The Economics of Organic Vegetable Production

UK Market & Supply

Ulrich Schmutz and Chris Firth

Presentation Agricultural Economics Society, Plymouth, March 2003

USchmutz@HDRA.org.uk

HDRA the organic organisation

HDRA.org.uk/research

(Henry Doubleday Research Association)

- **15 years** experience in applied organic vegetable and fruit research
- since **6 years economics team** with currently 3 members of staff plus PhD students
- currently **7 research projects** with farm economics
- **Location**
  Ryton Organic Gardens
  Coventry
  Warwickshire
  UK

HDRA the organic organisation

Contents

HDRA the organic organisation

Methods

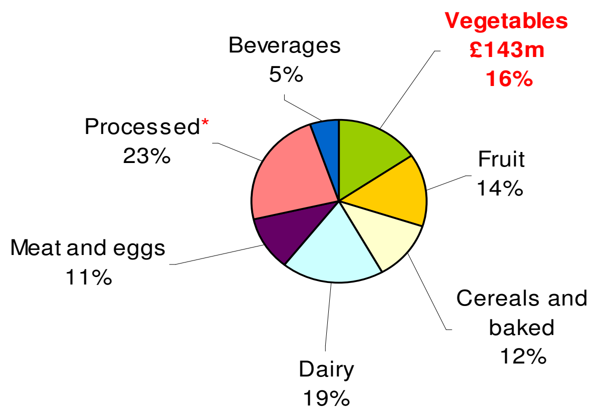
Selected results form two DEFRA studies were used

- **Organic vegetable market in the UK for the 2001/02 season**
  (OF0307)
  Data on volumes and values of crops traded, were collected from organic packers and wholesalers

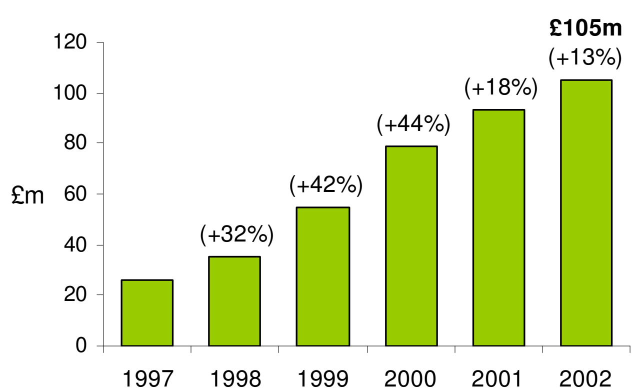
- **Conversion to Organic Field Vegetable Production, 1996-2004**
  (OF0126T and OF0191)
  Agronomic and economic performance of 11 farms, which have converted to organic field vegetable production. Data is collected according to Farm Business Survey (FBS) standards.

HDRA the organic organisation

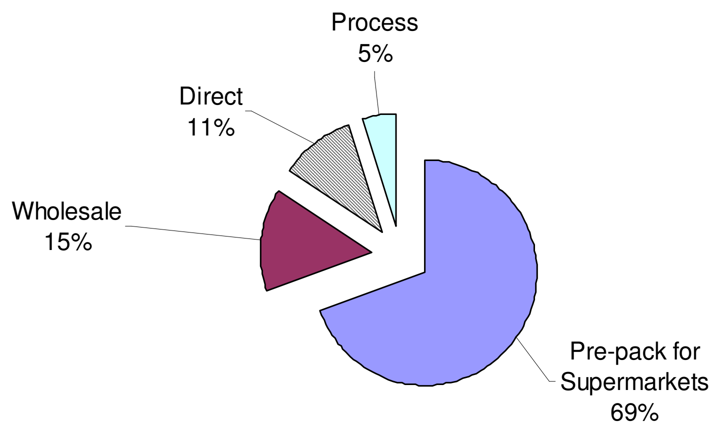
The UK organic market 2002



Growth of the organic vegetable retail market in the UK



Market outlets for organic vegetables in 2002



UK organic vegetable season 2002

	Total market[1] (t)	UK (t)	UK (%) by volume	UK (ha)	Monthly breakdown of use of UK and imported produce											
					A	M	J	J	A	S	O	N	D	J	F	M
Main Potatoes	27218	17638	65	1038												
Carrots[2]	13383	8724	65	349												
Onions	7339	2447	33	175												
Leeks	1149	976	85	122												
Swedes	1333	1276	96	75												
Parsnips	1283	731	57	66												
Cauliflower	2905	1864	64	155												
Beans	465	144	31	48												
Aubergine	135	10	7	1												
Tomatoes	8180	4447	54	20												

