

Matrix Crop Report – Week #25

Belgium June 15th, 2004

Crops can be irrigated before the longest day without problems, but we advise to be more careful with this after that day. If there is much radiation during the day, the dry-down of the slabs during the night deserves much attention. If the heads look still dark and thirsty in the morning, it is a sign that not enough water was given. On days with much radiation we have to give at least 3.5 times the radiation per m².

It looks like the summer is here for real. Pay attention to the following items therefore:

- Try to keep on a few more leaves. Each leaf, in the transpiration process, functions a bit like a cooler. More leaves means more cooling and higher humidity, also resulting in more CO₂ uptake. Avoid that there are too many fruits in the leaf canopy. This in regard to the rate of development of the fruits, which in turn improves fruit quality.
- As a result of the large volume of irrigation during warm and sunny weather, the K/Ca ratio can change, leading to more risk of BER. Try to remedy this by adding liquid calcium nitrate. This is better than the dry formulation, which contains ammonium and that can lead to more BER.
- If and when the 24-hr temperatures are higher than 20°C, grow as cool as possible. This can be achieved by keeping the following points in mind:
 - Apply whitewash to lower greenhouse with insufficient venting. Otherwise it will get too warm regardless.
 - The pipe temperature can be taken out except when there is a buffer tank. In that case we best keep the minimum pipe at 40 to 45°C in the morning to empty the buffer tank (from three hours before sunrise to two hours after for instance). It is also good to keep the minimum pipe going when there is a risk of condensation on the fruits during cool mornings.
 - If the morning is not too cool (>15°C), the day/night temperature set points can be 15/15°C.
 - Have a 1°C reduction on the heat and vent temperatures based on light (range of 250 to 400 W/m²) so that the greenhouse temperature does not rise as fast; vents are fully open and fruits don't sweat because the air temperature does not rise too quickly relative to the fruit temperature.
 - Once it is warmer than 24°C in the greenhouse, temperature is more important than humidity. The wind side must be able to go to fully open (100%) but with limits for wind speed. Squeezing is only done if it does not cause an increase in temperature. In reality this is at the time that radiation is less than 400 W/m² (about 17:30 hrs).

For growers who interplant, the following:

- Keep set points of 16.0 – 16.5°C day and 17°C night for a while to prevent rapid swelling of the fruits in the young crop. The plants will also stay more compact with this regime. If the days get warmer, these set points can be reduced 1 to 2°C.
- Be careful with the minimum pipe, because it will only make the young crop weaker and increase the risk of BER in the old crop.