

FEEDING THE WORLD

CROP PROTECTION

Technology contributes to sustainable crop protection

By Rob Meijer, Wageningen UR Greenhouse Horticulture

The need for alternatives to make crop protection sustainable is greater than ever before. The number of available pesticides for crop protection in horticulture is diminishing due to complex and costly registration procedures and the lower efficacy caused by resistance development. The chemical age is over, and there is a need for new technologies and strategies. New technologies, such as crop protection by using the Clean Light technology which is based on UVC-therapy of the crop, can offer an alternative to chemistry-based solutions.



The challenges faced by crop protection in horticulture are enormous. Due to the stricter requirements for the registration of plant protection products (PPPs), and the high costs involved, the number of PPPs registered and available for horticulture is decreasing every year. Meanwhile, with both the market and society demanding reductions in pesticide use, horticulture needs to become less dependent on PPPs.

Views and experiences

Several solutions are being developed to deal with this situation. One of these is the Clean Light technology. This technology is suitable for disease management by a daily treatment in a low dosage application of UVC. CLM (the Centre for Agriculture and Environment) has conducted a project where this technology was successfully incorporated in the development of integrated sustainable strategies for crop protection in leeks, strawberries and pears. Klimrek has designed a logistic system for easy handling of the Clean Light technology for cucumber and Hortimec has constructed the technology on the gantry together with the automatic irrigation system. This is being used in the production of planting material and small pot plants, such as lettuce, herbs and Begonias.

Positive experiences with this new technology are not restricted to the Netherlands. UFO Supplies has had good experiences with a hand-cart deploying the technology in rose growing in Kenya.

Stronger plants

"It is clear that the chemical age is over," emphasises Harmen Hummelen of the Dutch growers' organisation LTO Groeiservice. Experts point out that a start with healthy, strong plants is essential for a sustainable production as it prevents a lot of problems. Clean Light technology can contribute to sustainable crop protection when used in combination with other technologies such as prevention, early detection, local action using detection devices and robots, disinfection and biological control.

Pesticides will have a less prominent role in horticulture crop protection in the future with many new technologies and strategies taking their place. The UVC technology will be one of these. Working on technology, however, is not the only way to avoid pests and diseases. According to Wageningen UR Greenhouse Horticulture, there is also an urgent need for new resistant varieties.

Partners in this seminar: Clean Light BV, Klimrek, LTO Groeiservice, Hortimec, Gelderland Province, CLM (Centre for Agriculture and Environment), UFO Supplies and Wageningen UR Greenhouse Horticulture