

**EPPING FOREST DISTRICT COUNCIL
PLANNING SERVICES**

**VIABILITY OF THE HORTICULTURAL
GLASSHOUSE INDUSTRY
IN EPPING FOREST DISTRICT;
PROSPECTS FOR THE FUTURE
AND LIKELY SCALE OF DEVELOPMENT
OVER THE NEXT 10 TO 15 YEARS**

**REPORT BY
READING AGRICULTURAL CONSULTANTS LTD
IN ASSOCIATION WITH
GERRY HAYMAN AND
HENNOCK INDUSTRIES LTD**

**EXECUTIVE SUMMARY
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Introduction

1. This report has been commissioned by Epping Forest District Council and prepared by Reading Agricultural Consultants Ltd (RAC) in association with Gerry Hayman and Hennock Industries Ltd. The objectives of the study are set out in the brief as:

“to provide information on the viability, prospects, and the future nature and scale of development of the horticultural glass industry and associated services.

“to update relevant parts of a 1991 study of the Lea Valley Glasshouse Industry by Reading Agricultural Consultants”.

Structure, size and nature of the glasshouse industry

2. The area of many UK glasshouse crops, especially in some areas, has reduced significantly in the past ten years. This is a result of the economic pressures such as increased competition from imports. As a result of pressure from multiple retailers, major structural changes have taken place within the industry, with leading producers becoming bigger. Older, less efficient glasshouses holdings are going out of production and are being replaced by modern ones. Those that remain tend to be small, family-run businesses with a limited lifespan.
3. Downward pressures on prices continue as multiple retailers dominate the market and exercise enormous buying power.
4. In spite of the decrease in area, production has been maintained because of advances in technology. Yields of some crops such as tomatoes have increased by around 40% over the last ten years.

5. The total UK value of cucumbers, the major crop in the Lea Valley, has fallen over the last decade whilst that of tomatoes has remained relatively stable. The value of lettuce has fallen dramatically. Some of the lost tomato, cucumber and lettuce production area has been switched to alternative uses, such as bedding plants, herbs, sweet peppers and retail outlets such as garden centres. Some has gone out of production completely.
6. Competition from imports, traditionally from Holland, but increasingly from Spain, Portugal and the Canaries, has had a major effect in depressing both production and prices of UK produce. Improvements in technology and transport (especially from Spain) and the strength of sterling have all been instrumental in increasing imports. However, UK producers do have some advantages over importers, particularly in relation to labour relations, pest and disease control, water supply, nutritional values of the produce and rising land prices.
7. The quantity of imports of cucumbers has risen since 1995, appearing to replace declining home production. Imports of lettuce have risen steeply since 1991, with home production declining slowly. This points to an increase in consumption promoted by the availability of lettuce-types such as mixed leaf pre-packs.

Financial aspects of the glasshouse industry

8. The annual University of Reading publication, "Horticultural Business Data" is the major source of financial data available on the horticultural industry. Data from this publication have been used in this study, both from national results and from a specially-drawn sample to reflect more closely the situation in the East of England (which includes Epping Forest District) and Northern England in order to see whether there are any significant regional differences.
9. The holdings in the England sample of specialist glasshouse holdings (mainly tomatoes and cucumbers) show considerable variation in terms of profitability over

the period 1996 to 2000. This is not unusual in the horticultural industry and reflects the wide range of technical and marketing skills and resources. However, the sampled holdings have performed only modestly, with the return on capital being barely sufficient to allow for expansion and/or modernisation.

10. Holdings in the East of England sample are smaller than both those in the England and Northern England samples. The cost of grower and spouse labour is higher than in the other samples, reflecting small, family-run businesses. Income levels and the return on capital from a small sample of only 10 holdings have been inadequate to allow for expansion and/or modernisation.
11. Holdings in the Northern England sample are larger than the average size in the East of England sample, but have similar (if lower) grower and spouse labour, with a consequent important role for family labour in the economy of the business. The nature of cropping is more mixed than in the other samples, and the return on capital has been considerably greater than in the other samples.

