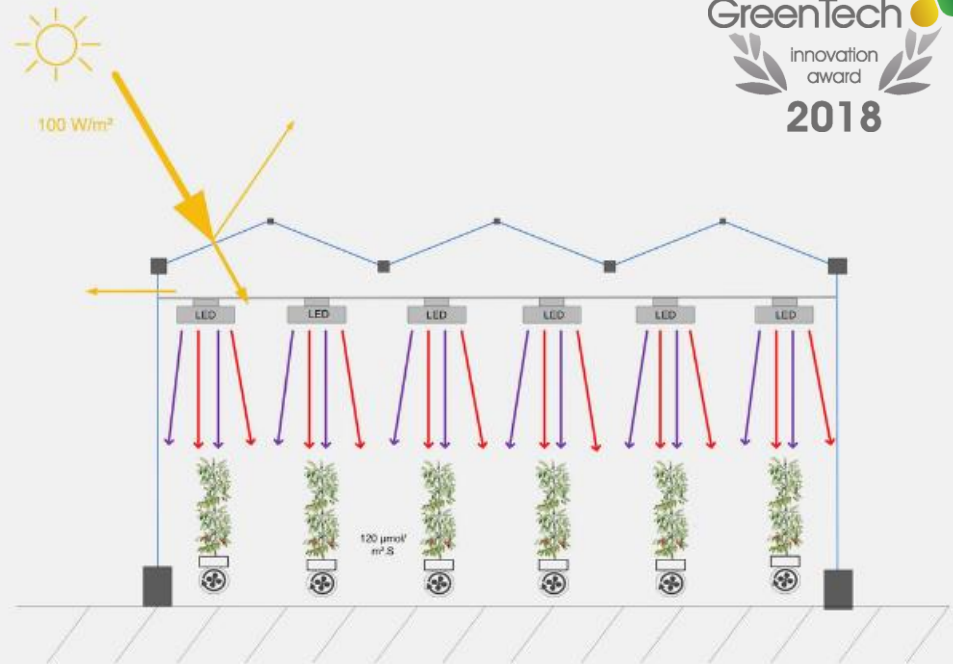# ASSIMILATION LIGHT MODELLING IN HORTINERGY

HORTINERGY – CLIMATE MODELLING AND ANALYSIS
A tool to model climate and design sustainable greenhouse

A simple input form adapted to every system

Type of light

◉ LED

◯ HPS

◯ Both

LED :

Maximum power

(W/m²)

35

Efficiency

(μmol/J)

1.75

Total DLI (Day Light Integral) (assimilation light + sun)

(mol/day/m²)

January	February
10	10

April	May
15	20

July	August
20	20

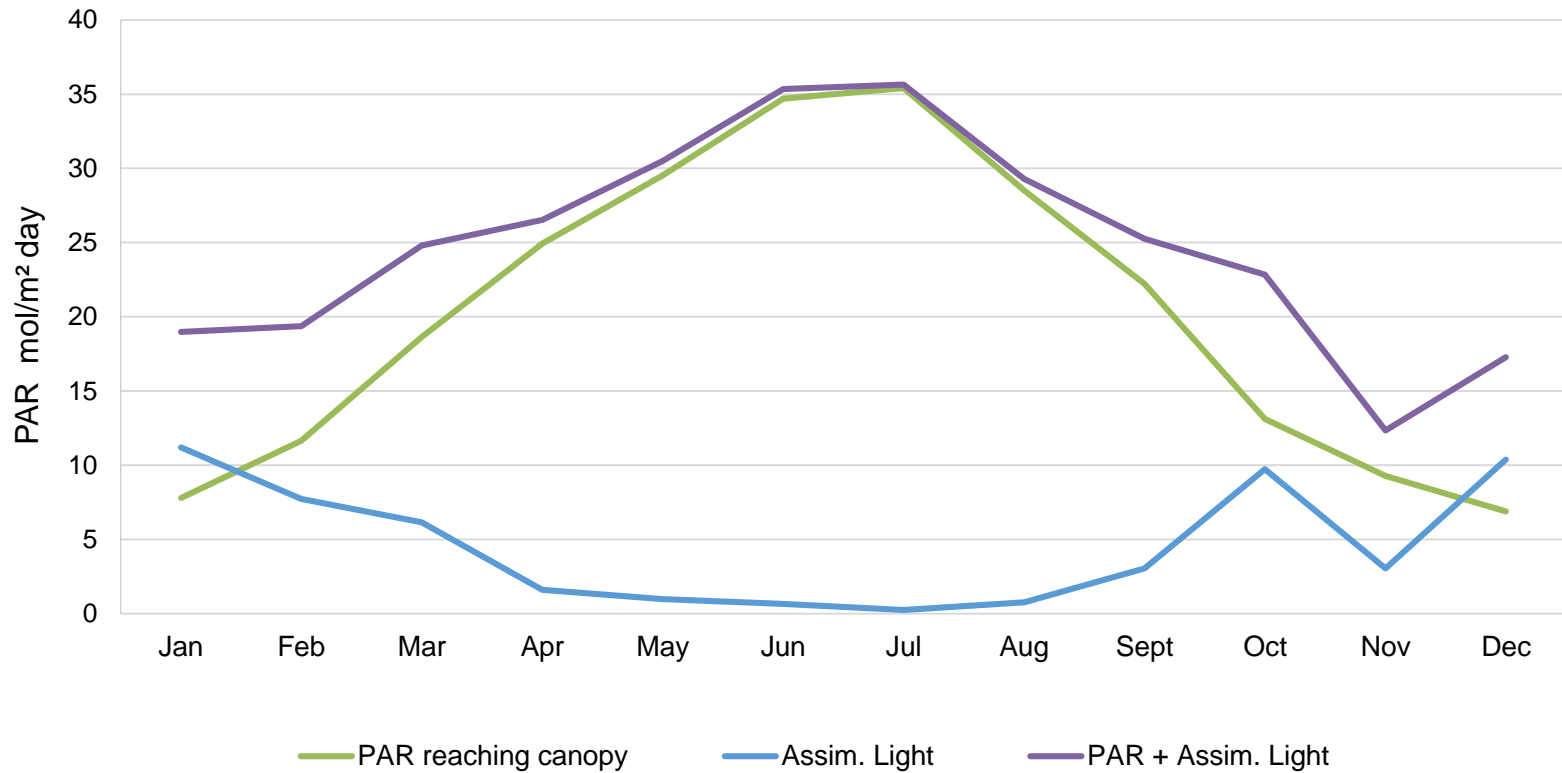| October	November
15	10

Solar radiation and additional assimilation light calculation to reach day light integral

Assimilation light and solar radiation

Detailed calculation of electricity consumption and expends

	Electricity consumption		Expenditure	
	MWh	kWh/m²	€	€/m²
Jan	692.0	17.3	69 200.0	1.7
Feb	528.0	13.2	52 800.0	1.3
Mar	464.0	11.6	46 400.0	1.2
Apr	248.0	6.2	24 800.0	0.6
May	172.0	4.3	17 200.0	0.4
Jun	88.0	2.2	8 800.0	0.2
Jul	0.0	0.0	0.0	0.0
Aug	48.0	1.2	4 800.0	0.1
Sept	108.0	2.7	10 800.0	0.3
Oct	636.0	15.9	63 600.0	1.6
Nov	588.0	14.7	58 800.0	1.5
Dec	304.0	7.6	30 400.0	0.8
Total	3 876.0	96.9	387 600.0	9.7