

SANSOL writes indoor farming history. With the SANSOL project competence, Gabriel de Franco enables controlled cultivation without daylight in vertical indoor farms on three continents.

Ob im kalten Nordeuropa, im heissen mittleren Osten, im trockenen Nordafrika oder den Tropen – The hydroponic specialist Gabriel de Franco, with his experience, his competence and the close cooperation with SANSOL, guarantees that strawberries can also be cultivated successfully all year round in these regions. Its innovative overall solutions for indoor farms are the basis for stable year-round production in controlled cultivation in an indoor facility using efficient LED lighting. A pioneering work, since the cultivation of strawberries without any daylight is not yet established.

Jennersdorf, January 27, 2020 - Gabriel de Franco's customers produce strawberries and other berries in controlled cultivation in regions such as the Middle East, Northern Europe and Africa. In order to be able to supply the local markets with really fresh products, the transport routes have to be short and direct. On-site production is essential. Since the climatic conditions do not permit either outdoor cultivation or cultivation in a greenhouse, stable year-round production is only possible in controlled cultivation in an indoor system using efficient LED lighting. A cultivation method that is not yet established for strawberries and has to be tested in a test facility. As part of these tests, the quality of the strawberries and the cost-effectiveness of production were determined and the basis for a series configuration was created. Particular attention was paid to pest pressure and the ecological aspects of production.

The experts from SANSOL defined the optimum lighting solution in discussions with the customer and secured the design with lighting planning. All process parameters relevant to plant growth were optimized in joint test series. In addition, a perfect match - which varies from latitude to latitude - of light intensity and exposure time had to be determined. And led to a measurable reduction in investment costs and heat input / h.

After several test setups, a multipliable overall solution that could be used in different climate zones could be designed. It is characterized by:

- Possibility to realize a multilayer arrangement in an indoor system.
- Selected optics enable a high degree of uniformity of light distribution at plant level and within the growth zone.
- First-class depth effect of the exposure in the crown of the leaf.
- Low overall height for channel level made possible by compact luminaire design and good illumination.

- The exposure system has been tested for cleaning with common pesticides.
- Emission spectrum matched to the human eye to enable reliable working under artificial light.
- The modularity of the system enables a quick adjustment of the test setup to optimize the production process.

With its holistic approach, SANSOL proved to be the right partner. When designing the project, the customer benefited from many years of experience in the field of lighting edible plants and berries and from understanding the requirements of the nursery. The profound competence in dealing with complex projects in professional horticulture as well as the understanding in the development of individual and economical production processes, which are based on innovative lighting solutions, came into play during the implementation. Today, Gabriel de Franco can proudly report that he has successfully written indoor farming history together with SANSOL.

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