The Lea Valley glasshouse industry

12. Within the Lea Valley, there has been a substantial reduction in total glasshouse area in the Hertfordshire and Greater London parishes through development, but much less so in Epping Forest District. The area of glass has remained fairly constant in the main growing areas of Roydon and Nazeing.
13. Cucumber growers dominate the Lea Valley in terms of numbers, with bedding plant producers second in importance. Tomato growers, once the mainstay of the area, have all but disappeared.
14. The total area of glasshouses in the Lea Valley would be expected to produce a gross farm-gate value of around £37 million per annum, of which about £24 million would be produced from holdings in Epping Forest District.

15. The average area of glasshouse holdings in Epping Forest District is smaller than the rest of the Lea Valley area and many of the other specialist glasshouse areas, although larger than the average for the country as a whole. The area is still more reliant on family-run businesses than elsewhere but these businesses have been able to supply supermarkets through the Producer Organisations.
16. The total area of production of edibles is likely to remain fairly static over the next 10 years or so, with some of the smaller nurseries ceasing to be viable and a few larger, more modern units increasing in size. As the smaller nurseries turn to non-edible crops such as bedding and pot plants or to direct sales and adding value to produce in order to maintain profitability, the total area of glass is likely to increase over the next decade. It is also considered that the average size of glasshouse units in the Lea Valley in general will continue to increase.

Planning issues

17. The erection of horticultural glasshouses is not inappropriate development in the Green Belt, and very special circumstances are not required to justify such development. However, packhouses are generally considered to be inappropriate development in the Green Belt, but the Secretary of State has indicated that the role that these play in maintaining local employment and the viability of the industry generally outweighs any harm caused to the Green Belt.
18. 80% of applications for glasshouse and associated development have been permitted in the District since 1991. Nearly 90 hectares of new and replacement glass has been applied for since 1991 and permission has been granted for 47 hectares in this time.

19. Growers in the District are applying for relatively large areas of glass compared to the national average size distribution, but the success rate of applications falls as the size of glass applied for increases.
20. 48% of planning applications since 1991 have been submitted and permitted in E13 areas (amounting to about 30 hectares of glass and 1 hectare of packhouses).
21. 10% have been permitted adjacent to E13 areas (amounting to 3 hectares of glass and 2 hectares of packhouses).
22. 22% have been permitted outside and not adjacent to E13 areas (amounting to 14 hectares of glass).
23. 6% have been refused in E13 areas (which would have comprised 11 hectares of glass).
24. 8% have been refused adjacent to E13 areas (which would have comprised 15 hectares of glass).
25. 5% have been refused outside E13 areas (which would have comprised 4 hectares of glass).
26. There are relatively few specific policies for new glasshouse and packhouse development in other areas of glasshouse concentration in the country – those that exist are either designated area policies or criteria-based policies.
27. It is reported by the relevant local planning authorities that most glasshouse developments in the other main areas of concentration of glass have been permitted in recent years. The key issues in determining these applications have been surface water drainage, landscaping, lighting and traffic.

28. There would appear to be three options available in any review of Policy E13: to maintain the status quo; to replace the designated area policy with a criteria-based policy; or to encourage the relocation and rationalisation of the local industry.

Production and marketing issues

29. The Lea Valley is host to four major packhouses which are major employers and who handle the majority of the production output from the area. They have a combined annual turnover of around £75 million. Given that it is estimated that Lea Valley glasshouses produce a gross farm-gate value of around £37 million per annum, this implies that about half of the packhouses' production is imported to the area.
30. The trend in the industry is for producers to supply retailers through Category Managers, who are expected to provide year-round supplies, with responsibility for audit and Quality Assurance requirements for a supermarket for a particular product. There has been a major reduction in the number of individual suppliers that each supermarket will deal with over the past 10 years but supermarkets now account for over 80% of fresh fruit and vegetable sales.
31. The role of the packhouse is critical within the industry, being the connection between producer and buyer. It is important that the location is on a nursery. It is unlikely that more processing operations will be undertaken within the packhouse environment. It is also unlikely that major new Producer Organisations will be established, but it is likely that existing ones will seek to expand.
32. Trends in consumer purchasing such as organics are not believed to have a large impact on the industry in the Lea Valley.

