

Gwell Cysylltiadau Busnes Organig



Better Organic Business Links

An Organic Centre Wales Project

# A Review of the Welsh Organic Horticultural Market

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## **Better Organic Business Links – Gwell Cysylltiadau Busnes Organig**

The Organic Centre Wales has received £2 million funding through the Rural Development Plan for Wales 2007-2013, which is funded by the Welsh Assembly Government and the European Agricultural Fund for Rural Development, to run the Better Organic Business Links (BOBL) project over 3 years (2009-2012). The BOBL project is designed to support the primary producer in Wales and grow the market for Welsh organic produce in a sustainable way. The project will develop new, emerging and existing markets for organic produce whilst driving innovation, at all levels, within the supply chain. It will strive to increase the consumer demand and markets for organic produce, especially in the home market whilst also ensuring that the primary producers are aware of market demands. The project will provide valuable market information to primary producers and the organic sector in general.

Delivery of the project is divided into five main areas of work:

1. Driving innovation
2. Consumer information and image development of organic food and farming in Wales
3. Market development
4. Market intelligence
5. Addressing key structural problems within the sector.

This work contributes to BOBL Activity 4.1, Market Reviews. The review is one of four and provides a snapshot of the organic Horticulture market at the outset of the project. The review will act as a baseline and will be repeated towards the end of the project in 2012.

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## Executive Summary

Historically Welsh organic horticultural production has played a key role in the development of the overall organic market. The sector underwent a process of re-alignment, however, when the market expanded more rapidly in the late 1990s. Horticultural production areas started to fall when the main pack house in Lampeter ceased to trade. The production area has continued to fall ever since on the basis of survey evidence despite the apparent reassurance from Defra figures.

In 2009 the overall organic market decreased for the first time in nearly 20 years. The market as a whole was down by 12.9% while fresh produce sales dropped by 14.8%. The decrease was felt more sharply by non multiple retail outlets which saw a drop of 14.9% compared to the multiples whose sales decreased by 12.2%.

The overall Welsh organic market for 2009 was estimated to be in the order of £90 million with the fresh produce sector accounting for approximately £23.5 million. Analysis of the figures for sales through different outlets showed that catering was responsible for £210,000 and farmers' markets for £240,000. These figures are estimates but illustrate that the turnover in these areas is quite low.

The Welsh organic horticultural area is running at a fairly low ebb according to the responses to the 2009 Producer Survey. The Survey estimated that it could be as low as 110 hectares. This is significantly lower than the certified area for 2008 based on return to Defra –this gives a total of 362 hectares (895 acres). It is not known why there is such a great difference although disparities in the past have been caused by the incorrect classification of fodder crops such as Swedes, turnips, kale, peas and beans. Additional information based on the identification of additional growers suggests that the area could be as high as 180 hectares.

The evidence from the Producer Survey and a separate set of interviews carried out for this review is that supply chains are very short for most producers because they are marketing direct and locally. A small number of larger producers are supplying the one major organic wholesaler in Wales who distributes at least some of their product through an arrangement with Calon Wen – these chains will be longer and potentially more complex. Produce from a major grower in Herefordshire (who lives in Wales and also grows vegetables in Wales) also comes into Wales as required.

The trading base has reduced with 3 significant wholesalers at the time of the 2007 report reducing to 1 at the present time. Some producers are now struggling to move bulk crops because of the reduced demand and the difficulty in accessing the Lampeter wholesaler. They are adapting by growing a wider range of crops for a more local market and using innovative retail outlets such as Pembrokeshire Produce Direct.

The producers who responded to the survey undertaken for this report were small and locally orientated. They were often growing a wide range of crops (mixed market gardening was the most popular reply to the producer survey) and a majority expected to maintain their market position or increase it over the coming year, something of a contrast with the position elsewhere. Market information was generally not seen as crucial although many had read previous reports.

The key theme among the recommendations is market development including support for the generic campaign planned by the Organic Trade Board and Organic UK. BOBL could play a key role in promoting locally focused, web-based marketing initiatives such as the Pembrokeshire Produce Direct model in all parts of Wales. There is potential for improving sales through local outlets of the Co-operative and EuroSpar and BOBL could canvas and identify local managers with initiative, but other options should also be considered.

Improved access to support schemes is needed – in particular the removal of the 3 hectare minimum eligibility limit for Glastir. Small capital grants for the erection of poly-tunnels could make a major difference to many producers without costing a huge amount of money.

The wider organic produce market in Wales appears to be substantially supplied from beyond the border despite the fact that a significant proportion of that produce could be grown in Wales. There clearly continue to be opportunities for producers but competing with growers in more suitable parts of the UK and beyond is always going to be difficult within the present system. This will change at some point in the future and producers will need to be prepared for that moment. However, the report has shown clear differences in problem perception between producers and traders, and there is a role for BOBL to act as impartial mediator.

## 1 Introduction

The purpose of the review (in common with the other three reviews) is to establish the market position with respect to organic horticulture at the start of the project in order to compare it with the position at the end of the project's three year duration. For this reason the review will seek to establish the 2009 position as opposed to that for 2010. In the event this fits well with the data sources – because there is an inevitable lag between the collection of statistics and their collation, analysis and publication, virtually all the figures that are currently available apply to the 2009 season and before. The start date for the BOBL project was June 2009 and this market review was commissioned in early 2010.

This report will seek to provide as detailed a picture as possible of the organic supply chain for horticultural produce not only in Wales but also beyond its borders where appropriate and relevant. Every effort will be made to present conclusions and commentary on detailed data but this is not always possible to find. Horticulture is by its nature a very complex sector and again detailed information on individual crops is not always easy to find. Bearing these caveats in mind the first stage of the review has been to produce an historical summary based on available information i.e. a summary of what is known.

The process will involve the production of a set of statistics that will serve as a template for updating and for comparison with a similar set of statistics that will be compiled in the second of these reviews at the end of the current BOBL funding in 2012. The use of the same headings, classifications and headings will allow direct comparisons to be drawn between the start of the project and its end. We will be aiming to quantify the market in a number of ways in order to determine:

- the position of Welsh organic horticultural production in the Welsh organic horticultural market
- the size of the Welsh organic horticultural market and its relationship to the overall Welsh horticultural market
- the way in which the market is supplied and the potential for Welsh production to satisfy the 2009 market demand.

This will all be set in the context of the wider UK organic market. It is planned to put this 2009 scenario together with initial conclusions and SWOT analysis then consult a number of stakeholders to see if it fits their view of the market. Feedback from stakeholders will be used to modify the scenario and to inform the final conclusions, SWOT and recommendations.

The preparation of the initial scenario will draw on a number of publications and reports including the two previous organic horticulture market reports (Haward & Green, 2004; Hitchings *et al*, 2007), Soil Association Market Reports (Soil Association, 2010) and the Welsh organic producer surveys (Moakes & Lampkin, 2009; Moakes & Fowler, 2010). Information will also be drawn from Defra and Welsh Assembly Government statistics and other publications.

## **1.1 History**

This is a feature that is common to the previous market reports and is found in many related publications. No apology is offered for its inclusion here because the history of Welsh organic horticultural production is both relevant and an indication of what is possible. This has been taken from the 2007 market report and reproduced here with a few minor changes as there was little point in re-writing something that will not change. The views expressed are those of the authors and do not claim to represent an industry view.

