Food Growing in Schools Taskforce

Report, March 2012

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Foreword

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Secretary of State, Department for Environment, Food and Rural Affairs

Food is absolutely central to our lives. But in recent decades our eating habits have changed. We are eating much more pre-cooked food. We eat less fruit and vegetables. We spend less time having family meals, and are more likely to eat on the run, or while watching television. We are also throwing more food away. At the same time obesity levels are rising.

Reconnecting with food – with its provenance, its cultural significance, its variety – will help us develop healthier habits. It will also help us value the natural environment, which is the ultimate source of all our food. So it's vital that we do all we can to help children make this connection.

The Food Growing in Schools Taskforce has brought together expertise from the private sector, schools, environmental organisations and the media to produce this report. Its findings confirm that food growing schools can lead to children eating more fruit and vegetables, and having a better recognition of taste and type. Food growing can increase children's scientific knowledge, and their environmental awareness. It also teaches them practical skills that will be useful throughout their lives.

The report also shows that food growing helps children's attainment in core curriculum subjects, particularly science. It demonstrates that food growing in schools can forge strong links with communities.

Let's work together to turn the recommendations of this report into a reality, and get more kids growing food.

Myles Bremner
Chair of Taskforce, Chief Executive, Garden Organic

The Food Growing in Schools Taskforce, led by Garden Organic, was established as a response to increasing concerns about the health and well-being of our children and young people, and a confidence that food growing in schools is a successful way of dealing with these concerns, delivering many benefits.

The twenty-five members of the Taskforce are a diverse group, representing equally diverse interests, but all with a strong belief that food growing in schools is an important activity. We wanted to demonstrate the impact food growing in schools can have, explain why it is so powerful a catalyst for change, and understand what must be done to ensure that every child and young person, school and community, experiences the potential benefits of participation.

Drawing on Taskforce expertise, evidence from thousands of schools and other interested organisations, and commissioned independent research, we wanted to clearly describe the many benefits, identify challenges, and showcase best practice. After considerable deliberation, we have made a set of simple recommendations that will support schools to enable and embed food growing in every school, in practical and affordable ways.

I would like to thank the significant commitment and enthusiasm from Taskforce members, members of the four working groups and the many other schools and organisations that have helped to produce this exciting report. We must now work together to ensure that every school can and does become a food growing school.

Summary

Our Vision:

Every school is a food growing school. Every child and young person has regular access to the practical experience of food growing throughout his or her education. This enables them to develop an understanding of where their food comes from and the importance of the natural environment. It excites them about learning, and promotes their health and well-being. Schools, children and young people, their families, and extended communities are enriched through the experience of food growing. We have a healthy, thriving nation in which the population, economy and society benefit from the learning, skills and health and environmental behaviours, acquired through food growing in schools.

Key Findings:

- The most effective food growing schools achieve significant learning, skills, health and well-being outcomes for children and young people.
- Food growing in schools has a positive impact on the schools, communities, organisations and businesses involved.
- Many schools grow food, but only some do so in a way that achieves the maximum benefits for all involved.
- There is more that needs to be done to:
  - support school leadership teams, teaching and non-teaching staff to improve outcomes for their school, by integrating and embedding food growing into their practice.
  - increase the availability of resources to support food growing and better match those who are offering resources with those who need them.
  - involve communities to a much greater extent in food growing in schools to increase impact within and beyond schools.

At the time of writing we face multiple challenges – rising obesity, threats to the natural environment and food security caused by climate change, global population growth and competition for natural resources and economic uncertainty. At the same time Government and business leaders point to a skills deficit that limits our chances of dealing with these issues. Individuals and families are also feeling the pressure of the economic downturn and the effects of rising food prices, which is constraining their ability to eat healthily.

We are confident that food growing in schools is one powerful way of equipping us to meet these challenges, whilst also delivering an impressive range of benefits for all those involved – from individual children and young people, through to communities and major corporations.

The Taskforce bases its recommendations on newly commissioned research, (including a survey of 1,300 early years, primary and secondary schools, and a review of relevant literature) and submissions made to the Taskforce by schools, voluntary and community, businesses and public sector organisations.

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.

Recent years have seen an increase in the number of schools growing food; however the number of children and young people involved and how far it is embedded in each school varies considerably. Less than half of food growing schools regularly integrate food growing into lessons, only a third have food growing as part of their whole school policy and only a quarter of schools involve all children and young people in food growing.

We found that there is an optimum environment in which the full range of benefits can be achieved for all those involved. Schools that are not able to create this environment find it harder to get the mot out of food growing. We have identified a set of factors that help create this environment:

- School leadership – Senior leaders use food growing in a planned, resourced way to develop their schools by ensuring food growing is an integral part of the whole school ethos and formal, informal and hidden curriculum.
- Professional development – Schools need a mix of teaching and non-teaching staff with different levels of skills which include: integrating food growing into the curriculum, growing and cooking skills and project management and organisation skills.
- Resources – Although many schools establish and sustain food growing successfully with minimal resources, some resource commitment is required, both human and material. The most successful school access the full range of support available from community and voluntary, and business organisations.

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- Community involvement – Involvement of the local community helps in broadening the impact and supporting the long-term sustainability of food growing in schools. It also helps to reinforce messages learnt within the school context.

We want to celebrate food growing in schools that is already ongoing. However, we also believe that we all need to do more to ensure that food growing in schools is experienced by every child and young person throughout their school life and in a way that achieves the maximum possible benefit for all those involved. To do this we need to:

- Raise awareness of the benefits of food growing in schools to get every school growing and to encourage those who do so already to embed it further across their whole school community.
- Remove barriers, perceived and real, that prevent or limit food growing in schools.
- Work together at a local and national level to ensure that knowledge, skills and resources are available and accessible to support food growing in schools.
- Support school leadership teams, and teaching and non-teaching staff to develop the skills and approaches they need to grow food in their school, and embed growing across their whole school.
- Ensure that the knowledge, skills and enthusiasm developed through food growing can be available for the green economy.

We make six key recommendations to make food growing in school a reality for every child in England. To be achieved they require varying levels of input from schools, voluntary and community organisations, children and young people and their families and communities, businesses and the public sector. The specific responsibilities of each stakeholder are set out in an accompanying action plan, available at www.gardenorganic.org.uk/foodgrowinginschools.

- A national campaign celebrating food growing in schools.
- A policy emphasis on food growing in schools.
- A "food growing in schools" online hub.
- Business commitments to support food growing in schools.
- Use of food growing by school leadership teams.
- Improved links between food growing in schools and food-related careers.

1. Introduction

Introduction

The last decade has seen a considerable increase in the number of schools growing food in the UK and internationally. Food growing is used to achieve a wide range of outcomes for children and young people, their schools, families and wider community. There is increasing awareness of how powerful the impact of food growing in schools can be. Food growing can support children and young people's learning and skills development, connect them with the natural environment and enhance their health and well-being. Used effectively it can contribute to school improvement and development and can strengthen communities.

We currently face significant challenges including climate change, food security, obesity and a skills deficit, and the Taskforce believes that food growing in schools is part of the answer to these challenges.

"Today, given the urgent need for increased food security, environmental protection, more secure livelihoods and better nutrition, perceptions of the potential of school gardens is changing... The belief is that school gardens can become a seed ground for a nation's health and security; this idea is increasingly being backed up by experience and research."

Food and Agriculture Organisation of the United Nations[1]

In 2010 the Children's Food Campaign coordinated the creation of a manifesto, 'Every School a Food Growing School', outlining the wide range of potential beneficial outcomes that are delivered through the introduction of food growing activity in schools. It also identified that there are barriers to food growing and that not every child and young person is being given the opportunity to grow food in school. The manifesto called for the creation of a Taskforce to bring together relevant experts to identify, develop and promote solutions to enable every school to be a food growing school, in ways that are practical, beneficial and affordable. The Department for Environment, Food and Rural Affairs (Defra) recognised the contribution that food growing in schools could make towards its policy objectives and the Food Growing in Schools Taskforce was launched by the Secretary of State, Caroline Spelman in May 2011.

Taskforce, composition, remit and methodology

The Taskforce is composed of representatives with interests and expertise in the delivery of food growing in schools. It includes leaders and practitioners from schools, charities, corporate providers, voluntary and community organisations, the media and government departments including the Department for Environment, Food and Rural Affairs, the Department of Health and the Department for Education (a full list of members can be seen in Appendix 1).

The Taskforce set out to:

- Define the benefits of food growing in schools
- Identify the challenges and barriers to widespread success
- Showcase good practice
- Offer solutions for widespread delivery within the context of current government policy thinking

1. Food and Agriculture Organisation of the United Nations (2010) cited in Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, p11, National Foundation for Educational Research, Slough

The Taskforce findings are based on new and existing research, submissions to the Taskforce by schools, voluntary, community and public sector organisations and businesses and the knowledge and experience of Taskforce members. To support the work of the Taskforce, Defra commissioned the National Foundation for Educational Research (NFER) to undertake two studies:

- A literature review that investigated the benefits of pupils, schools and communities of food growing in schools, indicators of how potential can be realised and sustained and the cost benefits associated with food growing in schools.
- A baseline survey of 1,300 early years settings, primary and secondary schools aimed at establishing the extent to which food is grown in schools and how far it is embedded within those schools.

Taskforce working groups were established to explore food growing in schools from different perspectives. They gathered examples of good practice and evidence about the benefits of food growing in schools and the barriers and success factors that inhibit or enable effective food growing. Perspectives of children and young people were also collected.

This report sets out the findings and recommendations of the Taskforce.

Chapter three looks at the benefits brought through food growing:

- Supporting learning and skills development.
- Enhancing health and well-being.
- School improvement and development.
- Strengthening communities.

Chapter four identifies the critical success factors that make food growing in schools possible and effective:

- School leadership.
- Professional development.
- Resources.
- Community involvement.

Lastly, based on these findings in chapter five the Taskforce makes six key recommendations for schools, children and young people and their families, voluntary and community organisations, businesses and Government. These recommendations are intended to build on the success of schools already growing food and encourage those schools that are not yet growing food to do so. The Taskforce has tried to ensure that all those with a potential part to play in food growing in schools can see why they should get involved and what their role could be.

2. Background

Because food growing in schools has a broad impact, from understanding nature, to improving health and well-being, and building essential skills, choosing what information to include and exclude to provide a background to this report is a challenge. The context provided in the following paragraphs is therefore not exhaustive but touches on some of the most pertinent trends, policy developments and issues that are relevant to food growing in schools.

2.1 The trend for food growing

Food growing at home has increased in recent years. 84% of British adults have access to a garden or somewhere to grow outdoor plants[2]. In 2010 2.6% of British adults had access to an allotment[3]. However, numbers of allotments almost halved between 1996 and 2011, and demand has increased from a waiting list of 4 people per allotment in 1996 to 57 in 2010[4]. The proportion of gardeners who grow fruit and vegetables has been increasing in recent years; currently 50% of garden owners do so[5] and this has been reflected in sales of seeds and plants. B&Q reported in 2010 that seed sales figures had been transformed from sales of vegetable seeds constituting 30% of all seed sales in 2000 to 79% in 2010[6].

Approximately 3% of all fruit and vegetables entering the household in 2009 were from free sources, mainly from gardens and allotments.[7]

Schools are no exception to this trend with 80% of schools now growing food at some level (80% of early years, 86% of primary schools and 72% of secondary schools)[8]. A wide array of national programmes has supported food growing in schools in the UK in recent years. These programmes have been led and/or supported by government departments, non-governmental organisations, and the private sector. Examples include the Morrisons "Let's Grow" campaign, the Royal Horticultural Society's programme in partnership with Waitrose, Growing Schools, Garden Organic's schools programmes (including the Food for Life Partnership), Learning through Landscapes, the Learning Outside the Classroom Manifesto, Healthy Schools and Sustainable Schools. There are many more local initiatives, supported at regional and local community level.

2.2 The natural environment and food security

The challenges presented by climate change are well rehearsed. It is also widely recognised that action needs to be taken now to protect our environment for the future. The Defra White Paper *The Natural Choice: securing the value of nature*, published in 2011, sets out ambitions for dealing with the challenges of climate change and for the protection and enhancement of England's natural environment.

2. Horticultural Trades Association (2011) *Unveiling the Great British Gardener*, available at http://www.the-hta.org.uk/page.php?pageid=546 [accessed 8 November 2011] Horticultural Trades Association, Reading

3. ibid

4. Campbell, M. and Campbell I. and National Society of Allotment and Leisure Gardeners (2011) *Allotment waiting lists in England 2011*, National Society of Allotment and Leisure Gardeners, Corby

5. Horticultural Trades Association (2011) *Garden Retail Market Analysis, Your finger on the pulse of garden retail, May 2011*, Horticultural Trades Association, Reading

6. B&Q (2010), *B&Q's customers spring into garden action*, available online at http://media.diy.com/assetbank-bandq/action/viewAsset?id=145&index=9&total=88&categoryId=247&categoryTypeId=1&collection=Corporate%20news&sortAttributeId=13&sortDescending=false, [accessed 8 November 2011]

7. Defra, (2010) *Family Food* 2009, Defra, London

8. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

These include: facilitating greater local action to protect and improve nature; creating a green economy; and strengthening the connections between people and nature to the benefit of both[9]. Defra is also seeking to encourage pro-environmental behaviours, through the work of the Centre of Expertise and Influencing Behaviours.

Food security for the UK and internationally is also a concern. *The Foresight report The Future of Food and Farming: challenges and choices for global sustainability* states that growth in the global population, increased wealth creating demand for a high quality varied diet and greater competition for land, water and energy resources, globalisation, and the impact of climate change in the coming three decades "*constitute a major threat that requires a strategic reappraisal of how the world is fed*".[10] Related to this, food waste is also a concern. 7.6 million tonnes of food and drink are wasted a year in the UK; 5.1 million tonnes of that waste is avoidable. 24% of edible vegetable purchases, and 20% of edible fruit purchases are wasted. This is the equivalent of 0.8 portions of edible fruit and vegetables per person per day.[11]

To deal with these issues now and in the future we need an informed population, aware of their impact on the natural environment and able to make choices that have the maximum positive, and minimum negative, impact on it, locally and globally. We need to reconnect people with their food; this has been recognised in the Defra White Paper *The Natural Choice: securing the value of nature*.[12] We also need a highly skilled work force across a range of disciplines who can adapt to the challenges of a changing environment to support well-being and prosperity through their practice for current and future generations.

2.3 Education

In January 2011 there were 8.1 million children and young people in 24,507 schools in England (including nurseries, primary, secondary and independent schools and pupil referral units).[13] Education in England is undergoing major changes with the extension of Academies, introduction of free schools and major reviews of the National Curriculum and vocational education.

