Growing food in schools and colleges

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Better Organic Business Links – Gwell Cysylltiadau Busnes Organig


Opportunity to promote sustainability

The BOBL project gives the organic sector in Wales a unique opportunity to:

- Develop new, emerging and existing markets for organic produce.
- Innovate in farming, processing and product development.
- Promote sustainable practices on farms, in abattoirs, in cutting rooms and kitchens and along the food chain.
- Raise market awareness among producers and increase sales across the range of outlets.

Tackling all parts of the supply chain

The BOBL project is working in partnership with a range of specialist providers to deliver these opportunities by focusing on:

1. Driving innovation through trials and research.
2. Supporting market development opportunities such as agri-tourism and supply chain efficiency programmes.
3. Disseminating up to date market intelligence, by commissioning detailed, focused consumer attitude surveys.
4. Addressing key structural problems within the sector, such as imbalances in organic horticulture supply and demand, and the availability of organic pullets.
5. Cross cutting issues: Sustainable Food Communities and Secure Alternative Markets.
6. Running an integrated communications campaign to help the sector deliver clear messages about the benefits of organic food and farming.

By strengthening the sector at all points along the supply chain, the project aims to leave a legacy of a more robust, responsive and sustainable organic industry in Wales.

The project is funded under the Rural Development Plan for Wales 2007-2014, which in turn is funded by the Welsh Assembly Government and the European Agricultural Fund for Rural Development.

For further information on the project please see: http://www.organiccentrewales.org.uk/business-bobl.php and http://boblproject.org.uk
# Contents

Executive summary ......................................................................................................................... 4

1  Introduction ................................................................................................................................. 5

2  Policy framework ......................................................................................................................... 5
   2.1  Wales: schools ....................................................................................................................... 5
   2.2  Wales: community growing ................................................................................................. 7
   2.3  Wales: food and drink industry ............................................................................................ 7
   2.4  UK ........................................................................................................................................ 8

3  The bigger picture: sustainable development and growing skills ........................................... 8

4  Action research ............................................................................................................................. 10
   4.1  Rural primary school: Ysgol-y-Dderi, Llangybi, Ceredigion .............................................. 10
   4.2  Urban secondary school: Bishop Vaughan High School, Swansea .................................... 11
   4.3  Further Education: Coleg Ceredigion, Aberystwyth .......................................................... 13
   4.4  Higher education: Aberystwyth University ....................................................................... 15

5  Schools and the community: Lessons from Flintshire .............................................................. 15
   5.1  Next steps ........................................................................................................................... 16

6  Developing school and college growing .................................................................................... 17
Executive summary

Growing food in educational institutions has a long history and has many benefits. It introduces young people to the realities of where food comes from, gives them useful skills for life, provides an outdoor learning opportunity which suits many children who struggle in the classroom and enriches the education of all, it contributes to healthy eating, it helps make links with the local community through volunteering and sales, encourages young people to consider careers in food production, and much more.

Here we review the policy background, consider the contribution that school and college growing spaces can make to creating a more healthy, happy and food-secure Wales, and look at what could be done to realize the full potential of these gardens. While the principle of growing food in primary schools is well established, there is considerable scope for making more use of food growing in secondary schools and in further and higher education.

Drawing on examples from a six-month action research project across a range of educational institutions in mid and west Wales, as well as the gardening component of a school meals project in Flintshire, we describe some of the common barriers that gardening projects face, and the ways in which they can be overcome.

Finally we suggest areas for further research and development, under the headings of (1) improving facilities, (2) training and support for teachers, (3) building links with the local community, (4) linking to careers education and skills, and (5) linking with the local food system.
1 Introduction

There is a resurgence of interest across the UK in locally grown produce and the benefits of supporting local growers and producers. In popular culture figures such as Jamie Oliver and Hugh Fearnley-Whittingstall have brought the subject of 'better food' to the fore and government policy - in both Westminster and Cardiff - presents engagement in this field as being clearly of national benefit to the nation(s) in terms of both economic opportunity and well-being. Food miles and traceability have become well understood concepts and responsibly sourced and managed foods are part of many people's weekly shop - with free-range eggs, organic meat, fair trade coffee and responsibly fished seafood readily available. Growing more food at home, and in schools, colleges and the workplace, is a natural extension of this interest.

