Growing in a changing climate:

Eastbourne area growers survey findings

Illustrated map of the Blue Heart project area by Helen Cann, 2024.

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Supported by the Blue Heart Community Fund

EASTBOURNE FOOD PARTNERSHIP

EASTBOURNE ECO ACTION NETWORK CO_2 2030

BLUE HEART

Methodology

We compiled the survey questions with the help of friends and associates who have a deep knowledge of horticulture in Sussex. We launched the survey at the Eastbourne Food Summit in October 2024. In November 2024, we sent the survey to the combined mailing lists of Eastbourne Allotments Garden Society and Eastbourne Food Partnership – more than 1,000 individuals and organisations in the area. We also shared the survey with local gardening groups and social groups via social media. As an incentive for completing the survey, we ran a prize draw for a £30 John Lewis voucher.

There were 60 responses to the survey, the vast majority of whom (95%) were individuals (rather than commercial growers) from across the Eastbourne area – including Willingdon, Polegate, Langney, Stone Cross and Pevensey.

The findings

Location

The majority of respondents were from Eastbourne (BN20, 21, 22, 23), three from Pevensey (BN24) and one each from Lewes area (BN8), Polegate (BN26), Hailsham (BN27).

Q4 What is your postcode (first four characters)?

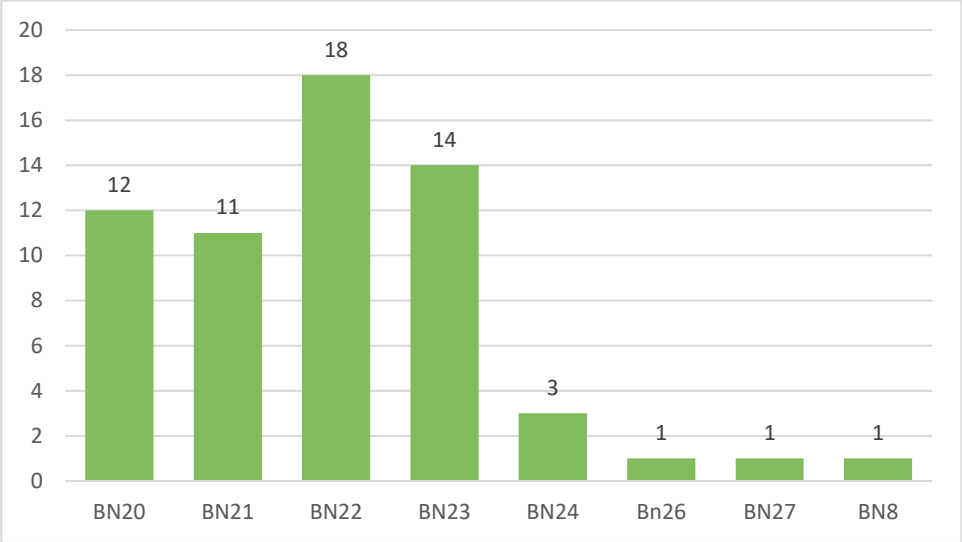

Figure 1. Q 4 - Postcodes of respondents

Plots

Almost half of those surveyed (47%) were working in gardens, followed by 39% in allotments, with 7% representing community gardens. Plots are generally small, with more than 80% of people in our survey growing in spaces under 200 sq. metres; 35% of respondents are working on plots smaller than 20 sq. metres, including balconies.

Q5 How would you describe your growing operation?

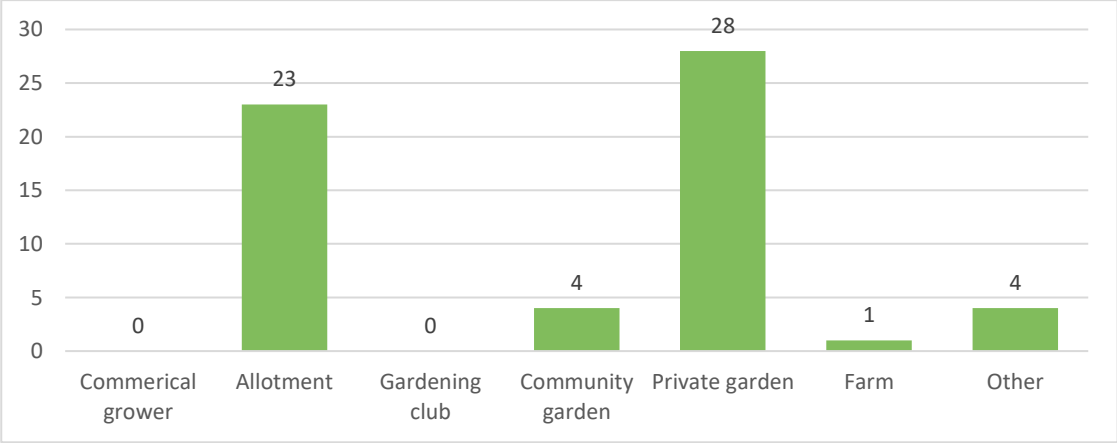

Figure 2. Q5 - Type of growing operation

Q7 Approximately how large is your plot in m²?

