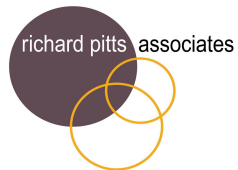




The Economic Potential of Local Orchard Fruit in Powys

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Report Prepared by



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Introduction

This study explores the economic feasibility for local producers of orchard fruit to supply box schemes, school tuck shops and independent green-grocers. The study seeks to identify the level of potential demand from these outlets and their consumers in Powys. The capacity of the producers in the county to meet any identified demand will also be investigated. The study starts with a review of the extent to which local orchard fruit is already supplied to box schemes and school tuck shops both in Powys and case studies from elsewhere in Wales or the UK. Recommendations with preliminary costings are also included.

Summary

Demand for Local Orchard Fruit in Powys from Vegetable Box Schemes amounts to an excess of £25,000 per annum which equates to approximately 17,000Kgs. Similarly demand from School Tuck Shops and other Clubs associated with schools is approximately £17,000 which equates to approximately 11,000Kgs per annum. Future demand from both these areas is almost certainly going to increase with the combined value likely to lie between 45 and £50,000 within the next 7 years.

On the supply side current production is not well organised but could probably meet the existing demand if management improves. With a relatively modest increase in the numbers of trees grown or managed then even the predicted demand could be met comparatively easily.

Amongst the recommendations are actions that are designed to improve; a. the quality of the crop (particularly yield size and reliability of supply); b. communication between growers and growers and consumers; and c. access to the crop itself.

Methodology

The data behind this work was gathered primarily through the use of questionnaires (see Appendices).

On the Demand side, there are 9 box schemes known to be running in the County at the time and all of these were sent a questionnaire (see Appendix 1). 6 responded representing 66% of the total

In addition to this a small number of other box schemes from outside the county were contacted by phone to see if they were doing something with local orchard fruit (LOF).

All of the 122 Primary and Secondary schools in Powys along with 47 Afterschool and Breakfast Club contacts were sent a copy of the Schools Questionnaire (see Appendix 2). Responses were received from 21 Schools and Clubs representing 12% of the total number of schools.

5 local shops and independent Green-grocers were also visited or contacted by phone and interviewed using the Questionnaire (see Appendix 3) wherever appropriate.

All of the above were contacted in order to establish the level of existing use of LOF and the likely demand or interest that there might be for receiving it in the future.

On the Supply side questionnaires (see Appendix 4) were sent to exactly 100 addresses across the county. These came from a variety of sources: people who have contacted Glasu with an interest in, or have attended the Orchard training courses; People who have contacted the Orchard Doctor and others who are Powys members of the Marcher Apple Network (MAN). It was not known at the time how many of those contacted actually owned trees but 32 (32%) responses were received.

These producers were questioned in order to establish the likely capacity within the county to meet any demand that is identified from the schools, box schemes or green-grocers.

Their responses are summarised below:

Review of Existing Activity Within Powys

Box Schemes

84% of respondents to the questionnaire (see Appendix 1) provide a year round service and 16% provide a 7 monthly service June to Dec.

100% provide boxes on a weekly basis

67% offer exclusively Organic* produce (one of these is out of county). The remaining provide uncertified organic and use local or conventional produce if they have to.

The smallest scheme serves 25 customers, whilst the biggest serves 300. Altogether 713 people receive boxes.

Only one, the smallest scheme, grows all of its own produce. The remainder (84%) buy it in from one of just three wholesalers (Organic Farm Foods, Lampeter, Phoenix Organics and Flights Orchard).

All of the schemes have policies on sourcing locally, with this defined as under 5 miles, 10 miles, up to 20 miles, 40 to 50 miles and 40 miles, with another respondent stating 'as close as possible'.

Only 50% provide optional 'value-added' produce with the box, these include homemade cakes (33%), Juices (33%) and Chutney and Cheese (both 16%)

Currently the box schemes are only able to get Apples, and on a very limited basis, from local growers or suppliers. Only 3 schemes (50%) had succeeded in finding a local supplier who in two instances were a number of nearby individuals who were known to them. The other scheme used Phoenix Organics.

When asked about the criteria that are considered most important by their customers 'Taste' was ranked as more important than the others (scoring 27 out of a total of 36), with 'Freshness' coming a close second (scoring 25). 'Local' and 'Organic' both then scored 21 and 22 respectively, with 'Appearance' and 'Price' emerging as least important, both scoring a very low 9 and 11 respectively.

Schools

It hasn't been possible to establish how many schools are involved in running tuck shops. Powys Catering is not necessarily involved in supplying them and, as has been revealed in the Questionnaires, many schools organise it themselves. Powys Catering is aware of one or two that have tried to run one but because of supervision and commitment issues they have had to stop. It is thought that approximately a third of the 123 schools in Powys are currently running Breakfast Clubs and all of these are found in Primary Schools although it is hoped that Secondary trials in Powys may be able to start soon. Approximately 90% of the schools are also running Afterschool clubs, however the majority of these are sport related and may not be involved in serving food. Similarly it hasn't been possible to identify precisely how many 'Holiday Clubs' exist, but the Afterschool Club list of 54 included 8 that were also Holiday or Kids Clubs. It is reasonable to assume that there maybe about 20 in total.

Interestingly it is likely that just under half of all the schools (58, including 9 secondary) have joined the Healthy Schools Scheme (HSS). However, whilst 35% of all schools are thought to operate a 'fruit tuck shop', as many as approximately 75% are thought to operate a 'fruit only' policy for breaktimes, something that is actively encouraged by the HSS.

To date 21 schools/clubs have responded to the questionnaire (see Appendix 2). 9 operate a tuck shop, 4 operate a Breakfast Club, 12 operate an Afterschool Club and 10 operate a Holiday Club (10 of the respondents operated more than one of the above 'outlet')

Only 1 school stated that it had not served fresh fruit of any kind. Of the 20 that did they have all served Apples, the next most popular was Oranges, Bananas and Grapes (15 or 14 schools/clubs), followed by Pears (11) and Melon and Plums (9). Kiwi, Strawberry, Pineapple and Lychee were listed as other fruits served.

Only 3 respondents claimed to sell/serve 'organic' fruit, with Apples and Oranges again appearing most frequently. Only 1 respondent stated that they had served fresh local orchard fruit (apples). This was the Cheeky Monkeys Breakfast, Afterschool and Holiday Club at Llyswen Primary School. They were purchasing a variety of locally grown and seasonal fruit from the Oakchurch Farm Shop at Staunton on Wye in Herefordshire, a distance of up to 19 miles away.