For the organic sector in particular, growing food in educational settings is very important because teachers and learners often choose to use organic methods. This means that young people learn about gardening that involves composting, crop rotation, manuring, care for wildlife, care for gardeners and short supply chains, giving them a context for food production that they will take with them through life.

In 2015, Organic Centre Wales conducted a short action research project, working with schools and colleges around Wales to see what potential there was for expanding food growing in educational institutions. We also drew on work that we were doing with Flintshire County Council to see how food education, including gardening, could be integrated with the school meals service to realize social and health benefits for the whole community.

The results are presented here, together with an analysis of the policy background. It is not a comprehensive survey of activities in Wales and we are aware of many other excellent examples of combining food production with education, for instance the development of school farms in Cardiff. It does however give an introduction to this important and developing area.

2 Policy framework

Growing food in schools and colleges is supported by both UK and Welsh food policy, on the grounds of their contribution to education, wellbeing, engagement and employment, and the economy.

2.1 Wales: schools

In Wales the establishing and maintaining of school gardens is encouraged in many ways by government education policy. The school curriculum includes the Foundation Phase, skills development, personal and social education, and careers and the world of work as four of its seven areas (WG, 2014ii) and as such encourages experiential learning that promotes social skills, an appreciation of nature and hands-on activities. Therefore gardens can play an important role in a school fulfilling its statutory requirements as well as improving school life for youngsters.

Horticulture links very directly to the school curriculum and many subjects can be explored through the use of gardening, including ICT, numeracy and literacy, plus softer skills such as planning, negotiation and engaging with people. Given that in Wales of the estimated one million people working in 210,700 SME’s (figure correct in 2012) 95% are employed in a micro-business
employing up to nine people (Wales Online, 2012), the potential for a young person to go on and either set up or work in an environment where transferable skills such as these are important is very high.

School gardens also support a school's personal and social education provision that forms a part of the Estyn inspection. This 'includes all that a school carries out to promote the personal and social development of its pupils. This includes all the planned learning experiences and opportunities that take place not only in the classroom but also in other areas of school experience which are features of the values and community life of the school.' (Estyn, 2013:26)

The benefits can be seen in the words of the children of one Ceredigion School (Ysgol y Dderi) which started growing and selling organic vegetables with Lush & Lleol a community group that supports the children to do so. The children said:

- We learned about new and unusual vegetables and how to spell them in Welsh and English.
- We learned how to handle money and change and to weigh produce.
- We learned the aroma of different herbs.
- We learned how to grow our own food in the school garden.
- We learned about food miles and told customers how “green” we are.

(OCW, no date)

However, pressures mean that it can be difficult to maintain a garden. As a teacher points out: *Everyone wants it to happen, nobody's got the time... There are pots [individual funding sources] of money and support but expertise and time is thin.*

Likewise for colleges and universities the benefits of encouraging gardens can be seen not only in campus improvement (improving habitats for insects for example) but also in the formation and nurturing of relaxing, communal spaces where groups formed with a different focus - external to a year or subject focus - can bring social as well as the health benefits. A garden can also add strength to a university's green credentials. In the People & Planet university league tables for example the following consideration contributes towards their score: 'Provision of space for student / staff food-growing projects'. (People & Planet, no date.)

School gardens also link into strategies for improved well-being and futures. Recent reports indicate that gardening is a vital 'non-exercise physical activity for cardiovascular health and longevity' (Ekblom-Bak et al, 2014).

A teacher consultation conference held by the Growing the Future network (Botanic Garden, FACE, Lantra and Organic Centre Wales) in 2010 showed the potential of growing projects to energize and inspire pupils, as well as identifying the common barriers, which included difficulties in accessing expertise and funding, and often overreliance on one keen teacher without wider school support (Growing the Future, 2010).
2.2 Wales: community growing

In 2009 the then Minister for Rural Affairs Elin Jones commissioned a review into how the Welsh Assembly Government could ‘promote and encourage ‘Community Growing in Wales’ (WAG, 2009:1) as it was felt:

[C]ommunity growing has many benefits which tie in with the policy aims of the One Wales agenda and cross cuts a number of Ministerial portfolios including environment, health, education and training, economic development and community development. It will also deliver on our overarching sustainable development commitments including climate change, reducing carbon and our ecological footprint. (Ibid)

In the subsequent 2012 study by the Wales Rural Observatory ‘Community Grown Food in Wales’ community growing is defined as a diverse range of activities that fall under four broad areas: allotment gardening, community gardens, Community Supported Agriculture (CSA) schemes and communal food growing. Schools were seen as part of this and included in the WRO survey.