Key: Mainly UK sourced   Mainly imported

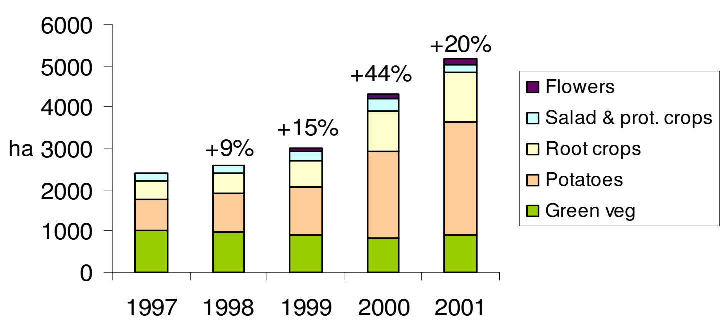
[1] UK produce plus imports, [2] Monthly breakdown relates to main crop carrots

UK market of organic vegetables drivers and constraints

Drivers	Constraints
• Food scares and GMO • Consumer concern for health, environment and animal welfare • Promotions by major retailers • Increasing household incomes	• Price conscious consumers • Education and awareness • Availability and poor quality of supply • Processing capacity problems

HDRA the organic organisation

UK supply area of organic vegetables (incl. flowers)



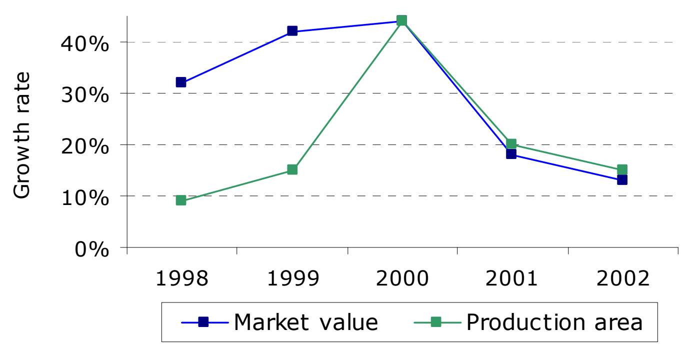
HDRA the organic organisation

UK supply of organic vegetables drivers and constraints

Drivers	Constraints
• Price premiums • Government policy • Supermarket pressure • Poor returns in conventional sector	• High costs of conversion • Lack of information on conversion economics • Delay of conversion process • Perceived technical problems

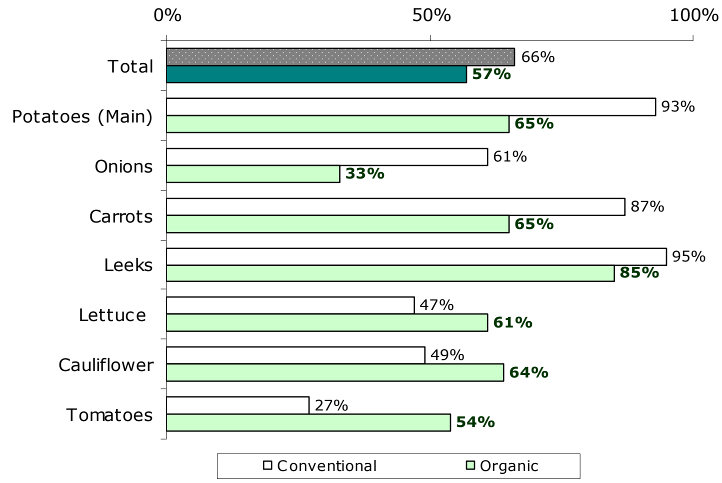
HDRA the organic organisation

Growth rates of UK organic vegetable market value and production area



HDRA the organic organisation

UK self-sufficiency in organic and conventional vegetables in 2001



HDRA the organic organisation

Conversion economics and supply

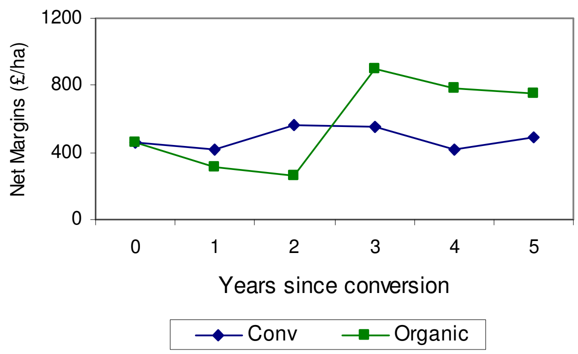
- 24 month conversion period
- No or small 'in-conversion' market
- £20,000-£30,000 conversion costs

  £460/ha including reduction of farm income

  Organic aid (£450/ha) and set-aside (£300/ha)
- Fertility building: 25% of the rotation is not used for production