When asked about why they thought some fruits were more popular than others 5 of the respondents stated that the more common or familiar fruits seemed to be preferred by the pupils (Apples were mentioned specifically on three occasions)

12 respondents stated they had not served any dried fruit (although it was an ambition of one to do so soon). Of the dried fruits served Raisins were the most popular, followed by Apricots and one school has served Bananas. No dried orchard fruits are served.

Conversely a similar number (11) had served fruit juices/drinks, with 'pure fruit juices' (6 schools/clubs) being served more than 'sweetened juices' (5) and 'fruit flavoured waters' (5). Only 3 respondents served pure fruit juice.

When asked to rank the criteria through which the pupils chose what to eat the following scores were recorded: 'Taste' appeared most important (scoring 96 out of a max 126), followed closely by 'Appearance' (91) and 'Freshness' (86). The other three criteria listed appeared much lower down, with 'Price' (60) being important where the pupils are charged, 'Organic' (41) was listed as marginally more important than 'Local' (40). (21 was the lowest score possible).

All the respondents were involved in washing, cutting up and portioning the fruit, with some kinds needing peeling too, especially for the younger children.

The majority (11) used the school kitchen to prepare the fruit, with one other respondent having a kitchen area fitted into the classroom for this purpose.

Canteen staff were only involved in the preparation at 4 of the respondents, with the fruit being prepared by the Teacher, Assistants or Playleaders themselves in the majority of establishments (12). Two of these stated that the children were also involved in the preparation.

Only three schools used a wholesaler to supply them with fruit and all three used the same one – 'Redbridge', delivering out of Hereford. At all the others, teachers or staff were responsible for collecting the fruit from shops. 4 schools stated they were 'local' shops, whilst 4 used the word 'supermarket'.

Independent Green Grocers

Most of the shops spoken to stated that they could only get LOF on a very adhoc arrangement, as and when the grower had a surplus that was of sufficient quality and quantity to warrant the effort of taking it in to the shop. One seller has managed to set up a relationship with one or two growers near to them but similarly the quantities and quality of the crop is variable.

Review of Existing Activity Elsewhere

Box Schemes

Riverford Organics were contacted about their supplies of Fruit. They are a large company based in Devon supplying vegetable boxes to homes "across the South of the UK". They currently use one or two local growers who supply them with 2 to 5 tonnes, a major supplier in Kent as well as 'Pardoes' based in Worcester. Most of the UK organic apple supplies are exhausted by December, whereupon imports are relied on.

Arkstone Mill Produce, based in Kingstone, supplies certified organic boxes to 180 customers in Herefordshire. Even in a county blessed with many apple growers the locally sourced, certified organic orchard fruits that they get hold of seems to come via the wholesalers, Phoenix Organics based nr Ledbury.

Flights Orchard Organics are using about 3 tonnes of apples each week to supply their boxes, with nearly all of these being sourced from within Herefordshire. The Herefordshire season starts in Mid August (Discovery) and usually finishes in Mid January (Ida Red). If the local crop were inadequate to meet their demand they would source produce from elsewhere in the UK. They also sell Organic pears and plums.

Schools

In Wales the Swansea Public Health Team provides support to local primary schools to set up fruit tuck shops to promote healthy eating and at the same time establish links with local suppliers and growers. The work ties-in with the healthy eating and sustainable development components of the school curriculum. Schools taking part in the initiative develop an approach that suits their needs and are encouraged to source local and seasonal produce in order to develop links between the school, local suppliers and growers. It seems that this last aspect has encountered some real difficulties that, coupled with resource shortages (eg only a part-time, short-term contract for the development worker), has made it hard to quantify the level of success in this area.

West Dorset Food and Land Trust are involved in running a DEFRA funded project. The 'Fruit Tuck Project' aimed to get local fruit into 5 schools. After an initial 12 months funding, the project has been running for three years now and 90% of the children receive the fruit. (see the Best Practice Section below for more details)

In Scotland the national 'Free Fruit in Schools' initiative aims to provide one portion of fruit three times a week during term time to all primary 1 and 2 pupils in local authority managed schools. The Scottish Executive has provided £2m per year for financial years 03-04 to 05-06 to introduce the Free Fruit initiative across all publicly funded schools in Scotland. Fruit and vegetable schemes were already running in many areas before the implementation of this initiative. However, these schemes varied widely, from large, well-established programmes in all the primary and nursery schools to the introduction of fruit into school tuck shops or free fruit offered on a limited basis. A census in 2005 showed that almost 100% of primary schools were giving free fresh fruit to P1 and P2 pupils. In the majority of areas the fruit was supplied by a local wholesaler. In nearly all cases the supplier of the fruit also distributed the fruit to schools. The evaluation also revealed that rural areas required a bit more flexibility in terms of choosing suppliers and sources of produce as well as implementing the scheme.

Demand Within Powys

Box Schemes

4 respondents to the questionnaire (see Appendix 1) provided figures for their turnover, which in total amounted to £19,850 (lowest £2250, highest £10,000) arising from the sale of Orchard Fruits. These same schemes supply 660 customers throughout the year amounting to an average spend of £30 per person. The remaining respondents cited 'very little' and '10%' in their responses and serve between them just 53 customers. Assuming an average spend of £30 per person this would add £1590 to the previous total equalling £21440 and from just two thirds of the County's box schemes. It seems likely therefore that the market for orchard fruits from just Box Schemes in Powys amounts to something in excess of £25,000 per annum, and may possibly be as much as £30,000.

None of the respondents provide conventionally* grown orchard fruits. 84% supply certified organic* produce and 33% a mixture of certified and traditionally* grown produce.

84% (5) of the respondents stated that 'most' or 'all' of their customers demanded orchard fruit regularly throughout the year and that Dessert Apples were the most popular.

All (100%) of the schemes supply Apples to their customers, with Pears and Plums being sold only by the 4 bigger schemes (80+ customers).

Only 3 schemes provided figures on quantities. It seems that individual customers of box schemes are presently consuming about 11kgs of Apples, 6.1Kgs of Pears and 1.2Kgs of Plums per annum (with all of these being Organic and or Traditional). Using an extrapolation this suggests that the combined consumption may amount to approximately 7843Kgs of Apples, 4349Kgs of Pears and 855Kgs of Plums across the 713 customers per annum. The remaining Box Schemes that didn't respond to the questionnaire may push this total to over 10,000Kgs of Apples, 6000Kgs of Pears and 1000kgs of Plums.

The figures for the value and quantity of LOF sold in Powys via the box schemes also seem to correlate as £25000 divided by 17000Kgs gives rise to a price of just under £1.50/kg which equates to a typical shop and box price for many orchard fruits and/or varieties.