Of the 38% of schools in Wales that responded to the survey - all were approached - the majority (78%) were primary schools. (WRO, 2012:4) This is perhaps indicative of the focus in Wales under the Foundation Phase for 3-7 year olds on ‘active learning experiences both indoors and outdoors’. (WG, 2014i). The need for more opportunities at secondary / FE level was evident and is key to encouraging not only more people in appreciating the importance and learning the practice of Horticulture but also vital when looking to address the skills shortage in the business of Horticulture.

2.3 Wales: food and drink industry

The Welsh Government (2014) has highlighted the food industry as a priority field in meeting its economic and environmental aims and cites education and training as key to its proposal to fulfil a 30% growth in sales in the food and farming sector. It suggests a lack of understanding of the possible career routes in this field hampers recruitment and results in 45% of businesses in the food sector reporting a skills gap in science, technology and engineering when recruiting. (WG, 2014:13 citing the Welsh Food and Drink Skills Project website). This situation is compounded by a lack of training in post - especially at the SME end of the spectrum - with only one quarter having a personal development programme in place for employees as opposed to companies with larger workforces (50 employees or more) where a majority of companies have a programme (WG, 2014:14 citing the Welsh Food and Drink Producer Survey 2013). The challenges for smaller companies in any sector are clear – lack of resources, both financial and time, impacts upon their ability to guide employees through their initial contact with the industry and develop future career goals, and so turnover can be high.

However, interesting grass-roots projects within education can be found which address such concerns around the question of careers whilst also adding community benefits, nurturing links between schools and potential employers and allowing schools to fulfil curriculum requirements in imaginative and engaging ways.
Primary schools - with less pressure to produce exam results - are great exponents of such working. Two such examples: Ysgol San Sior in Llandudno produce free range eggs and have turned down approaches by both Tesco and Londis down to successfully market and sell their own produce and where 'Head teacher Ian Keith Jones said pupils will get a great insight into how a successful business operates.' (BBC, 2014) Ysgol-y-Dderi in Llangybi have a community organic garden on site that is integrated into the daily life of the school. One interesting recent development is where herbs grown are used to produce items for sale in the local health food shop; again this allows primary age pupils to get involved in growing and production as well as marketing and selling.

2.4 UK

The benefits of community growing have also been highlighted by DEFRA, with the establishment of the Food Growing in Schools Task Force. This report highlights a raft of benefits from school gardens, including developing skills (social, economic, planning and horticultural), improving health of individuals, school development and community relationships as well as nurturing and promoting a better understanding and appreciation of nature. (DEFRA, 2012:7) However, despite the benefits, the report raises the point that '[M]any schools grow food, but only some do so in a way that achieves the maximum benefits for all involved.' (DEFRA, 2012:6).

During the week commencing 23 February 2015 the UK Environment Secretary Elizabeth Truss set out the four key areas the coalition government see as being key to helping the food and farming industry grow. The first bullet point under the first area states:

'Encouraging more skilled people into the industry by increasing cas, working across the food supply chain to improve skills, and with universities to offer new further education opportunities in food – such as the country’s first food engineering degree at Sheffield Hallam.' (Government, 2015)

Horticulture and food are thus understood as areas of economic and employment potential as well as well-being.

3 The bigger picture: sustainable development and growing skills

Horticulture in schools and colleges has a big contribution to make towards sustainable development, which is enshrined in the country’s constitution. As our recent report on Food Values (Wynne-Jones et al., 2015) shows, food makes sustainable development visible because it touches so many areas of our lives. Growing and cooking food with others naturally engages values of universalism and benevolence, by framing food as something which connects communities and links us to the natural world. It therefore goes some way to combating the negative side of consumerism and individualism which produces ill health and social isolation.
Because it engages the senses, gives learners something practical to do, and requires them to work in partnership with the natural world, with the rhythm of the seasons and an unpredictable outcome (drought, slugs and so on can ruin everything) gardening provides a powerful context for transformational learning (RCE, 2011). It gives an experience of small scale growing which is similar in many ways to that practised in large areas of the developing world, and so contributes very effectively to Education for Sustainable Development and Global Citizenship.