HDRA the organic organisation

Net margins following conversion on a UK model farm



HDRA the organic organisation

Production economics and supply

- Yields lower than conventional (40-50% lower)

  Prices higher (~100%)

  Output similar to conventional
- Costs

  some higher: Seed, Weeding, Labour

  others lower: Fertilisers, Crop protection
- Economics of the rotation are important

HDRA the organic organisation

Comparison of organic and conventional gross margins in broccoli production

(£/ha)

	Organic	Conventional
OUTPUT		
Marketable yield (t)	6	7.6
Price (t)	700	500
Total output	**4200**	**3800**
VARIABLE COSTS		
Plants	1100	500
Crop protection	60	81
Fertilizers	50	103
Casual labour: plant	371	187
hand weed	212	0
harvest	636	1179
Total variable costs	**2439**	**2050**
GROSS MARGIN	**1761**	**1750**

HDRA the organic organisation

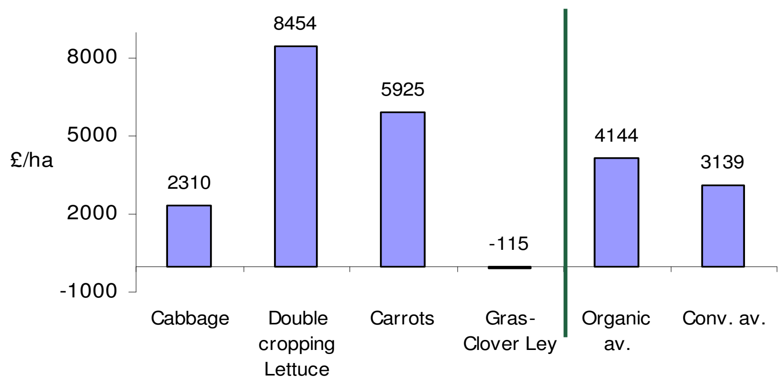
Costs of weeding organic field vegetables

(£/ha)

	Hand (h/ha)	Mechanical	Total
Carrots	1060 (200)	220	1080
Leeks	530 (100)	128	658
Broccoli	212 (40)	56	277
Lettuce	100 (19)	64	164
Potatoes	0 (0)	150	150

HDRA the organic organisation

Gross margins of a 4-year intensive organic field vegetable rotation



HDRA the organic organisation

Future Development

- Slower growth rate 10-15%
- Only 8% committed, 60% 'Dabblers'
- Organic Action Plan:
  75% self-sufficiency in UK organic markets
- Market opportunities in diversification of market channels

HDRA the organic organisation

Market channels for organic vegetables in the UK and Germany

Country	UK	Germany
Value	£143m	£200m
Wholesale	15%	40%
Direct	11%	25%
Supermarkets	69%	25%
Other	5%	10%

HDRA the organic organisation

References

Chadwick, L. (2002). The farm management handbook 2002/03. SAC Edinburgh.

Clare, M. (1999). Horticultural business survey for the north of England 1997/98. Farm Business Unit, Centre for Agricultural, Food and Resource Economics, University of Manchester, Manchester.

Crown, (2002). Food and farming -a sustainable future. Report of the Policy Commission on the future of farming and Food, January 2002

DEFRA, (2002a), Action plan to develop organic food and farming in England, July 2002, Department of the Environment and Rural Affairs, London.

DEFRA, (2002b). Basic horticultural statistics for the United Kingdom 1991/92-2001/02. Department for Environment, Food and Rural Affairs, York, UK.

Firth, C., Geen, N. and Hitchings, R. (2003). The UK Organic Vegetable Market (in press).

Hamm, U., Gronefeld, F. and Halpin, D. (2002). Analysis of the European Food Market. The University of Wales, Aberystwyth

HDRA, (2000). Conversion to Organic Field Vegetable Production, Final report to MAFF on completion of the first phase of the project. HDRA, Coventry

Lampkin, N., Measures, M. and Padel, S. (2002). 2002/03 Organic Farm Management Handbook. University of Wales.

Michelsen, J., Hamm, U., Wynen, E. and Roth, E. (1999). The European market for organic products: growth and development. Organic Farming in Europe: Economics and Policy Volume 7. Universitat Hohenheim. Germany.

Mintel, (1991). Vegetarian and Organic Food Report, Mintel Market intelligence, London

Organic Monitor, (2001). The UK market for fresh organic vegetables. Organic Monitor. London.

Soil Association, (2001). Food and Farming Report, Soil Association, Bristol

Soil Association, (2002). Food and Farming Report, Soil Association, Bristol

HDRA the organic organisation