The review of the National Curriculum is still in progress; however with the exception of the core subjects of English, maths, science and physical education, teachers and schools are expected to have greater freedoms in the way that they devise the curriculum for the children and young people in their school.[14] Following the Wolf Review, which recommended a radical reform of vocational training to focus on core academic learning (especially English and maths), The Department of Education has recently announced the downgrading of thousands of vocational subjects.[15] At the same time new Ofsted inspection criteria are being developed that look at four key areas, achievement, teaching, behaviour and safety, and leadership and management.[16]

Successive reports have highlighted the value of learning outside the classroom (including food growing) for children and young people and called for more learning to take place in outdoor environments.[17] *The Natural Choice: securing the value of nature* White Paper states "we want to see every child in England given the chance to experience and learn about the natural environment." And it is hoped that the reforms outlined in the Department for Education's White Paper The Importance of Teaching will create more opportunities for learning outside

9. Defra, (2011) *The Natural Choice: securing the value of nature*, HMSO, London

10. Foresight, (2011), *The Future of Food and Farming Executive Summary, p.9* The Government Office for Science, London

11. Defra, (2010) *Household food and drink waste linked to food and drink purchases*, Defra, London

12. Defra, (2011) *The Natural Choice: securing the value of nature*, The Stationery Office, London

13. Department for Education (2011), *Schools, pupils and their characteristics*, Department for Education, London

14. Department for Education (2011), *Review of the National Curriculum* available online at http://www.education.gov.uk/schools/teachingandlearning/curriculum/nationalcurriculum, accessed 1 December 2011

15. Wolf, A., (2011) *Review of Vocational Education – The Wolf Report*, The Stationery Office, London

16. Ofsted, (2011) *The Annual Report of Her Majesty's Chief Inspector of Education, Children's services and skills 2010/11*, The Stationery Office, London

17. House of Commons Children, Schools and Families Committee (2010) *Transforming Education Outside the Classroom*, The Stationery Office, London

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the classroom. The Taskforce believes that these changes in policy and practice offer opportunities, as well as challenges, for the future of food growing in schools. We have sought to reflect the shifting context and the need for all sectors to respond to it in our recommendations in Chapter 5.

2.4 Skills

Employers report a significant skills shortage, both in the horticultural and food industries and across wider industry. 55% of employers surveyed by the Confederation of British Industry said that they experience weaknesses in school leavers' self-management skills. A fifth of employers also note weaknesses amongst graduates, including team working (20%) and problem-solving (19%). There are also concerns about the level of enterprise skills amongst school leavers and graduates. Particular problems are noted amongst employers looking for employees with STEM (science, technology, engineering and maths) related skills and qualifications. 43% of employers reported difficulties in recruiting staff with appropriate STEM qualifications and experience, and 52% said that they expect to experience difficulties in the next three years. 62% said that the government must tackle these shortages by promoting science and maths in schools and supporting STEM related apprenticeships.[18]

A similar picture emerges for the horticultural industry, which is worth £4.6 billion to the UK economy,[19] and which will need an estimated 13,000 career entrants between 2010 and 2020.[20, 21] 18% of businesses in production horticulture report that their current employees are less than fully proficient in their current role. 19% of employees in the production horticulture industry and 12% of employees in horticulture, landscaping and sports turf have no formal qualifications, compared to 7% in all sectors in the UK. There has been a recent boost in numbers of applicants for horticulture related courses at further and higher education institutions, with some reporting a doubling of applicants between 2010 and 2011;[22] however this is starting from a low base. For example there were only 50 learners enrolled on horticulture production related courses at further education, and 60 enrolled at higher education institutions in 2008/09. A report investigating the skills needed to support the wider food supply chain has also found skills shortages, and called for action to tackle the shortfall in both skills and labour supply.[23]

18. CBI (2011) *Building for growth: business priorities for education and skills*, CBI, London

19. Horticultural Trades Association (2011) *Garden Retail Market Analysis, May 2011*, Horticultural Trades Association, Reading

20. LANTRA, (2011) *Production horticulture factsheet 2010-2011*, LANTRA, Coventry

21. LANTRA (2011) *Horticulture, landscaping and sports turf fact sheet 2010-2011*, LANTRA, Coventry

22. Abbott, J. (2011) *Horticulture course applications holding up*, Horticulture Week [online] available at http://www.hortweek.com/news/1099525/Horticulture-course-applications-holding [accessed 8 November 2011]

23. Improve (2011) *United Kingdom Food Supply Chain*, Improve, York

Evaluations of adult urban agriculture and community horticulture programmes have found that confidence and a broad range of transferable and technical skills can be developed by participation in the programmes.[24]

2.5 Children and young people's health and well-being

Concern has been raised about the health and well-being of children in England. The Government's obesity strategy Healthy Lives, Healthy People: A call to action on obesity in England has identified that "Overweight and obesity represent probably the most widespread threat to health and well-being in this country." Approximately one third (29.5%) of children in England aged two to fifteen are classed overweight or obese. 16% of boys and 15% of girls in this age group are obese.[25]

The very high levels of obesity are in part attributed to poor diet. Only 21.5% of children aged five to fifteen consume the recommended five portions of fruit and vegetables a day. [26] Fresh fruit and vegetable prices in the UK rose by 6% and 7% respectively between 2008 and 2009.[27] Household purchases of fresh fruit and vegetables fell by 3.1% in the same period, and are now 8.5% lower than they were in 2006. [28] In this context there is clearly a need to support children and their families to have a healthy diet through both education and affordable access to fresh fruit and vegetables. [29] The *Healthy Lives, Healthy People: A call to action on obesity in England* White Paper suggests that "allotments and food growing projects can... support environmental objectives and at the same time provide opportunities for people to be more active and eat more healthily.".[30]

School meals can be used as a way of increasing consumption of fresh fruit and vegetables. Recently there has been a focus on the nutritional content of school meals, with the introduction of nutritional standards and the creation of the Schools Food Trust. This focus on improving the quality of school meals, as well as increased marketing to children and young people and their families, has led to an increase in the take-up of school meals. [31] In 2010/11 there are approximately 173,000 more children and young people eating school lunches than in 2009/10. [32] Despite this increase, there is still only a 44.1% take up of school meals in primary schools and 37.6% in secondary schools. Research shows that in schools which take a whole school approach to food, including food growing, take up of school meals increases.

An assessment of the well-being of children in industrialised nations undertaken by UNICEF in 2007 scored the well-being of children in the UK as the worst of all 21 nations studied. [33] The study looked at material well-being, health and safety, educational well-being, family and peer relationships, behaviours and risks and subjective well-being (children's perceptions of their own well-being). This has provoked discussion about how to boost children and young people's well-being, with increasing access to nature and time spent outdoors being suggested as one possible mechanism. [34, 35]

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24. Varley-Winter, O., (2011) *Roots to work: developing employability through community food-growing and urban agriculture projects*, City and Guilds Centre for Skills and Development, London

25. The NHS Information Centre, Lifestyles Statistics (2011) *Statistics on obesity, physical activity and diet, England 2011*,

26. ibid

27. Defra, (2010) *Family Food 2009*, Defra, London

28. ibid

29. Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Adrian, M. and Kevin, M. (2011) *Food for life partnership evaluation: full report. Project Report*. University of the West of England, Bristol.

30. Department of Health, (2011) *Healthy lives, Healthy People: A call to action on obesity in England*, The Stationery Office, London

31. Wood, L., Nicholas, J., and Nelson, M. (2011) *School food: Perceptions of head teachers and local authorities*, available at http://www.schoolfoodtrust.org.uk/school-cooks-caterers/reports/school-food-perceptions-of-head-teachers-and-local-authorities accessed 14 November 2011

32. Nelson, M., Nicholas J., Riley, K., Wood, L., and Rusell, S. (2011) *Sixth Annual Survey of the take up of school meals in England 2010-2011*, available at http://www.schoolfoodtrust.org.uk/school-cooks-caterers/reports/sixth-annual-survey-of-take-up-of-school-meals-in-england, accessed 14 November 2011

33. UNICEF (2007) *Child poverty in perspective: An overview of child well-being in rich countries, Innocenti Report Card*, UNICEF Innocenti Research Centre, Florence

34. UNICEF (2011) *Child well-being in the UK, Spain and Sweden: the role of inequality and materialism*, Unicef, London

35. Royal Society for the Protection of Birds (2010) *Every Child Outdoors*, RSPB, Sandy

3. Benefits of food growing in schools

3.1. Introduction

There is strong evidence from published research and practical experience, that food growing in schools has a profound positive impact for the children and young people, teachers, schools and wider communities involved. When delivered effectively, children and young people achieve more in their learning, have better dietary health and have higher self-esteem and confidence[36]. Food growing is often the catalyst for the creation of a whole school food approach, and a broad range of school development activities. Schools are able to use it as a tool for development, enabling them to provide an exciting curriculum for children and young people, create a whole school vision and ethos, and engage families and the wider community[37]. Communities are strengthened by the opportunities for interaction and collaboration brought about through food growing, on and off school grounds. All those involved have a greater connection with the natural world and particularly with their food.

Box 3.1

NFER research terminology

Research confirms – there is strong evidence of impact.
We seek to ensure a number of studies have been produced that concur in their findings. We expect these studies to be sufficiently large in scale (for example adopting adequate sample sizes to enable robust statistical analysis), or based on sufficiently in-depth case studies to allow a full explanation of findings.

Research indicates – there is modest evidence of impact.
Themes with 'modest' evidence are likely to have only a small number of (typically two to three) studies that concur in their findings. There may also be some studies that present a contradictory view. Themes with modest impact may include studies with rather small sample sizes (for example, QED studies based in only one or two schools), or qualitative studies that have drawn on the views of certain, but not a full range of, stakeholders.

Research suggests – there is only impressionistic evidence of impact.

Taken from: Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools, pp12-13*, National Foundation for Educational Research, Slough

36. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

37. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

The following paragraphs describe in more detail the range of benefits of food growing in schools. Evidence for these benefits is drawn from a systematic review of relevant UK and international literature and a survey of 1,300 learning institutions (early years, primary and secondary schools), both undertaken by the National Foundation for Educational Research. This is complemented by evidence, evaluation studies of current programmes, and good practice from over 150 voluntary and community organisations, public agencies and businesses supporting food growing in schools, as well as from schools, gathered by the Taskforce.

The strength of research evidence is described using the terminology drawn from the National Foundation for Educational Research literature review, see box 3.1.

It is important to note that research and experience tells us that the benefits described in the following pages are most likely to be experienced in those schools where food growing is embedded across all aspects of school life as part of a whole school food strategy.

3.2 Supporting learning

Incorporating food growing into the formal, and informal curriculum can have a positive impact on children and young people's academic achievement, skills acquisition and attitudes to learning and school.

Summary – Supporting Learning

- Food growing encourages the use of a broad range of teaching styles which supports the learning of all children and young people.
- Food growing in schools raises children and young people's achievement across the curriculum, with benefits noted particularly for science learning, as well as language skills, maths and food technology.
- Children and young people develop a broad range of skills through food growing, including:
  - life skills such as cooking and communication.
  - financial and enterprise skills.
  - skills for employment, e.g. team work, problem solving
  - horticultural skills.
- Children and young people's motivation and behaviour is influenced by food growing in schools:
  - Enthusiasm for school and learning is increased, as is attendance and completion of homework.
  - Improved behaviour is observed in and out of the classroom.
  - Environmental awareness and attitudes are enhanced and this is reflected in pro-environmental behaviours.

3.2.1 Raising children and young people's achievement

Research examined by the NFER indicates that there is a link between food growing programmes and children and young people's achievement in the formal curriculum, both in terms of overall academic performance and attainment in specific subjects, as measured by test scores and content knowledge[38].

A survey of 1,300 schools found that food growing is used to support teaching and learning, including science, food technology and learning outside the classroom[39]. In submissions to the Taskforce, teachers described how they use food growing in their work across the *whole* curriculum (see Appendix 2 for one example of this at primary level) where food growing has been designed into the curriculum for all key stages within the school. This is particularly true in primary schools, where there is greater flexibility in the experience of the curriculum and organisation of the school day,

38. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

39. Ibid

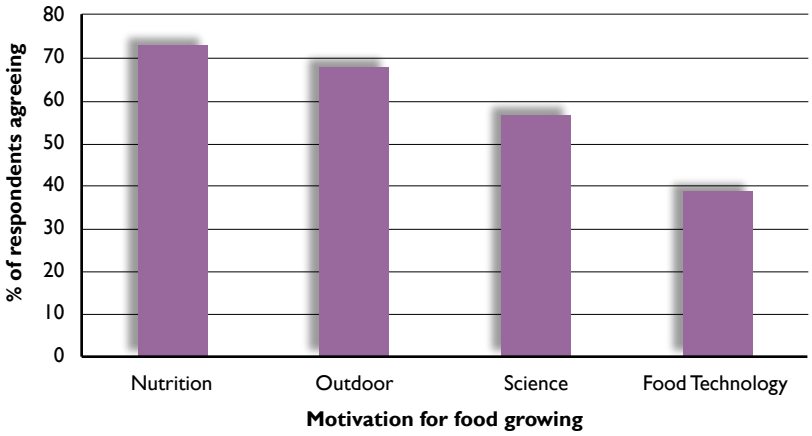
but there are examples of secondary schools working creatively to use food growing as a mechanism for delivering the Key Stage 3 and 4 curricula.Studies indicate that food growing can enhance children and young people's wider learning, as it enables them to make sense of concepts they have learnt elsewhere in the curriculum[40].Teachers describe how their teaching has been improved and how they are able to bring the curriculum and their teaching, to life through food growing.

Evidence of impact on achievement is particularly strong for science. The literature describes how food growing has helped children and young people to develop an understanding of scientific principles and the investigative approaches required in science learning[42].

The literature also indicates that food growing contributes to improvements in language outcomes. Children and young people involved in gardening programmes are found to have enhanced literacy and a wider vocabulary[43].Those with English as an additional language are particularly helped to develop their oracy and language skills[44].

Teachers describe how food growing gives them the opportunity to use a variety of teaching methods, which engage children and young people in different ways.

Fig 3.2.1 What is motivating your school to get or remain involved in food growing?[41]



CASE STUDY

St Andrew's CE Primary School, Shropshire

Action: Creation of fifteen vegetable gardens for use within KS1 and KS2 gardening clubs; linked to the curriculum and extension of their use to regular curriculum-based activities on a local farm.

An initial discussion between the school and an Educational Psychology research team examined the use of growing activities as an "alternative" curriculum. Over a number of years, the work developed so that specific year groups extended their learning into meticulously planned activities for all subjects within a local farm in the belief that children are motivated to succeed when they see a real purpose for their learning.

Last year, Year 3/4 children's understanding of all subject areas was enhanced through the development of skill-based learning within challenges set using the school's linked farm. Children made their own shaduf and compared it to modern irrigation methods on a modern farm when studying Egyptian History. They grew hundreds of broad bean plants and completed a range of maths activities exploring large numbers, the four rules of number and money. They also examined a number of science objectives including an understanding of appropriate growing conditions and soil conditions. This work is now being extended throughout the school.

40. Ibid

41. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools,* National Foundation for Educational Research, Slough

42. Ibid

43. Ibid

44. Ibid

Some qualitative research, and a good deal of experiential evidence, shows that this brings particular benefits for children and young people with special educational needs and emotional and behavioural difficulties. Benefits are manifested in both learning and skills development, and improvements in self-confidence.