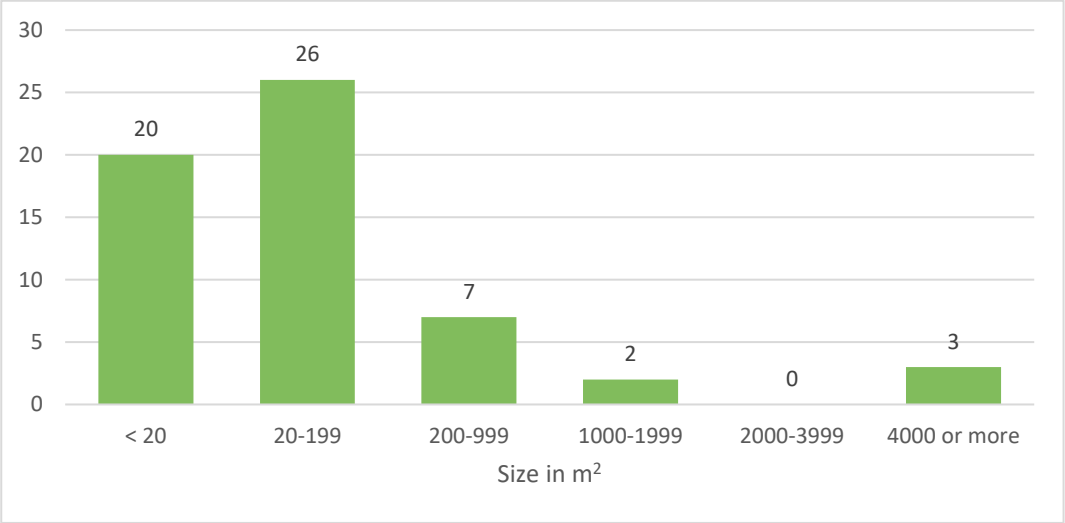

Figure 3. Q7 - Size of plots in square metres

In terms of terrain, 61% of growers described their plots as “level ground”, with just 10% working on hillsides or slopes. Around a quarter have glasshouses, with an additional 10% making use of polytunnels. Walled gardens are fairly common – accounting for 17% of those surveyed.

Q8 How would you describe your growing terrain?

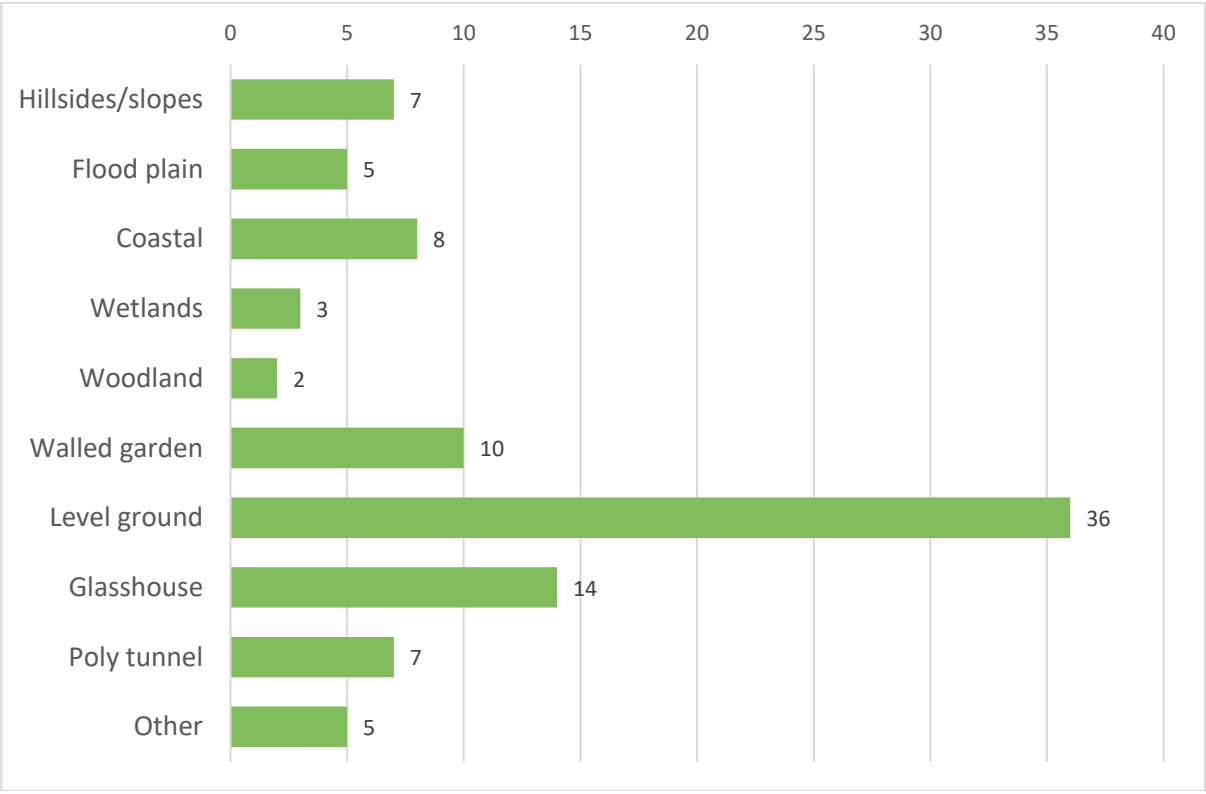

Figure 4. Q8 -Types of terrain

Almost half of the growers surveyed (47%) are cultivating clay soils, with a further 19% working on loam (a mix of clay, sand and silt). