

## **QUEST Crop report – Week#18**

### **April 29th, 2002**

We had good growing weather the past week but it was also very changeable. Many changes between dark and light periods made steering the greenhouse climate difficult. Effects of this weather that can be seen in the greenhouse: heads that break easily and also leaf necrosis.

What is leaf necrosis and what are the conditions that lead to it?

Leaf necrosis on Quest can occur when the fruit load is high. Often it is the effect of a large fruit load (many +92 mm) in combination with unloading during a period with low light. Leaf necrosis occurs in the long crops as well as interplanted crops. The leaves between clusters 4 and 7 are the most sensitive. In interplanted crops it are the leaves that were still shaded by the old plants. These leaves often have 'growth spots' and this can be an indication that fewer nutrients were taken up by these leaves, in particular the divalent ions such as Fe, Mn, Mg. These leaves were therefore weaker.

The temperatures can stay the same as in the previous weeks:

Day: 18°C

Night: 17°C, during mild nights possibly 16.5°C provided the minimum pipe (40°C and from 2 hours before sunrise 45°C) is kept active.

As long as the 24-hr temperature is not above 19.5 – 20°C, the above regime can be maintained. When the 24-hr temperature is higher, it makes sense to lower the day set point (0.5 – 1 degree). This way it will take longer before the temperature in the greenhouse is high. Moreover, the heads will stay stronger.

Let the sun warm up the greenhouse further and reduce the pipe temperature on light in time in order to avoid a humid climate. For instance, to –10°C between a light range of 350 – 600 W/m<sup>2</sup>. When the weather is too dry, add another –10°C, and when too humid +5°C.

On days with a lot of sunlight we do not have to react when the humidity drops in the later part of the afternoon. The drop in humidity is the result of reduced rate of transpiration due to the lower angle of the sun. Squeezing vents for humidity would lead to a higher temperature which could weaken the heads.