3.2.2 Developing skills for life

In addition to improving learning outcomes, food growing supports the acquisition of a wide range of skills. These include essential life skills, skills that equip young people for the work place, and horticultural skills and knowledge. The development of skills is enabled through both the formal and informal curriculum. The literature review found that little research had been conducted that investigated life skills acquisition, although it was often a tangential finding of research investigating other outcomes[45]. The lack of research evidence was mitigated, however, by the evidence submitted to the Taskforce by schools, businesses and voluntary and community organisations.

Food growing develops skills that are essential for living. Learning about nutrition and applying this through cooking in school (a consistent accompaniment to food growing) encourages a healthy lifestyle[46]. Working with others, inside and outside the school community, supports the development of social and interpersonal skills. Experiencing and dealing with success and failure in a non-threatening way builds resilience[47].

Children and young people develop labour market skills through food growing. Planning, developing and monitoring a food growing area requires children and young people to work together, think critically, communicate effectively, solve problems, take decisions and show leadership[48].

Many schools use food growing as a means to develop financial literacy and enterprise skills. Children and young people sell on or supply their produce to others. Produce is sold at varying levels, from ad hoc sales to parents at the school gate, through to regular pitches at farmers markets. Schools supply (for free, or at a cost) fruit and vegetables to their own canteens, as well as to local businesses and community organisations.

"Many of the students displayed skills that were not apparent in the classroom setting and they stayed on task much longer."

Addington High School, Berkshire.

"Whilst we have a broad spread of ability and attitudes amongst our learners we do have a large cohort of students who can be considered challenging in a classroom environment. The range of tasks and activities, along with a practical learning style, really engages these learners and with a 100% pass rate it prepares them for further study either at college or beyond."

Redborne Upper School, Bedfordshire.

"None of our children speak English as a first language and the outdoor environment provides our children with freedom and confidence to develop their speaking and listening skills, as well as improve their attainment in other areas."

St Benedict's Primary School, Birmingham.

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45. Ibid

46. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

47. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

48. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme,* Centre for Research in Education and the Environment, University of Bath, Bath

"Our pupils have gained many life skills from this experience. Individually they have seen their rewards of following through with a project and understanding the value of planning and patience in seeing this project through to completion. The group of pupils... have had to work together as a team, problem solving and spreading the workload fairly and cooperatively. They have also had the benefit of working with members of the local community whom they may not normally meet with socially. This has improved their social skills and broadened their world view."

Olsen House School, Secondary SEBD School, Liverpool.

At different levels, this requires the children and young people involved to plan, budget, negotiate and handle money. Schools tend to reinvest their earnings into the school garden or other resources for the school community.

Food growing contributes to children and young people's understanding of citizenship and global and cultural issues. Exploration of the processes required to grow food helps build awareness of the global food chain, fair trade and the impact of different environmental factors on food production[49]. In addition, growing and cooking vegetables from around the world promotes understanding of different cultures and can illustrate what people have in common.

The NFER literature review found that there is a relatively large body of evidence confirming that participants in food growing in schools acquire horticultural skills and knowledge. Practical skills are developed such as propagating, planting, growing, pruning, composting, etc. These activities also support the development of fine and gross motor skills e.g. through sowing seeds and digging beds[50]. In addition children and young people gain a fuller understanding of the processes and issues relating to horticulture and agriculture. Those who have an understanding of factors such as climate, seasonality, pests and diseases, growing cycles and food sourcing, have a better grasp of what it takes for food to reach them[51]. In some cases, experience of growing and increased awareness of horticulture more broadly, encourages young people to pursue horticultural careers.

"More exotic crops such as peppers, okra and aubergine can be grown, linking to global gardens, debates on food miles and cooking recipes from around the world, vital in such a multi-cultural school."

Frederick Bird Primary School, Coventry.

3.2.3 Improving motivation and encouraging positive behaviours

Schools undertaking food growing activity describe how powerful it is in motivating children and young people and improving behaviour. These improvements are also noted in the literature.

Children and young people involved in food growing demonstrate more enthusiasm for school, reflected in reduced absence rates and in arriving early for school and later leaving[52]. Teachers also observe a more positive attitude in children and young people's approach to learning, including taking more responsibility for their own learning, evidenced through behaviours such as more regular completion of their homework[53]. Children and young people experience a sense of awe and wonder and are excited about learning as subject matter is brought to life through food growing.

49. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

50. Ibid

51. Ibid

52. Ibid

53. Ibid

Improved behaviour is also reported for a wide range of children and young people, particularly amongst those with emotional and behavioural difficulties[54]. These improvements are observed both in the food growing area and within the classroom. Response to different teaching methods, improved diet, increased physical activity, a feeling of achievement, and consequently improved self-esteem, and the creation of a calm "refuge" through the garden are all reasons cited for these improvements[55].

Food growing influences environmental awareness and attitudes. 80% of schools surveyed cite teaching children about the environment as a motivation for food growing in their school[56]. In a separate survey 55% of teachers list enhancement of children and young people's environmental awareness as a benefit of gardening in schools[57].

"It is fun to come to school because we get to cook with food from the allotment."

Pupil, The Oval Primary, Birmingham.

"The best thing is that it [food growing] is a fun, educational activity meaning that we actually grow food in our school which we can eat."

Pupil, St Benedict's Catholic Primary, Warwickshire.

CASE STUDY

School Produce Sale – School Food Matters in partnership with Waitrose

School Food Matters

School Food Matters is a charity working with schools, local authorities, caterers and parents to promote excellent school meals and practical food education. Its mission is to ensure that every child enjoys fresh sustainable food at school and understands where their food comes from.

For the School Produce Sale, School Food Matters invites primary and secondary schools to grow fruit and vegetables to sell at their local branch of Waitrose on one day in July. This project gives children and young people both food growing and enterprise experience. As not only do they have to grow the produce, they also need to price and display it, engage with customers and handle their hard earned cash.

The School Produce Sale works as an education and enterprise venture for any scale of food growing. The growing spaces of the 19 schools involved in 2011 ranged from a few containers to a few acres. The cash raised by sales of their produce in 10 Waitrose branches ranged from £28 to £312. In total over £2,000 was taken by the schools on the day, which will go directly back to the individual growing projects.

Waitrose say of their involvement "Waitrose is very pleased to support the School Produce Sale as it actively encourages all the children involved to learn and appreciate where their food comes from. It also offers them a fun insight into the principles of business as they sell the fruits of their labour and make a profit for their school.

An early appreciation of good food helps children make the right nutritional choices throughout their lives and this grass roots project is a very effective and exciting way of teaching youngsters about the healthy and sustainable food available to them right on their doorsteps."

54. Ibid
55. Ibid
56. Ibid
57. Ibid

CASE STUDY

Gardening Inclusion Project, Royal Horticultural Society working with Middleton Primary School, Leeds

Middleton Primary school is a large mainstream school with 340 students on roll, aged 5-11. The school is situated in an area of significant social disadvantage. Already an established gardening school with growing, composting and wild garden areas, Middleton's vision was to explore the potential for gardening to impact on learning and behaviour for its vulnerable students.

20 students with Individual Education or Behaviour Plans (IEPs or IBPs) were chosen to attend regular gardening sessions supported by the RHS for the year long project. All students had needs identified as 'exceeding what is normally available in schools'. Students were organised into small, mixed age groups to enable mentoring by older students and positive role modelling. All sessions were supported by a teacher, behavioural support worker or teaching assistant.

Involvement in the RHS project has helped students to achieve important outcomes in their Individual Education and Behaviour Plans through gardening. The students' behaviour files were monitored to see how the gardening intervention influenced their overall behaviour.

One child for whom this intervention has been successful is six-year-old Josh. Josh had 32 incidents of disruptive behaviour and 9 timeouts in a single term, before he started the gardening sessions. By the summer term he had easily met the targets in his IBP with only 7 incidents, and 3 timeouts.

RHS Project Officer Sarah-Jane Mason observed, "Josh did not appear to be the child described in his behaviour file. He was polite and followed instructions. He also helped other students with garden tasks and accepted assistance from the mentors without argument".

Josh no longer needs the support of the specialist support unit. As part of a broader programme of interventions within the unit, the weekly gardening sessions have enabled him to build his social skills to a sufficient level to return to mainstream education.

Head teacher Sam Williams commented "I am sure that gardening was the intervention that grabbed Joshua's attention and encouraged him to perform better. The positive reinforcements he experienced whilst working in the garden helped him to make a fresh start".

Other students needing additional support will continue to be given the opportunity to garden and their IBPs and IEPs will be monitored to show success.

Children and young people with increased knowledge of the natural world such as biodiversity, eco-systems and sustainability, combined with the horticultural knowledge discussed above, are better connected with their food. They also understand their role as environmental stewards. This is reflected in test measures exploring 'appreciation for the environment' and 'concern about human impact' and in attitudes towards issues such as organic, local, free range and fair trade food production[58]. Schools also report increased levels of environmental responsibility including taking greater care for the school environment, and interest in recycling. 51% of schools report that their schools compost as part of their food growing and 52% grow food organically[59].

3.3 Enhancing health and well-being

Many schools undertake food growing as a means of supporting the health and well-being of their students. 73% of schools say that teaching children and young people about nutrition is a factor which motivates their food growing activity and 68% say that helping children and young people to develop skills for a healthy adult life is a factor[60]. The NFER literature review identifies a large number of studies that investigate links between food growing in schools, increased connection with food, and positive health outcomes. There is most research evidence on impacts on diet and nutrition with less on participants' physiological and psychological health. We have drawn additional information from the experiences of those currently delivering food growing.

Summary – Enhancing health and well-being

- Children and young people take greater responsibility for their own health.
- Food growing has a positive impact on diet and nutrition.
  - Children and young people are better able to recognise fruit and vegetables and more willing to try new ones.
  - Incorporating school food grown into school meals increases take up of school meals, including free school meals.
  - Children and young people share their learning and food preferences with their parents positively influencing their purchasing cooking and eating behaviours.
- Children and young people's psychological well-being is improved, including increases in self-esteem, self-worth and confidence.
- Children and young people's physical health is improved. They have a broader understanding of ways to stay active and enjoy having access to fresh air and outdoor spaces.

"Teachers have used the growing area to investigate plants and living creatures, and it has enabled deeper discussions about beneficial plants and insects, eliciting enquiry and predictive skills. It has supported the school's aim to educate children about sustainability through the introduction of a composter, watering issues, biodiversity and reducing our carbon footprint by consuming locally grown food."

St Joseph's Catholic Primary School, Buckinghamshire.

58. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

59. Ibid

60. Ibid

3.3.1 Diet and nutrition

Research (UK and international) confirms that children and young people's nutrition and attitudes towards healthy eating can be positively affected by food growing in schools[61]. Improved understanding of food and nutrition is the most frequently cited benefit of food growing activity reported by schools and organisations submitting evidence to the Taskforce. Participating children and young people are better able to recognise fruit and vegetables and have a greater willingness to try them.

"When we eat green beans at school from the school garden, I always like every bite. I didn't like them before we grew them at school."

Pupil, St Benedict's Catholic Primary, Warwickshire.

Research presents a more mixed picture of the impact of food growing on consumption of fruit and vegetables[62]. However, a substantial proportion of schools contributing evidence to the Taskforce, report that growing food in their school increases children and young people's intake of fruit and vegetables. Many schools incorporate school grown food into school catering and there is evidence of increased take-up of school meals, including free school meals[63].

"By having the opportunity to grow food in schools, children are being taught about healthy eating and having an active approach in what they are eating; children are able to have the excitement of planting things, watching them grow and eating them. By watching them grow, children seem to be far more inclined to eat the foods as they have seen the whole process of growth and had the responsibility of caring for the plants."

Anonymous respondent to Taskforce survey.

There is some research and practice-based evidence that children and young people take their knowledge about nutrition, and preferences for fruit and vegetables home, influencing parental purchasing and eating behaviours[64].

3.3.2 Physiological health

The available research evidence suggests that food growing can have a beneficial impact on the physiological health of participants. The physical tasks of food growing contribute to a broader understanding of the range of ways of staying active[66]. Participating children and young people enjoy having access to fresh air and outdoor spaces, and teachers report that they take greater responsibility for their own health[67]. Children and young people and teachers also report that they are more physically active as a result of food growing.

"The children were previously reluctant to eat vegetables, now they're seriously interested in new tastes and trying new vegetables. Red cabbage was met with interest this December and pupils eventually went back for more. They also favour fruit and organic local yoghurt to desserts and this is having a knock on effect on packed lunches. Pupils are now moderating their parents' choices to healthy options, which has been a long time coming."

Headteacher, The Oval Primary, Birmingham.

61. Ibid

62. Ibid

63. Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Adrian, M. and Kevin, M. (2011) *Food for life partnership evaluation: full report*. Project Report. University of the West of England, Bristol

64. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools,* National Foundation for Educational Research, Slough

65. Ibid

66. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

67. Ibid

CASE STUDY

Sandwell public health collaboration

Sandwell has higher than national average levels of diet and lifestyle related poor health including cancers, diabetes and obesity. In recognition of this Sandwell Primary Care Trust is working with Sandwell Local Authority to support the work of user led charity Ideal for All in improving public health outcomes through community agriculture.

Ideal for All has created two innovative community gardens from derelict land: Salop Drive Market Garden - a three-acre model, mixed use, therapeutic market garden and local food scheme; and Malthouse Garden - a third-acre intensive therapeutic horticulture unit. It uses these sites to support a wide range of projects and health and well-being outcomes.

Work with schools and children came about in response to findings that teachers felt they lacked confidence, skills and resources (including land, as much of Sandwell's land is contaminated due to its industrial past) to grow in schools. The work includes:

- Ready, Steady, Grow - Primary schools visit Salop Drive Market Garden for hands on sessions to garden, harvest and taste fresh produce. Schools use this to support curriculum topics, and to raise awareness of healthy lifestyles. Over 1,000 school children visit the gardens each year.
- Grow-Well - Tied into the Primary Care Trust's early years healthy eating training programme, this provides workshops for staff, parents and carers and children. The workshops focus on seasonal produce and healthy eating, hands on gardening and cooking with fresh ingredients on a budget.
- Outreach work to Children's Centres and Nurseries, community groups and allotments. Ideal for All provides horticulture workers to give support with food growing and setting up gardens in communities across Sandwell, and brings hands-on 'workshops' into the school setting.
- Teacher training - One off sessions to support teachers with ideas and confidence to garden.

This work has enabled those who might not otherwise been able to garden, actively participate in structured food growing activities linked to educational and public health agendas.

Director of Public Health at Sandwell PCT, John Middleton says "The Salop Drive Market Garden is increasingly being used by local schools who do not yet have the resources to grow food themselves. It gives children an understanding of where their food comes from how it grows; it connects them with the seasons and with the environment; it enables them to grow food themselves and helps them live more healthily and actively. It helps their families and people with long term health problems."

Sandwell Primary Care Trust

Figure 3.3.1 Findings from Orme et al.'s 2011 evaluation of the Food for Life Partnership[65]

Impact on diet and nutrition of the Food for Life Partnership Programme (of which food growing is a part of whole school approaches to food).

