



EURO-LUCE  
Light Engineering

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# GREEN LIGHT SYSTEM

**LIGHTING SOLUTION  
FOR PROCESSING AND  
STORING OF  
POTATOES**



[www.euro-luce.be](http://www.euro-luce.be)

Made  
**SPAIN**

# ▲ SPECIAL LIGHTING FOR THE CONSERVATION OF POTATOES

## GREEN LIGHT SYSTEM

One of the most consumed basic food products in Europe is the potato, the conservation and handling of this tuber is fundamental so that its consumption is not a health risk.

Poor preservation of this tuber can lead to the appearance of solanine, a glucoalkaloid whose consumption in excess can cause poisoning. Although nowadays they are rare, it is worth remembering the basic recommendations to consume potatoes with complete peace of mind and without risk.

The good conservation of potatoes is predisposed to good storage facilities, these facilities must guarantee a fresh environment, with adequate levels of humidity and darkness. On many occasions, it is difficult to have the warehouse completely unlit due to the work carried out by the operators during handling.

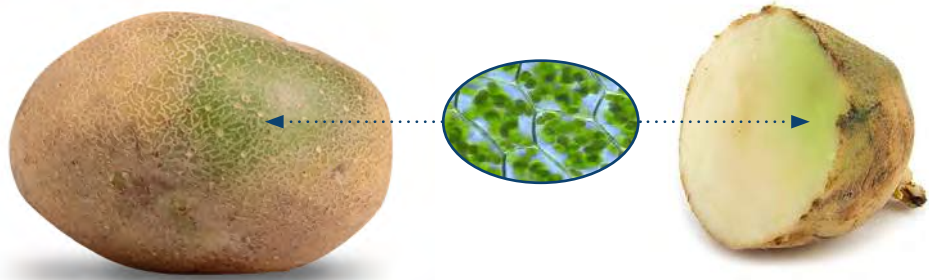
The different studies carried out and after many years of experience in the logistic sector of this tuber, show that the use of conventional light (white light) reduces its quality.

## ▲ WHAT IS SOLANINE AND WHAT ARE THE RISKS?

### WHITE LIGHT:

The spectrum of light referred to as 'white light' is not the most suitable for the preservation of potatoes, this spectrum is composed of light waves of a wide bandwidth, covering a wide range of light waves between ultraviolet and infrared. In particular, the red and blue light spectra are photoactive and promote growth, giving the potatoes the necessary impulse to continue germinating and causing the appearance of solanine.

### Glycoalkaloids



**Solanine:** is one of the toxic glycoalkaloids that can be found in potatoes due to poor preservation. Glycoalkaloids or glycoalkaloids are secondary chemical compounds present in certain plants and solanaceae as a defence mechanism for pests. Solanine is usually more concentrated in the skin, shoots and buds.

The presence of green parts in potatoes indicates a very high content of glycoalkaloids. Ingesting a certain amount of these compounds can cause food poisoning. Solanine is perceived by taste, leaving a bitter taste and even some burning in the mouth.

Symptoms of milder poisoning may include nausea, stomach pain, diarrhoea, vomiting and even a slight fever. In more severe cases, dizziness and partial or total loss of consciousness, vertigo, respiratory problems and various neurological disorders such as hallucinations, paralysis or loss of sensation may occur. In very severe cases it can be fatal.

## ▲ CHEMICAL BAN

UNTIL 2020, POTATO GROWERS USED A CHEMICAL COMPOUND CALLED "CHLORPROPHAM" TO PREVENT POTATOES FROM GERMINATING AFTER STORAGE.

The European Food Safety Authority (EFSA) has published a report on chlorpropham (IPPC) and, as a result, the European Union (EU) has decided to ban the use of this substance from 2020. This means that it can no longer be used, among other things, as a germination inhibitor in potatoes. This ban applies to all EU member states.

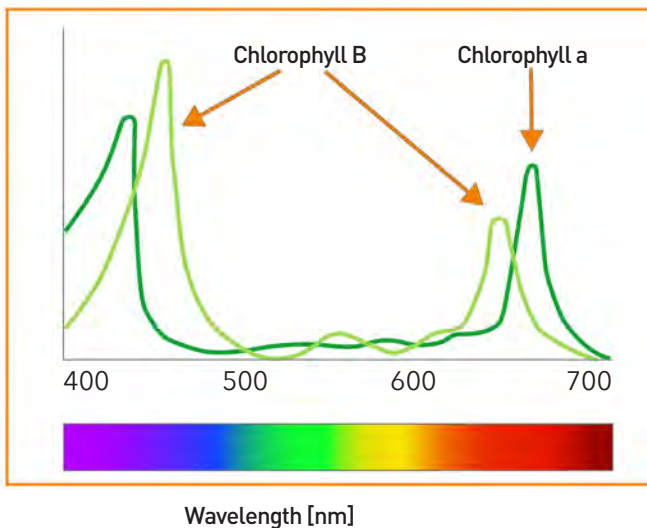
## ▲ LIGHTING SOLUTION

# GREEN LIGHT SYSTEM

Modern lighting technology in the form of LEDs (light emitting diodes) offers the potato industry new possibilities. The diodes can be coated to filter the emitted wavelengths, which makes it possible to precisely limit the emitted spectrum.

