

INNOVATOR SPOTLIGHT

Solbergs Gartneri | Vettre, Norway



Maximizing Cucumber Production Year-Round to Meet Consumer Demand in Norway

Founded in 1936, Solbergs Gartneri is a family-owned, commercial greenhouse grower with a rich history of supplying fresh cucumbers to Norwegian residents. Led by third generation owner and CEO Kristian Solberg, the greenhouse facility produces more than three million cucumbers annually as one of the top three producers in the country. When faced with seasonal production challenges, such as maximizing and maintaining consistent harvests during winter months when natural sunlight is limited, Solberg knew environmental adjustments were required to meet increasing consumer demand. As a firm believer in advanced technology and science-based research, Kristian looked to the latest LED horticulture lighting technology from Fluence to increase light levels, optimize procedures, and — ultimately—improve plant production and quality.

“Cucumbers are a key crop in the Norwegian market. Our old HPS system didn’t have the efficiency to meet increasing consumer demand. We wanted a lighting system that could give us more light using the same amount of energy, that’s when we looked to Fluence LEDs. With Fluence we found a partner that shares our interests and ties their success to ours.”

KRISTIAN SOLBERG
OWNER AND CEO

To learn more about how Solbergs Gartneri is transforming cucumber production, visit fluence.science/solbergs/



Illuminating Dark Winter Months with Energy-Efficient LEDs

Norway is located in Northern Europe. This means that natural sunlight is limited to just a few hours during the winter months. Without a supplemental lighting strategy, commercial growing in this region would be impossible. While cucumber production thrives in the summer, Norwegian markets face a shortage during winter months due to a limited local supply. The lack of natural light hinders many retailers' ability to source locally and, in the end, leads to more imported crops.

Solbergs Gartneri is on a mission to grow more produce and maximize energy efficiencies. By collaborating with the cucumber specialist from Fluence's horticulture service team, together we designed a lighting plan that addressed and resolved their current challenges with high-pressure sodium lamps (HPS). While the radiant heat that is emitted from HPS lamps limits how much light you can supplement and how close a fixture can be from the plants, LEDs are able to decouple the heat and light in the process. In other words, LED solutions not only allow for greater flexibility when establishing mounting height in low ceilings, but they also enable growers to increase light levels without damaging or burning the plants.

Transforming European Crop Production with VYPR Series

By deploying approximately 2,000 VYPR 3 Series LEDs in their 6000m² greenhouse, Solbergs Gartneri was able to increase light levels by 70% using the same energy consumption. This significant increase in PPFD (Photosynthetic Photon Flux Density) led to an increase in production at the end of the winter season. Going forward, Solberg aims for a 50% increase in total yearly production.

Light quality is a crucial component of cultivation success, as these figures demonstrate. Under Fluence's BROAD R6 spectrum, cucumber crop morphology improved drastically when compared to the red/orange hue seen under legacy HPS lamps. Greenhouse growers that tend to their plants daily also report improved working conditions under a white light that allows them to properly and comfortably inspect and harvest plants.

Solbergs Gartneri has proven what can be achieved with LED technology in the dark Scandinavian winter conditions. The Fluence horticulture service team continues to work closely with the Solbergs Gartneri team to ensure cultivation success through each season.



INCREASED YIELD



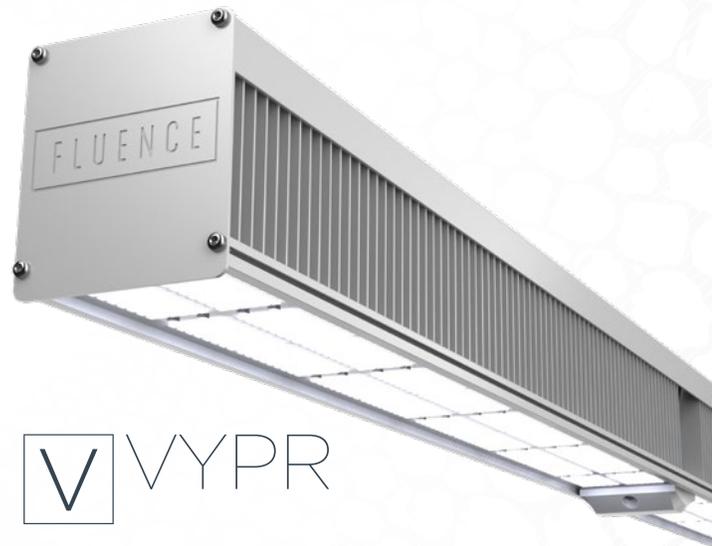
IMPROVED QUALITY



MORE COMPACT PLANT GROWTH



70% INCREASE IN LIGHT LEVELS USING THE SAME ENERGY



V VYPR

To learn more about how Solbergs Gartneri is transforming cucumber production, visit fluence.science/solbergs/



© Copyright 2022. Fluence Bioengineering, Inc.