- The number of children reporting growing fruit and vegetables at school in the last year rose by 28.1%, from 54.4% to 82.5%.
- The number of children helping to grow fruit and vegetables at home in the last year rose by 9.2%, from 26.0% to 35.2%.
- The number of children reporting that they practised food preparation skills in school in the last month rose by 20.2%, from 17.3% to 37.5%.
- Children reporting eating an average of 4 or more portions of fruit and vegetables a day increased by 11.9%, from 37% to 48.9%.
- For Year 5 children only, those reporting eating an average of 5 or more portions a day increased from by 4.6% from 16.3% to 20.9%.

3.3.3 Psychological health and well-being

Schools and supporting organisations frequently note the improved psychological well-being of children involved in food growing. Increases in self-esteem, self-worth and confidence are cited in a number of studies[68] and often highlighted by teachers and organisations. Children and young people gain a sense of satisfaction from watching a plant grow from seed to harvesting point.

"Our pupils also enjoy being physically active, and get two hours of PE each week. Some families with weight problems have felt able to join a weight management programme run by a dietician, and this has had some promising results. This might not have been possible two years ago when residents didn't question what they ate or what affect their diet was having on their bodies."

Headteacher, The Oval Primary, Birmingham.

68. Ibid

"The benefits to individuals are a feeling of well-being, satisfaction and achievement that they have grown something, possibly for the first time."

Worthinghead Primary School, Bradford.

They also feel they contribute to the school community, through improving the physical environment through the growing space and supplying fruit and vegetables to their peers, families, and/or to the school kitchen. This encourages them to develop a sense of belonging in their community and pride in their school environment[69].

Co-operative Farms

"A boy who had quite low self-esteem after his parents split up and he lost contact with his father joined gardening club because his dad used to grow things with him when he was little. He has been a fantastic role model for the younger children, has become a keen and talented gardener and his confidence has grown so much. This was reflected in his school work. So much so that he won the award for progress at our end of year prize giving ceremony."

Hunslet-St-Mary's Primary School, Leeds.

As described in 3.2.3 the food growing space can provide a calm, safe place for children and young people to spend time in, which can help them deal with the stresses of their lives in and out of school.

3.4 Developing and improving schools

In addition to bringing direct benefits for the children and young people involved, food growing can be a dynamic tool for school development and improvement. When used effectively, food growing can help schools to engage parents, bring in support from the community and create a whole school ethos, all of which lead to positive changes for the whole school community[70]. There is a significant link between food growing and performance in Ofsted inspections, for example Ofsted reports were "more than twice as likely to give FFLP Flagship primary schools a rating of 'outstanding' across 10 criteria for inspection compared to the period before programme enrolment"[71].

Summary – Developing and improving schools

- Food growing in schools helps the development of a whole school ethos.
- Student voice is promoted through food growing, by creating opportunities for sustained engagement.
- Families become more involved with school life and supporting their children's learning.
- Schools are able to attract support from the community, volunteers, businesses and voluntary and community organisations.

69. Ibid

70. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

71. Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Adrian, M. and Kevin, M. (2011) *Food for life partnership evaluation: full report. Project Report.* University of the West of England, Bristol.

CASE STUDY

Food for Life Partnership Growing Skills programme

The Food for Life Partnership is a network of schools and communities across England committed to transforming food culture. The Partnership is led by the Soil Association, with the Focus on Food Campaign, Garden Organic and the Health Education Trust. Together these organisations "work to revolutionise school meals, reconnect young people with where their food comes from and inspire families to cook and grow food".

Garden Organic delivers the growing skills and community engagement element of the programme. They enable schools to establish and maintain food growing areas, ensure adults have the skills and confidence to share with young people, and inspire community members to grow their own food. A team of education officers deliver CPD training, workshops and planning sessions. Garden Organic has also developed resources, including a Food Growing Manual, to support schools.

The growing skills programme receives strong support from schools. Doug Bone, Headteacher of Wandle Valley School says: "There have been so many benefits from growing organic food in our school, for the students, the staff and our community...! It is the best initiative that we have ever been involved in. It has made a bigger difference to our school, than anything else that we have done.".

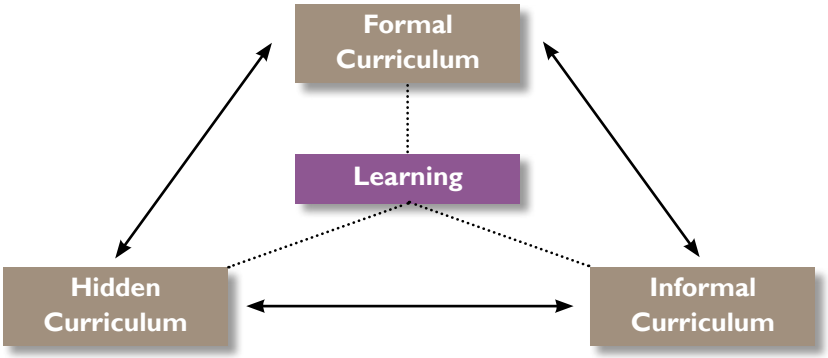
Independent research evaluating the impact of the growing skills programme, conducted by the Centre for Research in Education and the Environment at the University of Bath, found that the programme leads to four types of outcomes for the children and young people involved, all of which contribute to school improvement and development:

Skills	Being physically active	Knowledge and understanding	Personal development: values, attitudes dispositions and behaviours
Gardening: propagating through to growing, harvesting and composting	Regular activity that helps build fitness through co-ordination, strength and skills	Horticultural science: propagation, cultivation, irrigation, pest control etc.	An interest in, and commitment to, the idea, production and consumption of food, and a desire to grow food
Social and interpersonal: learning through experience and from/with others	Enjoyment of satisfying activity in the open air, enhancing feelings of well-being	Nutritional science: theories of nutrition and links to well-being and healthy eating	An interest in eating fresh fruit and vegetables and a willingness to try new foods
Work-related: leadership, teamwork, problem solving, critical thinking etc.		Ecology: biodiversity, ecosystems and interdependency, sustainability, responsibility and stewardship	A pro-sustainability disposition
Participation: working with others to plan and make decisions		Garden design: soil, weather, exposure, altitude, irrigation	A sense of satisfaction, enjoyment and of making a positive contribution
		Culture, food and well-being: what people eat and why; broadening the range of known foods	Engagement with and positive attitudes towards school, school work and learning
		Industrial practice: farming, horticulture, issues and choices around distribution, fair trade, organic GM etc.	Preparation for adulthood, e.g. personal responsibility, community participation, vocational preparation
		Food production processes: processing, distributing, marketing	Positive involvement in school life with shared learning through growing-related activity with (grand)parents/carers at home and in school

3.4.1 Developing and delivering a whole school ethos

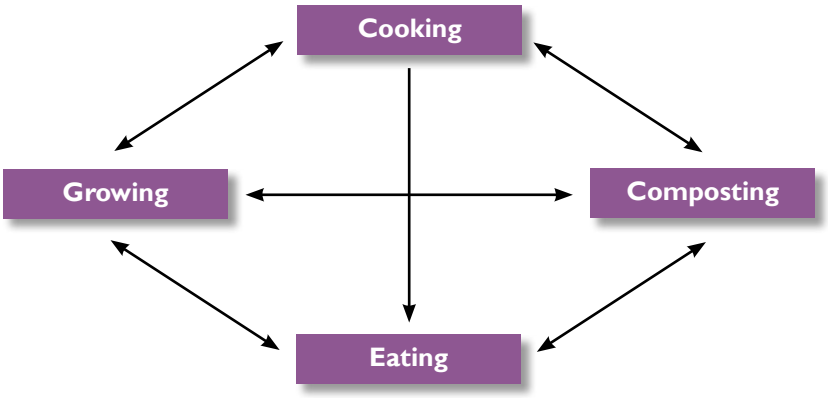
Early years, primary and secondary schools find that they can use food growing as a focus through which they are able to bring improvements across the whole school. It can be a unifying tool that brings together the formal (normal lessons), informal (clubs, out of timetable activities) and the more hidden (communication with children and young people outside lessons/activities, provision of space to grow, inclusion of healthy, school grown food in the school canteen etc.) curricula[72]. The embeddedness of this approach enables everyone within the school, teaching and non-teaching staff, children and young people, families etc. to have and understand their role in contributing to the whole school community. Schools and organisations working with them report how including food growing as part of their school improvement plan helps them to deliver a number of key improvement objectives. The diagrams below illustrate the relationship between growing, cooking and eating and all aspects of the curriculum.

Figure 3.4.1a School influences on the pupil learning experience



Barratt Hacking et al. (2011) *Food for Life Partnership Evaluation: monitoring the impact of the growing skills programme*

Figure 3.4.1b The relationship between growing, cooking and eating

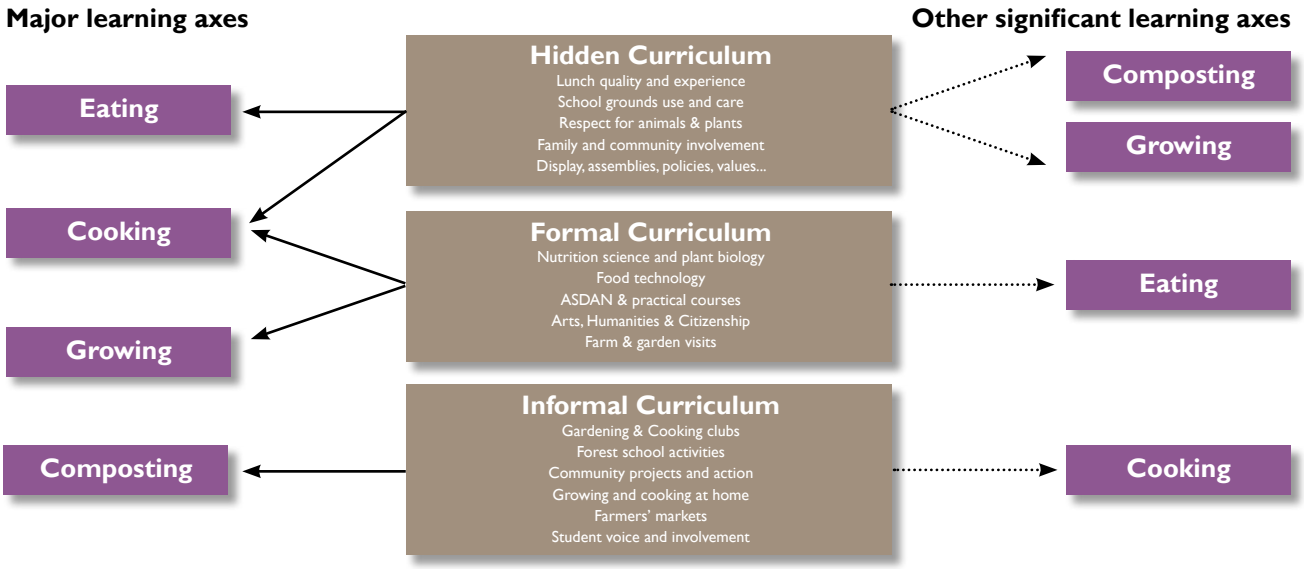


Barratt Hacking et al. (2011) *Food for Life Partnership Evaluation: monitoring the impact of the growing skills programme*

Co-operative Farms

72. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

Fig 3.4.1c the major contributions that the curriculum makes to young people's learning about cooking, growing and eating



Barratt Hacking et al. (2011) *Food for Life Partnership Evaluation: monitoring the impact of the growing skills programme*

3.4.2 Student voice

Food growing creates many opportunities to enable student voice. Children and young people are able to contribute to school life through involvement in the design, planning and on-going care for their growing space[73]. In schools where a whole school approach to food is adopted they are also able to influence wider aspects of school life, for example through mechanisms such as School Nutrition Action Groups[74]. Because food growing is able to engage children and young people with very different learning styles it supports the participation of those who may not otherwise seek to influence school life through more formal routes, such as student councils.

3.4.3 Involving families

Schools report how they have previously struggled to bring parents and families into the school and involve them in school life and their children's learning. They explain that food growing has created a new and different opportunity that is changing this. 49% of schools say that they receive support from parents for food growing[75]. Food growing, and the activities required to establish and maintain a garden, are seen as a non-threatening way for parents to support their child's learning, where both parents and teachers feel that they are working towards a common goal.

49% of schools surveyed said that they receive support from parents for food growing.

Foodshare

73. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

74. Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Adrian, M. and Kevin, M. (2011) *Food for life partnership evaluation: full report. Project Report.* University of the West of England, Bristol.

75. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

"My family like to listen to me telling them about growing food and cooking with it."

Pupil, The Oval Primary School, Birmingham.

The NFER literature review refers specifically to reaching fathers, many of whom can feel more comfortable landscaping and digging than they might do when involved in the more usual school-home activities.

Once parents are in the school, dialogue with teachers becomes more likely, and the nature of growing projects makes conversation feel more informal and accessible. As a result communication channels are opened up.

"Parents volunteer and learn new skills alongside their children and the school benefit by developing their parent partnerships."

Hunslet-St-Mary's Primary School, Leeds.

Many schools use food growing as a mechanism to deliver other activities for parents such as cooking classes. A number report how food growing introduces families to new foods and helps them develop growing and cooking skills. All of this helps reinforce messages (about the importance of food growing and wider learning) communicated to children and young people inside the school day, and build a whole school community.

CASE STUDY

Todmorden High School – A whole school approach to food as part of a school improvement strategy

Five years ago, Todmorden High School was an underachieving school and the new Headteacher, Patrick Ottley-O'Connor, was searching for a way to inspire students to aim for higher standards and to give them a reason to be proud of their community. At the same time Tony Mulgrew, the School and Community Catering Manager, decided to change the way Todmorden High's Catering Team sourced and prepared school meals. It is these 2 initiatives that were the catalysts to significant whole school changes for Todmorden High School.

Four years ago, in her role as newly appointed Curriculum Deputy, Helen Plaice saw the benefit of the work Tony was leading and recognised the potential of adapting the THS student experience to maximise its impact. THS were designated as a Food for Life Flagship School in December 2009 and are currently planning their strategy for attaining their Gold Mark, ensuring this initiative impacts on students of all ages and abilities. The appointment of Paul Murray in a new Middle Leadership role has also enabled this project to impact on students at all levels and ages as well as running a Level 2 BTec course in Agriculture. The most unusual aspect of this initiative has been the setting up of Incredible Edible Todmorden Ltd, a Social Enterprise Company, along with local business and community groups and a successful Big Lottery bid for a £750,000 Food Hub project.

In September 2010, Helen Plaice was successful in her application to the Headship of the school and was happy to maintain the focus on Food Culture and Sustainability. Over the last 5 years, Tony's role has developed and he has become a driving force for change within school. Not only does he work in the THS kitchen, supply meals for local primary schools and lead on food-related curriculum events, but he is also involved with Extended School activities, community cohesion groups, cookery demonstrations to parents, the list is endless. THS was recognised by the Department for Education in summer 2010 for being amongst the top 100 "most improved schools" in the country, and their A Level results were second only to the 2 selective grammar schools in Calderdale. "All this has given us that unique selling point that we needed to really inspire our learners, and become a driving force in the community." says Headteacher Helen Plaice.