The seeds of Welsh organic production were to a great extent sown in the 1970s when a number of people moved to south west Wales with the intention of producing and selling organic produce. Horticultural production featured strongly though not exclusively on these pioneer holdings. The market for organic produce was very much in its infancy and these early practitioners struggled for some years to sell their produce. Early outlets were local whole-food shops and there was also some local direct selling. Van runs were set up to move surplus produce into England, particularly the Midlands and the North-west.

Efforts were made by those with entrepreneurial flair to gain the interest of the supermarkets and in 1985 the first organic product to feature in a major supermarket was Welsh organic carrots. In a sense the rest is history for from that small beginning the market for organic produce has grown substantially though not without some ups and downs. It is not unreasonable to claim that the enlarged market today owes much to those early pioneers based in Wales.

1985 was a key date for other developments that were linked to the breakthrough in supermarket selling. Organic Farm Foods (OFF) was established to supply the supermarket customers using a dedicated packing and grading facility based in Lampeter. At the same time the first organic growers co-operative (Organic Growers West Wales - OGWW) was set up to supply produce to OFF in a planned and co-ordinated programme. The OFF started to struggle because of their distance from the main supermarket hubs and, as more and more conventional growers supplying the supermarkets converted to organic production, growers in Wales, with less favourable growing conditions, found themselves unable to compete on many of the staples which have subsequently become commodity priced products. OFF has undergone a number of changes, now deals only with organic fruit and moved all its operations to England in 2007. On the site in Lampeter the Organic Fresh Food Company was established to try and build the market in Wales for Welsh Producers.

Changes took place at the beginning of the 1990s that saw OGWW enter into a joint marketing operation with Green Growers, an organic grower co-operative based in Herefordshire. There had been in effect a split within OGWW with one group of growers continuing to supply Organic Farm Foods and another (still acting as OGWW) becoming involved with setting up the Organic Marketing Company (OMC). At the start OMC sold over 90% of the production it handled to supermarkets but within 6 years the position had been reversed with most sales going to secondary wholesalers, box schemes, home delivery businesses, whole food shops, organic 'supermarkets', and baby food manufacturers.

Changes have taken place more generally with the entry into the marketplace of growers from the more established vegetable production areas in England as well as increasing volumes of imports. This was in response to the expansion of the market from the mid 1990s onward and also as a result of pressure from their supermarket customers. Increasing pressure on both price and quality specifications has meant that the original

Welsh growers found it more difficult to compete in the pre-pack market. OMC also encountered considerable competition and floundered in the late 1990s. The development of a strong Welsh market for organic fresh produce has been a relatively recent phenomenon and not all growers have been able to adapt their production to suit. The reasons for this were exposed in the earlier market intelligence reports and will be reviewed below.

Horticultural produce has historically led the way in establishing the market and it continues to strongly influence customer choice today. Recent developments in relation to public procurement and a renewed focus on the quality of school meals have led to additional interest in locally produced food in addition to that being increasingly shown by consumers generally, although this does not necessarily translate into increased demand. Should this increase considerably, there is a danger that the organic horticultural sector in Wales may not now have the capacity to address these new demands, given that the area of organic horticultural production in Wales has progressively reduced. However, there is land near the Herefordshire border and in Pembrokeshire with experienced growers who could certainly grow large quantities of produce if there was the confidence that there is stable demand. Such confidence would need to be supported by contracts or other evidence of firm commitment.

## **2 The Market**

This section will start with a relatively brief review of the UK food market to set the overall context. Figures for the fresh produce sector will be included and the relationship between the organic market and the wider market for all types of food will be explored. This will be followed by the picture for Wales. For the purpose of this report, it was not possible to easily find disaggregated data for Wales so this will be interpolated from the UK data.

### **2.1 The UK food market**

It is possible to find a number of sources of information for the size of the UK food market but they generally come with a high price tag or are exclusive to a select group of interested parties. A sample review from Cobweb Information Ltd. (Cobweb 2009) gives an overview of performance, trends and key factors affecting the UK food and grocery retail sector published in September 2009. In this they quote IGD (formerly the Institute of Grocery Distribution) as stating that the UK food and grocery retail sector was worth £140 billion annually in 2009.

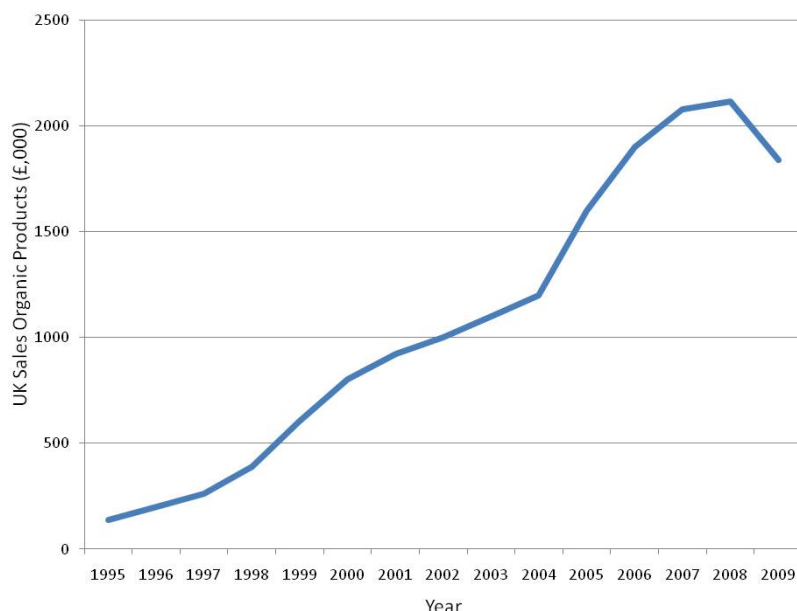
This excludes online food retailing which IGD note was worth £3.2 billion in 2008 and they predict that it will rise to £13.2 billion in 2013, a significant expansion. Its average growth rate is 4% per year so the 2009 figure will be in the region of £3.32 billion. In total the UK food market was worth £143.3 billion for 2009. If alcoholic drinks are included the figure rises to £173 billion (Defra, 2009c).

RuSource Briefing 805 (quoting Martin Beckenham in smith-institute.org.uk) states that in 2007 total expenditure on fruit and vegetables was £7.9 billion (Spedding, 2009). However an earlier report for Cornwall County Council and Taste of Cornwall (Huxley, 2003) quotes a figure of £12.52 billion although this includes processed fruit and vegetables. The fresh fruit and vegetable share of this was £7.5 billion which is consistent with the first figure. Processed produce is potentially a market for fruit and vegetables but for the purposes of this review it will be fresh produce that will be examined so the lower figure of £7.9 billion will be used rounded up to £8 billion. This represents 5.6% of the total market excluding alcoholic drinks.

### **2.2 The UK organic market**

The Soil Association Market Report 2010 shows that total sales in the organic food market accounted for £1.84 billion in 2009 down from the high of £2.113 billion in 2008. This followed a period of more than 13 years of continuous growth and a drop of 12.9%. The reasons for this decline tend to be focused on the credit crunch and tighter finances but there are other influences in the market place such as competition from Fairtrade products for example. These are discussed in more detail later in the report but it should be noted that fresh produce declined by 14.8%, a slightly sharper fall than the overall market. Sales through multiple retailers fell by an average of 12.2% while non-multiple retail outlets saw combined sales fall by 14.9%. This suggests that there was a slightly larger turn away from more local marketing compared to the supermarkets. This implies that things have been tougher for locally oriented fresh produce outlets.