Growing food even on a small scale helps towards food security, and it is vital that schools encourage young people to take an interest in food production as a career. In Wales, farms boost the economy and benefit businesses (not just agricultural) with upwards of £100,000 per annum. As such 'farming continues to be the bedrock of rural areas - both socially and economically.' (Western Mail, 2015:8) However, when one considers that average incomes have fallen to around £22,200 in 2014-15 - and just £15,000 for hill livestock farmers (Ibid) - then it is perhaps of little surprise that it is difficult to entice young people into this field of work.

Anecdotal evidence points towards the move away from food and farming being linked to the wider outmigration from rural areas by the young as highlighted in a recent Radio 4 report. In a piece entitled 'Ceredigion: Rural communities under threat' Hywel Griffith visited Tregaron and found 'local people fearful that their rural way of life is dying out.' (BBC, 2015) Local farmers were concerned about both their business and community: 'The young people are going away to work aren't they, especially out of farming anyway, because they see their friends perhaps earning better money in other jobs. There is no work for them fair play, they got no choice, they've got to go away' said one farmer. Another who works with the Young Farmers' Club in the local area said 'I lose a lot of members when they're 18 to go to college, and they don't return. There should be something done to get these young people back to our countryside.' (BBC, 2015)

Horticulture makes up only a part of the whole picture but is an important consideration - especially when considering food security and environmental approaches to land management. The Welsh Government (2014) has highlighted the food industry as a field of potential growth and - just as the UK Government implied in its policy pronouncement of February 2015 - cites education and training as key to its proposal to fulfil a 30% growth in sales in the food and farming sector. This target has been set out in 'Towards Sustainable Growth - An Action Plan for the Food and Drinks Industry', launched in 2014. (Gwlad, no date) The importance of this sector is clear:

The Welsh Food supply chain is one of Wales’s largest business sectors with over 170,000 people employed within the whole food and drink supply chain. The total value of the sector to the Welsh economy, taking into account the agricultural, processing and retail sectors, is estimated to be more than £1 billion per annum. (Gwlad, no date)

There is also a problem of perception in terms of potential recruits of the future with 70% of 18 year olds thinking horticulture was only for those who were not academic and 50% of under 25's seeing it as an unskilled career. However there are opportunities if this can be overcome, the shortage of skilled people to fill posts - 72% of horticultural businesses said that they couldn't fill vacancies - means there are posts that need filling. (RHS, 2014:4) According to the Food Growing in Schools Taskforce report:
There is evidence that food growing in schools:

- Encourages and facilitates learning, particularly science learning.
- Builds skills, including life, enterprise and employment related, and horticultural skills.
- Improves awareness and understanding of the natural environment and its importance to us.
- Promotes health and well-being, particularly in relation to diet and nutrition.
- Supports school improvement and development.
- Strengthens communities and school-community interaction.

(Food Growing in Schools Taskforce, 2012:5)

School gardens therefore have a vital role to play in introducing young people to food production and opening their eyes to the possibilities of a career in this vital area. It is especially important therefore to find ways to boost gardening in secondary schools, so that they build on the foundation laid in primary schools.

4 Action research

We chose four institutions with whom we already had links to carry out an action research project. We wanted to know:

- How do schools and colleges get started on growing, and what do they want to get out of it?
- What are the barriers to developing gardening projects in schools and colleges, and how could these be overcome with small grants and some expertise?
- How can we make the most of these projects, sharing the learning within the institution and also with the wider community?

The project ran from January to June 2015 and the results are summarized below.

4.1 Rural primary school: Ysgol-y-Dderi, Llangybi, Ceredigion

The community primary school in Llangybi has 128 pupils (accurate May 2014) between the ages of three and 11 and eleven nursery age children who attend mornings only. 'It serves a wide rural area that includes the villages of Silian, Betws Bledrws, Cellan, Llanfair Clydogau, Llangybi and Llwynygroes.' (Estyn, 2014:1) On council owned land adjacent to the school is a certified organic garden run as a local community enterprise called 'Lush & Lleol'. This group has responsibility for maintaining the garden and promotes organic horticulture locally. It works closely with the school to engage pupils in learning how to grow their own produce and to support biodiversity. The garden is integrated into the life of the school with pupils regularly helping on site and being involved in associated activities within the space.