3.4.4 Engaging community support

In a similar way, schools are able to use food growing as a means of gaining support from and involving the local community[76]. Support for food growing is most likely to come in the form of material resources (44% of schools report this type of support) and human resources (38% of schools)[77]. In practice, this can include a whole range of support, from donating seeds to landscaping an entire site, volunteering a couple of hours to providing professional development opportunities for teachers, and expert support on and off site. The direct benefits for enabling and progressing food growing are clearly important, but schools find that this isn't where the benefits end. Food growing creates opportunities to build relationships with local businesses and community organisations. Bringing people from these organisations into the school exposes children and young people to a wider set of skills and experiences, helping them to expand their own.

Improved relationships also mean that the school is more likely to reciprocate support and engagement in business and community initiatives. This creates a virtuous circle of engagement and support, and fosters long-term collaboration. This, and the opportunities schools offer members of the community discussed below, promotes a positive image of the school within its community.

Foodshare

"We use the food grown at our Silver Breakfast where we invite local employers to breakfast as a 'thank you' for their work."

Carshalton Boys Sports College, Surrey.

3.5 Strengthening communities

The impact of food growing in schools stretches beyond the immediate school community into the wider community and brings benefits for local, national and international organisations involved. It helps to strengthen community relationships and integrate public, business and voluntary and community organisations. It can create resources for the community and opportunities for interaction and skills development[78]. It also supports community health outcomes, through creating opportunities for people to connect with nature and increasing access to fruit and vegetables.

Summary

- Food growing brings communities together fostering understanding between people from different generations and cultures.
- The greater care that children and young people take of their environment as a consequence of food growing promotes positive relationships within the community.
- Communities benefit from increased access to affordable fresh fruit and vegetables.
- Individual members of the community are able to develop skills and knowledge by working with food growing schools.
- Businesses benefit from:
  - An increased understanding of food production processes and changed purchasing habits.
  - Increases in staff motivation and employee relationships as a consequence of working with schools.
  - Greater awareness of careers within the business and the development of skills.
- Voluntary and community organisations benefit from greater awareness of their work and purpose, and fulfilment of their charitable objectives.

76. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

77. Ibid

78. Ibid

3.5.1 Bringing the community together

Food growing in schools, which involves individuals and organisations from the community, brings different sectors of the community together. There are a number of illustrations of this in the research evidence and in submissions to the Taskforce. In some cases different generations interact, for example grandparents offering gardening advice in schools or time spent by children and young people on community allotments.

In areas with a diverse ethnic and cultural profile, food growing can increase understanding and connections between members of the community. The growing space enables people to communicate without needing an extensive vocabulary; which helps those for whom English is not their first language interact with their neighbours[79]. Growing and talking about a range of fruit and vegetables from across the globe builds knowledge about the similarities and differences between cultures.

Children and young people with a greater environmental awareness have an increased interest in their surroundings and take greater responsibility for their care. This leads to proactive environmental behaviours i.e. tending their environment as well as a reduction in negative behaviours such as vandalism and littering[80]. This can lead to an improved relationship between young people and other community members.

"We have found that vandalism (Broken greenhouse windows etc) has been reduced since the school children have been on site. It was explained to them how much the adults on site love their plots and how they will help the children with their garden. They look on the plot as theirs and the other children in the area have to leave it alone, and in so doing help protect the Association... Now we have the older members donating plants etc. to the school plot."

East Stanley Allotment Association and East Stanley Junior School.

3.5.2 Improving access to fresh produce

Many schools extend the distribution of their fruit and vegetable produce beyond the school to the local community, others create community growing spaces within the school grounds. This increases accessibility to free and/or affordable fresh produce, which is particularly valuable in more deprived communities. There are also examples of schools supplying produce to local organisations and social enterprises, contributing to community health and well-being.

3.5.3 Creating opportunities for members of the community

Individuals from within the community can benefit from the opportunities created by food growing in schools; supporting food growing through volunteering can be fulfilling. Individuals are able to develop new skills, including food growing and cooking, communication and teaching. Schools also often extend workshops, and celebrations of food growing, to members of the community, creating additional opportunities for skills development and for community interactions.

"Individuals see they can contribute to the wider community. Members of the local community come to take some of our excess produce, which benefits them and gets them into our school to be part of our wider community work. Over the summer vacation various neighbours and parents, and grandparents came in to water the produce and harvest what was available. Again this is a great community link. They also 'protect' the site... as it is seen as a community asset."

Carshalton Boys Sports College, Surrey.

79. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

80. Ibid

CASE STUDY

Foodshare Growing to Give – food philanthropy

Cambridge Evening News

Growing to Give is one part of the work of "food philanthropy" organisation Foodshare which connects food growers with charities to reduce the food bills of charities, provide fresh produce to those that will benefit most, reduce food waste and food miles and teach children about sharing. Foodshare works with schools to create Foodshare beds where children grow fruit and vegetables to donate to a local charity, such as a children's hospice, homeless shelter or care home.

Over 250 Foodshare charities are supported by 7,500 primary school children growing fruit and vegetables in school and collecting other local produce gluts from across the community. Schools collectively donate thousands of pounds of fresh, local produce to those who can benefit most. This helps to reduce charities' rapidly rising food bills, in war time when many are under great financial pressure. Each food donation is essentially a cash donation. But there are wider benefits too, one homeless shelter said after children delivered soup they had grown and made "Most importantly, it shows the homeless that society cares about them.".

Food share also helps to create a personal bond between a school and a local charity. Children and young people are able to learn about and experience first-hand what the charity does, and the charity is inspired and encouraged through the children's work. Schools are transformed by their experience of Foodshare. It becomes so central to school values and philosophy that it is naturally integrated into every part of the school including learning in and outside the classroom, fundraising and enterprise, assemblies and even the school play!

Foodshare co-founder Mark Desvaux says "We help to create a new generation of philanthropists, helping to nurture the caring, sharing nature of children. Society and communities will reap the long-term dividends of this in years to come. We are preparing children for a future where food will not be taken for granted, and when growing skills and sharing within a community will be essential."

3.5.4 Delivering organisational objectives

The Taskforce asked voluntary and community organisations and businesses why they chose to support food growing in schools. We received responses from local, national and international organisations. Reasons for support were as diverse as the range of respondents, but some common themes emerged.

Supporting food growing helps businesses to meet their corporate objectives. Connecting children and young people (and their families and communities) with their food is seen as a way of developing an understanding of food production processes and influencing purchasing habits.

"By making a difference to the way children view food at a young age, we can help shape healthy eating habits that will stay with them as they grow; influencing their diets and purchasing habits in the future. By teaching children about the versatility, sustainability, taste and health values of the potato they will be able to make educated decisions about their diet choices."

Potato Council response to the Taskforce survey.

Support is also thought to promote a positive brand image, by building links between businesses and local communities and exhibiting green and community support credentials. This helps to engage new customers and retain existing ones.

"We have won several national garden centre awards for community involvement. We gain lots of positive press coverage and our reputation for working with schools is growing... it is well known in the industry."

Fermoys Garden Centre, Devon.

As part of their corporate social responsibility, businesses release staff to volunteer on food growing in schools projects. This motivates them and fosters strong employee relationships. Some businesses report that their staff carry on volunteering on the projects in their own time. Support also raises awareness of possible careers within the business, and encourages skills development.

Voluntary and community organisations experience similar benefits. At the core of these organisations' involvement is the need for them to fulfil their charitable objectives.

"As a charity dedicated to promoting organic growing and food growing in schools, we achieve many of our objectives by reaching out to schools and their communities."

Garden Organic response to the Taskforce survey.

Organisations with a broad range of objectives are able to fulfil them through food growing because of the range of outcomes that it supports. Organisations are also keen to increase awareness of themselves, their work and their messages, to build their supporter base and help them to be effective. Being involved in food growing in schools helps them to reach children and young people, school staff and families.

The evidence clearly shows how powerful a catalyst for change food growing in schools can be. An activity that can achieve so much for children and young people, their families, schools, communities and wider society is remarkable. It is important to note again that these benefits are best achieved in schools that adopt an approach where food growing is integrated across all aspects of school life and features in school aims. Chapter 4 looks at this in more detail and how all schools can be supported to deliver food growing in a way that achieves the maximum benefits for all stakeholders.

Co-operative Farms

CASE STUDY

Morrisons Let's Grow

Let's Grow is a community investment programme that is designed to inspire children to follow a healthier lifestyle, and to get them excited about fresh produce. Now in its 4th Year Morrisons have donated over £10million worth of gardening and cooking equipment to over 26,500 schools and other youth community organisations. This programme represents over 67% of primary and 40% of schools in the UK, giving an estimated 5 million children a chance to get out of the classroom and learn about growing.

Shoppers collect 1 voucher for every £10 spent in store – plus bonus vouchers on special products. These vouchers are then handed to schools, for them to redeem against over 250 products for use in the garden and kitchen. So far over 361,000 packets of seeds, 364,000 plant pots, 64,000 trowels and 34,000 pairs of wellington boots have been given to schools.

Let's Grow was inspired by the 2006 Learning Outside the Classroom Manifesto, in which the Government detailed the benefits and raised achievements of an organised approach to learning, in which direct experience is of prime importance.

Head of Corporate Responsibility Steven Butts says "Let's Grow is designed to help young people appreciate the value of fresh food and the resources needed to produce it. The programme is simple and engaging, but at the same time because it's driven through a learning environment, it encourages young people to think about food, understand nutrition and prevent waste.". At the outset of the programme Morrisons' objectives were:

- to build a credible community-based programme,
- which supported Morrisons' food positioning and credentials,
- and would be viable to drive incremental footfall and sales.

Morrisons work with celebrity gardeners, Diarmuid Gavin, and Blue Peter Gardener Chris Collins to help bring gardening and learning to life across the country. They

Morrisons

travel up and down the length and breadth of the UK, visiting schools, delivering assemblies and getting children excited about gardening and growing. Competitions are run throughout the year, giving schools a chance to win extra equipment and visits from our expert gardeners.

As well as the gardening equipment schools have been given through the programme, teaching resources have been developed for use in and outside of the classroom. These resources have been developed in partnership with the National Schools Partnership. Materials cover Key Stages 1- 4 and include information about the advantages of eating a healthy diet, and environmental themes. All resources are downloadable from the Let's Grow website which is a central hub for all Let's Grow information and resources. On the site teachers can order equipment, post news articles to their individual profile pages, download resources, direct their students to fun educational games and also track the growing seasons via an interactive growing calendar.

Morrisons are delighted with the impact the programme is having for children and young people, teachers and schools, as well as the impact it is having for them as a business. During the 2011 Let's Grow campaign, the perception amongst customers that Morrisons is a community-focused supermarket rose by over 10% amongst main and secondary shoppers.

4. What makes a school an effective food growing school?

4.1 Introduction

Given the benefits that can be accrued, we believe that it is essential that every child has the experience of food growing and that this should continue throughout their school life. For this to be achieved, schools and their communities need to be supported to grow food.

Submissions to the Taskforce, and the evidence within the literature review, consistently demonstrate that there is an optimum environment in which food growing in schools achieves the full range of benefits for all involved. It is also clear that those schools which are not able to create this environment find it harder to get the most out of food growing and are less likely to perceive food growing as of value to them and their students. Therefore, although we are delighted to learn that 80% of schools are already involved in food growing[81], we are concerned that further evidence indicates only some of these do so in a way that enables them to achieve adequate impact for all participants.

As part of their survey, the National Foundation for Educational Research asked schools to list the main barriers to food growing in their school. Barriers to food growing were also examined by the Taskforce working groups, and common themes emerged. However, rather than focusing on problems presented by barriers we have sought instead to look at how these barriers can be overcome, and this chapter therefore focuses on success factors.

Northfield Junior School, Derbyshire/realbreadcampaign.org

Although we are delighted to learn that 80% of schools are already involved in food growing[81], we are concerned that further evidence indicates only some of these do so in a way that enables them to achieve adequate impact for all participants.

81. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

Figure 4.1: Barriers to food growing

Based on your experience, what are the main barriers to food growing in schools/early years settings?	%
Lack of time in the curriculum	46
Lack of personnel to coordinate activity	36
Lack of personnel to supervise activities	36
Lack of material resources (e.g. equipment and seeds)	33
Difficulty in synchronizing the curriculum with food growing seasons	30
Lack of staff knowledge or skills	23
Lack of interest from staff	20
Lack of outdoor space	19
Different priorities/interests	18
Lack of support from community/parents	3
Lack of indoor space	9
Health and safety concerns	9
Lack of interest from children	5
Other	4
Lack of support from senior leaders	3
Not sure	2
No response	8
Total	**100**

- More than one answer could be given so percentages may sum to more than 100.
- A filter question: all those who were currently involved in food growing activities.
- A total of 953 respondents answered at least one item in this question[82].

The Taskforce recognises that there are many different models of effective food growing in schools, and does not seek to prescribe how any single school undertakes food growing in its own context. We have however, identified from the evidence, a set of factors that help create the best possible environment for food growing in schools. These are grouped under four headings: school leadership, professional development, resources, and community involvement. This chapter explains each of these factors in detail. Teaching and learning are of central importance to food growing. Because of this, findings relating to teaching and learning have been integrated into each of the sections.

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82. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

4.2 School leadership

Summary – School leadership

The support of school leadership is crucially important, however in many food growing schools, food growing is not fully integrated across the whole school. There are four main ways in which schools leaders get successful outcomes from food growing:

- Ensure food growing is an integral part of the whole school ethos.
- Make explicit links between food growing and the curriculum (formal, informal and hidden) in line with broader school objectives.
- Support children and young people in the decision making around food growing.
- Allocate appropriate resources for teaching and non-teaching staff to integrate food growing into their practice.

The support of a school's senior leadership (staff and governors) is crucially important. This support must be more than "in principle" to facilitate a real impact on young people's learning (and their lives). The evidence shows that the rhetoric and action of school leadership strongly influences the extent that food growing is integrated into the formal and informal curriculum, and therefore the response of staff and children and young people[83],[84].

Although 83% of schools report that food growing has the support of senior leadership, only 49% say that food growing is regularly integrated into lessons and only 34% that food growing is part of their school's whole policy[85] – both factors that indicate the extent to which food growing is embedded within a school. Furthermore senior leaders are responsible for co-ordinating food growing activities in only 17% of schools.

In addition, only a quarter (26%) of schools say that all children and young people are involved in food growing and the same amount say that less than a quarter are involved[86]. In around half of schools fewer than 25% of teaching staff and non-teaching staff are involved in food growing (49% and 53% respectively[87]).

Although 83% of schools report that food growing has the support of senior leadership, only 49% say that food growing is regularly integrated into lessons and only 34% that food growing is part of their school's whole policy.

