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What is the problem with horticultural skills in the UK?

Key messages:

- Production horticulture in the UK is perceived to be in the midst of a long-standing crisis of knowledge and skills as it struggles to attract people to jobs across the sector and career pipeline.
- The precise character and causes of this problem are not known, with a shortage of data and evidence based analysis.
- Reasons for skills shortages seem complex and deep rooted. Stakeholders judge that a key cause is poor public perceptions of horticulture and the career opportunities it offers.
- Production horticulture is subject to wider socio-economic forces which can make it difficult to offer attractive employment opportunities or to invest in skills development.

1) Introduction

There's a gap, a shortage or even a crisis – for more than a decade it's been said there is a significant problem with horticultural skills in the UK. Most recent media reporting on this has been regarding repercussions for labour recruitment of exiting the EU, particularly shortages of seasonal workers. Over the same period many campaigns, groups and initiatives have sought to highlight the problem and stimulate solutions. These are the issues the [Knowing to Grow](#) project focuses on, seeking to understand the problem and how it might evolve in future. As a first step, we interviewed stakeholders from within the sector for their perspective on the problem, attempted and desirable solutions. Analysis of these discussions is shared in two *Working Papers*, this one focused on the nature of the challenge, and another considering strategies addressing it. A companion paper summarises available data on the UK's horticultural workforce. As with all research for this project the focus is production or edible horticulture – fruit and vegetable growing. Not all data or stakeholder bodies fully distinguish this from the ornamental and landscape sector, whilst some of the issues are common to both, resulting in some overlap.

Published material on skills and horticulture is dominated by practitioner and industry reports, with very little peer reviewed research. The topic has been debated for at least a decade, with particular attention to shortages in the skilled workforce, and a diminishing research base and training capacity (e.g. Aldous et al 2014). Strawbridge et al (2011) suggest that since the 1990s the industry in UK and Europe was limited by the low numbers of participants enrolled for qualifications in horticultural crop production. They suggest a decline in enrolment for horticultural crop production qualifications for the last 20 years (i.e. to 1990). Others suggest Australia and New Zealand have seen coincidental declines in horticultural students, with production horticulture experiencing particular recruitment challenges (Aldous & Pratley 2016; Aldous et al. 2014).

It is not clear the extent to which problems are reported based on robust evidence, informed expertise or anecdote. But the persistence of debate on the topic for more than two decades, suggest it is significant, as does the range of relevant initiatives over this period. Horticulture is one of the

land-based industries which have engaged in multiple efforts to address the skills issue, which as recently noted (Swadling 2018), have not seemed to make much progress. Although Swadling's review suggested no lack of analysis of the problem, there is little hard data to characterise it, particularly at the level of individual sectors (see *Working Paper 2*). Work is underway to address this for ornamental horticulture¹ but no parallel initiative is yet planned for the edible sector.

2) The research

The remainder of this paper presents findings from a series of interviews with stakeholders undertaken 2018-19, plus additional insights from attendance of industry events. Those interviewed included representatives of key sector bodies, educational institutions, companies and sector networks, selected for their knowledge of and regular contact with the industry. Interview recordings were reviewed to identify recurrent ideas, which were then organised into themes presented here, firstly describing what the problem is understood to be, followed by perceived causes.

3) Nature of the problem

Interviewees were asked to describe current issues regarding skills and knowledge for horticulture, allowing them to characterise problems in their own terms. Discussion suggested three distinct but related challenges: shortages of people, shortages of skills, reduced research and development infrastructure. Touching all of these was a fundamental problem of lack of insight to the sector's current state and needs:

“we say there's a skills gap, we don't know what it is really” (I8²).

Stakeholders noted the absence of thorough mapping of skills needs across the sector or of different dimensions of the career path and how people move through it. One factor highlighted was cessation of Lantra's labour market intelligence for land-based work and skills since the last update in 2014. Some suggested the lack of accurate data on careers was part of a wider deficiency in reporting and data collection for the sector. This means quantitative data is not available for all the issues described by stakeholders; this is not to say that they are not valid concerns, just that their precise nature and extent is unknown. More comprehensive and regular data collection is therefore a crucial area for attention across horticulture, and with allied sectors including agriculture, food production and land-based industries.

a) Availability of people

In simple terms, the most pressing issue seen to be facing production horticulture is that there are not enough people wanting to work in the sector:

“The skills shortages aren't necessarily at the moment [is not] that we don't have the skills to share, or know what the important skills are. I think the issue largely, to me, is attracting people into the industries, that want to learn those skills, or regard it as a satisfactory career” (I4).