**Figure 1: UK Sales of Organic Products (£,000) 1995 – 2009.**



In terms of proportion of the organic market fresh produce comes in second at 26% behind dairy produce (33%) and its value is therefore in the region of £478 million. In the wider market i.e. organic plus non-organic the spend splits 53.4% for vegetables and 46.6% for fruit (Spedding, 2009). In the latest data to hand (Sahota, 2007) the split for organic sales showed a significant divergence from this with the spend on fruit exceeding that on vegetables for the first time in 2006. The proportions were 62.6% on fruit and 37.4% on vegetables out of a total of £671.6 million.

### **2.3 The Welsh food market**

It has been not possible to obtain figures for the Welsh food market so in order to get a ball park figure it has been necessary to calculate a figure using the overall UK market figure and a ratio based on relative population figures. On the basis of government statistics (ONS, 2009) the Welsh population in 2009 was 4.9% of the total for the UK. Applying this figure to the overall market figure it is possible to get a figure of £7.02 billion for total food sales excluding alcoholic drinks. It is necessary to apply a serious caveat here – the demographic in Wales will be different and some studies have suggested that buying behaviour is different (Lobley *et al*, 2009). Nevertheless a round figure of £7 billion provides an overall context for this market review.

Using a similar calculation the figure for the Welsh fresh produce market comes to £392 million. The same caveat applies and the figure does not take account of processed produce. If this is taken into account the figure rises to around £613 million.

## 2.4 The Welsh organic market

Applying the same population based approach it is possible to derive a figure for the total Welsh organic market and this is in the region of £90 million. If we apply the proportion for fresh produce set out in the SA market report (26%) we can derive an approximate figure for the total market for organic fruit and vegetables in Wales was £23.4 million in round terms in 2009. The SA market report divides the total market by outlet type as follows:

**Table 1 : Value of UK and Welsh organic sectors (£m) 2009.**

£ million	UK all organic	Wales all organic (est)	UK organic fresh produce (est)	Wales organic fresh produce (est)
Multiple retailers	1,356.80	66.48	352.77	17.29
Box schemes/home delivery/mail order	154.20	7.56	40.09	1.97
Farm shops	32.67	1.60	8.50	0.42
Farmers markets	18.96	0.93	4.93	0.24
Catering	16.47	0.81	4.28	0.21
Other independent retailers	261.10	12.79	67.89	3.33
Totals	1,840.20	90.17	478.46	23.44

Great caution must be applied to the figures in the 3 right hand columns (Table 1) as they have been calculated on the assumption that purchasing behaviour is the same in Wales as in the rest of the UK. That said the indications are interesting in that organic fresh produce is sold in relatively small quantities through some outlets.

The Exeter study suggests that Welsh farms tend to seek national (i.e. UK) markets for agricultural produce such as beef, lamb and milk but the evidence of the producer survey strongly suggests that Welsh horticultural producers are much more local market focused. This is discussed in more detail in the next section.

### **3 Production**

#### **3.1 Introduction**

The purpose of this section is to place Welsh organic horticultural production in context both in terms of total UK organic production and also in terms of total Welsh production including non-organic. Reference will be made to other reports as in earlier sections and to the latest Producer Survey figures. Some estimation may be needed and attention will be paid to any discrepancies.

#### **3.2 UK organic production**

The market position is set out in some detail in the Soil Association Market Report 2010 (see above) and this deals with sales of actual products. Assessing production is more difficult and it is the production area that generally tends to be used as a proxy for production. The Organic Producer Survey in Wales and similar schemes in Scotland rely on a relatively continuous effort to stay in contact with producers and traders. There is no such scheme that covers England or Northern Ireland or the UK as a whole.

Defra funded an organic vegetable market survey for the 4 years from 2001 to 2005. This project focused on levels of horticultural production and the degree to which the UK market was dependent on imports. UK self sufficiency increased from 58% in 2001 to 64% in 2005 (Firth *et al*, 2005; Geen & Firth, 2006). The series of reports also showed that at the time the UK organic vegetable market was increasing at a faster rate than the organic market as a whole.

The total area of land under organic management (including in conversion land) increased by nearly 9% from 682,196 hectares to 743,516 hectares from 2008 to 2009. There was a decrease in the area dedicated to fruit and nut production during the same period – the area fell from 2,025 hectares to 1,884 hectares. The vegetable production area (including potatoes) rose significantly from 16,878 hectares to 19,756 hectares, an increase of just over 17%. The total area of UK organic horticultural cropping rose from 19,515 hectares in 2008 to 27,148 hectares in 2009, an increase of 39%. A sharp and possibly encouraging increase but see the following comments.

Some caution has to be applied as for example the area dedicated to organic herbaceous and ornamental production rose from 612 hectares in 2008 to 5,508 hectares in 2009! This increase is due to improvements in recording systems according to the 2008 Organic Statistics (Defra, 2009d). It is these figures that form the basis for the SA Market report figures. A further concern relates to the area noted by Defra as 'other' – this increased by 59.2% from 11,248 hectares to 17,911 hectares. The SA Market Report breaks this figure down into 'non-cropping' (6,319 hectares, down 21.1%), 'other' (1,332 hectares, up 94.2%) and 'unknown' (10,260 hectares, up 304%). There would appear to be further room for improvement in the recording systems.

In the context of the larger areas devoted to arable, temporary grassland and permanent pasture these 'unknown' figures are relatively small. They are, however, broadly equivalent to the area down to organic vegetables and if there is horticultural area hidden in these figures it could affect the overall assessment.

### **3.3 Welsh organic production**

Detailed figures are not published by Defra or the Welsh Assembly Government but the detailed returns from certification (or more properly control) bodies are accessible to those with a legitimate interest. This has been done by the authors of the Welsh Organic Producer Survey 2009 (Moakes and Fowler, 2010) and the results compared with the actual returns from those producers who took part in the survey (65% of those contacted).

The total land area under organic management in Wales is given as 124,618 hectares in the SA report and 113,635 hectares in the 2009 Producer Survey. It is not clear why there is a difference given that both publications are working from the Defra figures. These are based on the 2008 returns and the Producer Survey goes on to estimate (on the basis of the survey returns) that the 2009 figure is 111,610 hectares a slight fall. In the context of total Welsh agricultural area the area under organic management is 8%.

### **3.4 Welsh horticultural production**

According to the Defra figures cited by the Producer Survey the area of organic horticultural production is 362 hectares and this represents 13% of Welsh horticultural production. This gives a figure of some 2,785 hectares for total Welsh horticultural production which is at odds with the Welsh Assembly Government's own figures. These show 'total vegetables, fruit, horticulture and glasshouse' as 1,000 hectares<sup>1</sup>. For 2009 it showed an increase of 16% from 1000 hectares the previous year.

There has historically been a disconnect between Defra figures and those determined by closer examination such as the Producer Survey and earlier market reports. The quality of the returns from Control Bodies has not always been the best but they are now working closely with the Defra statistics team to standardise data such as crop types. It has certainly been the case in the past that some crops have been confused including kale, Swedes, turnips, beans and peas.

