world needs more food and our agricultural technologies are aligned to increasing global production of protein for dietary consumption.

Global food production in the 21st century has several challenges. Farmers have to produce more food for a growing population with a reducing rural workforce while increasingly competing with the bioenergy market for feedstocks. The world population between 2009 to 2050 is expected to grow by 2.3 billion people and largely within developing countries. *(Food and Agriculture Organization of the United Nations)*

With increasing population numbers and finite land area suitable for agriculture. Farmers need to optimise meat producing processes in relation to: food security, climate change, animal welfare and nutritional requirement issues. Intensively farmed livestock needs the correct light in order to maintain healthy and efficient growth.

Effective light management has been seen to:

- Decrease mortality rates.
- Reduce waste and loss.
- Improve metabolic efficiency.
- Improve animal and plant welfare.
- Maximise feed-conversion ratios.
- Reduce amount of water consumed
- Decrease electricity used.
- Keep animals calm.

ALIS LED lamps provide the most efficient and even coverage by delivering a fully dimmable evenly distributed light source.

Our expert design team 3D model each building to identify areas of shadow to ensure that the correct placement of each lamp on final installation will solve the problems that farmers have previously experienced from poor light distribution.

The fully certified technology removes the requirement for the use of conduit found in traditional systems and allows for a rapid and cost effective installation in as little as a single day.



ALIS Induction Power System

The ALIS Induction Power Hub delivers super high frequency electricity to our LED lamps, providing a smooth dimmable luminance from 0% to 100% that is safe.

ALIS is the only LED Agricultural Lighting Induction System. Providing lighting through a simple clip on contactless system. ALIS LED lamps simply clip-on and turn on.

The simplicity and flexibility of our reliable power hub enables farmers and meat-producers to install and control the environments of their livestock with greater accuracy and understanding. The system is widely affordable and easy to install with only basic tools required. Everything is provided and we can assist you with the installation if desired.

Product Features:

- Easy installation, simple wiring layout.
- Low inrush of current.
- Dimmer controller 0 to 100%.
- Smooth dimming effect.
- Durable reliability.
- Double insulated cable.
- Minimum harmonic distortion.
- Maximum Power Factor.



Technical Specifications:

- Light Source(s): LED
- Luminous Flux: 550 & 1124 lumens
- Connection Type: Contactless
- Dimmer Option: 100K potentiometer or 0-10V
- Rating: IP65
- Rated Life: 60,000 hours or more

Working Environment:

- Temperature: -20°C to 55°C
- Humidity: 0 to 95%

Electrical Specification:

- Max Power Consumption: 500W
- Input Voltage: 220/240/110V 50/60Hz
- Power Factor: >0.95

ALIS 8W Induction Lamp

Designed for poultry layer environments the ALIS LED 8W lamps provide dimmable, evenly distributed LED light to improve your livestock productivity and energy efficiency.



Technical Specification:

- Source: Greengage LED
- Optics: Optical grade milky white polycarbonate lens
- IP Grade: IP65
- Lumens: 550
- Beam Angle: 155° ± 5°
- Weight: 215 ± 5g
- Rated Life: 60,000 hours or more

Working Environment:

- Temperature: -40°C to 55°C
- Humidity Range: 0 to 95%

Electrical Specification:

- Power Consumption: 8W
- Power Factor: >0.95

After years of research and development LED lighting is a true alternative to incandescent and CFL lamps and the power savings are huge; as our 8W ALIS LED Lamp distributes the same light as a 60W incandescent lamp.

LED light provides a more suitable wavelength and saturation intensity for livestock than other light sources.

Induction lamps simply clip onto the bus cable of the ALIS power hub in order to turn on.

Product Features:

- Low heat, less than 70°C
- No UV or IR light radiation.
- Instant “ON” to 100% brightness.
- No mercury or other inorganics.
- Even light distribution.
- Excellent thermal efficiency.
- Safety Standard: CE/UL approved.
- Works with worldwide electrical systems.
- Humidity proof, Dust proof, Shatter proof and Waterproof with an IP65 rating.
- Smooth dimming effect

ALIS 11W Induction Lamp

ALIS LED 11W lamps provide dimmable, evenly distributed LED light to improve your livestock productivity and energy efficiency.



Our 11W ALIS LED lamp provides a powerful alternative to the 8W. Developed for when more lumens are required the 11W is especially suited to breeder environments.

The 11W ALIS LED Lamp distributes the same light as a 100W incandescent lamp. LED light provides a more suitable wavelength and saturation intensity for livestock than other light sources.

Fixtures simply clip onto the cable of the ALIS power hub in order to turn on.

Product Features:

- Low heat, less than 70°C
- No UV or IR light radiation.
- Instant “ON” to 100% brightness.
- No mercury or other in-organics.
- Even light distribution.
- Excellent thermal efficiency.
- Safety Standard: CE/UL approved.
- Works with worldwide electrical systems.
- Humidity proof, Dust proof, Shatter proof and Waterproof with an IP65 rating.
- Smooth dimming effect.

Technical Specification:

- Source: Greengage LED
- Optics: Optical grade milky white polycarbonate lens
- IP Grade: IP65
- Lumens: 1124
- Beam Angle: 175° ± 5°
- Weight: 215 ± 5g
- Rated Life: 60,000 hours or more

Working Environment:

- Temperature: -40°C to 55°C
- Humidity Range: 0 to 95%

Electrical Specification:

- Power Consumption: 11W
- Power Factor: >0.95

**ALIS 8W
Induction Lamp**



550 lumens.

**ALIS 8W Tulip
Induction Lamp**



608 lumens.

**ALIS 11W
Induction Lamp**



1124 lumens.

**ALIS 11W
ES26/27 Lamp**



11W ES26/27, lumens 882,
requires AG65 Adaptor.

**ALIS 9W
ES26/27 Lamp**



9W ES26/27, lumens 597,
requires AG65 Adaptor.

**ALIS 30W
Floodlight**



Ideal for internal and external use
for large single span buildings,
providing a dimmable 2800 lumens.

**ALIS Induction Hub
Power Supply**



500W Power hub.

**ALIS Induction
Dimmer Controller**



Controller for 500W power hub.

**ALIS
Potentiometer**



For manual dimmer control.

**ALIS DTD
Controller**



Fully programmable dusk till dawn
controller.

**ALIS ES26/27
AG65 Adaptor**



Update your livestock environments
to LED lighting using this retro
fitting adaptor for our ALIS lamps.

**ALIS Symmetry
Dimmer Controller**



Stabilises the power to our LED
lamps while removing interference
from others systems.

ALIS 8W Tulip Induction Lamp

This light bulb is designed for use inside aviary systems and broiler cages or in tight spaces.



The new Tulip lens serves poultry houses with wider light requirements, whilst using a lower number of bulbs. This light bulb is designed for use inside aviary systems and broiler cages or in tight spaces where a wide angle of light is required.

Tulip bulbs have robust polycarbonate lenses providing a 'no glass' solution to the food industry. This is suitable for use with generators, emergency battery systems and are also suited for use in mobile poultry houses where power is an issue.

Product Features:

- No glass.
- Low heat, less than 70°C.
- No UV or IR light radiation.
- Instant "ON" to 100% brightness.
- No mercury or other inorganics.
- Even light distribution.
- Excellent thermal efficiency.
- Safety Standard: CE/UL approved.
- Works with worldwide electrical systems.

Technical Specification:

- Source: Greengage LED
- Optics: Optical grade standard polycarbonate lens
- Lumens: 608
- Beam Angle: 155°
- Weight: 112 ± 2g
- Rated Life: 60,000 hours or more

Working Environment:

- Temperature: -20°C to 55°C
- Humidity Range: 0 to 95%

Electrical Specification:

- Power Consumption: 8W
- Power Factor: >0.95

ALIS 11W ES26/27 Lamp

Ideal for any environment as a true alternative to 100W incandescent lamps. The 11W ALIS LED is an ideal choice for new installations or upgrading current lighting.