The result is that the labour supply chain is not robust, and that businesses cannot deliver their full potential or plan for expansion. Several interviewees noted that since the vote for the UK to exit the EU this issue has been presented as one of immigration, with declining availability of seasonal labour from overseas. However, they emphasised that this is not the sum of the problem:

“It's not just seasonal labour, it's permanent labour” (I6).

The challenge was described as being about 'more than Brexit', particularly in light of trends beyond the UK:

¹ <https://ahdb.org.uk/news/survey-seeks-to-understand-skills-gap-in-ornamental-industry>

² Interviewees have been given a unique reference number to preserve anonymity.

“The problems that we face in terms of labour for horticulture are ubiquitous across Europe. It isn’t something that’s just a UK problem. And the likelihood is that that labour force would’ve dried up anyway” (I6).

There is evidence of labour shortages in Germany (Heinz-Meyerding 2016), with the industry in Australia and New Zealand also addressing similar challenges (Curtain et al 2018). Interviews revealed that this broad problem of ‘labour availability’ has multiple dimensions, and manifests differently for each part of the industry and career pipeline.

b) Recruitment

Difficulty attracting people to the sector was noted as an issue at all stages of the career pipeline, including recruiting school leavers to education and training, through employee recruitment from entry level and lowest skill roles, through to highly specialist and senior ones. The challenge was seen to apply to both temporary seasonal roles and permanent positions.

Regarding school leavers, it was said that colleges struggle to attract people onto specialist courses in horticulture. Some related this to broader challenges for further education providers, which have faced funding cuts. Those working in FE suggested it is harder for them to attract higher calibre students as schools have a financial incentive to retain them as sixth formers. Others suggested that the challenge is subject specific, drawing comparison with courses like animal care which are well subscribed, despite offering fewer employment opportunities. Recent government action to promote apprenticeships was not felt to be benefitting the sector, as horticultural apprentices tended to be already working for local authorities not new entrants or school leavers.

For mass labour roles requiring minimal specialist education, recruitment struggles to fill available vacancies. Interviewees noted that unemployment is low in the UK, so horticulture is in competition with other mass labour sectors. A small pool of potential workers need to be attracted to jobs which may be relatively unappealing:

“it’s actually finding that labour, in any form, that is willing to do the tasks that are required in horticulture that are quite manual, quite back breaking, quite uncomfortable positions that people are in day in day out” (I6).

Beyond the physical demands of the work, the sector has been perceived as dominated by casualised, precarious and low-paid roles (Devlin 2016). Interviewees suggested that some positions are well rewarded and productive seasonal workers can earn significantly above minimum wage, but this is not always recognised by potential recruits.

In recent years, gaps have been filled by workers from abroad, creating a systemic reliance on immigration. This was said to be the case also for more skilled or technical roles, including managerial positions, meaning workers from abroad are crucial across the sector:

“They have gone elsewhere for their labour force, at all levels” (I6).

Changing immigration rules notwithstanding, this supply may have dwindled due to a narrowing gap between economies across Europe (Scott 2013). Companies using large numbers of seasonal workers have already found that those from overseas are not staying as long.

The one area of horticulture seen to buck the trend was smaller scale growing, particularly in the alternative or organic sector:

“It’s got a training problem, and it’s definitely got an access to land problem, and ‘not being able to make a viable business because the price of food is very low’ problem. But it doesn’t have a recruitment problem” (I10).

This area successfully attracts new entrants, particularly older workers and those seeking a career change. Stakeholders suggested this group has distinct interests which do not match opportunities available with mainstream employers. This group aspires to work in food growing for ethical, political

or lifestyle reasons which they do not recognise in larger commercial growers, driving them to work in the alternative sector, or establish their own enterprise.

c) Inadequate skills levels

The challenge of recruiting people to available jobs is not just a matter of numbers: there are also issues with the quality of employees available. Temporary migrant workers are suggested to not be of the calibre of those recruited in the past, tending to be older, with lower English language levels and educational attainment. For permanent roles stakeholders suggested that companies across the supply chain struggle to find people with the ideal skills profile, including technical and managerial skills. This may be a demand issue, as the sector evolves to comprise more high skill roles:

“we haven’t kept up with the training needs required to function in an ever-changing society with a lot more technological capacity and the breadth of skill that you need is becoming ever increasing” (18).