Based on the returns of 56% from horticultural producers the authors of the Producer Survey Report estimated that the overall area of organic horticultural production was 111 hectares – the production area of the 56% who responded came to 69 hectares including 7 hectares of in-conversion land. If these figures are used to relate organic area (62 ha) to total area there is a greater correlation with the Welsh Assembly Government statistics.

Here is one of the problems that will need to be resolved if the market prospects of horticulturalists organic or otherwise are to be improved. It is essential that those working on market and supply chain improvement have a clear and accurate assessment of what is available and what is the production potential. It is difficult to imagine a more exhaustive approach than that employed by the Producer Survey. All known producers were sent a questionnaire following publicity. Those who did not respond were phoned, sometimes on more than one occasion – some did not wish to engage with the process.

Dealing with questionnaires and market surveys can be tedious but it is in everyone's interest to take part because in the end everyone should benefit, providing the information

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<sup>1</sup> WAG statistics only work to the nearest 1000 ha so anything from 500 to 1499 ha is recorded as 1000 ha.

gathered is effectively disseminated and where appropriate acted on. This is the very reasonable assumption that is made but could the information really be of benefit?

## **4 The Supply Chain**

### **4.1 Introduction**

This section will initially attempt to define the supply chain from the producer's perspective and the state of the market as they see. It will also include a perspective from those who operate the supply chain so to speak such as wholesalers and other traders but this aspect is still a work in progress.

### **4.2 Market outlets**

For those horticultural producers who responded to the Producer Survey selling direct to the public was by far the most popular route to market with little being sold by way of bulk trading. There was some selling to wholesalers but more work is needed to identify the traders concerned. Historically much of the early production was 'exported' across the border. The evidence from the Producer Survey, a separate survey undertaken for this report, and earlier market reviews suggest that much of the organic horticultural production in Wales is retained within the borders.

One or two growers have hinted in the past that the national operator Riverford Organics has been seeking Welsh suppliers. They are establishing franchises in south east and north east Wales albeit on a very small scale at the time of writing. It could make good sense to source Welsh produce for boxes delivered in Wales. That said the potential supply chain via a national box scheme is likely to be complex with product being moved to where it is needed. There is said to be a depot in the Taff's Well area which could allow Welsh produce to be repacked for Welsh consumers although it is not known if box packing is carried out at this site. More information is required on this relatively new element in the marketing mix but feedback from two larger growers talks of a zero response from Riverford when asked about taking Welsh supplies. It might be possible that such a company could provide the infrastructure to bring some coherence to the market place, but the evidence is not encouraging.

If developments in this direction became reality it could be very relevant to the larger growers who have been used to supplying wholesale customers in the past. At the time of the last market review in 2007 there were at least 3 major players in the wholesaling of organic produce. These were Calon Wen, Organics to Go (West) and the Organic Fresh Food Company (OFFC) all of whom were interested in increasing their supply base. Three years on and the picture has changed significantly – only one of these companies is actively trading organic fruit and vegetables and it appears that it is able to obtain all its needs from a small circle of experienced growers including a large area of well managed production in Herefordshire.

OFFC has taken on the wholesaling business of Organics to Go with Roger Hallam continuing to produce crops for them as one of the OFFC grower group, most of whom are shareholders in the company. Calon Wen no longer supplies organic fruit and vegetables (they took on Frontline Organics some years ago) but they have an agreement with OFFC to deliver and collect. So there is one active company where once there were three and the

indications are that overall turnover has dropped probably in line with the headline figure discussed earlier in this review. This leaves some producers between a rock and a hard place – they are too big to rely totally on local sales while reliable wholesale outlets are diminishing both in number as described and also in the volume of produce that they take. These are the growers who are still able to respond to reliable increased demand.

Would developments in the wholesale market such as Riverford be of relevance to the small local producer? Unlikely, as many appear to be committed to their current position. The Producer Survey noted that 41% of direct sellers (of all types) said that sales had risen, 21% said sales had fallen and by inference 38% saw little or no change compared to the previous year. This does not sound too bad under the circumstances but an examination of the comments that accompanied the responses suggests that several growers are less than content with their lot. This suggests that there is potential for the stimulation of innovation within Wales.

There are concerns about prices, weeding, costs of certification, and one or two were considering giving up certification. A common complaint was the level of detail required by the survey relative to the area of production and size of the business. In general terms growers who sell direct to the public produce relatively small quantities of a wide range of crops and disaggregating the areas and yields can be very time-consuming. The authors of the survey attempted to address this in the questionnaire but it still caused a problem.

### **4.3 Feedback from producers**

Producers who took part in the Producer Survey (55) were asked if they were interested in BOBL Horticulture projects – 21 said that they were interested, 17 were not sure, 7 were not interested and one response described the question as not applicable. The 21 who expressed interest were telephoned to ask for further comment and information. The questions used were more qualitative than those used in the Producer Survey and were intended to evaluate respondent's views on market surveys among other things.

Thirteen of the 21 horticultural producers on the list were contacted. Three of the others had wrong numbers or unobtainable numbers, the rest, despite repeated attempts, were not available. It was intended to invite the respondents to comment on the early conclusions of this review but this was clearly too unwieldy an issue to be dealt with over the phone so it was dropped from the survey. The summary that was cut is shown below:

The initial preparation of the overall context of the Welsh organic horticultural market has indicated the following. Does this match your experience? Please expand on any differences.

- The total area in production in Wales is no more than 150 hectares (375 acres) and possibly as low as 120 hectares (300 acres) despite the DEFRA figures suggesting that it is over 300 hectares (700 acres).
- The potential market for Welsh organic produce (fruit and vegetables) sold in Wales is in the order of £23.5 million.
- The proportion of this that could be satisfied through local production and local sales is estimated to be in the region of £5-6 million
- Much of Welsh organic produce is sold locally or through traders who tend to sell locally.

- The overall organic market declined by 12.9% in 2009 with the fresh produce category declining by 14.8%.
- The suggestion is that much of this decline has occurred in the larger outlets (supermarkets, national box schemes, etc.) and it has been less in the more locally oriented markets
- The rate of decline has slowed significantly for horticultural produce with the possibility of a return to slight growth by the end of 2010
- There is a significant amount of production that is local but not certified organic – this can be a significant source of competition in some areas.
- National box schemes now have a presence in Wales although not throughout the entire country.
- The level of sales through catering outlets and public procurement is low and, in the case of public procurement, has not fulfilled the potential suggested in earlier reviews.

After this hesitant start the questions that were actually asked are reproduced below with the summaries of the answers:

#### 4.3.1 Can you confirm your area of horticultural production?

All the respondents were small producers. The average area producing horticultural crops was 0.83 hectare. The total area amounted to 10.85 hectares with the largest producer cropping 2.83 hectares and the smallest cropping 0.12 hectares. There were two over 2 hectares, with the largest (2.83 hectares) planted to top fruit.

#### 4.3.2 In the last five years has this increased, decreased or stayed the same?

Eight<sup>2</sup> of those questioned had increased in the last five years, four had stayed the same and only one had decreased. It should be noted that a majority of these producers had started up in the last five years. The one that had decreased had substantially reduced their business. This was for other reasons than lack of demand.

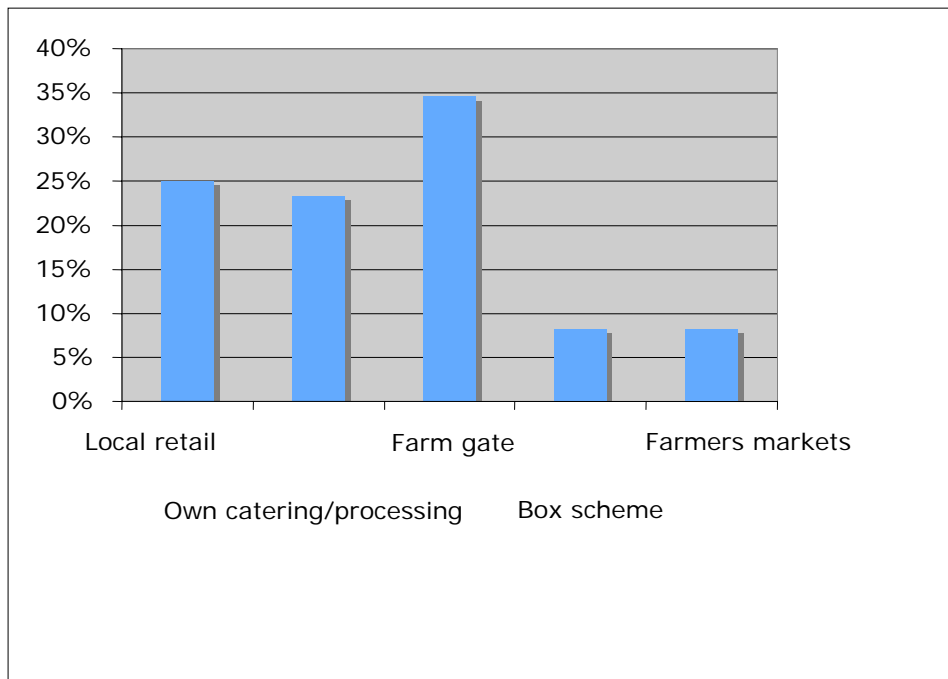
#### 4.3.3 Where was produce sold?

None of the producers that were contacted sold into the wholesale market. Four sold all or part through local retail outlets.

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<sup>2</sup> These were the producers that the authors managed to communicate with. This was only 21 of the suggested 62 horticultural producers in Wales. There is some concern that those that those who are doing better agreed to be contacted and so the sample may be skewed to not only more successful but also smaller producers. Further targeted work needs to be carried out to fully investigate these concerns as there was not time or resource to undertake this work within the current study.

**Figure 2: Where produce was sold**

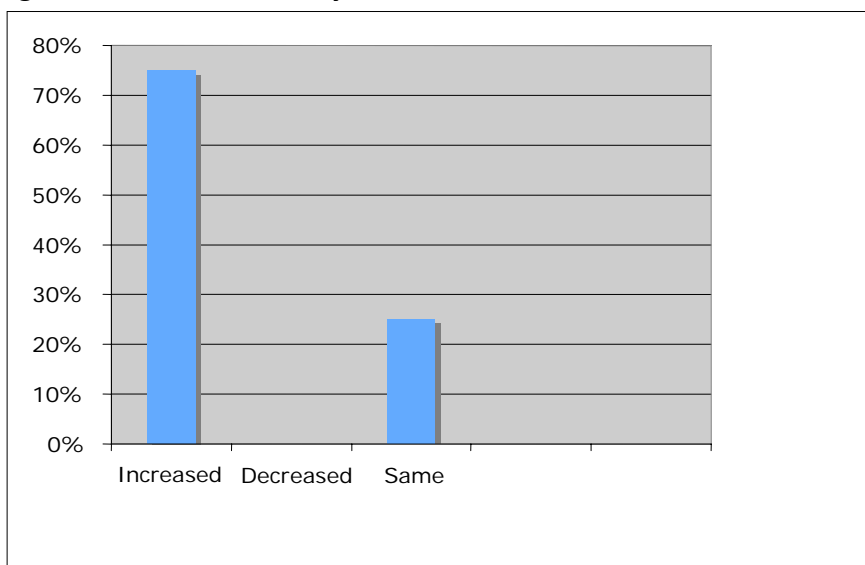


The fact that a majority of the producers sold direct at the farm gate is a reflection of the size of these producers. The own catering/processing respondents were producers who also had their own catering facilities. One was a restaurant while the other ran workshops and courses. The two processors produced jams and chutneys.

When asked if this had changed over the last five years only those two producers who were processing noted an increase in the percentage of crop now being processed.

4.3.4 Has demand stayed the same, increased, or decreased over the last two years?

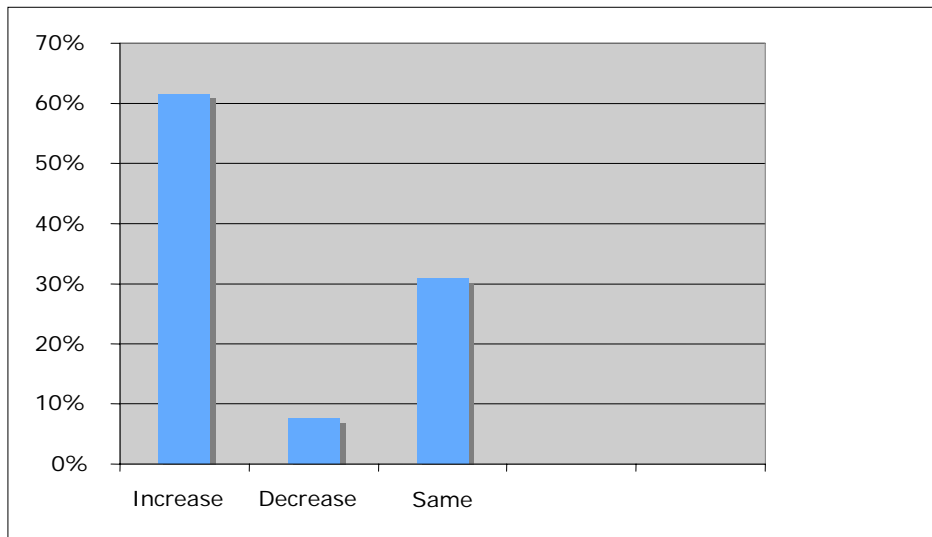
**Figure 3: Has demand stayed the same, increased or decreased over last two years?**



None of the producers noted a decrease in demand and 75% suggested an increase in demand. The one producer who has decreased his production did so for other reasons and made a point of saying that it wasn't through lack of demand. It would have been interesting to have interviewed some producers selling into the wholesale market. It is likely that they would have experienced a decrease in demand.