Schools

Short Term Demand

15 of the respondents to the questionnaire (see Appendix 2) served fruit daily. 1 served it twice daily and 1 served it once weekly, 1 served it 2 or 3 times a week and yet another served it just once or twice a month.

On average the schools spend between £10 and £15 per week on the fruit, with 2 respondents spending as much as £25/week and one spending as little as £2 – school sizes will obviously be a determining factor influencing this. If all 107 Primary Schools spent £12.50/week then their expenditure over 38 weeks would amount to nearly £51,000 per academic year. Based on the typical price of about £1.50 per kilo then this expenditure would amount to 34,000Kgs of fruit per year. Obviously not all of the fruit sold in the schools are orchard fruits but assuming that between a third and a half of it is then the required volume of LOF could amount to between £17,000 and £25,000 or 11,000 and 17,000Kgs each year.

17 respondents spoke of their plans for the future and all of these want to see the shop/club continue to develop and grow, with more fruit available to more children. One school specifically mentioned adding dried fruits, another wanting to include drinks (particularly in the summer) and a third specifically wanting to use locally grown organic produce if it was possible.

In response to being asked about selling/serving fresh and dried LOFs as well as LOF Juice in the future the overwhelming response was positive. When asked about selling/serving fresh LOF all 21 schools answered either 'yes definitely'(7) or 'maybe, perhaps on a trial'(14). When asked about selling/serving dried LOF 20 schools answered either 'yes' (4) or 'maybe, perhaps on a trial'(16) and when asked about selling/serving LOF juices 19 schools answered either 'yes'(6) or 'maybe, perhaps on a trial'(13).

The questionnaire responses highlighted the likely demand over the short term, however there are a number of important initiatives that need to be borne in mind when considering the likely demand over the medium and long term.

Medium and Long Term Demand

In the medium term the Assembly has recently published a 5-year Implementation Plan, entitled *Food & Fitness*, which communicates the actions that will be put in place to improve the nutrition and levels of physical activity of children and young people in Wales. Three of the seven actions it contains include initiatives that explicitly mention fruit and schools.

In order to extend the Welsh Network of Healthy School Schemes Action 1 details the provision of grants for food projects in participating schools such as fruit tuck shops. The grants should be awarded by November 2006 with the implementation of projects to be taking place from April 2007.

Action 2 is concerned with improving the food and drink consumed throughout the school day and lists the extension of the Primary School Free Breakfast Initiative. This is due to roll out from September and all schools will be offered funding to run such a club by January 2007. This accounts for the increased interest in running a Breakfast Club being expressed by Powys Primary schools, keen to register before the January 2007 deadline.

Finally, Action 3 is concerned, amongst other things, with the provision of opportunities for children to gain practical cookery skills. One of the initiatives under this action will see a 'Cookery Bus' visiting Primary Schools, initially just in the Communities First Areas (which in Powys is limited to Ystradgynlais and Machynlleth), to provide cookery sessions for

pupils from September 2006. Further proposals for innovative work involving the 'Cookery Bus' will be considered in September 2006 for implementation after April 2007.

Looking further ahead still, the Assembly published on the 29th June this year a consultation document called 'Appetite for Life'. This is the 'Food in Schools' Working Group's report on the extent to which more stringent nutritional standards should be introduced; with the aim of reducing pupils consumption of fats, salt and sugar and increase the consumption of fruit, vegetables and other foods containing essential nutrients.

There are 6 proposals that will have a direct effect on the opportunities for the supply of local orchard fruits into schools. They are outlined below:

- **Proposal 5:** All Primary schools should be encouraged to participate in the Primary School free breakfast initiative.
- **Proposal 6:** Secondary schools should only provide drinks (other than plain water and pure fruit juice) that have a clear nutritional benefit (in that they should provide essential nutrients rather than just calories), are not harmful to teeth, and do not encourage a preference for sweet drinks.
- **Proposal 8:** Primary schools should only offer milk in addition to water as a snack drink. In addition, pure fruit juice may be provided alongside a meal.
- **Proposal 10:** Snack food provision in schools must have a clear nutritional benefit (in that they should provide essential nutrients rather than just calories) and in primary schools should be restricted to fruit at break time.
- **Proposal 11:** The sale of confectionery (sweets, chocolates), cereal bars and packaged processed savoury snacks (crisps and related products) should be completely banned as soon as possible.
- **Proposal 30:** Catering specifications and menu planning should give greater emphasis to sustainability, seasonality and local procurement, whilst ensuring food safety.

Whilst certain proposals above may be seen as quite radical, those that are accepted should be in place by 2008.

Finally, the Healthy Schools Scheme actively encourages schools to adopt a 'fruit only' policy for breaktimes, indeed member schools must adopt such a policy within three years of joining the HSS. Whilst the review section above detailed the schools' existing interest in fruit and healthy eating, the Assembly has adopted a target that underlines this particular trend by stating that 75% of schools should be members of the Welsh Network for Healthy School Schemes by 2008 and 100% by 2010. This implies that by 2013 all schools in Powys (& Wales) will have adopted a 'fruit only' policy for their break-time snacks.

Independent Green Grocers

All of the shops spoken to stated an interest in being able to supply more LOF providing a supply could be found. 2 of the shops said that they would prefer to sell named varieties, but the others stated that as long as they could differentiate between cookers or dessert the lack of a name didn't necessarily matter. Generally speaking it seems their customers like to buy local wherever possible. In addition to this there is a national trend that sees sales of fresh fruit likely to continue increasing in the UK. There has been a 21% increase in the market in the 4 years between 2001 and 2005. This is underlined by the emphasis on healthy eating; an increase in the range of fruit snacks and the existing relatively low per capita expenditure on fresh fruit across the UK. However the need for convenience is as strong if not stronger than ever before especially amongst younger consumers, and whatsmore the more elderly population (that traditionally use more primary ingredients) within Powys may already buy a comparatively high amount of fresh fruit (and vegetables), both of which may suggest less potential for growth in the fruit market in the county as a whole.

Demand Elsewhere

Box Schemes

Riverford Organics Box Scheme, based in Devon is aware of a lot of orchards that are currently 'in conversion' as demand is so high. Consequently at the moment it is a sellers market. In their view Organic quality is improving and is more and more able to compete with supermarkets - "local fruit should now stand up against the [supermarket] stuff", so they [Riverford] are not so interested in poorer quality produce unless it has a good 'story'.

Flights Orchard Organics, based near Ledbury, operate a wholesale and box scheme business supplying 3000 of their own boxes plus many other schemes across the UK. Similarly they report high demand, and are interested in hearing from any producer who can supply at least one pallet full (equivalent to 6 or 700 Kilos) providing the variety 'eats well' and is of sufficient quality.

Schools

Across Wales as a whole there is expected to be an upsurge of interest from Primary schools interested in setting up a Breakfast Club, due to Assembly funding (see above) and likewise with funding becoming available for fruit tuck shops (amongst other things) a similar increase in the numbers of these initiatives is almost certain. (For more specific examples see the Best Practice section below)

Supply Within Powys

90% of the respondents to this questionnaire (see Appendix 4) own or manage an orchard. And these orchards contain at least 984 trees that are currently capable of bearing fruit, with at least another 362 trees newly or recently planted, that can be expected to bear within the next 2 to 5 years. This would represent an increase in current stock of at least approximately 36%.

When asked about how the trees were grown an overwhelming majority (88%) answered 'Traditionally'* with none grown 'Conventionally'* and only 13% being grown 'Organically*'. However a total of 387 trees are being grown by the 'Organic' orchard owners, as opposed to 600 being grown traditionally, which represents a ratio of approximately 60/40 (traditional/organic).

534 trees (54%) are growing in Orchards that are actively being managed to varying degrees and 374 (70%) of these are being grown organically.

100% of respondents are growing Apples, 44% are growing pears, 53% grow Plums and 28% grow other orchard fruits that were listed as Damson (6 respondents), Cherry (3), Quince (3).

The respondents have listed at least 68 different varieties of Apple growing in the County, 8 different Pears, 6 different Plums, at least 2 different kinds of Damson, and at least 3 different kinds of Cherry (see Audit for complete lists).

Yields were only erratically recorded by respondents and in a variety of different forms (lbs, Kg, barrows and buckets). Spread across so many different kinds and varieties of fruit and ages of trees it is very difficult to see any significant information emerging, with the exception that it seems clear that as yields are often very small and seem difficult to predict or estimate, this may say more about the lack of active management than it does for the yields of particular varieties. In several cases the yields were quoted as biennial, which may be as a result of over cropping and under management.

In terms of what happens to the fruit up to 22% of the trees' fruit is left on the tree or the ground, the fruit from 14% of the trees are picked and given away and up to 95% of the fruit is picked for home consumption. This includes juicing it. Currently only 4% is picked and sold. (NB many of the respondents ticked more than one response here). Where the fruit is sold one respondent passed the fruit on to the neighbour who sells to the public, a second respondent didn't specify and another sells their juice to the Wild Carrot shop in Rhayader. The quality of this information is poor and so this analysis is incomplete.

15 of the respondents (46%) stated that they did have storage facilities for their harvested fruit. This accounted for the fruit from 440 trees (44%). Of the 542 trees whose fruit cannot be stored, 362 of them are believed to be juiced which leaves only 180 trees whose fruit is not currently stored.

18 of the respondents (56%) stated that they did have access to a vehicle that could be used to deliver produce. This accounts for the produce from 599 trees.

3 respondents said they were/are interested in developing an innovative product using their fruits, though none were at the stage of taking this any further at the moment

11 of the respondents stated that they would be interested in working with Glasu to explore further how their fruit could be sold to the public. These respondents currently own 400 trees that bear fruit

NB * see definitions at the foot of the Questionnaire contained in Appendix 4

Distribution Issues

The 100 producers that were contacted as part of this work were scattered across the county. They are producing fluctuating quantities of different kinds and varieties of LOF and throughout the season. The schools that responded are also scattered across the county although certain clusters of interest can also be identified. The box schemes that responded are by and large focused on the eastern border of Powys and with a northern bias too (see map in Appendix 5).

In light of the fact that orchard fruit is quite bulky, heavy and, by virtue of its variability, of relatively low quality, the economies of scale will work against sending it any great distance. Competing with conventional commercially grown and bulk transported produce is therefore a non-starter for the Powys crop and its growers. However with local schools and box schemes expressing such interest there is a significant opportunity for marketing the LOF locally and thereby keeping the distribution costs to a more manageable scale. This is underlined by the fact that 56% of the respondents stated that they did have access to a vehicle that could be used for delivering their crop the presumably short distances to these local outlets. Whilst local distribution seems technically possible, unless a mechanism can be found for bringing the growers into contact with potential outlets even this local trade may not occur except on the largely adhoc, minority arrangement under which it takes place at present.

In certain areas of Powys where clusters of growers can be found it may be worth exploring with them the idea of shared vehicle use for collecting and distributing their crop to local outlets. However the viability of this would depend on the clustered growers producing sufficient yields, otherwise the growers own vehicle would be far more efficient. It is also possible that some of the potential schools or schemes questioned may themselves be in a position to come and collect the crop from the grower, particularly where box schemes are making deliveries nearby or where school staff are able to call in. Once again whilst this is technically possible, without the communication mechanism mentioned in the previous paragraph it is difficult to see how such ideas would work.

Best Practice

Box Schemes

Somerset Food Links (The Fruit Links Project) – 01458 241401
Flights Orchard – 01531 632244 www.flightsorchardfarm.co.uk
Riverford Organics - 01803 762720 www.riverford.co.uk
Arkstone Mill Produce, based in Kingstone – 01981 251135

Schools

West Dorset Food and Land Trust are working with their trading subsidiary 'Local Food Links' to run a DEFRA funded project under the Rural Enterprise Scheme. The 'Fruit Tuck Project' was aimed at getting local fruit into 5 schools. LFL purchase the apples, which are then supplied to the schools by part time fruit coordinators. Up to 38 volunteers are involved in chopping up the fruit into 10p portions for the Key Stage 1 pupils and 15p portions for the Key Stage 2 Pupils. After an initial 12 months funding, the project has been running for three years now and 90% of the children receive the fruit.

the Swansea Public Health Team provides support to local primary schools to set up fruit tuck shops to promote healthy eating and at the same time establish links with local suppliers and growers.

In Scotland the national 'Free Fruit in Schools' initiative discovered that local wholesalers were better at supplying and delivering the fruit and that rural schools needed more flexibility in choosing suppliers

South Gloucestershire Council

Creative thinking has helped increase healthy eating among school pupils. Pupils were 'suspicious' of whole fruit – it was too big and they didn't know what was inside it. It also wasn't 'sexy' enough to compete with commercial packaging. They

found that cutting it up into smaller portions and chunks solved the first problem, which then enabled them to use the same approach that fast food outlets use, hitting upon the idea of using paper chip cones to serve the fruit chunks in for just 10p. They then found that by cutting it up they could remove the blemished or damaged parts and so were able to use local fruits that typically didn't look so good.