For example, following an award for funding to include a new medicinal herb garden within the site, the schoolchildren were able, in association with a qualified medical herbalist, to produce ointments for sale in a local health food shop. The children also sell this ointment as well as their Lush & Lleol produce through Co-op y Dderi, a weekly shop run by pupils during the summer and autumn terms.
This is just the latest in a series of successful projects facilitated through the school's relationship with Helen Duffee, their on-site 'Environmental Advisor' who runs an organic business and includes the school garden in her certification. She works with a range of agencies to deliver projects to develop the garden, creating further opportunities to support the school curriculum and to engage the local community.

OCW met with Helen and Heini Thomas, the head teacher, to discuss how best we could support their next stage. They said that now they had a swathe of excellent projects behind them, demonstrating partnership working, they had reached a point where they wanted to record and share their successes. As such it was agreed that OCW would fund a website in order not only to share their work and inspire others, but also to allow the schoolchildren to engage in IT skills alongside their gardening and entrepreneurship activities.

Their website is now complete and can be seen here: http://prif82.wix.com/lushandlleol. It was launched on 22 May 2015 at a special lunch in the school canteen with all ingredients sourced from local organic producers and including a fruit coulis made from blackcurrants grown by the children in the Lush & Lleol garden.

4.2 Urban secondary school: Bishop Vaughan High School, Swansea

Bishop Vaughan is a faith school that has wide catchment and also services a socio-economically deprived estate in Swansea. Historically it had an on-site gardener employed to tend to the grounds but this post came to an end with budgetary pressures. As such the school had opted - as many do - for a low-maintenance approach. However, this was neither stimulating nor useful and so they have gradually been making improvements that also help address curricular needs and have led to a programme of events and awards, including Eco Schools, the International Schools Award for ESDGC and the Swansea Sustainability Awards.

They began in 2008 by planting shrubs and trees around the school site. In 2012 the Eco Committee and the School Council worked together to identify a site for horticulture, and installed a greenhouse and raised beds. The garden was a success and they began to use produce in
cookery classes. In initial discussions, the schools identified two areas they would like to develop: a courtyard herb garden, an orchard with Welsh varieties of fruit trees.

**Courtyard herb garden**

Herbs are a good crop for schools to raise as it is easy to grow sufficient quantities to be used in school meals, and they are a high value crop for sale. The problem for the school was that the courtyard they wanted to use had no water supply and so plants were in danger of drying out in the holidays, for which the solution was a timed irrigation system. The grant was spent on the irrigation system, growing medium, perennial herbs, seeds and a lock-up storage unit. They also held a seminar for staff and pupils aged 11–14 who were helping maintain and develop the herb garden. The seminar was held on 8 July and trained pupils in basic agricultural techniques such as planting, harvesting and weeding. Pupils were able to count the time they had spent on the project towards their Welsh Baccalaureate community service requirement.

**Orchard**

The grant was spent on 15 trees, ground preparation materials (bonemeal etc), stakes, protection guards, signage and interpretation, and a seminar visit from a horticultural adviser. The orchard promotes Welsh rare varieties of fruit trees including Brith Mawr (apple), Victoria (plum) and Lapins Cherokee (cherry). Both of these projects were enthusiastically driven forward by the ESDGC co-ordinator, staff and pupils alike. The school council and Welsh Baccalaureate pupils took a lead in planning, designing and developing the orchard and herb garden. The fact that they were both delivered successfully - giving two new spaces in school for pupils, two resources, events, and training and career opportunities - shows the power of a couple of enthusiastic members of staff, an engaged student body and relatively small financial assistance.
Looking forward, both of the projects provide an opportunity for Welsh Baccalaureate pupils to gain an insight into horticulture, providing valuable experience of managing and maintaining a garden and orchard. These extra-curricular activities provide an opportunity for Welsh Baccalaureate pupils to meet their community service requirements. They could also lead to vocational qualifications in horticulture.

