



Summary geranium trial

- **Date:** April 2022
- **Cultivation:** French geranium
- **Location:** Huub van Leeuwen Westland
- **Researcher:** HortiTech

At Huub van Leeuwen Westland, a number of CLX V1000 grow lights were installed for the cultivation of French geraniums for a certain period, in order to monitor the effect of the grow light on the crop. A total of two rounds of geraniums were tested. The first trial started at week 50 and lasted through week four. The second trial covered the period from week four to week nine.

The trial was conducted in a 2,000m² greenhouse section in combination with two other crops: hydrangeas and bougainvillea. The department was controlled separately climatically and technically. In total, the department was equipped with 144 CLX V1000 grow lights.

Light measurements were taken prior to the test to determine the light levels present. The measurements were divided into three sections: Climalux on the left, Climalux in the middle and SON-T, measured at a height of 30 cm.

During the light measurement, it was noticeable that the differences between SON-T fixtures are very large, partly because the SON-T lamps are outdated. In addition, the light distribution was not optimal. After the light measurement, the grower was advised to install three C-profiles, however, he opted for the two C-profiles that were already present. At the end of the study, this choice appeared to have no adverse effect on the results.

This trial is not about development speed due to more light/m², but about comparison in plant morphology. More light would mean more growth with a shorter cultivation time and that is not the desired goal of the grower.

Production

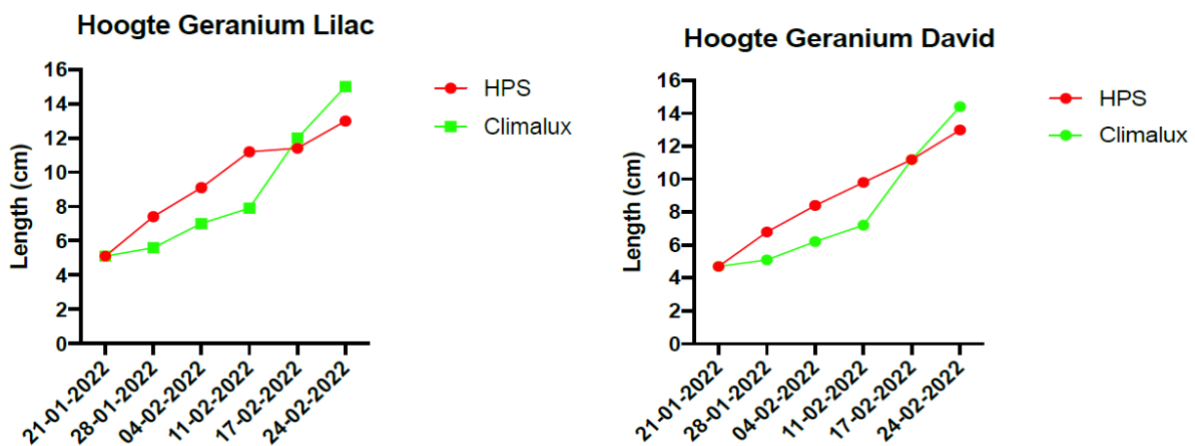
The geranium produced a coarser plant with more side shoots under the Climalux lamp. Around Christmas, the plant even has a look that belongs to the beginning of March.

The pyramid shape comes in automatically, so there is no need to use inhibitors. A total of six varieties were tested. At the end of cultivation, the grower wanted to be sure that the plants would be flowering. Because the plant does not really show that it wants to flower, the light is switched on for 22 hours for a period of five nights. In the last week we worked with 50% lighting, because less lighting would stimulate flowering more. The speed made was sufficient to bring the plant into bloom. During the entire cultivation, the lamp produced sufficient heat (the cooling works through vertical ventilation) so that the area did not have to be heated extra with tube heat. The moisture content was also lower, the climate in the greenhouse changed and the RH was 5% lower, which meant that much less moisture had to be removed.

During the second round there is a comparison with SON-T. Working more on growth means that the plant puts less focus on the flower bud that has already formed. This was also clearly visible in the plant. At SON-T you see a completely different growth. Here large leaves develop and the flower bud is worked up very quickly. This difference became clear three weeks before the packing date.

The flower bud is only pushed upwards when the plant structure is ready. Before this time, the plant seems to make room for the flower bud in the vigorous growth. The plant flowers only 5% later. In this time, the plant has produced 50% more plant. It is clear that this additional growth does not only come from the piece of more umol. Both the SON-T and the Climalux lamp go out as soon as the outside radiation reaches the level of 275 watts.

The weaker varieties that Van Leeuwen had to light for 24 hours in the last week to get into bloom, flowered earlier under Climalux lamps and did not need extra light hours. Weaker plants bloomed faster and stronger plants a little later. Under the SON-T lamp, inhibition takes place between 5 and 11 times (depending on race). Not at all under the Climalux lamp.



Conclusion

In summary, the following can be concluded from the test:

- Weaker varieties do better under the Climalux lamp.
- Coarser plant with more side shoots.
- Strong spring growth.
- The pyramid shape comes in automatically, so that virtually no inhibitors need to be used.
- During the entire cultivation period, the lamp produces sufficient heat (the cooling works through vertical ventilation) so that the area does not need to be additionally heated with tube heat.
- The RH is 5% lower, which means that less moisture has to be drained.
- By using less pipe temperature and having to dehumidify less, this system saves energy.

Additional information

Would you like to know more about this geranium trial? Please contact Niels Damen, operational manager. He can be reached directly via n.damen@climalux.nu or +31 6 18 67 81 29.