Prototype sees daylight

Steven Vale discovers a Dutch company that plans to use this year's HortiFair to look for growers willing to try out its new LEDs (Light Emitting Diodes).

The past few years have witnessed a huge growth in the sales of supplementary artificial lighting, particularly in the Netherlands. However, aside from the cost aspect, all current systems have a number of drawbacks. In addition to excessive heat production, they have a huge energy requirement.

LEDs could offer a solution, and are something that research organisations and some of the biggest names in the world of artificial lights are all investing time and money in.

Considering the potential benefits that LEDs offer to the glasshouse sector, this is not surprising. It is estimated that only 30% of the energy put into current artificial lights is actually used for growing. Much of the rest is lost as heat. By comparison, LEDs convert energy directly into light, and although it is difficult to pin down an exact figure, it is estimated that LEDs could lead to energy savings of at least 50%, when compared to all lights currently available.

LEDs produce no heat, last longer (50,000 to 80,000 hours), and can even be dropped without breakage. However, more importantly, LEDs produce the right spectrum of light for plant growth. It is this aspect that is seen as one of the major benefits of LEDs as the photosynthetic active radiation (PAR) light can be controlled dependent on whether the grower wants to stimulate root growth, or generative or vegetative plant growth.

We have already reported on the LED systems for glasshouse production developed in the UK by Hotbox International. However, there is another company working with LED lights – Dutch firm Flowmagic.

Based in the Westland at Kwintsheul, many of the major breakthroughs in the Dutch glasshouse sector have come as a result of innovative growers, and Flowmagic is no exception. Johan van der Ende explained that the family-run business used to operate 30,000sq m of glass, growing cucumbers, tomatoes and cut flowers. Although now retired, the inventor helps son Mark with the current project that they hope could snowball into a major undertaking.

This unit is known as ClusterLED 160, HortiFair visitors will be able to take a closer look.

They have an extensive number of prototype LED lamp formats, ranging from a system that can be used as a standard fluorescent tube replacement to a prototype which does not look too dissimilar to all current artificial light installations based on sodium lamps. The main difference is that instead of one large lamp there are numerous (up to 160) small ones. In addition to the prototype lamp units, the company has already sold a sizeable number of standard Danish trolleys, fitted with its LED lamps. Many of these have gone to seed breeders, plant raisers and even plant exporters, who are keen to