The Hypersensitive Response

Or how some plants can defend themselves against the attack of certain viruses.

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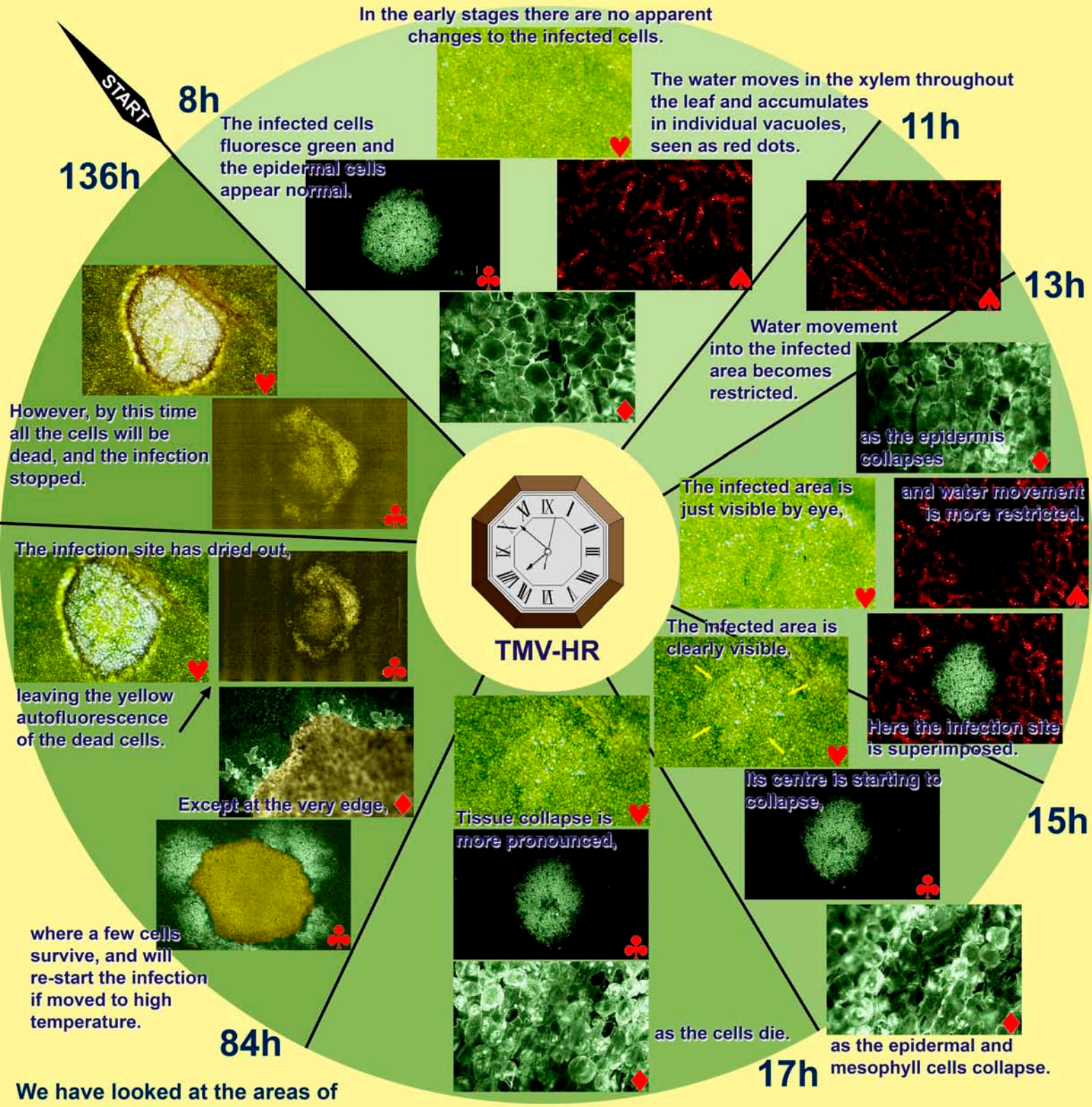
In this work we have used virus tagged with green fluorescent protein to allow us to see the areas of a leaf infected with virus. Under UV light, the virus can be seen as green dots on the purple leaves.

The plant defends itself by sacrificing infected cells to protect the healthy cells. Within 5 days the affected cells have become desiccated.

The *Nicotiana edwardsonii* plants we have used can only defend themselves at temperatures below 27°C enabling us to synchronise the start of the defense mechanism.



We have looked at the areas of viral infection 4 ways:-

♥ Under bright-field, or what you see by eye

Under UV light, using the confocal laser scanning microscope at low - ♣ and high- magnification ♦

♠ And using a red dye to follow water movement

(see Plant Physiology, vol 123:1375-1385, 2000)