



Hortinergy
Energy analysis for
greenhouse project



A simple software to design energy efficient greenhouses

With the Hortinergy online software, you can simulate innovative and optimal configurations to reduce your energy consumption

With a simple decision-making tool, you compare technical and economical solutions. The software gives you an impartial evaluation to make the best choices to optimize your investment and reduce your running costs.

Result reliability was validated with measurement campaigns in classic and semi-closed greenhouses in technical centres in France and in Holland.





Main inputs parameters

Innovative algorithms take into account greenhouse-specific parameters. Here is a non-exhaustive list of these parameters.

Our **weather file** includes a typical year on an hourly basis based on the GPS coordinates with parameters such as:

- Temperature,
- Relative humidity,
- Wind,
- Solar radiation (global, diffuse, PAR)...

Greenhouse covering includes:

- Type and shape of the greenhouse project (venlo, gothic...),
- Orientation and dimensions,
- Covering materials of each wall,
- Climate screens...

Hortinergy is very complete: a large **material library** is available. It is updated with the latest branded materials. Here is an example of our covering material library:



Hortinergy also takes into account the **crop evapotranspiration**. For this purpose, parameters about crop management have to be filled in: crop types, growing medium types, transplanting date and uprooting date, etc...

Hortinergy considers also **climate control** settings like a climate computer:

- Temperature set and relative humidity control,
- Screen regulation types,
- Morning revival...

Day / Night switch - Thermal screen management strategy *

Delta Temperature inside/outside and Solar radiation ▾

Solar radiation minimum *
(in W/m²)

100

Please enter a value between 0 and 1000.

Delta Temperature inside/outside maximum *

15

Please enter a value between 0 and 50.

Morning revival *

Yes

No

For **heat production and storage**, Hortinergy includes:

- Energy sources for primary and secondary systems,
- Heat production and distribution efficiency
- Buffer tank: volume, regulation...

Buffer tank

Is there a buffer tank ? *

Yes (advanced parameters)

No

Volume *
(in m³)

600

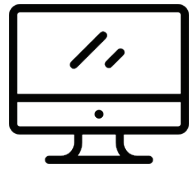
Please enter a value between 1 and 10000.

Temperature variation *
(in °C)

40

In partnership with leading companies and research centers, multiple add-ons will complete Hortinergy:

- Natural ventilation
- Cooling systems
- Crop yields...



Results

Within 1 hour you will receive three reports on your account. These reports contain all the results of the calculation and many specifications about your project.

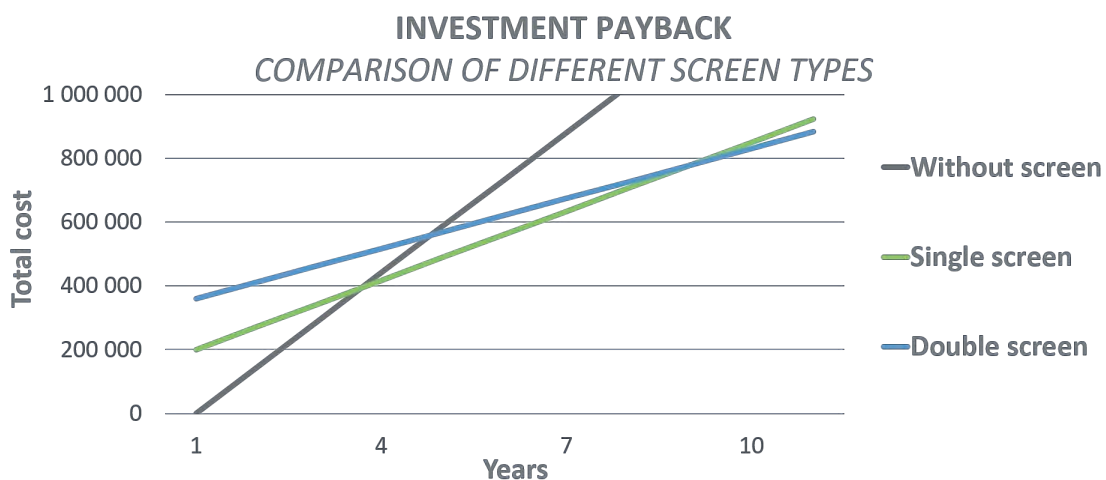
A **PDF report** summarizes specifications about your project and lets you know:

- Energy consumption for heating,
- Equipment sizing,
- Consumption of the primary and secondary systems,
- Dehumidification needs,
- PAR reaching canopy...

You also receive two **Excels reports** with detailed data:

- Monthly summary,
- Hourly value during a typical year

With an online module you can **compare your different investment scenarios on a technical level and on an economical level** and then find the optimal option for your greenhouse project.



www.hortinergy.com

+33 479 72 40 59 | contact@hortinergy.com