But it is also a symptom of insufficient professional development of the workforce, hampered by low staff retention. Large enterprises are better able to invest in workforce development and pay to attract high calibre staff; they are also best placed to shift to more automated production systems.

Reliance on imported labour and knowledge was seen to have allowed the industry to deliver in the absence of an adequate horticulture education and training infrastructure. Failure to train sufficient school leavers arises from the problems in further education noted above:

“I think horticulture education is fighting for its life. [...] Numbers for degree level courses are not feasible. Our funding has been frozen for 10 years. And that’s made it incredibly hard for us to keep delivering courses with small numbers on” (14).

Lack of investment has shrunk FE provision in horticulture, with some suggesting that the remnants struggle to achieve desirable standards: “it’s become backwards, poor facilities, way behind the industry” (19). Several interviewees noted the loss since the 1980s of specialist institutions focused on horticultural education, reducing capacity and quality of training. The resulting shortfall is not being made up by other forms of upskilling such as apprenticeships. Another lacuna is provision of specialist horticultural training such as organic growing at commercial small to medium scale. Organisations focused on this sector said new entrants struggle to access courses tailored to their needs, or to find companies able to host traineeships. Past programmes in organic horticulture were offered at cost, or as voluntary internships, reducing accessibility.

Some stakeholders linked inadequate training provision to the broader issue of dwindling infrastructure for horticultural research and expertise. This was identified as a trend since the post-War period of peak investment in agricultural research and development, towards a low point in the 1990s-2000s. Key facilities closed or received reduced public investment, whilst others were absorbed into larger institutions meaning:

“a whole lot of support structures kind of fell away and one of the most important ones was the wherewithal to train new staff” (16).

Research capacity was also seen to have diminished. With very few universities retaining horticultural departments or offering higher education courses there were predictions of shortages of researchers or trainers of future specialists: “The whole pipeline is pretty weak” (17). This picture was presented in a 2008 review of R&D for horticulture which suggested the result would be lack of cohesion and direction, and inadequate strategic research. Others have emphasised the lack of connection between research and users, meaning available knowledge is not utilised (Pollock 2012). The trend to a more privatised knowledge sector unaccompanied by independent extension services means research and innovation does not translate to business practice (Curry et al 2012).

d) Is it just a (production) horticulture problem?

Horticulture is not the only sector describing itself as having a skills problem, so is there something distinct about horticulture? Some issues noted so far are part of broader challenges driven by macro socio-economic patterns. For example, in the UK vocational careers and training have long been held in less esteem than academic pathways: “it’s a manual labour thing”. (I8). Other dimensions are unique to horticulture, or are made more complex and intense by its nature. Fresh produce and its seasonal cycle creates certain temporal dynamics to commercial operations and labour requirements, making it particularly suited to reliance on migrant labour (Rye and Scott 2018). It is also difficult to standardise techniques to produce plants, and there is a vast range of procedures involved in managing different crops; a huge range of skills is required for the sector to function.

It is also important to note that horticulture is not homogeneous, with associated variation in skills issues. Some interviewees had observed that landscape and amenity horticulture seemed to remain attractive to young people, with these courses generally thought to be fairing better within FE institutions. Interest in organic horticulture or smaller market gardening style production was also seen to have increased in the last decade, benefiting from booming food and ‘grow your own’ cultures.

e) Is it a new problem?

“We’ve been having this conversation for donkeys years” (I3).

Interviewees who have worked in the sector for some time noted that the problem has been apparent for at least a decade. Some located it in an even longer trajectory, linked to urbanisation and economic development across Europe, meaning fewer people are drawn to food production or land-based careers: “It’s been a general decline over the decades” (I12). Other historic roots were seen to be the social degradation of non-academic work relative to intellectual careers: “gardening being something your servants do” (I8). On top of these long-term trends, stakeholders noted that for at least 20 years food production has been driven by low prices and retailer power, reducing growers’ margins. This was seen to heighten pressure to cut costs, meaning less investment in staff benefits or development. Coinciding with public dis-investment in specialist R&D, this reduced the UK’s capacity for specialist skills training or knowledge transfer. To date resultant gaps have been filled by imported personnel and knowledge, a resource which is already diminishing and likely to be further squeezed in the post-EU UK. Although greater use of technology and automation is projected to reduce the sector’s requirements for labour, the quality issues present already will be heightened. It will also need new specialist knowledge to support changing production requirements such as managing pests and diseases with fewer pesticides.