33. Vehicle movements have remained static over the last 10 years due to an increase in lorry sizes. Access to nurseries, with newer, larger vehicles, can be critical in some nurseries. 95% of movements occur between 08.00 and 18.00.

Energy and environmental issues

34. CHP (Combined Heat and Power: a system with a power plant with a generator attached which produces electricity but also utilises waste heat) within glasshouses has an efficiency of about 90% and additionally uses the carbon dioxide from generation to enhance plant growth. It is likely that the horticultural glasshouse sector will be useful in terms of national CHP strategy. DEFRA and EU targets for CHP are likely to be the major driving force for installations in the future. The Lea Valley is presently disadvantaged compared to other glasshouse areas as few schemes were implemented prior to the collapse of the electricity market and the need to install a large gas main infrastructure. However, it is likely that CHP will become more attractive again in two to three years.
35. Glasshouse schemes may be significant in terms of future waste strategy incorporated into Energy from Waste schemes. Modern glasshouse sites are around 30% more energy efficient than old ones (energy inputs/product yield).
36. UK protected cropping is environmentally-friendly in terms of low food miles and low (often nil) use of pesticides through optimised use of natural predators for pest and disease control.

Labour issues

37. There is a shortage of skilled workers in the horticultural industry at all levels due to its seasonal and labour-intensive nature, and associated low rates of pay. Growers respond to this shortage by investing in automation and mechanisation but skill levels will need to rise to meet the increasing sophistication of such equipment.

38. Larger nurseries will require improvement in skill levels, focussing on intensive production technology, business management and marketing, whereas smaller nurseries will need to concentrate on improving practical production skills. Seasonal and casual workers have also been more and more difficult to find. As a result, the horticultural industry has turned increasingly to employment agencies to source staff from abroad. The Curry report recommended that the Seasonal Agricultural Workers' Scheme (SAWS) quota should be more than doubled to satisfy demand.
39. Accommodation is and will continue to be a major headache for employers of large numbers of seasonal workers and local planning authorities. At present, most overseas workers in SAWS live in mobile homes or caravans on site.

Capital investment issues

40. Modern glasshouse structures are much larger than their predecessors but have a longer lifespan (about 25 years in good condition) and are considerably more energy-efficient. Ideally, new glasshouses should be sited on a level site with good access and close proximity to a natural gas main.
41. A typical nursery of more than 2 hectares for edibles production would cost around £500,000 per hectare to establish and a typical nursery of a similar size for young plant production would cost over £1m per hectare to establish.
42. The cost of land will be a relatively small proportion of the overall costs of developing a new nursery at £5,000 - £35,000 per hectare if sold within the horticultural sector.
43. There are high values for land held for hope value but, by definition, this land will not be available to develop for horticultural production.

Dereliction issues

44. There is no longer a problem of large areas of derelict glasshouses in the District. Redundant glass can be used for lower value crops or redeveloped with new glass as a stand-alone unit or as part of a larger nursery. Sites that adjoin other larger glasshouse units will tend to be assimilated if they are available at typical glasshouse land prices. Sites which are remote, that have no possibility of further expansion and are of less than 2 hectares, are unlikely to be retained within the industry in the long term, although there will be specialist exceptions.
45. Derelict glasshouse sites can and have been returned to agricultural land. Costs of clearing can vary between £5,000 and £25,000 per hectare, with extra for specialist services.