A wide light emitting bulb that serves livestock housing with more dispersed light requirements, whilst using the least number of bulbs necessary. They deliver dimmable and evenly distributed light at a wider angle, specifically created to provide wavelength and intensity for broiler houses, layer cages, enriched systems and alternative systems and rearing floors. Breeder and rearing pig units.

The robust polycarbonate lens provides a 'no glass' solution to the food industry.

Our LED standard lamps minimise costs, while maximising production efficiency for sustainable and profitable farming development.

Product Features:

- No UV or IR light radiation.
- Instant "ON" to 100% brightness.
- No mercury or other inorganics.
- Even light distribution.
- Excellent thermal efficiency.
- Safety Standard: CE/UL approved.
- Works with worldwide electrical systems.

Technical Specification:

- Source: Greengage LED
- Optics: Optical grade milky standard polycarbonate lens
- Lumens: 882
- Beam Angle: 160° ± 5°
- Weight: 215 ± 2g
- Rated Life: 60,000 hours or more

Working Environment:

- Temperature: -20°C to 40°C
- Humidity Range: 0 to 95%

Electrical Specification:

- Power Consumption: 11W
- Power Factor: >0.95



ALIS 9W ES26/27 Lamp

This light bulb is designed for use inside aviary systems and broiler cages or in tight spaces where a wide angle of light is required.



Our 9W Standard LED lamp provides a retrofittable or future upgrade for your livestock environments. The screw in mounting is universal and works with our power units.

With a polycarbonate standard lens the 9W provides evenly distributed ambient level of light, equivalent to 50W/60W incandescent lamps.

Created to provide the correct wavelength and intensity for layers in cages, enriched systems up to 5 units high and for alternative systems and rearing floors.

Product Features:

- No glass.
- Low heat, less than 70°C.
- No UV or IR light radiation.
- Instant “ON” to 100% brightness.
- No mercury or other inorganics.
- Even light distribution.
- Excellent thermal efficiency.
- Safety Standard: CE/UL approved.
- Works with worldwide electrical systems.

Technical Specification:

- Source: Greengage LED
- Optics: Optical grade milky standard polycarbonate lens
- Lumens: 597
- Beam Angle: 120°
- Weight: 112 ± 2g
- Rated Life: 60,000 hours or more

Electrical Specification:

- Temperature: -20°C to 40°C
- Humidity Range: 0 to 95%
- Input Voltage: 230V 50Hz AC & 110V 60Hz AC
- Power Consumption: 9W
- Power Factor: >0.95

ALIS 30W Floodlight

Our most powerful LED lamp provides a dimmable replacement option for 100W to 150W halogen floodlights providing significant energy savings.

The 30W Standard floodlight delivers dimmable, evenly distributed light and comes complete with mounting bracket. Removes dark areas providing a uniform distribution of light into livestock environments. Ideally suited to large single span buildings.

Robust and suitable for use with generators and emergency battery systems these floodlights are also suited for use with mobile units where power is an issue. It has been designed to provide wavelength and intensity for layers, broilers, pigs and cattle. Making it a true alternative to incandescent, CFL, fluorescent and sodium vapor lamps.

Product Features:

- No UV or IR light radiation.
- Instant “ON” to 100% brightness.
- No mercury or other inorganics.
- Even light distribution.
- Excellent thermal efficiency.
- Safety Standard: CE/UL approved.
- Works with worldwide electrical systems.
- Dimming to 1%.

Technical Specification:

- Source: Greengage LED
- IP Grade: IP66
- Lumens: 2800
- Beam Angle: 100°
- Weight: 215 ± 5g
- Rated Life: 35,000 Hours or more
- Temperature: -40°C to 55°C
- Humidity Range: 0 to 95%

Electrical Specification:

- Input Voltage: 230V 50Hz
- Power Consumption: 30W
- Power Factor: >0.95



Lighting Design

Greengage lighting installations are structured around accurate lighting simulations which are specific to your livestock environments.

All lighting installations are first mapped using 3D simulation software. The best lighting distribution for the desired lux levels are used to determine: wattage, number, distribution of lamps and power hubs.

This gives you peace of mind and an upfront understanding of what your livestock environment will look like.