4) Causes of the sector’s skills challenges

Stakeholders offered various suggestions as to the roots of the sector’s skills problem, and acknowledged that complex drivers:

“There’s so many roots to it, this problem. It is a really deep social thing so it’s really hard to know where it ought to start” (I12).

Many were keen to highlight that the EU referendum vote and subsequent declines in immigration, are not really the driver:

“I think Brexit’s being used as a cover for a lot of things, and being blamed for a lot of things. Some of which might be true, but a lot of it goes beyond Brexit. [...] The problems that we face in terms of labour for horticulture are ubiquitous across Europe. It isn’t something that’s just a UK problem. And the likelihood is that that labour force would’ve dried up anyway” (I4).

Changes prompted by Brexit merely accelerate longer-term, deeper rooted factors which contribute to the sector’s skills problem. Factors perceived to be driving the sector’s skills problem are divided into six themes in stakeholder discussion, beginning with that most commonly mentioned by interviewees.

a) *Public perceptions of horticultural work*

“The image of the industry is simply not appealing” (I4).

There was strong consensus across the interviews that horticulture has an ‘image problem’, meaning it is not appealing as a career or employment prospect. Some saw this as part of a wider disinterest in agricultural work:

“There isn’t that interest in going into food production and horticulture in the rest of Europe. Because of the image problem” (I4).

It was also associated with public lack of understanding of the food system:

“I think image is a big problem. Image of the industry. I don’t think people understand what’s involved in producing fresh produce. People don’t think about the effort that goes into getting produce to the supermarket shelf” (I6).

For others it is more specific to perceptions of horticulture, whether that be simply not understanding what it is or finding it an off putting idea: “It’s a posh word” (I2). More than one described the sector as “not sexy” meaning it doesn’t appeal to young people in particular. Horticulture’s ‘image problem’ is a recurrent theme in the literature, noted as a key factor in why it struggles to attract people (e.g. Aldous et al 2014, Dixon 2016, Bogers 20006, Promar 2006). Surveys have also found that businesses consider that poor perceptions of the sector is a factor in recruitment challenges (Lantra 2011).

There are several dimensions to the problem with public perceptions of horticulture. Firstly, lack of understanding or misunderstanding of what it is and what it is like to work in horticulture.

Interviewees noted a pervasive public imagination of what jobs in production horticulture are like:

“The image of horticulture is not a good one. The image of horticulture is that it’s dirty, heavy work. That it’s menial in its task, that it’s repetitive harvesting cabbages. Whenever there’s an image on television it’s cheap labour being used in the big agricultural sector. And it’s not helping the image at all. [...] They see this rather dirty heavy industry” (I4).

Images of horticulture as physical, repetitive and dirty work mean it is not perceived as appealing:

“people simply aren’t interested in going into it as a career or for a living, it’s regarded as too hard a work” (I4).

Some suggested that portrayal of the contemporary commercial industry as intensive and factory like does not appealing to potential recruits, whilst the image of working in more traditional, smaller mixed gardens providing local produce could be.

This perception of unappealing jobs was seen to be particularly problematic in relation to attracting school leavers:

“Young people don’t necessarily perceive jobs in that sector as being interesting, exciting or see it as being too much hard work” (I7).

Some suggested that young people associate growing and gardens with old people like their grandparents. RHS representatives noted that their research had found a majority of young people perceive horticulture as a route for those with low academic aspirations or attainment, hence not regarding it as an aspirational career. They suggested that parents and teachers do not encourage young people into the sector because of the lack of esteem for this type of work:

“I get a lot more respect working in an office than I did as a gardener, which is quite sad.” (I8)

This was summarised as the common perception that:

“No one with any ambition or intelligence would want to go and work in horticulture” (I10).

Interviewees mentioned individuals who had been directed to horticulture because they struggled academically.

In part stakeholders attributed these perceptions to simple mis-information or lack of access to more accurate perceptions of careers in the sector. This has been highlighted as an issue for land-based careers in general, but there is a dimension suggested to be particular to horticulture:

“I think there’s the assumption as well that everybody’s a gardener [...] It’s not a difficult thing. A lot of people think they can do it” (I3).

