New strawberry production system – growing without methyl bromide

With plans in place to phase out the use of methyl bromide, UK strawberry growers need a new system of soilless production for the 21st Century.

UK strawberry growers have been heavily dependent on using the sterilant methyl bromide to control both insect pests and fungal diseases in the soil before planting. The plan to phase out the use of methyl bromide on environmental grounds poses a problem for the industry. There is an urgent need to develop a system of growing that does not depend on methyl bromide and allows the varieties favoured by consumers to continue to be grown profitably.

To meet this need, a cross-section of members of the industry came together to form a consortium to develop the idea of a soilless strawberry production system. The HortLINK project that grew from this concept started in October 1999.

Research aims

The aim of the project is to provide the scientific foundations for a soilless system of growing which is sustainable, environmentally responsible, and cost-effective. Cropping should be over an extended season (May to September) and yields need to be over 50 tonnes per hectare of Class 1 fruit.

The strength of the project is the breadth of interests and experience of the consortium members, including its four science partners. This enables a comprehensive set of scientific objectives to be met. The industrial partners are facilitating the work by providing cash, materials, equipment and instrumentation.

With the focus on the everbearer variety, Everest, and the main-season variety, Elsanta, the work will produce guidelines and principles for a growing system based on:

- A definition of how the strawberry plant responds to water, light and temperature so that flowering can be controlled to enable long-season production.
- The development of the optimum soilless medium to enable the move away from peat substrates.

“The project will further develop our understanding of extended season strawberry growing”

Peter Vinson
Edward Vinson Ltd
Understanding how water, light and temperature affect fruit flavour and quality in the recommended soilless medium.

A model which describes the division of the products of photosynthesis between vegetative and reproductive growth and the factors affecting this.

Assessments of the chilling treatments that influence season and yield.

An understanding of the relationship between runner variability and plant performance.

Benefits to the industry
A new system of growing will take the industry away from dependence on methyl bromide.
Fruit will be produced on a continual basis throughout the season enabling UK growers to compete more effectively with imports and increasing the yield of Class 1 fruit, so improving returns and profitability.

What is HortLink?
LINK is the UK Government’s principal mechanism for supporting collaborative research partnership between UK industry and the research base.
The HortLink programme was launched in 1996 and has now been extended. The aims of the extended programme are:

- To improve the sustainability of the horticultural industry.
- To improve knowledge and understanding of processes and factors which determine the performance of the horticultural industry.
- To enable access by the horticultural industry to innovative ideas and technology by involving a wide range of research institutes and university departments.
- To promote wider awareness of the benefits of advanced horticultural techniques/methods, especially to SMEs.

Further information from the programme co-ordinator.
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"We are beginning to see how we can manipulate strawberry cropping more effectively"
Scott Raffle
ADAS

Project details
Overcoming the loss of methyl bromide with a competitive and sustainable soilless strawberry production system

Reference number
HORT 215

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