Eostre Organics (pronounced Easter)

At Forncett Primary School, nr Norwich, deliveries of fresh produce are made every Monday in response to a telephone order. They guarantee to provide apples, oranges, kiwi fruit, bananas and carrots along with other fruit when in season. The citrus comes from the El Tamiso coop. in Italy. Fruit is stored in the refrigerator and prepared each day to sell in the tuck shop. Children bring £1 a week to pay for a fresh snack each day of that week. Manned by year 6 pupils the shop no longer sells chocolate or crisps and litter has been hugely reduced as a consequence. Almost half of the 50 pupils now regularly buy fruit and this includes many who've never tried fruit before.

An unexpected bonus for Eostre Organics is the increased sales of their vegetable boxes as a result of children persuading their parents to buy from the company. The school now operates a drop off point for boxes so that parents can pick up their weekly supply of produce along with their pupils. The cooperative plans to donate a proportion of their sales to the school to help them buy seeds and plants and aims to give them lessons in how to grow them.

Conclusions:

- 1.1 A substantial crop of LOF exists in the County, but the crop is currently disorganised, i.e. predominantly in the hands of small scale growers and enthusiasts, largely on either older and under-managed trees or on very young ones that are yet to crop significantly, and scattered more or less across the county with the apparent exception of the more western areas.
- 1.2 There are one or two growers that are growing on a (comparatively) more 'intensive' and much more organised scale but these crops are already committed (e.g. for juicing).
- 1.3 There seems to be an upsurge of interest in orchard fruit with many of the growers demonstrating this by planting or planning to plant a range of different, often old and local varieties that will potentially increase the amount of productive trees available by at least half as much again.
- 1.4 Active management of the trees, both existing and newly planted, may however present a potential complication, as many of the owners of the trees have other more important calls on their time.
- 1.5 Access to the crop is also a problem and for two reasons; Firstly the harvesting and storing of the fruit. Secondly, distribution, as its location, quality and characteristics (e.g. yield size) rule out any attempt to compete with the commercially grown fruit to supply the mainstream markets.

On the demand side there is clearly significant interest in local orchard fruit:

- 2.1 Assuming that the demand for LOF from the Box Schemes in Powys amounts to some 17,000Kgs (17 tonnes)(See above) then the 1000 or so trees identified in this work that are currently capable of bearing fruit would have to yield 17Kgs of fruit each, per year, to satisfy that demand.
- 2.2 Assuming that the demand from schools may ultimately be as much as 15,000Kgs (15 tonnes) per year then the 1000 or so trees would only have to yield 15Kgs each, per year, to satisfy that demand.
- 2.3 To put these figures into some sort of perspective, altogether the 1000 trees would need to produce 32Kgs each per year, to satisfy the demand from both box schemes and schools, a figure that would be reduced to 22Kgs each, per year, if all the 400 or so newly planted trees were cropping too. This output is unrealistic from the largely traditionally managed trees identified in this study. A more realistic output is likely to be closer to the organic average of 15 to 17Kgs per tree, which would produce a yield of approximately 21 to 24 tonnes. Hence to satisfy the combined demand of 32 tonnes an approximate additional 500 trees would be needed. (NB these trees almost certainly exist already, as this was by no means a comprehensive survey). 1400 trees could potentially be

accommodated on an extensively farmed organic orchard of approximately 2 hectares (5 acres). 1900 trees would probably require just over 2.5 hectares (6.5 acres).

- 2.4 Taken as a whole the combined value of the LOF demand arising from both schools and box schemes could be between 45 and £50,000 per year
- 2.5 With most Box Schemes experiencing a steady growth, involving customers who are (probably) more interested in taste and freshness than in price and appearance and that are being supplied by their own delivery service, the opportunities for a local, but rather inaccessible, crop of variable quality should be very good.
- 2.6 Similarly the future looks particularly interesting as far as schools are concerned with a predicted rise in demand already beginning seen chiefly as a result of political initiatives. Schools are scattered throughout the county offering a ready market that so far seems keen to respond on behalf of the pupil's health and wellbeing.
- 2.7 The Independent Greengrocers in the county also probably represent a worthwhile market though this has been much harder to quantify. National trends indicate that fruit consumption will continue to increase so it seems likely that, with one or two notable exceptions, these outlets might be well suited to handling the unidentified or unmanaged crop, appearing as it does on an adhoc basis. If the local supply could be better organised then better prices from these outlets would probably follow as a result.
- 3.1 Conventional distribution issues and economies of scale could be largely overcome if the local market is addressed, foregoing the need to send large quantities at rock bottom prices to mainstream wholesalers. Local growers seem well placed to solve their own distribution needs and in a cost effective manner using the much shorter distances involved in supplying local schools, box schemes or shops. The Box schemes may also be able to collect fruit. With better communication between growers and between growers and customers other solutions such as collection rounds could be trialled.
- 4.1 Evidence from elsewhere in the UK suggests that multiple advantages could be gained from bringing growers, schools and box schemes together. For example if one or two growers were able to supply a box scheme that then set up a delivery to a school, this may give rise to even greater demand from the pupils families.

This work has revealed that considerable opportunities exist for LOF both in the short, medium and long term, however to make sure that the growers are in the best position to make use of these opportunities a number of actions need to be considered. These have been grouped as follows:

- Improving the crop
- Improving Communication
- Accessing the Crop

Recommendations

Improve the crop:

Action 1: 'The Apple Corp' - an Orchard Volunteer Group

Timescale: Short Term

Investigate the setting up of a group of Orchard Volunteers (akin to that which the Wildlife Trusts have set up) whose aim will be to provide practical assistance to growers with the pruning of trees and harvesting of fruit. The volunteers would gain much experience and would get the opportunity to make a practical contribution to the upkeep and conservation of local varieties. In addition to the personal and social benefits the volunteers would get in return an opportunity to taste or even take a share of the crop or a graft from the tree as payment. Productivity of the trees and reliability of supply would improve making it both more worthwhile and easier to market the fruit to local consumers. MAN may be in a perfect position to take the lead with this.

Approximate Cost: £2500?

Improving Communication

Action 2: Publicise this Report

Timescale: Short Term

Consider appropriate ways to draw attention to the findings of this work, in order to promote the commercial opportunities that it has identified. Press releases, Magazine articles or even talks may prove most effective.

Approximate Cost: £ ?

Action 3: Brokering Website

Timescale: Short Term

Make use of the Glasu website to trial the provision of an internet based system that allows growers to advertise their crop (variety, quantity, location, price etc) and lets potential customers (schools, shops, box schemes, restaurants, B&B's and MAN members etc.) know of the availability of these crops, possibly through the use of emails. Part of the site should contain a database of interested growers and outlets that any visitor to the site could consult to see who was nearest prior to making contact.