As a popular hobby, gardening might be perceived as unskilled, not requiring particular training or abilities:

“I think it’s quite a unique position for horticulture, because everyone thinks they know about it. [...] There’s not many industries where everyone thinks they can do it [...] it becomes not seen as an art, it’s not really a craft, it’s not really seen as a science, it’s just something that happens in people’s gardens, and they don’t really perceive it as a profession” (I8).

If anyone can do it then work and training in horticulture is devalued, discouraging people from pursuing it as a career.

Stakeholders suggested that the industry has failed to counter these perceptions:

“I’m not sure as an industry we’ve done much to promote the image, largely because we comprise a lot of relatively small disparate businesses, and there’s no collective way of promoting the industry” (I6).

Interviewees suggested that promotion of horticulturalists’ actual experiences is lacking:

“People who work in horticulture, generally, love it. And yet, loads of people don’t even consider it. There seems to be that gulf.” (I10)

In particular, young people were noted as a priority group which had not been successfully targeted:

“if you think about at what point they experience horticulture, are they experiences that would make them want to go into a career in horticulture? [...] They might go to a garden centre at a weekend, where they get very bored. They might go to a garden which may have amazing interpretation, or might be astonishingly dull for kids. And if that’s the case, why would they want to go into horticulture? So we all have a responsibility, if we’re working in horticulture, even if we’re not working in education directly, to make ourselves attractive.” (I8)

Better promotion of the nature of horticultural work is required to counter the negative narratives noted above, to demonstrate that actually: “It’s hugely skilled” (I11).

Beyond the need for broad positive perceptions of the sector, stakeholders identified additional challenges with lack of understanding of career pathways. This includes awareness of the variety of work and roles available:

“They don’t know what the jobs are or how they would progress. Are there interesting jobs apparent and is there a career structure?” (I7).

In relation to other land-based careers, some highlighted that horticulture is actually well served in terms of career progression opportunities, with large employers and the scale of workforce tending to come with good HR and CPD infrastructures which are lacking in family farms, for instance. However, stakeholders felt that this situation is not conveyed to young people, as careers advice they are offered is not informed about the nature of these opportunities.

b) The nature of horticultural jobs

The popular image of horticultural work is felt to be unduly negative, but this is contradicted by another factor thought to underlie recruitment challenges: that some of the work is unlikely to appeal to many. Negative job conditions include relatively low pay, long hours, being physically demanding, and rural locations. Work with large single-crop growers was noted to be repetitive and not particularly stimulating, offering employees a limited range of tasks. Market-garden scale businesses were noted to offer a wider range of tasks and more varied experiences which can appeal to those interested in alternative food systems. However, independent growers still have to deliver an amount of outdoor labour which is physically demanding and not always pleasant.

Research by Soil Association suggested that horticultural employers might do more to make their roles more appealing, particularly to young people, by offering greater flexibility or reorganising the

business to distribute control, allowing workers greater influence and independence (Soil Association 2018). There is a question over whether production horticulture jobs are inherently unappealing, or could be better paid and more attractive if employers are structured appropriately (Devlin 2016). Some of the businesses consulted through this research described how they organise roles to improve their appeal, and the reward systems they use to help retain workers. However, stakeholders suggested that companies are subject to wider forces which limit their ability to increase employee rewards.

Market conditions were described as working against producers - particularly smaller companies - squeezing their margins so they have to tightly control labour costs to remain profitable. This was linked to a long-term trend of low consumer food prices, and increasing retailer control over the supply chain including prices. For example:

“The supermarkets are part of the problem for the fresh produce industry, but they do the job that the government wants. The government wants cheap food so that’s what the supermarkets do. One of the whole problems is food is too cheap, so producers are being driven into the ground all the time. Which reflects on training, the career structure, whatever, because there’s never enough resource to expand and develop” (I7).

A generally pressured climate for producers was said to limit their capacity and attention beyond core delivery, meaning factors perceived as more peripheral, such as CPD, are neglected. One interviewee noted that in this environment growers are disinclined to make large or long-term investments – for example in labour saving technologies – as retailers only offer contracts on an annual basis. This was noted to distinguish production and ornamental sectors:

“because production horticulture is so commercially focused, in a way that perhaps the amenity isn’t, they’ll only do the absolute minimum to make sure that they can get the staff and train them, and keep afloat. And make sure that their margins are such that they can keep going” (I10).

