Anon: 1975. Two systems which make fullest possible use of the glasshouse area. *The Grower.* 84(13):538-539.

Many years ago, the idea of suspended staging in the greenhouse roof — fitted as standard equipment — was discarded. The energy crisis and production costs have brought a renewed interest in ways and means of making the fullest possible use of glasshouse space and heating.

In most greenhouses, somewhere between 2/3rds and 3/4ths of the total area is actually used for production. There are big savings to be made by increasing production area as long as operating efficiency is not impaired. In vegetables and short-term flower crops, a great deal can be achieved by arranging the production of the crop so that it can be grown without paths, or with a minimum of paths.

But, perhaps the biggest challenge is in the pot plant industry. In Britain there have been a number of innovations such as mobile staging, tiered staging and loose staging which can be fitted over every other path for at least part of the production season. On the nursery of Carl Ball, Gaggenau, a modern version of the old suspended staging has been installed in higher houses. There is no problem with shading in houses with foliage plants. A light-weight, operator's gantry is suspended from rails below the shelves, and most of the objections to the system have been eliminated.

The second system is installed on Otto Rieger's begonia houses at Nürtingen. It is staging suspended over the paths from sloping rails fitted to the main staging in the houses. When the path is needed for tending the crop on the main staging, the suspended staging is hoisted up over the main staging with a simple cable and winch system. The suspended staging is fitted with an automatic sub-irrigation system. The Rieger nursery system has added about 20% to the productive area, giving a total of nearly 90% house utilization — without any reduction in operating efficiency. The cost is high, about $4.73 per sq.ft. complete. However, the houses in which installed cost about $11.83 per sq.ft.