These findings suggests that there is much greater scope for senior leaders to take action that fully demonstrates their commitment to food growing as a tool to develop their school and a whole school food vision that has young people's learning and well-being at its heart. There are four ways in which schools do this effectively, often in partnership with supporting organisations:

4.2.1 Food growing as an integral part of the whole school ethos.

A school that embraces food growing does so by living and breathing food growing as part of the whole school ethos. It can be one of the key overall themes in which other aspects of the whole school ethos are encapsulated. Where food growing is linked to healthy lifestyles, well-being and positive attitudes to learning it becomes a part of every member of the school community's

83. Ibid

84. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

85. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

86. Ibid

87. Ibid

In around half of schools fewer than 25% of teaching staff and non-teaching staff are involved in food growing (49% and 53% respectively).

daily experience and helps to reinforce other aspects of the school ethos[88]. In the most effective cases it is tightly linked to cooking and eating; conversely we learnt that there are less effective examples where due to concerns about health and safety the children and young people were not able to eat the food they had grown. 9% of schools cite health and safety concerns as a barrier to food growing in their school[89].

4.2.2 Prioritising learning through the curriculum

Viewed in isolation food growing can be seen as a "nice to do" activity. However, considered in the context of what it can achieve for learning and well-being, in delivery of the curriculum, it is clearly a useful tool for school development and improvement. Leaders who are able make explicit links between food growing and student outcomes find it easier to understand how it fits in with wider school objectives and thus gain support for its delivery.

Similarly, it is necessary to make connections between food growing and the academic curriculum to ensure that there is a clearly identified learning and skills purpose associated with food growing[90]. Where senior staff are able to show leadership in this activity and support teachers in their teaching practice, food growing has a greater chance of contributing to, and of being sustained within, the school.

Organisations supporting food growing in school have a range of resources to support school leaders, from online tools to face-to-face strategic support. Those schools that have been able to make use of these resources have found that the resources add value.

4.2.3 Supporting student voice

Research also shows that school-based health promotion programmes are more successful where participants are actively involved[91].

88. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

89. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

90. Ibid

91. Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Adrian, M. and Kevin, M. (2011) *Food for life partnership evaluation: full report. Project Report.* University of the West of England, Bristol.

Similarly, evidence shows that where schools enable children and young people to be actively involved in decision-making relating to food growing, there is a greater likelihood that food growing will be successful and that healthy eating and lifestyle messages will be reinforced[92]. The more participative the approach, and the greater the number of children and young people involved, the greater is the potential impact. However, despite the opportunities presented by food growing for children and young people's participation, relatively low numbers of schools involve them to a significant extent, for example in the development of policies related to food growing[93].

4.2.4 Allocating resources

The level of resource required for food growing can be minimal but teaching and non-teaching staff require the space to be able to think creatively about how food growing is relevant, and how it can be incorporated into their work. Leaders need to make this resource available and give support to their staff to help them "guide programmes through complex political and institutional barriers"[94].

Food growing is best integrated into the whole life of the school, when all activity is coordinated. Particularly successful food growing schools achieve this through having

"at least one coordinator, and ideally, a dedicated staff team overseeing the food activity."[95].

As one evaluation of the Garden Organic-led food growing aspect of the Food for Life Partnership states

"For food and growing activity to become more embedded in a school there needs to be a shift in who drives the work from enthusiastic but lone champions to multi-skilled teams including pupils."[96].

Submissions to the Taskforce from schools described the challenges that individuals face if they are isolated and unsupported in their food growing activity. In this scenario food growing is much less likely to make an impact and be sustainable. Where school leaders are able to identify and support an individual/ team, more will be achieved through food growing.

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In school experiences of growing are also well complemented by off-site visits, for example to farms, kitchens etc., where children and young people can experience the concepts they have learnt within the school at a greater scale. Where schools have limited space, growing and cooking resources and expertise, visits to specialist sites will extend what can be taught within the school[97].

92. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

93. Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Adrian, M. and Kevin, M. (2011) *Food for life partnership evaluation: full report. Project Report.* University of the West of England, Bristol.

94. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, pp 52, National Foundation for Educational Research, Slough

95. Ibid 96. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, Centre for Research in Education and the Environment, University of Bath, Bath

97. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

CASE STUDY

The Co-operative's From Farm to Fork farm visits programme

The Co-operative's "From Farm to Fork" (FF2F) programme was launched in 2005 on one of the Co-operative's own farms. It has since expanded to seven sites and over 65,000 children have benefitted from an educationally structured visit.

From Farm to Fork is an exciting outdoor learning experience, where primary school children visit a Co-operative Farm to learn about where their food comes from through activities linked to Key Stages 1 and 2 of the school curriculum. On a visit children will improve their understanding of how food is produced, by exploring the farm, seeing the crops grow and planting their own seeds. They also learn about healthy eating by cooking their own nutritious dishes.

The aim of From Farm to Fork is to inspire children to get passionate about fresh, good quality ingredients. For some children it is the first time they have experienced the countryside. They leave with a greater appreciation for the great outdoors, and gain an understanding of the importance of farming, both in supplying food and protecting wildlife within its natural habitat.

From Farm to Fork fits with a number of the Co-operative Group's business and Corporate Social Responsibility objectives: education is one of the Co-operative principles and has always been an integral part of their way of doing business. As a community retailer, linking the community back to where the food is grown and meeting their social goal of 'Inspiring Young People' is a key advantage of the project. Additionally, retail staff have visited the farms and themselves volunteered on the FF2F sites, decorating the classrooms and helping raise funds to pay for the coaches (the visit is free but the cost of the coach is a significant issue to many of the schools).

The Co-operative Group commissioned research to provide the Taskforce with information on the value of external visits and how it links with growing food in

Co-operative Farms

schools. The research found that since the farm visits and growing food in school:

- 32% of parents believe that at home they cook food from scratch more than they did before.
- 49% of parents believe that their child helps them cook at home more.
- 67% of parents feel that their child's interest in where food comes from has increased.
- 63% of parents feel that their child's interest in what types of food the family eats has increased.

Teachers surveyed described FF2F visits as of great value to them and their pupils,
"Some of these children only see their home and school, that's their life. So sending them to experience the farm is amazing".
"Kids are totally cut off from food production – so when we talk about people starving or how natural disasters affect food production, they don't have a clue; whereas if you say – if this happened at Oadby..."

Other benefits identified through the research include:

- Farm to Fork trips help to educate staff as they gain 'real life' experience of arable farming, which very few have before their visit.
- The enthusiasm of the FF2F trainers and children helps to motivate teachers.
- Staff develop ideas on the basis of the visits for other activities and can help children towards healthy eating.
- Children take their learning home with an FF2F recipe book, sustaining the learning experience.

4.3 Professional development

Having a staff team that has the knowledge, skills and confidence to grow food and incorporate this into the curriculum enables food growing to reach, and achieve the best possible outcomes for, all children and young people and the school. Schools that have invested in the professional development of their staff in these areas and in school-wide integration of food growing are more likely to report positively about their experience of food growing. Schools which do not, are more likely to struggle to find time to grow food, and less likely to experience the full range of potential benefits.

Organisations supporting schools to grow food report that often teachers would benefit from having the opportunity to develop the food growing, cooking and project management skills they need. They also report that a significant number do not find it easy to make the links between food growing and their own subject's curriculum delivery, which fits with the finding that food growing is frequently planned into lessons in only 49% of schools[98].

A lack of available curriculum time is both the most frequently cited barrier and considered to be the main barrier to food growing, by schools that are currently involved in food growing (46% and 20% respectively)[99]. We believe that time need not be as great a barrier as it is perceived to be, if teachers have the skills and support to routinely use food growing to aid their lesson planning and delivery and if school leaders prioritise growing.

Understandably, the NFER literature review and submitted evidence also confirmed that more teachers need food growing and preparation skills, and the confidence in their skills to pass on to their students. This is reflective of a lack of food growing skills in the wider population. A recent Royal Horticultural Society survey investigating gardening skills distribution across children and young people, their parents and grandparents found that only 1% of current parents were taught to garden in school, compared to 55% of grandparents[100]. Some schools overcome this lack of skills by supporting teachers to work effectively with external volunteers and professionals, combining pedagogical with horticultural knowledge.

Summary – Professional development

Schools benefit from developing staff teams that have the skills and confidence they need to grow food and incorporate this into the curriculum. More could be done to develop skills in three areas:

- Ability to integrate food growing into the curriculum in a stimulating and meaningful way.
- Growing and cooking skills that enable teachers to feel confident in their use of food growing to support their teaching of wider concepts.
- Project management and organization to ensure that the food growing year is synchronised as far as it can be with the academic year.

4.3.1 Ability to integrate food growing into the curriculum

Teachers who can use food growing creatively to teach their subject to children and young people are able to stimulate learning by bringing abstract concepts to life and demonstrating practical applications of these concepts[101]. This engages them with the subject matter in a visceral, yet thoughtful way, creating a sense of awe and wonder and making connections between ideas and real-world experience. Teacher training and continuing professional development that emphasises and builds on these skills enables new, and experienced, teachers to consider food growing a helpful resource, rather than a time consuming add-on that sits outside their normal lesson planning.

98. Ibid

99. Ibid

100. Royal Horticultural Society (2011); http://www.rhs.org.uk/Gardening/News/Parents-lack-gardening-knowledge accessed 26 October 2011

101. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

4.3.2 Growing and cooking skills

Food growing schools need sufficient numbers of teachers with the gardening and cooking skills and knowledge to enable successful growing and curriculum integration. Possession of these skills helps them to be confident in their use of food growing to support their teaching of wider concepts[102]. The Taskforce is not suggesting that all teachers need these skills; the number needed varies between early years, primary and secondary settings, and depending on the school's approach to food growing. The Taskforce found many examples where teachers' skills development is supported through continuing professional development training and working with experts from external organisations and the community. In other examples, experts with gardening and/or cooking knowledge (some paid for by the school, others provided by external organisations, others volunteers) work alongside teachers, combining specialist gardening and/or cooking skills effectively with teachers' pedagogical skills. Schools also do this by involving their non-teaching staff, such as catering managers and grounds staff.

4.3.3 Project management and organisation

To use food growing to teach a number of classes across the academic year takes careful planning and coordination. 30% of food growing schools report that *difficulty in synchronizing the curriculum with food growing seasons* is a barrier to food growing in their schools[103]. Schools which had people within their staff team, who were able to coordinate this across the school, found food growing more successful and sustainable[104]. Similarly, individual teachers need to be able to project manage their own activity in the garden, based on the whole school approach, to support their teaching programme for the year. An evaluation of the Garden Organic-led food growing aspect of the Food for Life Partnership found that

"To ensure that a food education and growing focus is sustained schools need, where possible, to make formal appointments for all staff with food education roles, and adjust job descriptions and committee terms of reference."[105].

Organisation is also required to see school growing spaces through the school holiday periods. Some schools do this through careful planning of crops; others do so by making use of external support, parents, community volunteers etc or by opening up the growing space to the local community. Those which relied entirely on teachers to do so in their holiday time, were less successful.

30% of food growing schools report that *difficulty in synchronizing the curriculum with food growing seasons* is a barrier to food growing in their schools.

NFYVI

102. Ibid

103. Ibid

104. Ibid 105. Barratt Hacking, E., Scott, W., Lee, W., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*, pp18 Centre for Research in Education and the Environment, University of Bath, Bath

105. Barratt Hacking, E., Scott, W., Lee, W., (2011) Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme, pp18 Centre for Research in Education and the Environment, University of Bath, Bath

4.4 Resources

Many schools establish and sustain food growing successfully with minimal resources. Despite this, many others are daunted by the extent of resources they believe are required. In addition to the perceived lack of time discussed above, 33% of schools that are currently involved in food growing report that a lack of material resources, such as seeds and equipment is a barrier to food growing[106]. Others report that they need more human resources. The charts below show levels and types of support received by schools from different sources. Primary schools are more likely to receive no external support and less likely to have received almost every type of support compared to secondary schools and early years settings[107]. Based on this information, and the submissions received from organisations currently or planning to support food growing in schools, the Taskforce believes there is much greater scope to connect schools with available resources.

Summary – Resources

Many schools establish and sustain food growing with minimal resources. Despite this many are daunted by the extent of resources they believe are required. Some resource commitment is necessary to make food growing possible and effective.

- Human resource, across the school staff team, is necessary to sustain food growing. It is made best use of, and the least negative impact on time and capacity occurs, when food growing is integrated throughout the life of the school.
- At the very least schools need to be able to access a space to grow (on or off site), tools and planting.
- There are many organisations (commercial, public and NGOs) with resources to support food growing and there is scope to connect schools better with available resources.

4.4.1 Human resources

Human resource across the school staff team, from senior leadership to teaching and non-teaching staff, is necessary to sustain food growing[108]. As noted previously, these resources are made best use of, and the least negative impact on time and capacity occurs, when food growing is integrated throughout the life of the school, and where this is supported by school policy.

Businesses, voluntary organisations and community groups have staff and volunteers willing to support food growing in schools, often entirely free of charge. For example expert gardeners and chefs support food growing and cooking through advice for teachers and school visits, including leading lessons. Other business and organisations provide volunteers that take on garden development and maintenance tasks and support for lessons and clubs on a one-off or on-going basis. Schools that engage effectively with their local communities, including businesses, have been able to supplement their own resources well. However, such support does need to be managed. In particular volunteers need to be given a clear brief. Furthermore the involvement of individuals without teaching qualifications should not be considered an alternative to teachers but a supplement as, although these individuals will doubtlessly bring rich skills and experience, they are less likely to be equipped with the pedagogical skills that teachers can use to ensure the activity leads to learning and wider outcomes for children and young people.

4.4.2 Material resources

A good deal can be learned with as little as a few pots, some compost and a packet of seeds. Understandably, the majority of food growing schools wish to have a more permanent and substantial food growing space, through which a wider variety of learning can be achieved. 92% of schools said that food growing in their school takes place in outdoor plots or raised beds[109]. Some schools report that finding a suitable space to grow is challenging, but most find a way around this in one way or another.