For these reasons it has been suggested that a more favourable supply chain and market is crucial to enabling growers to invest in continued production (Campbell Gibbons 2011, p446).

A food industry which creates uncertainty and volatility for producers, is seen to result in long term decline in labour conditions in the sector (Devlin 2016). As a highly capital-intensive industry, investments in capital are likely to take precedence over investments in labour or workforce development (Mason & Constable, 2011 cited in UKCES 2012). These conditions have driven consolidation, and may continue to push smaller enterprises out of production. Interviewees noted additional factors specific to production horticulture which seem to exacerbate this. Firstly, the national approach was judged as not committed to domestic production, adopting a philosophy of “Let the Dutch do it” (I10). Secondly, a trend to consolidation of production horticulture businesses was noted as having certain affects. Firstly, companies are increasingly specialised “so trying to provide a general training is harder for the colleges” (I10). Specialist growers do not need staff trained with general horticultural education so favour in-house expertise and training. Meanwhile, small businesses lack the profit margins to invest beyond essential skills development, and consolidation has removed most mid-range companies which would typically have supported FE or national training provision.

The shape of the sector is quite different in Wales, where there are very few large growers and less of a tradition of intensive production systems. This creates alternative challenges including a lack of opportunities for career progression within the sector, and a shortage of businesses able to offer apprenticeship places for potential trainees.

c) Educational system

In addition to ‘demand’ side challenges of insufficient people entering horticultural training, stakeholders identified issues with the ‘supply’ of specialist education. Interviewees noted that

further education provision of horticultural courses has declined in number and suffered reduced investment. They suggested that financial pressures on FE colleges push them to prioritise courses which are economically viable meaning that those with low demand – like production horticulture – have been cut. Some suggested that there had also been a decline in the quality of training provided as a result of economic conditions in the sector. Those working at a college described this environment as a “competitive market” in which students are an economic commodity (13). They felt that although new systems of apprenticeships encourage upskilling, the placements were not attracting entrants, rather employers were offering them to existing staff. The apprenticeship levy may not be benefiting horticulture as there is a lack of companies able to provide places, and might divert investment from other skills development as businesses are unlikely to commit additional training budgets. Those businesses which do invest in staff training and development typically rely on in-house provision so are not supporting educational centres. The result was described as “spot treatment” (16) rather than comprehensive, well rounded training of individuals.

Others writing on this topic have suggested that growers have become sceptical of the value of vocational qualifications due to provision not meeting their needs (Strawbridge et al. 2011). Aldous & Pratley (2012) suggest a similar pattern over the last 20 years in Australia, although they identify some divergence between ornamental and production horticulture, with the crop production sector less engaged in vocational training. They link this to greater reliance on temporary migrant labour.

Several stakeholders placed the source of the problem earlier in the educational system, describing a lack of attention to food or agriculture in school curriculums. The perceived result of this was ignorance among young people: “They’re not even sure where their food’s coming from, let alone how to grow it.” (15). This was identified as contributing to lack of interest in horticultural careers, and was seen as particularly problematic at secondary level, the stage when young people make decisions regarding their future.

d) Lack of coordination / cooperation in the sector

One contributor to the challenge was seen to be internal to the sector, namely a lack of collective action, specifically in response to skills issues. Some suggested that the sector has historically not worked collaboratively: “never have done in horticulture” (14). Lack of coordination between actors was typically perceived as problematic:

“You get this disparate situation where you’ve got some people doing some things to benefit their industry, but nobody’s actually directing anybody to where they need to go” (19).

It was suggested the sector lacks collective representation, and is not coming together to highlight skills problems or cooperate to address them:

“probably what’s needed is greater collaboration between industry, training organisations or the education sector and government on how to make this thing work.” (16)

For others, the problem is that collaboration is not always effective:

“I think that’s the problem isn’t it? We’ve got so many different bodies.” (19)

“There is collaboration, I think the only question is how much collaboration sees itself in action.” (19)

“Everybody’s sort of trying but it is disconnected” (17).

In Wales, the challenge is the absence of a critical mass of producers, and insufficient growers with shared interests to collaborate. There were differing views as to the potential to unite the whole horticultural sector:

“We often try to work together and be all things to all people. Great. But sometimes you have to be quite specific. People generally know whether they want a career in production horticulture or ornamental horticulture. And I think lumping them together sometimes confuses people” (18).