#### 4.3.5 In the future do you intend to increase production, decrease or stay the same?

**Figure 4: Do you intend in the future to increase production, decrease or stay the same?**

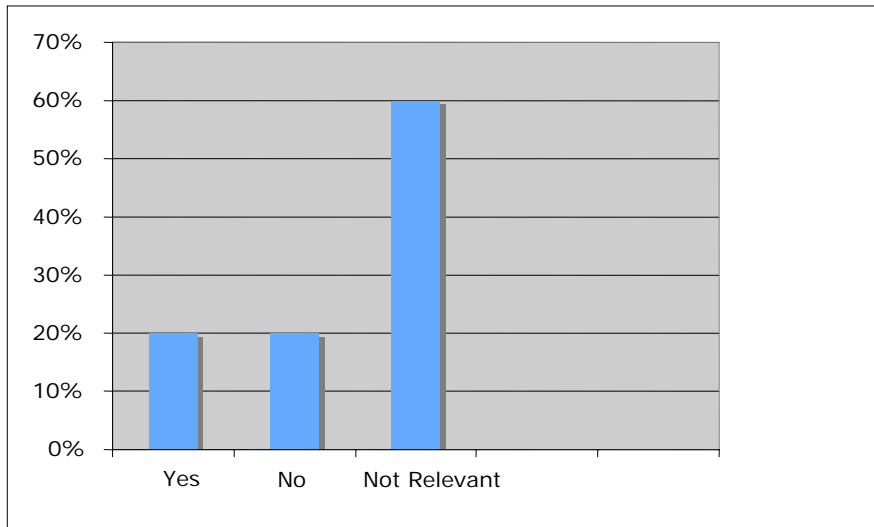


In general the producers were very optimistic about the future. Around 60% are intending to increase production in the future while 30% intended staying the same. The only producer to suggest that he was going to decrease was the same producer mentioned earlier, who is doing so for personal reasons.

#### 4.3.6 Do you have access to reliable market information?

Most of the respondents to this question did not feel that market information was relevant to them. This reflects the markets they are selling into which were either direct or via some form of processing. Of those that said "no" most were selling to retail outlets. A lot used the supermarkets for price comparison while some based price on cost of production plus margin. Many complained that "price wasn't high enough for sustained production".

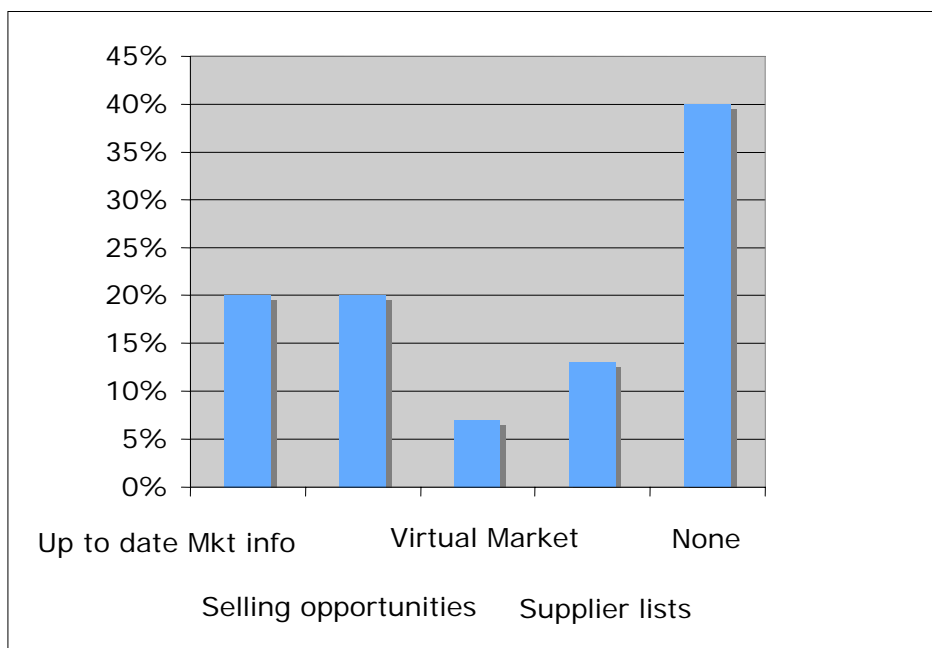
**Figure 5: Do you have access to reliable market information?**



**4.3.7 What further information would you like to have access to?**

A majority of producers did not feel that they required any further market information. Again this reflects the markets that they are selling into. Despite this apparent lack of interest in market information it was apparent that they were aware of market issues and kept themselves up to date with prices from a variety of sources. A total of 40% were interested in further information concerning price and selling opportunities. Information concerning suppliers was mentioned by two as lacking.

**Figure 6: What further information would you like to have access to?**



#### 4.3.8 Have you read any of the previous market reports and do they serve a useful purpose?

Of the producers interviewed seven claimed to have read previous market reports while six said they had not. Interestingly only four claimed that they were any use while nine said they were of no use. It should be added that this was often qualified by “not any use for what I do” rather than they were useless. Again this probably reflects the markets they were selling to.

#### 4.3.9 What do you consider to be the major constraint on organic horticultural production?

There were a variety of answers to this question. Despite not being that interested in market information around 20% talked about the market, in one form or another, being a constraint. Answers included:

“Lack of efficient, flexible market outlets, “

“Cost of selling and regulations”

“Dealing with seasonal surpluses”

“Marketing isn’t easy”

25% mentioned problems with finding and keeping labour. It was pointed out by three producers that there was insufficient money in production to be able to pay skilled people enough.

A further 25% talked about technical information relating to disease, weeds and varieties being needed. One producer highlighted the problem of finding the right machinery.

15% mentioned the sector bodies. One was concerned about the price of registering for smaller producers while the other thought that the sector bodies needed to be more flexible.

Other issues mentioned included the market value of food in general being too low and a lack of public awareness about organic.

#### **4.4 Comments on the survey**

One unsolicited response from a grower in a separate communication commented on the fact that the Welsh Assembly Government makes positive noises about increasing local production of food but does not appear to be able to offer financial and other concrete forms of assistance to enable this to happen. Clearly support mechanisms exist but they are not targeted at the small producer.

As the responses to the survey show all the producers who were contacted were small scale and exclusively orientated on local markets of one kind or another. There was a generally positive trend when asked about future plans but despite the optimism about the future many are finding it hard. This tends to match the responses from the Producer Survey. It is likely that this is maybe a reflection of the most recent season that producers have experienced.

The size of horticultural areas on holdings as shown by both surveys is small – the one exception from the Producer Survey being a 28.33 hectare area of potatoes. The average size of horticultural area was 0.83 hectare in our survey and 1.25 hectare in the Producer Survey, a figure that is skewed by the potato area referred to above. The predominant route to market is local in one form or another, a situation in which the supply chain is extremely short.

As some of the answers showed the relevance of market reviews is marginal and some of the recommendations that came out of earlier reviews would not have relevance to those growers who responded. These include regional distribution hubs, centralised cold storage, improved transport infrastructure, and improved access to supermarkets.

#### **4.5 Business Dialogue**

The BOBL project includes a commitment to conduct a survey of organic processors in Wales. The survey has been renamed the Business Dialogue which more accurately reflects the process, which comprised interviews which have been held with organic businesses across Wales.

The dialogue has revealed a discrepancy between the views of horticulture producers and wholesalers. The former claim that wholesalers do not look to source locally while the latter claim they can't afford the risk of sourcing from suppliers they regard as unreliable. For wholesalers and processors, the ease of obtaining European supplies in the quantities and quality required outweigh the perceived unreliability of local producers.

This is not a new problem nor is it one that is confined to the organic horticultural sector in Wales. There were tensions back in the days of Organic Growers West Wales some 20 years ago. The reasons behind these tensions are sometimes based on fact and sometimes based on perception. The poor weather conditions over the last three growing seasons will have clearly played their part, as has been made clear in the monthly report from a leading wholesaler in the Marketing e-Bulletin.

## 5 Summary Statistics

### 5.1 Introduction

The purpose of this section is to produce a summary set of statistics that can be compared with a similar set to be collected at the end of the BOBL project.