The Future

We are developing sensors to providing farming with a greater understanding of livestock environments, empowering better decisions and improving agricultural processes.

Animal welfare levels have increasingly become recognised as integral to ensuring the sustainability of our present food production systems.

The world has therefore increased animal welfare regulations to ensure minimal levels of discomfort to livestock within intensive production systems. This is largely due to the recognition that improved animal health due to improved animal welfare improved productivity overall.

Further to this, rising consumer awareness around health and safety issues has led to increasing legislation in regards to living conditions for livestock. Overall this has resulted in an increasing need to monitor livestock, yet farmers are largely limited to visually monitoring livestock sometimes only once per day due to the increasing administration and management associated activities that accompany large intensive production systems, as well as the need to not disturb livestock.

The question has therefore been raised by animal welfare organisations as to how to guarantee a minimum animal welfare standard in an environment not regularly monitored?

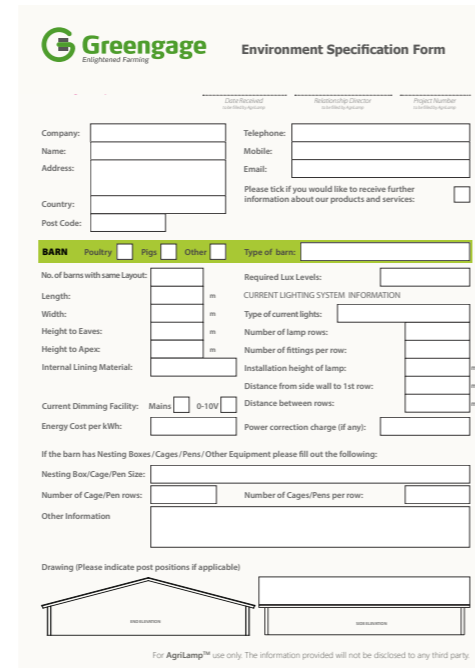
The answer lies in providing intelligent wireless sensory systems that monitoring variables indicative of animal welfare symptoms. Enabling user interface capacities further enables distance monitoring as well as automated control systems, being designed to increase animal welfare levels and therefore productivity.



Work with Greengage

Get in touch with us for a no obligation discussion about our products, and how we can install our ALIS LED lighting into a new or retrofit an old livestock building.

- 1** Provide us with the dimensions of your livestock buildings using the short form.
- 2** We create an accurate lighting design, equipment listing and competitive quote for the project.
- 3** An installation date is set and we arrange the delivery of the listed equipment, contact and confirm the installation personnel who will carry out the work of installation.



The form is titled "Greengage Environment Specification Form" and includes the following sections:

- Company Information:** Fields for Company Name, Address, Telephone, Mobile, and Email. A checkbox for "Please tick if you would like to receive further information about our products and services:" is also present.
- Project Details:** Fields for Client Name, Relationship Director, and Project Number.
- Building Type:** Radio buttons for "BARN", "Poultry", "Pigs", and "Other". A "Type of barn:" field is provided.
- Dimensions:** Fields for Length, Width, Height to Eaves, and Height to Apex, all with units in meters.
- Lighting System Information:** Fields for Required Lux Levels, Type of current lights, Number of lamp rows, Number of fittings per row, Installation height of lamp, Distance from side wall to 1st row, and Distance between rows.
- Facilities and Costs:** Fields for Current Dimming Facility (Mains or 0-10V), Energy Cost per kWh, and Power correction charge (if any).
- Equipment:** Fields for Nesting Box/Cage/Pen Size, Number of Cages/Pen rows, and Number of Cages/Pens per row.
- Other Information:** A large text area for additional details.
- Drawing:** A simple line drawing of a barn with a gabled roof, with a note to "Please indicate post positions if applicable".

At the bottom, it states: "For AgriLamp™ use only. The information provided will not be disclosed to any third party."

Greengage enjoys a worldwide distributor network. We encourage you to visit our website to locate and contact a distributor near you.

Visit: www.greengage.global/distributors

Should one not be within your country please contact us at Greengage directly.

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