Colasse

CASE STUDY

Horticulture · Vegeled

Greenhouses, growth chambers & insect rearing



Gembloux Agro-Bio Tech and Colasse: ten years of lighting projects for research

180
Vegeled LED floodlights in the compartments of greenhouse G083

3 zones
with controlled white and far-red light in the “Serrure” greenhouse

150
Vegeled LED bars for insect rearing

0
collection losses since the relamping of the in vitro room

A long-standing partner

The **Gembloux Agro-Bio Tech** faculty of the University of Liège is one of Colasse’s largest customers in Belgium. For more than ten years, its research teams in plant science and entomology have entrusted Colasse with the lighting of their greenhouses, growth chambers and rearing rooms.

Among them, the laboratory of **Professor Pierre Delaplace** (Plant Science unit), which studies root physiology, has equipped its **five climate chambers and its in vitro growth room** with Colasse.

Recent projects

- **Greenhouse G083** (2024-2025): 180 dimmable LED floodlights across the growing compartments, with intensity control compartment by compartment.
- **“Serrure” greenhouse** (2023): 40 LED floodlights supplied and installed, and a multispectral controller designed and assembled in Colasse’s workshop in Seraing.
- **Entomology** (2025): 150 Vegeled LED bars for the insect rearing shelves.
- And for Prof. Delaplace’s laboratory: 5 climate chambers, 1 in vitro room and a propagation greenhouse.

> “We have not lost a single collection since the relamping. We have also seen no problems with uniformity or plant growth. This is a major help for two research projects we are running with industrial partners.
>
> **Prof. Pierre Delaplace**
> Plant Science unit, Gembloux Agro-Bio Tech – ULiège

2024 – 2025 · PUBLIC TENDER

Greenhouse G083: 180 floodlights, one compartment at a time

Greenhouse G083 is divided into compartments: small glazed cells where each team runs its own trials. Each compartment therefore needs its own lighting, adjustable independently of the others.

The solution

- **180 Vegeled LED floodlights** of 80 to 100 W, dimmable via 0-10 V;
- **control per compartment**: astronomical timers for photoperiod and intensity;
- inrush current limiters to protect the electrical installation at start-up;
- watertight circulation lighting and emergency lighting.

The result

Each researcher sets the duration and intensity of the light in their own compartment. The installation was accepted in February 2025.

2023 · CUSTOM DESIGN

“Serrure” greenhouse: controlled white and far-red light

In the “Serrure” greenhouse, the researchers wanted to combine sunlight with supplementary lighting and to vary the share of far-red, which influences flowering and plant shape.

The solution

- **40 LED floodlights** supplied and installed by Colasse;
- **a multispectral controller** designed, assembled and tested in the Seraing workshop, controlling white and far-red separately in **3 zones**;
- a touch screen and a PAR light sensor.

Two operating modes

- **fixed-spectrum photoperiod**, with simulated sunrise and sunset;
- **adaptive power**: the lighting tops up the sunlight measured by the sensor.



Compartments of greenhouse G083 lit by Vegeled floodlights



“Serrure” greenhouse

2025 · ENTOMOLOGY

150 LED bars for insect rearing

Reared insects need steady light, identical on every shelf, and lighting that gives off little heat in temperature-controlled rooms.

Colasse supplied **150 Vegeled LED bars** of 1 m, with a 4,000 K white spectrum (N1), clipped onto the rearing shelves. The bars are made in Seraing to the required length.

PROF. DELAPLACE'S LABORATORY

Six growth chambers and a greenhouse

Five climate chambers and **one in vitro growth room** lit by Vegeled LEDs, for research on root physiology.

Propagation greenhouse: the sodium discharge lamps gave off heat and their spectrum drifted. Colasse installed 32 Vegeled LED floodlights, a dedicated switchboard and intensity control, for a fully controlled photoperiod.

In vitro room: the fluorescent tubes gave off so much heat that collections were lost when the cooling failed. 130 Vegeled LED bars of 86 cm replaced them; the lighting now switches off if the cooling fails.



> When they build something, they do it properly: it is neither makeshift nor amateurish. We are not LED developers, we are users. So we rely entirely on Colasse's studies, and the equipment always matches our needs.
>
> **Prof. Pierre Delaplace**
> Plant Science unit, Gembloux Agro-Bio Tech – ULiège

Colasse

Understanding your challenges is already securing your project.
Let's talk.

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