Summary of factors affecting the future development of the industry

46. The table following this Executive Summary details the factors outlined within the main body of the report which will have an impact on the economic viability of the local industry and its demand for development land.
47. The factors that are likely to have most impact on demand for development are as follows, with those factors in which most confidence of their occurrence can be placed highlighted in bold:
 - **Exchange rate variation - £ falls vs. € (positive);**
 - Aviation fuel tax (positive);
 - **Labour availability (negative);**
 - **Energy price increase (negative);**
 - Resurgence of CHP (positive);

- **Pest and disease issues in competitor sites (positive);**
 - **Improved glasshouse technology (positive);**
 - Demand for waste from power systems (positive).
48. On the basis of the average demand for new and replacement glass over the last 12 years and discussions with growers as to their short-term demands, it is estimated that the highest demand would be about 7.5 hectares of new and replacement glass a year. The last couple of years have been relatively buoyant so this level of investment could be expected in the next few years, but the industry is cyclical so levels may fall off thereafter.
49. The lowest level of demand would probably be the amount required to maintain the current area of production, which is about 4-5% of the total area a year. This is about 3.8 hectares per annum and rates of permissions over the last 12 years have been at about that rate (4 hectares/year). The worst years for new glass actually had no glass built at all, and the best years around 11 hectares.
50. The most 'plausible' level of demand is obviously likely to be between the two at 5 or 6 hectares a year. In all scenarios, the vast majority of the demand will be for new rather than replacement glasshouses.

Table 11.1 Summary of factors affecting the future development of the industry

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
Market-related					
Increased demand for organic produce	Low	Moderate	Neutral	Neutral	
Increased competition from overseas producers	High	High	Moderate	Slight negative	The industry has suffered intense competition for many years already and new EU entrants e.g. Poland will be an additional factor.
Change to non-salad crops (measured in production area terms)	Low	High	Neutral	Neutral	
Reduced supermarket supplier base	High	High	Dependent on how this affects local PO organisations	Dependent on how this affects local PO organisations	Will be more price competition with consolidation.
Increase in non-supermarket related sales (e.g. farmers markets)	Low (at significant levels)	Moderate	Neutral	Neutral	These outlets represent a relatively small market volume.
Political/global economic					
Exchange rate variation	High	Moderate	Significant benefit	Significant increase	Lower £/€ rate will improve competitiveness and

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
					profitability against imports and this will outweigh any increases in cost of imported raw materials.
Tax on aviation fuel	Moderate in long-term	Low	Significant benefit	Significant increase	
Climate-related					
Increase in local temperatures	High in long term	Low	Slight benefit	Neutral	Very high temperatures in mainland Europe in the summer of 2003 favoured UK production and prices.
Reduced availability of water in competitor countries	Moderate	Moderate	Moderate benefit	Moderate positive	Also recent health problems associated with contaminated water supplies used for salad crop irrigation or product washing in some competitor countries.
Labour-related					
Reduced availability of local labour	High	High	Major disadvantage	Significant negative	Will represent an advantage from eastern European EU entrants in the short term.
Reduced availability of seasonal labour	Low	Low	Slight disadvantage	Slight negative	
Demographics of local industry	High	High	Slight disadvantage	Slight negative	

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
Energy-related					
Increase in energy costs	High	Low	Significant disadvantage	Significant negative	
Renewed viability of CHP	Moderate	Low	Significant advantage	Significant positive	
Environmental-related					
Increased pest & disease issues in Iberian peninsular	High	High	Significant advantage	Significant positive	Increasing political and consumer pressure about pesticide use and residues will favour glasshouse production in northern Europe.
Increased awareness of nutritional content of foods	Moderate	Moderate	Slight benefit	Slight positive	Depends on success of government initiatives on food and health.
Production technology related					
Improved glasshouse technology	High	Moderate	Significant benefit	Significant positive	
Waste to power systems	Moderate	Low	Significant benefit	Significant positive	
Increased uptake of supplementary lighting	Moderate	Moderate	Slight benefit	Neutral	

Factor	Probability of factor occurring	Certainty factor of probability	Impact on industry viability	Impact on demand for development	Comments
Crop technology related					
Introduction of varieties suited to low labour production	Low	Moderate	Slight benefit	Significant positive	
Introduction of breeder limited varieties where output is artificially limited (e.g. Ramiro)	Moderate	Low	Neutral	Neutral	