Another axis of division is between ‘conventional’ and organic growers, with a suggestion that historically, the organic movement has been “isolationist” and not accepted by others (I10).

There was little clarity as to why the sector is poorly coordinated, with some speculation it may be due to fear of competition, or lack of common agendas. Resources were highlighted as a factor:

“For an industry that’s relatively disparate, doesn’t have large amounts of money, or large numbers of people that are focused on education and training that’s quite challenging” (I6).

This interviewee found that people working in the sector “are so stretched” that don’t have capacity to engage (I6). Experience from overseas suggests that horticultural producers can and do work well together, with New Zealand growers having a track record of good cooperation for collective decisions (Curtain et al 2018). The authors contrast this with Australia where the sector is fragmented and has weaker associations, resulting in lack of agreed representation and a more adversarial relationship with government.

e) Lack of government support

Various stakeholders suggested government has failed to adequately support the sector, not necessarily with specific actions, rather “just general support for horticulture, and smaller scale horticulture” (I4). Others felt such leadership will never come from government. Examples of specific policy decisions seen to have overlooked the sector included lack of R&D investment such as agri-tech centres. Otherwise governments were seen to have contributed through wider or longer-term policy approaches, such as failure to prioritise applied research or vocational training.

It is fairly well accepted that since the 1980s public money in the UK has been withdrawn from services which generated and disseminated agricultural knowledge, including specialist horticulture institutions (Curry et al 2012, Pollock 2012). The Netherlands has had very similar patterns of disinvestment of public funds in agricultural R&D, with investment shifted to support thematic rather than technical research. This is seen to be particularly problematic for small businesses which do not have their own research capacity (Spiertz & Kropff 2011). The Dutch government responded by supporting a strategic research centre for agricultural knowledge, something absent from the UK.

Beyond specific policy areas which have affected or neglected horticulture, stakeholders pointed to a lack of coordination across government. They noted that the sector is touched by many departments and policy areas, for example education and environment. Some interviewees suggested the sector is also stymied by the lack of a national food strategy or vision. Although one has been in place in Wales, some felt it lost momentum, or does not fully recognise the potential of small to medium scale horticultural production.

f) Reliance on migration

The factors identified so far have persisted for some time, yet the industry has continued functioning, largely by drawing on skills and labour from overseas. Although nominally a solution to potential skills and labour shortages, this has become part of the problem, as a cycle established:

“we’ve become so reliant now on imported labour, and we’re not doing that training. They’re getting trained in Poland or Romania or wherever it is that they’re from, then coming over here, using those skills for our businesses” (I10).

Because the industry has – until recently – been able to access sufficient workers from outside the UK it has avoided addressing other factors. Availability of seasonal workers schemes can deter employers from investing in R&D to improve technology and reduce labour input needs (Scott 2015). So, underlying causes of skills gaps have been perpetuated and even exacerbated:

“Now that we’ve got to a point that there may be a question mark over the availability of those people in the future, *and* we’re seeing very very low rates of unemployment, the situation’s become a lot more challenging” (I6).

Some within the industry therefore argued for reinstatement of a seasonal workers scheme, and then its expansion beyond the pilot (NFU 2019). This is not surprising given that SAWS succeeded in meeting producers demands for a volume of good quality seasonal workers (Scott 2015).

The received wisdom is that UK residents don't want to do these jobs industry (Scott 2015), and that benefits rules make it difficult for job seekers to take them (Campbell-Gibbons 2011). But one company described its good track record in recruiting and retaining local residents as employees. They suggested their approach to remuneration, organising work responsibilities and offering flexible hours increased employee satisfaction, and therefore retention. They had also found people moving to jobs with them from other growers in the area because of their reputation as a good employer. This suggests that given the right conditions within a company it may be possible to increase the proportion of domestic workforce.

5) Horticultural skills in Wales

Much of this picture of horticulture and influences on it is not particular to any part of the UK, or linked to devolution. Stakeholders focused solely on Wales echoed the broad challenges and causes apparent elsewhere. But some issues are particular to Wales and businesses located there. Firstly, the Welsh industry is smaller in absolute scale, and as a proportion of national agricultural production than in other parts of the UK. This exacerbates issues around data availability: farm data does not always distinguish horticulture as it is not at a significant scale, or has a sample too small to identify meaningful patterns. The upside of this is that dedicated investigation – for example Tyfu Cymru's grower survey - can relatively easily gain a representative picture of the sector and its needs. But the size of the sector and lack of organisations focusing on horticulture mean there is no critical mass of actors to influence policy or activity. Some interviewees said became more notable following the demise of the Welsh College of Horticulture, which meant "there was somebody driving the horticultural agenda within FE" (I5). It was also noted that stakeholders active in promoting and the supporting the sector – such as RHS – lack a notable presence in Wales, meaning that initiatives tackling skills issues may not pay adequate attention to devolution or specific needs of the Welsh industry.