### 5.2 Table of statistics

	2009	2012	% change
Total UK market – all food (£ million)	143,300		
Total UK market – organic (£ million)	1,840		
Total Welsh market – all food (£ million)	702,000		
Total Welsh market – organic (£ million)	392		
Total UK market – fresh produce (£ million)	478		
Total Welsh market – organic fresh produce (£million)	23		
Total UK horticulture (hectares) Basic Horticulture Statistics – 2008 provisional (Defra, 2009a)	145,494		
Total Welsh horticulture (nearest 1000 hectares) <i>June 2009 Survey of Agriculture and Horticulture (Statistics for Wales, 2009)</i>	1,000		
Total UK organic horticulture (hectares) Taken from Soil Association (2010) and excluding ornamental production	21,640		
Total Welsh organic horticulture (hectares) Estimated (Moakes & Fowler, 2010)	110		

Some of these figures are estimates, some apply to 2009 and some to 2008.

## **6 SWOT Analysis**

### **6.1 Introduction**

It was intended to re-visit the SWOT analysis in the 2007 Market Review which itself contained references in 2 previous reports going back to 1998. In the light of the information so far collected it is clear that the locally orientated market needs a different approach. The earlier analyses worked on an assumption that the objective was to supply into the wider market place including the supermarkets. The wholesale aspect of the Welsh market has yet to be explored in suitable detail so some factors applicable to this market have been included.

### **6.2 Strengths**

- Although the overall market has decreased some small producers have reported more stable market positions.
- Small producers tend to access local markets – this offers reassurance to customers who can see where their food comes from.
- There continues to be a small but steady number of new entrants.
- There are still a number of larger growers who could respond to increased demand.
- There is interest in locally produced food that carries organic certification but this does not necessarily translate into growing demand at a larger scale.

### **6.3 Weaknesses**

- Many producers are isolated in the sense of working alone
- There appears to be little capacity to respond to increased demand from sectors other than local.
- Small producers may not have the resilience to deal with sudden problems such as the illness of a key worker.
- There is little in the current systems of support that small producers can access
- For those with the ability to produce moderate volumes there are few wholesale opportunities.
- The poor reputation of some local suppliers amongst wholesalers can limit their market opportunities and potential for growth at a time when the market is under stress.

### **6.4 Opportunities**

- The presence of national box schemes could offer considerable opportunities to those producers with sufficient capacity and easy access to collection/distribution depots but only if the company has the intention to seek Welsh supplies.
- The interest in local food remains strong and there could be benefits to all producers if the generic marketing campaign planned by Organic UK and the Organic Trade Board becomes reality.
- Despite the majority of Welsh organic horticultural producers being small there will still be opportunities to trade with each other.

- Pembrokeshire Produce Direct is a very real opportunity for producers in or near Pembrokeshire. The extension of this kind of one stop virtual shop to other areas of Wales could represent a significant step forward.
- The expansion of the market for Welsh organic horticultural produce could be greatly assisted by the development of appropriate infrastructure such as distribution hubs, cold storage and better transport links.
- Local suppliers who are having difficulty in accessing wholesale outlets should seek to improve their 'offer' in terms of presentation, consistency and continuity.

### **6.5 Threats**

- The presence of national box schemes could jeopardise small producers in those areas where they are active.
- The unknown number of non-registered producers working in a way that might be seen as compliant (with the organic standards) represents competition that is free of certification cost and the associated burdens of inspection, record keeping, etc.
- The fragmented nature of the supply base and the threat to some medium size growers through the lack of wholesale outlets could lead to a further reduction in the sector in Wales.
- The bulk of organic fresh produce consumed in Wales has been grown elsewhere and is sold through the supermarkets.

## **7 Recommendations**

### **7.1 Introduction**

It is difficult to come up with recommendations that are meaningful, achievable and capable of making a difference. Previous market reports have made a number of recommendations some of which will be repeated here. The current market position means that market development is at least as important as increasing the production base at this point in time.

### **7.2 Recommendations for action**

- 7.2.1 Continued support should be given to Organic UK in its bid to secure EU match funding for a generic organic promotion campaign. Market development should be given the highest priority.
- 7.2.2 The development of similar schemes to Pembrokeshire Produce Direct (PPD) should be encouraged in all areas of Wales. This will need a certain level of 'pump-priming' funding at the very least.
- 7.2.3 The establishment of regional collection and distribution hubs could be crucial to the development of local schemes such as PPD. These should include cold storage facilities, be accessible to growers and have good transport links to market outlets.
- 7.2.4 There has been little interest in supplying supermarkets from the Welsh organic horticulture sector but there is still a case for maintaining a dialogue with the various chains. Smaller chains such as the Co-operative and EuroSpar appear to give store managers more autonomy and these should be encouraged to seek local supplies where they exist.
- 7.2.5 BOBL could play a key role in promoting the PPD model across Wales and in providing information on local suppliers to store managers with a particular emphasis on small local stores. BOBL could also be pro-active in canvassing such stores and identifying those that would be willing to engage with local suppliers. This would be part of a drive to develop alternative and innovative markets for producers.
- 7.2.6 The Organic Farming Conversion Scheme has provided enhanced payments to horticultural producers in the past – this should be continued with increased levels of support.
- 7.2.7 The 3 hectare lower limit on Glastir eligibility will affect a significant number of organic horticultural producers. This should be lowered to 1 hectare and if necessary require evidence of horticultural production.
- 7.2.8 Consideration should be given to providing modest grants to horticultural producers in a similar way to the grants that were part of the first phase of Farming Connect. Every producer could be equipped with one or two poly-tunnels for a fraction of the cost of building hundreds of new animal sheds. These grants could be conditional on the produce thus grown being sold locally through a range of outlets. Agreement to engage in educational activities could also be included.
- 7.2.9 Although there is strong emphasis on market development in these recommendations, technical support for existing and potential growers should be

continued. When the market turns we must ensure there is capacity for meeting the increased demand that should follow.

- 7.2.10 The potential for supplying processors should be explored although previous efforts in this area have not had much success. Processors who are genuinely interested in seeking supplies from Welsh producers could hold workshops and/or host visits to illustrate their requirements for reliability and consistency.
- 7.2.11 Provide advice and guidance to growers on presentation/grading/storage of produce. Small changes can make a significant difference but all parts of the supply chain should recognise that there are no guarantees of market acceptance even when produce is presented well.
- 7.2.12 Increasing the scale of production is clearly desirable – this has been done co-operatively in the past but as market opportunities decrease so does the level of production. This lesson of history should be taken on board and alternatives to large-scale marketing explored.
- 7.2.13 Identify processing, storage and distribution facilities in Wales (organic and non-organic) and recommend additional facilities where necessary to ensure maximum opportunity for those growers who wish to engage with processors, large wholesalers and public procurement initiatives.
- 7.2.14 Workshops should be conducted for businesses selling direct – how to grow sales, add value and market yourself. These should involve successful practitioners rather than consultants.

## **8 Conclusions**

It is never possible to contact all the stakeholders and in this case it is primarily the smaller producer that has responded. Information on the traders and the 'larger' producers has been acquired from other sources as there have been no direct responses from this sector and there was not the time or resource within this project to take this further. Additional work should be undertaken to resolve this issue. In general terms the small producers are faring reasonably well in their local marketing while those that depend on selling quantities to others are in some cases feeling the pinch. Traders and the larger selling organisations will tend to rely on their tried and tested suppliers in tight times and will only seek supplies outside the 'inner circle' when the market is 'on the up'.

