

Improving strawberry tray plant production technology in Ireland

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Strawberry plugs are quickly replacing traditional bare-root transplants in Ireland. This is particularly the case for soilless culture in glasshouse and polythene tunnel production. In the past when most of the strawberry plants had to be imported, there were major problems of cost, disease levels and stock quality. Unfortunately, the Irish strawberry propagators are limited in their supply of plants for extended season production. The aim of the research was to establish a production protocol for new strawberry tray plant producers. In the first experiment runner tips were harvested from 'super elite' strawberry mother plants cv. 'Elsanta' and planted into peat modules in a cold glasshouse on a low growing bench.

The first experiment work looked at the effect of runner order and size, date of runner harvest, and substrate types on the subsequent fruit yield characteristics. Runner tips were harvested on a number of dates over the trial including the 5th and 19th of July and the 2nd of August. They were graded into small, medium and large sizes. These were rooted into one type of propagation tray and two types of peat substrate (fine and coarse). It was found that early July was the optimum time to harvest the runners. The average fruit weight was also highest from plants grown from the large grade runners when grown in the fine peat substrate. The lowest and highest fruit yields over two seasons ranged from 11.33 to 12.70 kg per m². Final strawberry crown diameters ranged from 14.31 to 19.11 mm. In the second year of harvest there was no significant difference between any of the treatments.

In a second experiment the strawberry runners were grown in peat modules using a hanging gutter system. Strawberry runners were harvested according to their primary, secondary and tertiary position on the stolon. These were transplanted into the same type of propagation tray on the 5th and 19th of July. There were a number of substrates and substrate blends used. These included both coarse and fine peats, composted green waste (CGW), a 1:1 coir (coco peat)-fine peat blend and a CGW-coarse peat blend. Yields were significantly higher for plants propagated using primary runners and grown in fine and coarse peats, the 1:1 coir-fine peat mix and the 1:1 CGW-coarse peat mix. This was no difference between any of the treatments in the 2nd year of harvest. The lowest and highest fruit yields over two seasons ranged from 8.34 to 10.91 kg per m².

Strawberry crown dissection (flower mapping) showed the regular pattern of flower development throughout the growing season. It serves as a useful guide of flower development for the nurseryman and for the fruit grower buying the plants. The fruit grower may be able to optimise his production plans with this information.

As a result of this research, a number of new strawberry 'tray plant' nurseries have been set up which supply both the home and export markets. Consequently, strawberry plant imports have been cut by at least half and it is also some 50 percent cheaper to produce home grown 'tray plants' compared to importing ones. Yields, fruit quality and stock quality were also improved.