Strong partnerships have been developed with the school canteen which now makes use of the produce and have developed a chocolate chip mint ice cream, lemon balm sorbet and use herbs in sauces and for garnishing.

### 4.3 Further Education: Coleg Ceredigion, Aberystwyth

Coleg Ceredigion, a Further Education college which is part of the University of Wales Trinity St David but shares a campus with Aberystwyth University, began to develop their outside spaces this year and through a partnership with Aberystwyth University have been able to utilise a greenhouse and set up some raised beds (built by the college’s Countryside Management students). Cooperation is the key here as two separate educational institutions share the same campus, and the gardening project has allowed the university and college to start a productive partnership. A university student/tutor from the Centre for Widening Participation and Social Inclusion department mentored the Vocational Access students when growing vegetables in the greenhouse.

The greenhouse has been used by students on the Vocational Access course to grow mixed salads and micro leaves and the catering department grew edible flowers which have then been used in their demonstration café, Aberista. Work in the greenhouse was integrated into the teaching programme and with some voluntary help from staff and students it was possible to keep the greenhouse watered over weekends and the Easter holidays, but work in the greenhouse will be discontinued by the college over the summer holidays.

Vocational Access students also raised vegetables and herbs and sold the surplus to staff at the college, raising some £60 which paid for end of term activities such as a barbecue on the beach. This gave them pride in their achievements and made them careful of how they spent the money, which staff saw as a very positive aspect. Both Vocational Access and catering students also conducted an evaluation of the programme, and identified a need to grow cut flowers for pop-up restaurant events.
Meeting with the college staff, OCW found that there was a great deal of interest from the catering tutors and students around growing herbs - a relatively good crop in terms of the return being used for flavouring etc. As such it was decided to get a specialist in to help plant up a couple of herb beds and really engage students around their care and usage. A follow-up event featuring a mobile pizza oven allowed the students to put the herbs to good use and also show off the new found resource and knowledge to tutors, students and visitors.

The herb beds were planted up on a sunny day in May by students on two courses: Catering and Vocational Access, with guidance from external consultants Tom and Lara Bean who ran a training day on herbs. Students planted up raised beds, made a herb bottle garden and painted labels on pebbles to identify the plants. The college appreciated this event as the learners benefited from two new faces and it stimulated collaboration between the two courses.

On March 5th, the Level 3 Catering students were given a talk and question and answer session by Naomi Salmon on Food Procurement. This enhanced and provided evidence for a unit on resources as part of their qualification.

On 11 June, the catering students ran a pop-up event at which they made pizzas for Tom Bean’s travelling cob oven, featuring herbs from the raised beds. Also grown in the beds were potatoes, which will be harvested in September, and onions.

Next steps
The college will continue with the gardening programme next year, as it is relatively low cost to run and has so many benefits – teaching gardening and enterprise skills, generating a small income, bringing the community together, making sustainability more visible. They would like to build up the enterprise side, for instance selling planting kits at the Christmas Fair. There has been interest from a local day care centre in collaborating on plant sales. Staff see the gardening project in a wider context, for instance supplementing an existing volunteering link with Borth Community Garden, building on the experience of the many students who come from a farming background, and spreading gardening skills amongst staff, students and their families, especially when they take surplus plants home. One Vocational Access student would like to possibly pursue his interest in growing veg by having polytunnels put up on his local family farm.
4.4 Higher education: Aberystwyth University

A grant from the Students Union and a few keen students was the start of a community garden on Penglais Campus of Aberystwyth University in 2012. The garden did well, but with only a small number of students involved it was not reaching its potential. In 2014, a number of staff became involved, formed a steering group and began organizing regular work sessions. A further grant of £1000 from the Students Union allowed them to install two large raised beds high enough for wheelchair users, as part of plans to provide the top of the site with disabled access, to erect a shed and to build some ordinary raised beds. They also worked with the National Botanic Garden of Wales’ Growing the Future project to run some free training courses for staff and students, one on garden design and the other on composting, which brought in some new volunteers.