Approximate Cost: £ ?

Action 4: Meet the Producer Events

Timescale: Short Term

Building on the presence of clusters of growers, retailers, box schemes and interested schools that this work has revealed, organise a number of events where interested parties can meet each other and discuss opportunities for accessing the local crops. At least two could be organised: 1. At Porthamel, near Talgarth, the Farm Shop has expressed an interest in hosting such an event and 2. for the Llandrindod and Builth area Penlanole or the Royal Welsh may provide suitable venues.

Approximate Cost: £1000

Action 5: 'Virtual Market-Place' Promotion at PP/Orchard/Food Events

Timescale: Short Term

Set up a travelling display that could be used to promote the work that has been done and ask for 'expressions of interest' or 'offers' of fruit that is available. This could be used at a variety of events organised by the PPSteering Group, MAN, Glasu, or any other food events such as Farmers Markets. The 'contributions' and 'offers' could be written on postcards and posted into a box or on a pinboard. These could then be entered onto the brokering website for wider circulation.

Approximate Cost: £500

Action 6: Supporting Primary Schools

Timescale: Short Term

Producing and Making available to Powys County Council Catering Department a flier that contains a brief explanation of this work together with relevant contact information for making links with local producers. This could then be passed on to any Primary School that has been successful in applying for the Assembly money (see page 7) for Fruit Tuck Shop projects and Breakfast Clubs.

Approximate Cost £600

Accessing the Crop

Action 6: Fruit Boxes into Schools

Timescale: Medium Term

Building on the Meet the Producer event/s (see above), once they have occurred set up an opportunity for a box scheme organiser to meet with a number of schools operating in a cluster group to discuss the idea of supplying their tuck shops/clubs with fruit

Approximate Cost: £150

Action 7: School Juicing Project

Timescale: Long Term

Making use of any mobile juicing equipment, all schools in a trial area could be invited to host a juicing session, at which pupils and members of the public could bring in their fruit and help to juice it. The juice could then be pasteurised and returned to the schools in bottles ready for them to dispense at their tuck shops or mealtimes. The Schools would be interested because of the education and health benefits as well as the opportunity to involve the wider community in a school activity.

Approximate Cost: £2000

Action 8: Single Variety LOF Drying Project

Timescale: Short Term

Explore the feasibility of extending the season and reducing transport costs through the process of drying LOF. Investigating availability and supply issues, drying the fruits under different regimes and conducting appropriate tests such as shelflife and organoleptic analysis would all need to be undertaken as well as exploring potential demand and markets for the finished products.

Approximate Cost: £5000

References:

Appetite for Life: Consultation Document, published by the Food in Schools Working Group, Welsh Assembly Government, June 2006.

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Directory of Plum Cultivars – Martin Crawford, Agroforestry Research Trust, 1996.

Evaluation of Free Fruit in Schools Initiative, *Insight 26: Scottish Executive Publications Dec 29th 2005*

Economics of Organic Fruit Production in the UK - Firth & Lennartson, HDRA, 1999.

Food and Fitness - Promoting Healthy Eating and Physical Activity for Children and Young People in Wales, A 5 Year Implementation Plan. Welsh Assembly Government, June 2006.

Fresh Fruit and Vegetables, Insight Report: 2001, Key Note Ltd

Fruit and Vegetables, Market Report: April 2006, Executive Summary, Key Note Ltd

Fruit Tuck Shops in Primary Schools: A Practical Guide to Planning and Running a School Fruit Tuck Shop. Food Standards Agency Wales and The Welsh Assembly Government (2000).

Organic Market Report 2005 – Soil Association 2005

Organic Fruit Production, a review of Current Practice and Knowledge – Bevan & Lennartson, HDRA, 1999.

Appendix 1

Local Orchard Fruits Questionnaire:

Box Schemes:

Please note: all the information that you provide will be treated in the utmost confidence and rendered anonymous (see covering letter).

Contact Information

Name of Box Scheme

Your Name: Email:.....

Contact Address:

.....

Postcode:..... Telephone:.....

General Info

1. Please circle the months during which your box scheme runs, or tick ALL YEAR
 Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

2. How often do you provide boxes - weekly monthly, other (please state))

3. Does your box scheme contain: exclusively certified 'Organic' * (see footnote for definitions)
 Some uncertified 'Organic' *
 Just Conventional * (ie non organic) (see footnote for definitions)
 Just Local produce

4. Roughly what area do you supply (please indicate on accompanying map)

5. How many customers do you serve

6. How do you receive your produce ?

delivered to you	collected by you	combination of both
------------------	------------------	---------------------

7. If you use Wholesalers which one/s do you use:

8. Do you have any 'policies' about trying to source produce 'locally' Yes No

If so what do you define as local (eg x no. of miles from your base).....

9. Are your customers able to order any 'value-added' produce in their boxes (eg Chutney, Juices etc) (if so what are they)

.....

Review

10. Approximately how much of your turnover (in £'s) would you say arises from the sale of orchard fruit (Apples, Pears, Plums etc)?

11. Do you already supply your customers with orchard fruits?
 (see footnote for definitions) Conventional* Yes / No
 Traditional* Yes / No
 Certified Organic* Yes / No

12. If so what kinds? (please circle) Apples Pears Plums Other

13. Could you please give an indication of the quantities involved in a year?

	Conventional*	Traditional*	Certified Organic
Apples			
Pears			
Plums			
Other			

14. What kinds of orchard fruit are you able to get from 'local' growers?
15. If so who are they (please state location or name)
16. Are you able to say approximately what quantities of orchard fruit you get from local growers?

Apples	Pears	Plums	Other
Cooker			
Dessert			

Quality

17. Which one of the six words below do you think your customers consider the most important criteria for the produce in their box (please rank them all by marking the most important criteria with '1', through to the least with '6').

'Freshness'	'Organic'	'Taste'	'Appearance'	'Local'	'Price'
1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

Potential Demand

18. Which statement below is most accurate in describing the demand for orchard fruit from your customers:

	from	Just a few ,	..most , or	all your customers
'occasional interest'				
regular demand at certain times of the year				
regular demand throughout the year				
'Cant get enough of the stuff'				

19. Which orchard fruit is the most popular with your customers

Apples Dessert	Apples Cooker	Pears	Plums	Other

20. What are your own views about local orchard fruit?

21. Would you be interested in working with Glasu to supply more local orchard fruits to your customers Yes No
22. Would you be interested in an opportunity to consult your customers in more detail about local orchard fruit Yes No

* 'Conventional' means produce that has been grown with the use of chemicals.