Horticultural production businesses located in Wales are typically smaller than the national average, more likely to be family run with few employees. The absence of numerous large intensive growers means the nation does not have such high demand for seasonal labour or a migrant workforce. However, it also means companies tend not to be of a scale which supports HR and CPD expertise, or provision of in-house skills development. Scale also limits the potential for career development or progression with the sector in Wales. Conversely, Wales is seen to have a strong, expanding base of organic and market-scale growers which represents a considerable knowledge base, including good networks of peer and informal learning.

6) Reflections and conclusions

Stakeholders' views on production horticulture's skills issues suggest persistent challenges with complex, deeply rooted causes. Some of these are specific to the sector, its products and the work required to produce them. Long-standing narratives around horticulture and gardening affect attitudes to work in the sector. But not all the problems or causes are directly 'horticultural' issues, being driven by the economics of the food supply system, or cultural attitudes to vocational work. Nor are these issues unique to the UK, or recent history. Again, this suggests that these are not problems easily resolved, or ones horticultural organisations can tackle alone.

Reflection on the nature of the problem highlights what may be productive areas of progress, but also that certain issues may need to be resolved to allow real progress:

- **Lack of data** to accurately characterise the nature of the sector, its skills needs, and where these are not currently being met: An immediate and straightforward solution could be to replicate the survey underway for the ornamental sector within production horticulture. The sector might also liaise with governments and the ONS to identify how to amend or better utilise ongoing data collection to better account for the specificities of horticultural businesses and their workforce.
- **Lack of evidence** of why problems exist and persist: Although stakeholders offered well-informed views as to what drives the current situation, not all of the factors identified are proven drivers or evidence based. Assumptions and anecdotal evidence could be tested and supplemented by data collection; this would ensure mitigating responses are founded in accurate information.
- Identify what is within the **sector's powers to change**: Several contributing factors noted above lie well beyond the horticultural sector and its stakeholders, embedded in broad socio-economic and cultural trends. These may be particularly intransigent, or difficult for a relatively small body of low-profile stakeholders to influence. Other elements seem almost wholly under the control of actors within the sector, representing lower-hanging fruit. For example, ensuring that working conditions are appealing and rewarding, and are publicly promoted as such.
- Which **broader challenges and allies** can horticulture productively connect with: The sector cannot ignore wider drivers, but should consider the most productive allies to target them with? The sector's often cited 'image problem' is symptomatic of broader societal attitudes to vocational training and manual work. Its difficulty attracting people who want to train as scientific specialists is part of the UK's wider shortage of STEM students. The future of food production jobs is tied to the quality of rural communities. Becoming recognised as part of these broader societal challenges could bring the sector into relevant policy discourses, and establish productive alliances with other actors.
- **Is skills really the issue?** A focus on skills might mask a need to restructure horticultural businesses to offer more rewarding jobs. Perhaps the real challenge is changing supply chains and agricultural support to make food growing businesses more economically viable. Some commentators suggest a distracting focus on skills across the UK economy, particularly in relation to low-wage jobs, due to Government resistance to intervene more fundamentally in economic relations. Promotion of the Foundational Economy by Welsh Government marks an alternative perspective which could be an opportunity to support food growing careers essential for society.

Read all the working papers from this project:

<https://www.cardiff.ac.uk/sustainable-places/research/projects/knowning-to-grow>



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Appendix 1: Research participants

Participating stakeholders were given the option of remaining anonymous, or having their organisation acknowledged. Those which preferred to be identified represented the following organisations, with some having more than one interviewee:

- Bridgend College
- British Growers Association
- Chartered Institute of Horticulture
- Eric Wall Ltd.
- Lantra
- Myerscough College
- RHS
- The Soil Association

Meetings which have informed this research were held with:

- AHDB
- Garden Organic
- NFU
- RDP Collaboration Group
- Senior Skills Leadership Group - CPD Working Group
- Sustain