The Secom Lighting development team manufactures special luminaires for the potato industry with a strict selection of diodes operating in the wavelength range of 520-540 nm. The light, which is green to the human eye, effectively prevents germination and is therefore a crucial factor for quality preservation during storage and processing of potatoes, as it effectively suppresses the formation of solanine and chlorophyll.

Perfectly visible light, making it easier for operators to work normally and avoiding accidents due to lack of light.





## ▲ ADVANTAGES GREEN LIGHTING SOLUTION

### GREEN LIGHTING

- Prevents the formation of solanine and chlorophyll.
- Prevents germination.
- Preservation without chemical products.
- Allows operators to work normally.  
normal work.

### LED LIGHTING

- Energy savings of up to 90%.
- Minimal maintenance.
- Luminaires with dimmable driver.
- IP65 protection.
- IK08/10 impact resistance.
- Motion detector.
- Emergency kit.

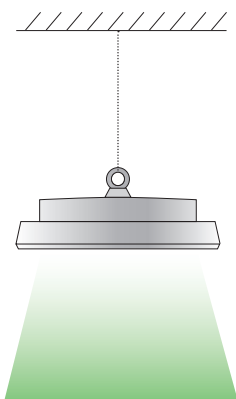
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- Customised lighting study

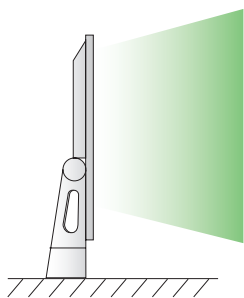
# ▲ LIGHTING SYSTEMS

## ▲ INSTALLATION SYSTEMS

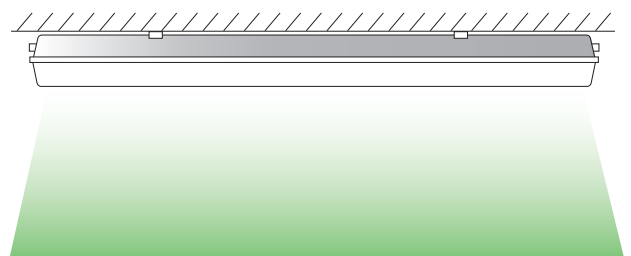
*KONAK N1 / N2*  
SUSPENSION



*PROTEK Q2*  
SURFACE



*BERNA SUPRA*  
SURFACE

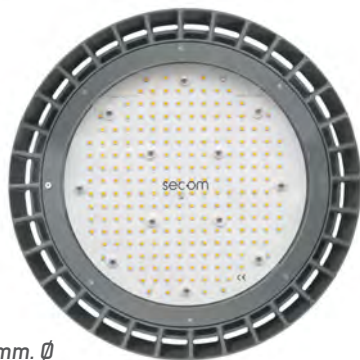


# KONAK N1 / N2

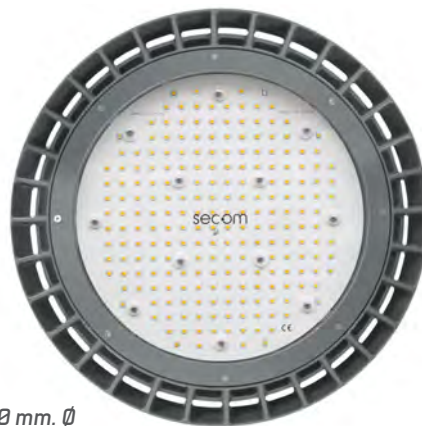
HIGH BAY



- Suspension
- LED W  
70w 200w  
100w 250w  
150w
- Driver Included
- Dimmable
- 80°
- 100.000h.
- Aluminium
- Diode Protection
- IP 65
- IK 08/10
- IP66  
Connector included
- +40°  
-20°
- N1 - 6,1
- N2 - 9



**KONAK N1**  
Ref. 4289 / 4290 - 338,5 mm. Ø



**KONAK N2**  
Ref. 4290 - 450 mm. Ø

# PROTEK Q2

FLOOD LIGHT



- Surface
- LED W  
60w 150w  
100w 200w
- Driver Included
- Dimmable
- 48°  
80°  
150°
- 100.000h.  
L80B10
- Aluminium
- IP 65
- IK 08/10
- IP66  
Connector included
- +40°  
-40°
- 7,1



**PROTEK Q2**  
Ref. 4330



# BERNA SUPRA

WATERPROOF SCREEN



- Surface
- LED W  
15w 75w  
35w 115w  
55w
- Driver Included
- Dimmable
- 120°
- 50.000h.
- Polycarbonate
- IP 65
- IK 08
- +40°  
-20°
- 665 mm.  
1,05
- 1270 mm.  
1,25
- 1570 mm.  
1,60



**BERNA SUPRA**  
Ref. 907 - 665 / 1.270 / 1.570 mm.



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