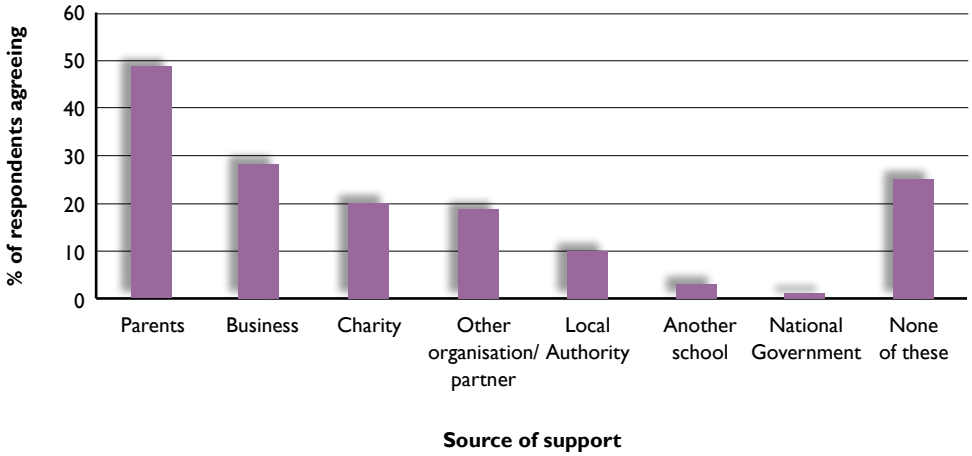
106. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, National Foundation for Educational Research, Slough

107. Ibid

108. Ibid

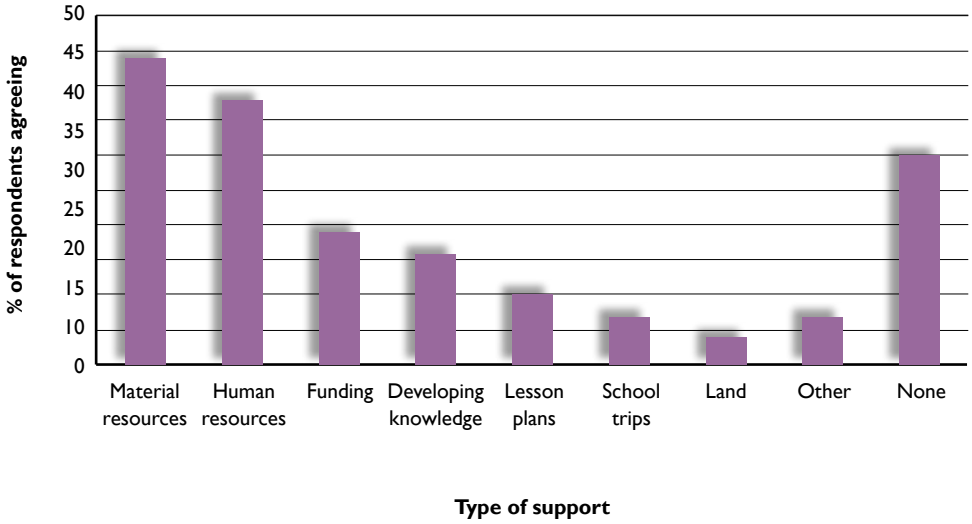
109. Ibid

Figure 4.4a Sources of support received by school/early years respondents to help with food growing



Data from Nelson et al. (2011) *Food Growing Activity in Schools*

Figure 4.4b Types of support received by school/early years respondents during previous year



Data from Nelson et al. (2011) *Food Growing Activity in Schools*

Schools with little of their own outdoor space, either tend to grow in pots and tubs, or seek growing plots outside the school grounds, for example on allotment sites or within community gardens.

Local businesses often support schools by constructing or improving existing growing spaces through landscaping and providing materials. National and local business, voluntary, community and public organisations also provide a wide variety of materials for schools, such as gardening tools and seeds, as well as lesson plans and other resources for learning. One interesting model of business collaboration is that of the Potato Council.

The various types of support available are made good use of by some schools; however, less than half of schools (44%) stated that they had received any material support. Only 20% of schools had received support for food growing from a local or national charity and only 29% from a business[110]. This indicates that there is the potential for greater take-up of the resources on offer.

Note: It is vitally important that every child's learning about food is reinforced through their experience of a healthy food environment in their school setting. Because of this we felt it necessary to note that schools working with businesses in support of food growing should do so with Government guidance on such matters in mind and avoid involving companies or brands associated with products that undermine healthy lifestyle messages, for example food and drink products high in fat, sugar or salt.

4.5 Community involvement

For the impact of food growing in schools to reach a wide audience communities need to be involved. Such involvement can also help in the long-term sustainability of food growing in schools. The participation of businesses, community and voluntary organisations and the local population can lead to benefits for all participants. For example, by working collaboratively healthy diets and lifestyles can be promoted and sustained, opportunities for growing can be expanded and skills shared, and resources can be pooled and used to maximum effect. Research and experience shows that food growing will not by itself develop school-community relations, or contribute to the community. To be successful, food growing needs to be seen as

"a means of contributing to the community... a place for the community... [and] an activity owned by the whole community"[111].

4.5.1 Shared resources

Schools and communities report challenges in accessing spaces to grow food. Collaborations between schools and their community can help solve this problem. Where schools have limited access to growing space within their own grounds, many have worked with their local community to find plots to cultivate. A number of submissions described collaborations with local allotment and gardening societies, which enabled the sharing of gardening skills and knowledge and interactions between generations, in addition to the provision of growing space. Conversely, schools have also opened up access to community members wanting to grow by creating community allotments and orchards etc. within school grounds.

Summary – Community involvement

For the impact of food growing in schools to reach a wide audience, communities need to be involved. Such involvement can also help in the long-term sustainability of food growing in schools. The participation of businesses, community and voluntary organisations and the local population can lead to benefits for all participants.

- Schools that form good relationships with local businesses and individual members of the community are able to bring in, and facilitate the sharing of, food growing resources, knowledge and skills.
- Community participation helps to reinforce and sustain food growing by creating a long-term support network and embedding a food growing culture beyond the school, which reinforces messages learnt within the school context.

110. Ibid

111. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, pp38, National Foundation for Educational Research, Slough

CASE STUDY

Industry collaboration maximising use of resources for business and schools

The Potato Council, a division of the Agriculture and Horticulture Development Board, is funded by potato growers and trade purchasers who pay a levy. Educating children has been set as a priority by the industry-led Board.

The project is run by Potato Council and heavily supported by those in the potato industry – seven businesses donate the seed, many smaller businesses work with their local school and some host farm visits. This was the seventh year of the project and 13,000 schools took part, it is estimated to have reached over one million children to date.

Communities are frequently a solution to the resourcing problems described above. Schools that form good relationships with local businesses and individual members of the community are able to bring in, and facilitate, the sharing of food growing resources. This can be achieved formally through garden construction projects and informally through activities like seed and plant swaps.

4.5.2 Knowledge and skills sharing

Community involvement in food growing in schools also facilitates the sharing of skills and knowledge[112]. This can be achieved by members of the community working with teachers and children and young people within school grounds as well as off site. In addition to the use of community growing spaces, there is a great deal that children and young people can learn through visits to farms and other food and growing related businesses. A combination of all of these activities enhances teaching and learning and understanding between different parts of the community[113].

4.5.3 Reinforcing and sustaining food growing

Collaborative working between the community and the school helps to sustain food growing. The additional resources contribute to the feasibility of the activity. Community participation also helps to embed a food growing culture beyond the school, which reinforces messages learnt within the school context[114].

4.6 Summary

The Taskforce has sought to focus on success factors rather than barriers to food growing. We recognise that there are many levels at which schools grow food and do not wish to discourage food growing activity by suggesting that every school must have all these things in place to embark on any food growing activity. Rather, we hope to have described what approaches and resources will help schools, and their wider communities, get the most out of food growing.

However, that said, we do believe that there is a strong case for embedding food growing in all aspects of the school life within, and beyond, the school environment. There are common characteristics amongst the most successful food growing schools. Their senior leadership is engaged and actively supports food growing. They enable children and young people, teaching and non-teaching staff to shape food growing activity and give staff the time and resources they need to integrate food growing, cooking and eating into their teaching and wider practice. This is reflected in creative use of food growing across the curriculum (formal, informal and hidden). Resources are available and used effectively by the school and the wider community. Lastly, there is a mutually beneficial relationship between the school and local community based around food growing.

112. Nelson, J., Martin, K., Nicholas, J., Easton, C., and Featherstone, G. (2011) *Food Growing Activity in Schools*, pp38, National Foundation for Educational Research, Slough

113. Ibid

114. Ibid

Lifting precipitated fruit DNA on a pipette - a process used to aid the identification of pathogens.

5. Recommendations

Our Vision:

Every school is a food growing school. Every child and young person has regular access to the practical experience of food growing throughout his or her education. This enables them to develop an understanding of where their food comes from and the importance of the natural environment. It excites them about learning, and promotes their health and well-being. Schools, children and young people, their families, and extended communities are enriched through the experience of food growing. We have a healthy, thriving nation in which the population, economy and society benefit from the learning, skills and health and environmental behaviours, acquired through food growing in schools.

The previous chapters have discussed how powerful food growing can be in enhancing the learning and health and well-being of children and young people, how it helps develop schools and communities and brings a broad range of benefits for all those involved. Children and young people who grow food in school enjoy it, and through the experience they take a positive approach to their learning and health and take pleasure in contributing to their community within and beyond the school. They are also better equipped with the skills they will need to take them through life. Schools find they can use food growing as a mechanism through which they can develop and improve. Communities are rewarded by their support for food growing in schools with a greater sense of community togetherness, as well as increased access to affordable fresh fruit and vegetables.

Summary – Recommendations

For all these reasons we believe food growing should be embedded in *all* schools, within which all children and young people have meaningful, enjoyable experiences of food growing as well as cooking and eating.

For this to be achieved we need to:

- Remove barriers, perceived and real, that prevent or limit food growing in schools.
- Raise awareness of the benefits of food growing in schools to get every school growing and encourage those who do so already to embed it further across their whole school community.
- Work together at a local and national level to ensure that knowledge, skills and resources are available and accessible to support food growing in schools.
- Support school leadership teams, teaching and non-teaching staff to develop the skills and approaches they need to grow food in their school, and embed this across the whole school experience.
- Ensure the skills and enthusiasm developed through food growing are harnessed for the green economy.

We have identified six recommendations, which if implemented, we believe would promote, enable and embed food growing in schools, and bring about multiple benefits for the children and young people and all those involved. In addition we have outlined the key activities we believe schools, voluntary and community organisations, businesses and government should undertake to implement these recommendations. This action plan is available at: www.gardenorganic.org.uk/foodgrowinginschools

1. A national celebration campaign

A cross-sector campaign celebrating current achievements, raising awareness of the impact of food growing in schools and promoting further activity.

There is a need to engage all schools (both those already growing and those not yet doing so) and possible supporters with the idea and benefits of food growing in schools, to increase and embed activity. We believe a year-long campaign starting in Spring 2013 would be a successful way of doing this. Therefore government, business, the voluntary sector, communities and schools should work together to:

- Design and deliver the campaign.
- Engage all audiences for whom food growing in schools is relevant.
- Encourage increased support for food growing in schools.
- Connect community activity with food growing in schools.

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2. A policy emphasis on food growing in schools

Government departments, specifically the Department for Education, Department of Health and Department for Environment, Food and Rural Affairs should recognise the impact of food growing for learning and promote it through policy and communications.

The contribution that food growing makes to learning, particularly in STEM subjects (science, technology, engineering and maths), should be recognised by the Department for Education, and reflected in education policy:

- The National Curriculum Review should consider the impact of food growing in schools.
- DfE communications should encourage schools to maximise opportunities resulting from greater flexibility throughout the curriculum to use food growing to support learning.
- Ofsted inspectors should be made aware of the impact of food growing for pupil outcomes and encouraged to look at its integration into teaching and learning.

- Food growing as a resource for teaching should be promoted to teacher training providers.
- Food growing spaces should be incorporated into new school buildings and into improvements of existing school sites.

Public health policy such as *Healthy Lives, Healthy People: A call to action on obesity in England* already makes reference to the value of food growing to encouraging healthy behaviours. More explicit guidance should be given by the Department of Health to the nascent Health and Well-being boards to support food growing in schools as a part of any local public health strategy.

Gaps remain in the academic evidence base of the impact of food growing in schools, particularly in relation to developing enterprise skills and stimulating the local food economy and the cost-benefit of food growing in schools. As part of its policy commitments to reconnecting people with their food and growing a green economy, Defra should commission research to build our understanding of these issues.

3. A food growing in schools online hub

A one-stop online shop for all those wanting to get involved in food growing should be developed.

On-line resources, such as Growing Schools, have been a significant part of the recent trend in food growing in schools, and have provided valuable access to case studies, lesson plans, and details of CPD opportunities for teachers etc. There is a need to enhance and scale-up what is currently offered to better serve the needs of all those already involved, and those wishing to be involved, in food growing in schools, and an on-line hub would ensure that there is a match between those needing support and those wishing to offer it. This would include:

- An introduction to food growing in schools and the benefits it can achieve.
- Guidance on what effective food growing in schools looks like.
- Teaching and learning resources.
- Signposting to CPD opportunities.
- Guidance on horticultural careers.
- A "dating service" matching schools with volunteers, businesses, communities and public organisations.
- Opportunities for all participants to share good practice and ask questions of each other.

4. Business commitments to support food growing in schools

Businesses should continue and extend their support for food growing.

Many businesses are already supporting food growing in schools, and report that it is an effective way of achieving their corporate social responsibility and business objectives. However, they also report that they struggle to engage schools and get full take-up of the resources they offer; similarly schools report that they aren't able to secure the business support they would like. Businesses should continue and extend their support for food growing through measures such as:

- Partnerships with local schools providing material or human resources or skills development opportunities.
- Collaborations between businesses which pool resources and support for food growing.
- Because of the proven health and well being benefits of food growing, schools are encouraged to avoid working with companies and brands associated with products that undermine healthy lifestyle messages.

5. Promotion of food growing by school leadership teams

School leadership teams should make greater use of food growing as a means of improving and developing their schools.

Those schools that have used food growing as a way of developing and improving their school have achieved significant learning and well-being outcomes for children and young people. However, few schools take a whole school approach to food and food growing, integrate food growing across the curriculum or include it as part of the whole school policy. School leadership teams should recognise the potential impact of food growing and integrate into their

leadership approach. To do this they should:

- Use food growing as part of a whole school approach to food, health and well-being and learning.
- Ensure food growing is integrated into the curriculum and embedded across their school.
- Work with other school leaders in food growing school clusters, building on school clusters and frameworks for collaboration already in place for procurement and professional development. Clusters should enable the sharing of best practice, peer support and professional skills development for school leadership teams, teaching and non-teaching staff.
- Work with the local community as well as networks such as Health and Well-being Boards, Local Nature Partnerships and other local voluntary and community, local government and business organisations.

6. Making clear connections between food growing in schools and food-related and land based careers

Improved links should be made between food growing in schools and initiatives promoting food-related careers.

Businesses reported to the Taskforce that there is growing concern about dwindling numbers of entrants into food related careers, including horticulture, in the UK. At the same time there is rising unemployment amongst young people and, in the context of challenging economic times, a need to stimulate local economic growth, of which the local food economy could be a significant part.

Experiences of food growing and cooking in schools, and connected activities (such as farm visits) raise awareness of a wide range of careers in the food industry, and build positive attitudes towards them. There are already a number of initiatives seeking to improve career entry; however these do not currently make best use of the opportunities presented by food growing in schools.

The Taskforce believes that improved connections should be made through:

- A Defra-chaired summit examining how business and educators can work together to stimulate an enterprise culture among young people and how this would contribute to the local food economy.
- Pilot partnership projects between businesses, schools and colleges aimed at making clear connections between food growing in schools and food-related and land based careers.
- Thinking of the needs of the economy, the Taskforce hopes that secondary schools will continue to recognise the value of vocational courses and qualifications related to food growing as part of a broad curriculum.

Co-operative Farms

Food Growing in Schools Taskforce recommendations

Taskforce vision

Every child and young person has experience of food growing that has a positive impact on their learning, well-being and understanding of the natural environment. Schools and their extended communities are enriched through food growing. Our population, economy and society benefit from learning and behaviours acquired through food growing in schools.

Desired outcomes

- School leadership teams understand the value of food growing and have the will and resources to embed it into learning and development objectives.
- All teachers are aware of the benefits that food growing offers for teaching and learning and have access to the skills development opportunities they need to use it effectively.
- Schools have access to, the resources required to support food growing.
- Communities and schools work together to embed food growing activity, and extend benefits beyond the school.