- The total area in production in Wales is no more than 150 hectares (375 acres) and possibly as low as 110 hectares (272 acres) despite what the DEFRA figures say (that it is over 300 hectares (700 acres)). Late information suggests that the upper limit could be in the region of 180 hectares (450 acres).
- The potential market for Welsh organic produce (fruit and vegetables) sold in Wales is in the order of £23.4 million.
- The proportion of this that could be satisfied through local production and local sales is estimated to be in the region of £5-6 million.

- The actual proportion is much less than this and there should in theory be a significant latent demand.
- Much Welsh organic produce is sold locally or through traders who tend to sell locally.
- The majority of growers contacted suggested that they expected to either expand or stay the same for the coming year.
- Virtually all producers that responded to the Producer Survey and those that have also been contacted by this review are small scale and generally mixed cropping.
- The overall organic market declined by 12.9% in 2009 with the fresh produce category declining by 14.8%.
- The suggestion is that much of this decline has occurred in the larger outlets (supermarkets, national box schemes, etc.) and it has been less in the more locally oriented markets. There is evidence that more regionally based distribution has also been affected.
- There is a significant amount of production that is local but not certified organic – this can be an important source of competition in some areas.
- A national box scheme now has a presence in Wales although it is perhaps better described as a toehold at present. There is no evidence that it is intending to take Welsh produce at this point in time and could represent a threat to producers in the areas concerned.
- The level of sales through catering outlets and public procurement is low and, in the case of public procurement, has not fulfilled the potential suggested in earlier reviews.
- The existence of small producers is a reality and one that should be encouraged for all sorts of reasons relating to food miles, clear and obvious traceability, freshness of product, etc. The promotion of locally produced and locally marketed is also a form of future-proofing our food security.
- However, those who still wish to supply directly to the consumer should also talk to wholesalers and other larger businesses with a view to supplying some their produce to these outlets, taking the pressure off the direct sales
- The 'larger' producers fall into 2 categories: those that have reasonable security of sales through the Organic Fresh Food Company and those that are struggling to find outlets able to take the volume of basic crops that they have been used to growing. The future for the latter category is not encouraging although they are responding by increasing the range of crops grown and accessing new market outlets such as Pembrokeshire Produce Direct. The expansion of the market is the best hope for all concerned.
- Encouragement with words and reports is all very well but there is an absolute need for much more tangible support. Farming Connect has become more relevant for a few horticultural producers in providing business advice, development of new enterprises, etc. but what would make a major difference to horticultural producers is the availability of financial grants for the erection of polytunnels and small packing

facilities. It may be bureaucratically top heavy to administer small grants of up to say £5000 but they could make a difference far beyond the apparent face value of the grant.

- Simplifying how horticultural production is dealt with on the SFP claim form would be very welcome.
- The provision of market information and reports does not seem to be a vitally important factor in the business planning of these small producers although many have seen the earlier reports that have been published. Although not specifically mentioned it may be that regional approaches would be better appreciated.
- The wider organic produce market in Wales appears to be substantially supplied from beyond the border despite the fact that a significant proportion of that produce could be grown in Wales. There clearly continue to be opportunities for producers but competing with growers in more suitable parts of the UK and beyond is always going to be difficult within the present system. This will change at some point in the future and producers will need to be prepared for that moment. The key issue is whether there will be enough capacity to respond when that moment arrives.
- It is important to note that the producers consulted for this report were mainly supplying local markets. For larger operators the provision of centralised distribution hubs, cold storage and improved transport infrastructure would be very important to see the market in Wales grow. BOBL has the ability to look at best practice in Wales and to help share the information and encourage similar working models across the country.
- The blurring of the words organic/local is creating problems in the market place for the small organic producer who has the extra costs of certification to bear.
- The report has shown clear differences in problem-perception between producers and traders, and there is a role for BOBL to act as impartial mediator to resolve these.

## 9 Bibliography:

*Not all are cited in the text but have been used for reference*

Cobweb (2009) *An overview of the current performance, trends and key factors affecting the UK food and grocery retail sector* Cobweb Information, Gateshead

Defra (2010) *Agriculture in the United Kingdom, 2009* Defra with devolved administrations' agriculture departments

Defra (2009a) *Basic Horticultural Statistics 2009*. Defra, York

Defra (2009b) *Family Food 2008*. Defra, London

Defra (2009c) *Food Statistics Pocketbook*. Defra, London

Defra (2009d) *Organic Statistics 2008 United Kingdom*. Defra, York

Firth, C., Geen, N., & Hitchings, R. (2005) *The Organic Vegetable Market 2003-04*, Henry Doubleday Research Association, Coventry

Frost, D., Creed, C., Turner, S. & van Diepen, P. (2007) *Increasing the range of vegetables grown in Wales*. ADAS, Cardiff

Geen, N., & Firth, C. (2006) *The Organic Vegetable Market 2004-05*, Henry Double Research Association, Coventry

Haward, R., & Green, M. (2004) *Improving Market Intelligence for Organic Horticulture in Wales*, Organic Centre Wales, Aberystwyth

Hitchings, R. et al (2007) *Market review of the Welsh Organic Horticulture Sector, 2007*. Organic Centre Wales, Aberystwyth

IGD (2009), *After the Storm*. IGD, Watford

Holeran, C., Horsfall, A. & Mitchell, A. Eds. (2009) *Agricultural Statistics in your Pocket*. Defra, York

Huxley, R. (2003) *A Review of the UK Food Market*. Cornwall Agriculture Council/Cornwall Taste of the West

Lampkin, N., Measures, M., & Padel, S., (eds), *2009 Organic Farm Management Handbook*, University of Wales, Aberystwyth/Organic Research Centre, Elm Farm, Newbury

Lobley, M et al (2009) *Analysis of socio-economic aspects of local and national organic farming markets*. Centre for Policy Research, University of Exeter

Moakes, S. & Fowler, S. (2010) *Welsh Organic Producer Survey 2009* Organic Centre Wales, Aberystwyth

Moakes, S. & Lampkin, N. (2009) *Welsh Organic Production and Market Report 2008*. Aberystwyth University, Aberystwyth

ONS (2009) *National Population Projections*  
<http://www.statistics.gov.uk/cci/nugget.asp?id=1352> Office for National Statistics, London

<http://pembrokeshireproducedirect.org.uk/index.asp> - website for collective buying from over 70 producers including horticultural produce

Sahota, A. (2007) *The UK Market for Organic Fruit & Vegetables*, Organic Monitor, London

Soil Association (2010), *Organic Market Report 2010*, Soil Association, Bristol

Spedding, A. (2009) *Feeding Britain – fruit and vegetables*. RuSource Briefing 805.  
[http://www.arthurrankcentre.org.uk/projects/rusource\\_briefings/index.html](http://www.arthurrankcentre.org.uk/projects/rusource_briefings/index.html)

Statistics for Wales (2010) *Farming Facts and Figures* Welsh Assembly Government, Cardiff

Statistics for Wales (2009) *June 2009 Survey of Agriculture and Horticulture: results for Wales* Welsh Assembly Government, Cardiff

TNS (2004) *Organic Food: understanding the consumer and increasing sales*. Organic Centre Wales/Soil Association/Welsh Development Agency