* 'Traditional' describes produce that has been grown without the use of chemicals but has not got any official certification that recognises this.

* 'Organically' means produce that has been certified as such. If your orchard is in conversion please circle this option and write 'in conversion' next to it.

Thank you very much indeed for your time. Please use the stamped addressed envelope to return the completed questionnaire to: Richard Pitts Associates, First Floor Office, Radnor Buildings, Green End, Presteigne, Powys, LD8 2DR or you can fax it to this number 01544 267760 email:richardjpitts@yahoo.co.uk

8. What needs to be done to the fruit before it is sold/served to the children? (eg cut up, peeled, portioned etc.)
9. What facilities do you have for preparing food?
10. Who does the preparation of food sold/served by your shop/club?

Delivery

11. How is your fruit delivered?
12. How often?
13. and by whom (eg. name of company)

Future

14. What plans do you have for the future of the shop/club?
-
15. Would you be interested in selling/serving fresh local orchard fruits? (eg apples, pears, plums etc.)

Yes definitely	Maybe, perhaps on a trial	Definitely not
----------------	---------------------------	----------------

16. Would you be interested in selling/serving dried local orchard fruits? (eg apples, plums)

Yes definitely	Maybe, perhaps on a trial	Definitely not
----------------	---------------------------	----------------

17. Would you be interested in selling/serving local orchard fruit juices? (eg apples, pears etc.)

Yes definitely	Maybe, perhaps on a trial	Definitely not
----------------	---------------------------	----------------

18. Would you be interested in an opportunity to consult the parents of your pupils in more detail about the food or fruit that you provide.

Yes No

19. Would you be interested in an opportunity to work with neighbouring schools to explore the supply of local orchard fruits to your shop/club

Yes No

20. Would be interested in receiving information about the results of this work Yes No

Any Other Comments:

Thank you very much indeed for your time. Once you have completed the questionnaire please fax it back to the number below or use the stamped addresses envelope provided.

Richard Pitts Associates, First Floor Office, Radnor Buildings, Green End, Presteigne, Powys. LD8 2EL
 Voice: 01544 267768 **Fax: 01544 267760** email: richardjpitts@yahoo.co.uk

Appendix 3

Local Orchard Fruits Questionnaire: Independent Green Grocers & Local Retailers

Please note: all the information that you provide will be treated in the utmost confidence and rendered anonymous (see covering letter).

Contact Information

Your Name: Email:.....

Name of Shop:

Contact Address:

.....

Postcode:..... Telephone:.....

1. Approximately how much of your turnover (in £'s) would you say arises from the sale of orchard fruit (Apples, Pears, Plums etc)?
2. What orchard fruits do/have you stock/ed

Conventional (see footnote)

	Always	Sometimes/ Seasonally	Hardly ever	On Request	Never
Apples – Dessert					
- Cookers					
Pears					
Plums					
Cherries					
Other					

Traditional (see footnote)

	Always	Sometimes/ Seasonally	Hardly ever	On Request	Never
Apples – Dessert					
- Cookers					
Pears					
Plums					
Cherries					
Other					

Certified Organic (see footnote)

	Always	Sometimes/ Seasonally	Hardly ever	On Request	Never
Apples – Dessert					
- Cookers					
Pears					
Plums					
Cherries					
Other					

3. How do you get your produce? Collected by you (from eg wholesalers),
Delivered to you,
Combination of both
Other
4. Do you have any 'policies' about trying to source produce 'locally' Yes No

If so what do you define as local (eg x no. of miles from your shop)

5. Does any of the orchard fruit you sell come from 'local' growers? Yes No
If so, what kinds:

	approximately how much
Apples – Dessert	
- Cookers	
Pears	
Plums	
Other	

6. Where do they come from? (please state location or if possible name and address of supplier)
.....
.....

7. Are customers able to purchase any 'value-added' produce in your shop (eg Chutney, Juices etc) (if so what are they?)

Quality

8. When buying produce in your shop which one of the six words below do you think your customers consider the most important (please rank them all by marking the most important criteria with a '1', through to the least important with a '6').

'Freshness'	'Organic'	'Taste'	'Appearance'	'Local'	'Price'
1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

9. What are your own views about local orchard fruit?

Would like to get more	Only interested if price, quality etc is right	Not interested	Other (please comment)
------------------------	--	----------------	------------------------

10. Would you be interested in exploring in more detail the supply of local orchard fruit to your customers - (eg we might be able to help you source a local supplier) Yes No
11. Would you be interested in an opportunity to consult your customers in more detail about local orchard fruit Yes No
12. Would be interested in receiving information about the results of this work Yes No

Any Other Comments:

* 'Conventional' means produce that has been grown with the use of chemicals.

* 'Traditional' describes produce that has been grown without the use of chemicals but has not got any official certification that recognises this.

* 'Organically' means produce that has been certified as such. If your orchard is in conversion please circle this option and write 'in conversion' next to it.

Thank you very much indeed for your time. Please use the stamped addressed envelope to return the completed questionnaire to: Richard Pitts Associates, First Floor Office, Radnor Buildings, Green End, Presteigne, Powys, LD8 2DR or you can fax it to this number 01544 267760 email:richardjpitts@yahoo.co.uk

Appendix 4 Local Orchard Fruits Questionnaire: Producers

Please note: all the information that you provide will be treated in the utmost confidence and rendered anonymous (see covering letter).

Contact Information

Your Name: Email:.....

Contact Address:

.....

Postcode:..... Telephone:

1. Do you own/manage an Orchard? Yes No
If 'Yes' please carry on. If 'No' please pass questionnaire onto someone who does own or manage the orchard

The Trees

2. How many trees in your orchard are capable of yielding fruit?

3. What ages are your trees (approximately): Newly planted (eg maidens or young plants)
Recently planted (eg coming into fruit)
Mature
Ancient (eg over 50 years)

4. Are the trees in the orchard grown: Conventionally (see footnote over)
Traditionally (see footnote over)
Organically (certified)(see footnote over)

5. Is your orchard currently being 'managed' for production Yes No
If no, would you be interested in finding out how your orchard can be managed to increase production. (If so please see further information box below)

6. What **kinds** of Local Orchard Fruit (LOF) are grown in the orchard. Please circle
Apple Pear Plum Other (please specify)

7. Which **varieties** of these Fruits are grown in the orchard :

(if you don't know place a tick in this box and please see 'further information' box below)

Apple	Pear	Plum	Other (please specify)

(please continue on separate sheet if necessary)

8. Could you indicate the approximate yields that you experience on average from these fruits and/or varieties (any indication will do (lbs, kgs, buckets, wheelbarrows.... etc.)

Fruit	Variety	Approximate Yield/annum
Apple		
Pear		
Plum		
Other		

--	--	--

9. What currently happens to any fruits that grow in the orchard (please tick appropriate box/es)

Left on tree/ground	picked for home consumption	picked & given away	Picked & sold
---------------------	-----------------------------	---------------------	---------------

10. If sold who do/have you sold to:.....

11. Do you have access to storage facilities for your harvested fruit Yes No

12. Do you have access to a vehicle (eg car/van) that is/could be used to deliver produce Yes No

13. Do you have any plans or ideas to develop an innovative added value product using your orchard fruit? (if yes see 'further information' box below) Yes No

14. If your fruit is sold would you be prepared to discuss with me (in complete confidence) your turnover (any information you provide will be rendered anonymous). This will help us to establish how local production differs from elsewhere and project likely economic impacts across the county. Yes No

15. Would you be interested in exploring further how your fruit could be sold to local customers (via eg box schemes, school tuck shops, local green grocers etc.) Yes No

16. Do you consent to having your contact details placed on to a database to allow Glasu and the Orchard Doctor to contact you at a later date. (It will not be passed onto a third party) Yes No

17. Would be interested in receiving information about the results of this work Yes No

If you have answered yes to any of the last four questions then please make sure you have filled in your contact details at the beginning of the questionnaire.

Any Other Comments:

* 'Conventional' means produce that has been grown with the use of chemicals.

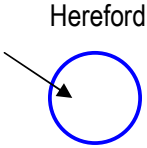
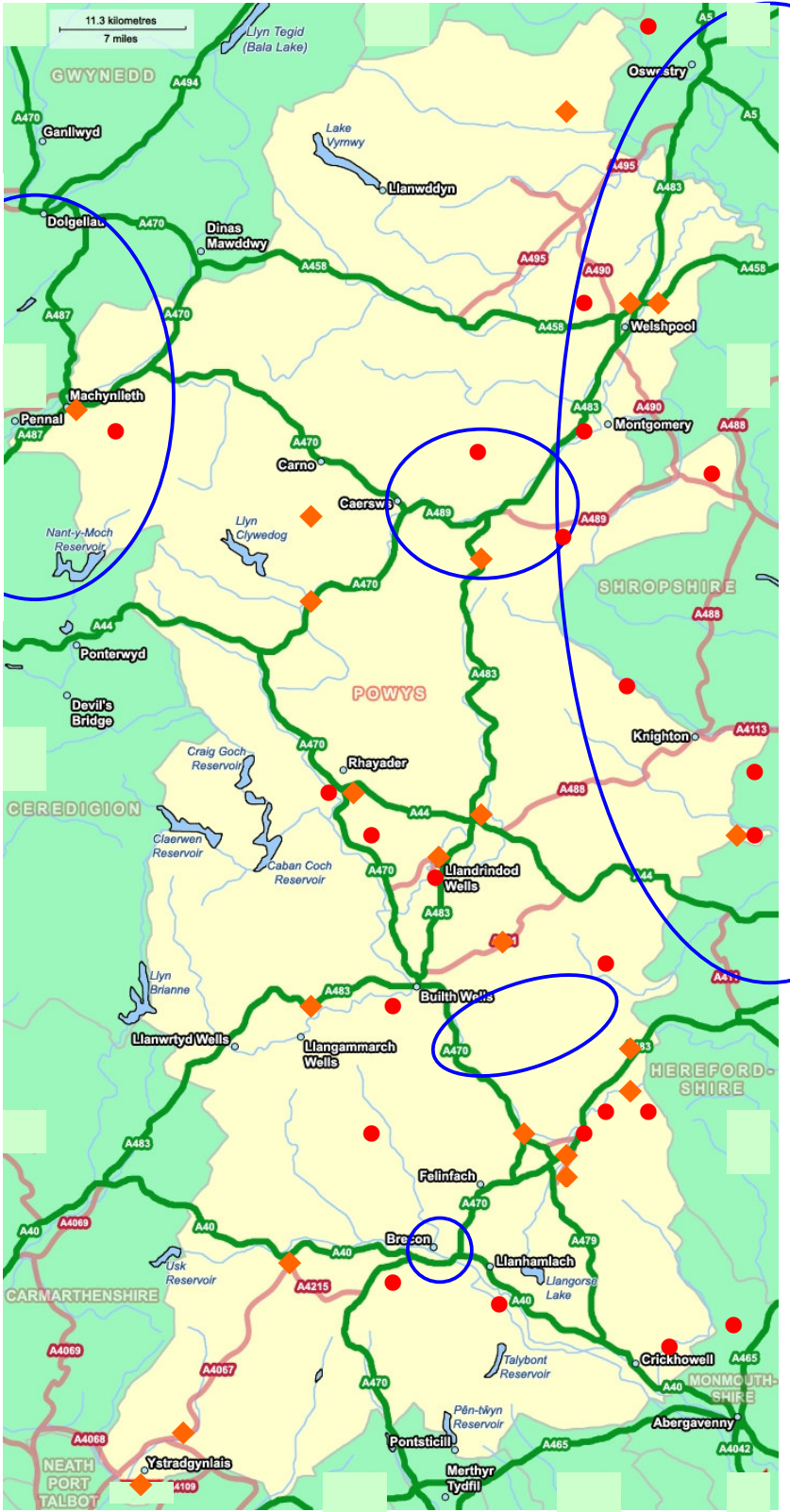
* 'Traditional' describes produce that has been grown without the use of chemicals but has not got any official certification that recognises this.

* 'Organically' means produce that has been certified as such. If your orchard is in conversion please circle this option and write 'in conversion' next to it.

Further Information:		
If you would like to know more about how your orchard can be managed to improve production then contact Glasu's Orchard Doctor on 01270 780828 theorcharddoctor@tiscali.co.uk	If you would like to know more about the varieties of apples in your orchard, including identifying them you can contact the Marcher Apple Network, via Sheila Leitch, on 01497 847354	If you would like advice developing added value products from your orchard fruit then please contact Sally Shiels at Glasu, Antur Gwy, Park Road, Builth Wells, Powys LD2 3BA

Thank you very much indeed for your time. Please use the stamped addressed envelope to return the completed questionnaire to: Richard Pitts Associates, First Floor Office, Radnor Buildings, Green End, Presteigne, Powys, LD8 2DR or you can fax it to this number 01544 267760 email:richardjpitts@yahoo.co.uk

Appendix 5 Map of Powys Showing Distribution of Questionnaire Respondents



- Key:
- = box schemes and approximate area of coverage
 - ◆ = schools
 - = producers with more than 10 trees