Recommendations

1. A national campaign celebrating food growing in schools.
2. A policy emphasis on food growing in schools.
3. A food growing in schools online hub.
4. Business commitments to support food growing in schools.
5. Promotion of food growing by school leadership teams.
6. Making clear connections between food growing in schools and food-related and land based careers.

Data from Nelson et al. (2011) *Food Growing Activity in Schools*

Appendix 1

Taskforce Members

Myles Bremner	Garden Organic, Chair
Abigail Page	Consultant
Bill Graham	FACE (Farming and Countryside Education)
Charles Perry	Department of Health
Chris Collins	Blue Peter Gardener
Christine Haigh	Children's Food Campaign Sustain
Christine Tacon	Co-operative Farms
Bishop Christopher Cocksworth	Coventry Diocese Church of England
Claire Custance	RHS (Royal Horticultural Society)
Clare Sheckter	Laverstoke Park Education
Colette Bond	Garden Organic
David Winn	Lantra
Georgina Collins	Defra (Department for Environment, Food and Rural Affairs)
John Middleton	Director of Public Health, Sandwell Primary Care Trust Sandwell Metropolitan Borough Council UK Faculty of Public Health
Judy Hargadon	School Food Trust
Libby Grundy	Food for Life Partnership
Liz Moorman	Defra (Department for Environment, Food and Rural Affairs)
Mark Desvaux	Foodshare
Pam Warhurst	Forestry Commision Incredible Edible Todmorden
Peter Seabrook	The Sun Newspaper
Rosie Boycott	London Food Board Capital Growth
Ruth Bond	National Federation of Women's Institutes
Sara Jayne Stanes	Academy of Culinary Arts
Sarah Church	Defra (Department for Environment, Food and Rural Affairs)
Stephanie Wood	School Food Matters
Steven Butts	Wm Morrison Supermarkets PLC
Tim Baker	Charlton Manor Primary School
Professor William Scott	University of Bath's Centre for Research in Education and the Environment

Working Groups and other participants

In addition to members of the Taskforce working groups included

Caroline De Ville	Defra (Department for Environment, Food and Rural Affairs)
Caroline Evans	Potato Council
Catherine Andrews	Learning Through Landscapes
Cheryl Cumberbatch	Defra (Department for Environment, Food and Rural Affairs)
Consola Evans	Academy of Culinary Arts
David Hewitt	Wm Morrison Supermarkets PLC
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Donna McDaid	National Society of Allotment and Leisure Gardens
Ian Eggington-Metters	Federation of City Farms and Community Gardens
Jenny Sansom	National Trust
Professor Justin Dillon	Kings College London
Maggie Simons	National Federation of Women's Institutes
Michelle Smith	Jamie Oliver Foundation
Rupert Bannister	Bicton College
Victoria Prior	Magnolia PR

Other organisations and Individuals engaged in consultation

Numerous Early Years, Primary and Secondary schools, through the UK.
Survey of over 1,300 schools through the National Foundational for Educational Research's 2011 survey.

All Party Parliamentary Gardening and Horticultural Group, All Party Parliamentary Group on Agro-Ecology, Alys Fowler, Asda, Barry Sheerman MP, Biodynamic Association, Bob Russell MP, Botanic Gardens Educators Network, British Trust for Conservation Volunteers, Capel Manor College, Chefs adopt a school, Daylesford Foundation, Department for Education, East Stanley Allotment Association, Eden Project, Farms for City Children, Fermoys Garden Centre, Focus on Food Campaign, Foodshare, Fruitfull Schools, Gardening Know How, Good Gardeners Association, Gorsefield Rural Studies Centre, Groundwork UK, Grow your own potatoes, Growing Schools, Hampshire County Council, Health Education Trust, Highbury South Allotment Association, Horticultural Trade Association, Horticulture Week, Institute of Horticulture, Lawrence Dallaglio, Linking Environment and Farming, Moorside Allotment Association, National Botanic Garden of Wales, Natural England, Organic Research Centre, Raymond Blanc, Royal Agricultural Society of England, Royal Botanic Gardens Kew, Royal Society of Arts, Royal Society of Arts, Sainsbury's, Schools Council UK, SEed, Sir George Young MP, Slow Food UK, Soil Association, St Aidan's Allotment Association, The Association of Science Education, The Princes Charities Foundation, Professor Tim Lang, Vegtrugs, Warwickshire College, Webbs Garden Centres, Wellcome Foundation, Wheelie B.

Appendix 2

Orford Primary School use of food growing to deliver the full curriculum

	English/ MFL	Maths	Science	D&T/ICT	History/ Geography	Art/ Music	PHSE/ R.E.	P.E.
Level 1	Speak about matter of interest. Listen & respond. Convey meaning through simple words & phrases. Become familiar with simple gardening/cooking words.	Use maths as integral part of garden/kitchen activities. Count, add & subtract up to 10 objects. Recognise and make repeating patterns. Use vocabulary of shape & position. Measure & order in practical contexts. Order seasons & months. Sort & classify objects in context.	Describe living things & events they observe. Recognise & name external parts of plants.Observe & describe a range of plants & animals found in school gardens. Know about properties of different materials in kitchen/ garden contexts & describe properties. Recognise sun as a light source. Know safety rules for using electrical appliances in kitchen. Recognise pushes & pulls.	Design & make in garden context. Explain what they are making. Learn to use different tools, techniques & ingredients. Use ICT e.g cameras to record activities.	Begin to understand that foods/plants come from different places in the world and that not all have always been available in UK. Begin to know about different weather & seasons. Express views about features of the school environment. Begin to use simple maps & plans.	Record ideas & feelings and represent what they see & touch. Work practically & imaginatively with range of materials. Consider visual aspects of planting and food presentation. Begin to explore how artists represent plants, fruits & veg. Become aware of music/songs linked to food & gardens. Explore sounds in the environment.	Food & festivals Harvest Thankfulness Economic awareness Environmental issues Awareness of jobs linked with growing & cooking.	Perform simple skills safely. Recognise & describe changes that happen to their bodies during exercise. Be aware of the need to warm up before physical exertion. Become aware of effects of nutrition on health.

	English/ MFL	Maths	Science	D&T/ICT	History/ Geography	Art/ Music	PHSE/ R.E.	P.E.
Level 2	Speak with more confidence & include relevant detail. Growing vocabulary. Listen carefully. Show awareness of readers. Begin to read texts such as seed packets & simple recipes.	Select mathematics for activities. Use appropriate mathematical language. Respond to That if? questions Identify halves & quarters. Recognise odd & even numbers. Understand angle as measure of turn. Recognise right angles. Use standard & non-standard units in kitchen/garden context. Sort using more than 1 criterion. Record results using tables, block graphs & diagrams	Use simple equipment to make observations. Compare living things & events they observe. Record using simple tables where appropriate. Recognise what plants & animals need to survive. Recognise that living things grow & reproduce. Sort living things into groups using simple features. Recognise that living things are found in different places such as ponds. Identify range of common materials & know properties. Describe similarities & differences. Sort materials according to properties. Describe ways materials can be changed by heating or cooling. E.g. cooking ingredients. Recognise & use forces in practical contexts.	Reflect on ideas & suggest improvements. Select from a range of tools, equipment & ingredients. Manipulate tools & equipment safely. Use ICT to locate & record information.	Identify where some common foods & plants come from, showing awareness of places beyond their own locality. Learn about food eaten in historical periods they are studying. Express views about attractiveness of a locality. Use simple maps and plans.	Record ideas & feelings and represent what they see & touch. Work practically & imaginatively with range of materials. Consider visual aspects of planting and food presentation. Begin to explore how artists represent plants, fruits & veg. Become aware of music/songs linked to food & gardens. Explore sounds in the environment.	Food & festivals Harvest Thankfulness Economic awareness Environmental issues Awareness of jobs linked with growing & cooking.	Perform simple skills safely. Recognise & describe changes that happen to their bodies during exercise. Be aware of the need to warm up before physical exertion. Become aware of effects of nutrition on health.

	English/ MFL	Maths	Science	D&T/ICT	History/ Geography	Art/ Music	PHSE/ R.E.	P.E.
Level 3	Explore & communicate ideas. Show they have listened carefully by questions & comments. Consider the listener. Use different forms of writing appropriately. Read & follow instructions in kitchen & garden contexts.	Solve problems and discuss work. Use and interpret mathematical symbols & diagrams. Use numbers up to 1000. Recognise negative numbers in context of temperature. Use knowledge of 2, 5 & 10x tables. Recognise reflective symmetry. Become more confident with non- standard & standard units. Extract & interpret information from tables & lists. Present information where symbol represents group of units.	Make relevant observations & measure quantities using simple equipment. With help carry out fair test e.g. plant growth. Explain observations & patterns. Say what they have found out. Provide simple explanations for changes in living things, such as diet in humans & animals & growing conditions for plants. Describe ways an animal is suited to its environment. Explain why some materials suitable for specific purposes in kitchen/garden contexts. Recognise that some changes are reversible, while others are not. E.g. ice, baking cake mixture. Continue to explore forces.	Draw on knowledge & understanding of kitchen/garden to generate ideas. Think ahead about order of work. Use tools & equipment with increasing skill & accuracy. Begin to use the Weather Station to make observations & relate to garden. Use both digital & video cameras to record activities.	Recognise similarities and differences between present & different periods in the past in terms of food, equipment, crops etc. Begin to be aware of features of localities which affect the crops grown such as soil type & weather. Use a wider range of maps & plans. Know about characteristic cuisines of different localities & suggest reasons for this.	Represent what they see with increasing accuracy & attention to detail. Become more aware of sensory aspects of garden design & food presentation. Continue to explore different ways food & gardens are represented by artists from different cultures & periods. Continue to learn about music/songs linked to food & gardens. Explore sounds in the environment.	Food & festivals Significance of food in different faith groups Harvest Thankfulness Economic awareness- Luscious Leaves Environmental issues Local business links Awareness of increasing range of jobs linked with growing & cooking.	Find solutions to challenges. Practise, improve & refine performance. Work safely alone, in pairs or groups to carry out tasks. Demonstrate they understand what is happening to their bodies during exercise. Develop a deeper understanding of relationship between good nutrition & exercise.

	English/ MFL	Maths	Science	D&T/ICT	History/ Geography	Art/ Music	PHSE/ R.E.	P.E.
Level 4	Talk adapted to purpose. Responsive to other's views in discussion. Use standard English when appropriate. Writing is lively & thoughtful. Read & follow more complex instructions. Locate information in reference works.	Apply problem-solving strategies in practical contexts. Present information in organised way & explain. Use decimals to 2 places. Recognise proportions of a whole & use fractions and % Recognise rotational symmetry. Choose appropriate units & measure accurately. Calculate perimeter & area. Understand & use mode & median. Construct & interpret line graphs.	Recognise need for fair tests. Select suitable equipment & make a series of observations & measurements. Draw conclusions & begin to relate to scientific knowledge. Use scientific names for & identify organs of a variety of plants. Use keys to identify & group living things systematically. Recognise feeding relationships between plants & animals in a habitat. Describe these using food chains. Classify materials into solid, liquid or gas. Separate simple mixtures e.g. sieving, filtration. Use terms such as evaporation & condensation. Recognise effects of friction. Explain physical phenomena such as apparent position of sun at different times of day & year.	Gather information when appropriate. Evaluate work in progress. Show awareness of constraints. Produce step-by-step plans & list tools, equipment & ingredients for some activities. Pay attention to quality of finished task. Use data-logging equipment. Use Weather Station to make more complex observations and relate to plant growth. Continue to use cameras, photographs & PowerPoint to present work.	Describe characteristic features of different periods in the past in terms of food, equipment, crops etc. Know how these aspects have been represented in different ways. Recognise that human activity can affect environments for good or ill and begin to be aware of concepts like Fair Trade, Food Miles etc.	Represent what they see with increasing accuracy & attention to detail. Become more aware of sensory aspects of garden design & food presentation. Continue to explore different ways food & gardens are represented by artists from different cultures & periods. Continue to learn about music/songs linked to food & gardens. Explore sounds in the environment.	Food & festivals Significance of food in different faith groups Harvest Thankfulness Economic awareness- Luscious Leaves etc. Environmental issues Fair Trade, Food Miles etc. Local business links Awareness of increasing range of jobs linked with growing & cooking.	Find solutions to challenges. Practise, improve & refine performance. Work safely alone, in pairs or groups to carry out tasks. Demonstrate they understand what is happening to their bodies during exercise. Develop a deeper understanding of relationship between good nutrition & exercise.

	English/ MFL	Maths	Science	D&T/ICT	History/ Geography	Art/ Music	PHSE/ R.E.	P.E.
Level 5	Talk & listen confidently including in formal contexts. Use a more formal style of writing when appropriate. Retrieve & collate information from a range of sources.	Identify & obtain necessary information to solve problems. Use symbols, words & diagrams to explain reasoning. Calculate fractional & % parts of quantities and measurements. Know rough metric equivalents of Imperial measures. Make sensible estimates of range of measures in kitchen/garden situations. Understand & use mean of discrete data.e.g. weather station data. Interpret graphs & draw conclusions. (Weather station)	Make predictions based on scientific knowledge. Make series of measurements & observations with precision. Describe main functions of organs of a flowering plant & explain how this is essential to the organism. Describe main stages of life cycle of flowering plants. Understand importance of classification of living things. Explain that different organisms found in different habitats due to environmental factors. Identify a range of contexts in which evaporation & condensation take place in kitchen/ garden contexts. Start to explain effects of movements of Earth such as day length.	Show understanding of the characteristics of familiar products. Use measuring & checking procedures as work develops. Suggest ways to improve work. Communicate their knowledge & experience using ICT. Continue to use Weather Station to make more complex observations and relate to plant growth.	Make links between features of past societies & periods. Recognise ways in which people attempt to manage and improve environments.	Represent what they see with increasing accuracy & attention to detail. Become more aware of sensory aspects of garden design & food presentation. Continue to explore different ways food & gardens are represented by artists from different cultures & periods. Continue to learn about music/songs linked to food & gardens. Explore sounds in the environment.	Food & festivals Significance of food in different faith groups Harvest Thankfulness Economic awareness- Luscious Leaves Environmental issues Fair Trade, Food Miles etc. Local business links Awareness of increasing range of jobs linked with growing & cooking.	Find solutions to challenges. Practise, improve & refine performance. Work safely alone, in pairs or groups to carry out tasks. Demonstrate they understand what is happening to their bodies during exercise. Develop a deeper understanding of relationship between good nutrition & exercise.

Taskforce Partners

The Taskforce consisted of representatives with interests and expertise in the delivery of food growing in schools. It included leaders and practitioners from schools, charities, corporate providers, voluntary and community organisations, the media and government departments including Defra, The Department of Health and The Department of Education. The Taskforce engaged with over 150 organisations and schools and used data from an independent, national survey of 1,300 schools carried out to produce this report and recommendations.

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Sharing the best in Gardening

Charlton Manor School

Incredible Edible Todmorden

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