The garden is in a central location near the Students Union and Arts Centre, but lacks visibility in the University. When we met the coordinators of project they thought that the most helpful thing for them would be a noticeboard. This would serve as a welcome to the garden, carrying the name and some information on how to get involved, and could also double up as a sales point for surplus produce, with an honesty box. It would also be a place where volunteers could leave messages for each other, such as a list of jobs and a watering rota. The sign was installed in May and has allowed some of these plans to develop further.

Following Student Eats guidelines for college gardening projects (NUS, no date) the project (which now has a constitution and bank account) aims to distribute about half the produce to the volunteers and sell the other half to staff, visitors, the nearby Arts Centre restaurant and others in order to generate an income for the purchase of seeds and equipment. There are plans for a polytunnel, seating and further raised beds. The organizers also hope that in the long term the garden will be used for research, teaching and public engagement.

5 Schools and the community: Lessons from Flintshire

Flintshire is the only council in Wales that holds the Soil Association’s Food for Life Catering Mark for its in-house school meals, guaranteeing certain standards such as minimal processed food and free-range eggs. OCW began a project there to try out various educational activities that would support the school meals service by generating interest in food and where it comes from, and one of these was to support gardening in schools.
Three schools in the county were offered a grant of £700 to spend in whatever way was most helpful to them. Two of them spent the money on raised beds so that they could include more pupils in their gardening projects, and a third chose training for their teachers to encourage them to use the garden to deliver lessons.

One of these schools, Ysgol Gwynedd in Flintshire, having benefited from extra raised beds, expressed an interest in working with volunteers from the local community who could support the teachers, and another school, Ysgol Broughton, made a similar request. We engaged Garden Organic, a charity that has many years of experience in supporting school gardens, to run community engagement events in both schools.

Garden Organic visited both schools in order to

- identify the current level of volunteer engagement, skills and knowledge and assess activities suitable for school volunteers.
- determine each school’s long term plan for volunteer involvement and help them design an action plan to achieve this.

They then ran a bespoke engagement day at each school in February and March, where teachers, parents, grandparents and other members of the local community were invited for a day of practical activities, training and discussion. This included seasonal growing, cropping plans, enterprise logistics, horticultural skills and developing a volunteering plan for the school.

They also included small group discussions on the benefits and challenges of growing in school, and on the roles and expectations of teachers, pupils and volunteers. This enabled the participants to connect over a shared purpose and develop confidence in what they were doing, laying foundations for future work. The events proved very beneficial to staff and volunteers. From the school side, a classroom assistant said:

“Just to thank you so much for yesterday, talking with the parents they have loved every minute and can’t wait to help in our school. A big thank you again – Zoë”

Volunteers found that the event gave them more confidence to get involved. One of them said: “I nearly didn’t come this morning, as I didn’t think it was for me and now I am so glad I did.”

5.1 Next steps

Ysgol Gwynedd have set up a gardening club and are holding gardening sessions every Wednesday for volunteers to develop their confidence, skills and knowledge. They plan to organize more Family Fun Fridays activities around growing and healthy eating, and have identified some areas where they could grow more fruit that would be accessible to parents to harvest. Some of the volunteers are going to start their own growing areas at home, showing the two-way benefits of community engagement with schools.

Ysgol Broughton plan to set up a volunteer rota for regular tasks. They are also going to start compost monitor training for Year 5s, and a volunteer will help them construct the compost bay. They will make a cropping plan and start selling produce at a regular stand, while continuing to develop their growing areas.
Case studies for both schools are available here: [http://www.organiccentrewales.org.uk/schools-gardens.php](http://www.organiccentrewales.org.uk/schools-gardens.php). A report on the larger project to see how educational programmes can support school meal services, based on the work in Flintshire, is available here: [http://www.organiccentrewales.org.uk/schools-meals.php](http://www.organiccentrewales.org.uk/schools-meals.php).

6 Developing school and college growing

Growing projects in schools and colleges have great potential to enhance learning, build community and link to the wider world in an inspiring way. They cover the four aims of the new curriculum proposed by the Donaldson review, supporting the development of young people who are ambitious and capable, enterprising and creative, ethical and informed, and healthy and confident (Donaldson, 2010). There are a number of ways that growing projects could be supported and made more effective.

Training and support for teachers

The WRO study found that 'School gardening activities were predominantly initiated and coordinated by teaching and support staff, as well as pupils.' (2012:4) With ever increasing pressures on teachers' time this must be an obstacle to school growing, which is often seen as an 'extra', reliant upon motivated staff members to initiate and maintain them.

Teachers need training in growing techniques, in devising suitable activities that will be rewarding for children, and in linking growing to the curriculum. Part of the difficulty in maintaining momentum can also come from the nature of gardening itself. Growing seasons and busy periods - such as summer - conflicting with holidays leave important periods out of kilter with the academic year. Also, keeping interest in a garden throughout the year requires careful planning of a mix of shorter and longer crops as well as engagement in garden as process, not just product; this again takes expertise and horticultural knowledge perhaps above and beyond what we can expect of most teachers and classroom assistants.

These difficulties are not insurmountable but it can be hard for schools to access the expertise they require, which is held across a number of different sites and organisations. Local people with expertise in this area can make a very significant contribution as volunteers or partners in growing projects. Within the school, where the benefits of growing are fully recognized and supported by the headteacher, gardening projects can be given the priority they deserve with less pressure on individual teachers.

Building links with the local community

The relationship between a school and its local community goes two ways. For the school, local volunteers can be a useful source of labour, for instance coming in to water at weekends or organizing plant sales. For parents and other local people, the school can be a place to learn how to grow food and buy plants for their own gardens. These relationships need to be nurtured and supported, so that the experience for the volunteer is a rewarding one, and a bilingual leaflet explaining the steps in planning this is available (Garden Organic, 2015).
The Flintshire examples show how community engagement events can unlock enthusiasm and creativity, stimulating intergenerational learning and spreading gardening expertise in the local population. This could be an important intervention in areas of food poverty, in particular, although the principle of integrating schools with their local community is a universal one. An interesting possibility here is to provide training directly to the volunteers via a scheme such as Garden Organic’s Master Gardeners programme.

**Improving facilities**

Educational institutions vary enormously in the spaces that they have available to work with. Many schools have predominantly paved or tarmacadam areas, while some have large fields attached. This calls for flexibility in approaches, from planters and window boxes on small sites, to raised beds, polytunnels, field-scale cultivation and orchards on larger ones. Links with community gardens, allotment sites and farms may allow schools and colleges to expand their operations, while local volunteer groups (for instance, as part of Corporate Social Responsibility initiatives) may be willing to take on tasks such as raised bed construction.

Institutions with extensive grounds, such as universities and some schools, may be in a position to offer growing spaces to local people, supported by volunteering and training schemes.

**Linking with the local food system**

As schools operate with essentially free labour from pupils, staff and volunteers, it is important that they guard against undermining local producers. Finding ways in which schools and colleges plug gaps in supply would be one solution or indeed exploring ways in which producers and educators can work together to everyone’s benefit. One example of this is holding farmers markets in schools (another activity that was organized for schools in Flintshire, see Mid Wales Food and Land Trust, 2014) where pupils can sell produce alongside local producers. Another is to organize educational visits to local farms or farmers markets. The important thing is to use school growing projects as a link to local businesses, showing the continuity between the two and encouraging collaboration.

**Linking to careers education and skills**

Horticultural skills in Wales are at a premium, with no courses available in Higher Education and limited opportunities in Further Education and apprenticeships. If the horticulture sector in Wales is to thrive, it needs to be attracting more school leavers. Primary schools are on the whole doing a good job of introducing children to growing their own food, and so indirectly interesting them in gardening as a profession, but there is far less activity in secondary schools where young people are forming their career choices. There are several reasons for this, including the difficulties of teaching outside formal subject areas, the lack of freedom in the timetable, and perhaps most fundamentally the perception of horticulture as an activity for less able pupils.

There is much that could be done here, especially through the Welsh Baccalaureate ‘Challenges’, to release the potential of horticulture to enrich the life of secondary schools, to build on the primary school experience and give learners growing skills for life, and to inspire young people to
consider growing as a career. More information is available from Lantra (foodanddrinkskills.co.uk) and from Careers Wales (www.careerswales.com/en/spotlight-on-food-and-farming/).

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**Key to Acronyms**
DEFRA = Dept. for Environment, Food and Rural Affairs.
WAG = Welsh Assembly Government
WG = Welsh Government
WRO = Wales Rural Observatory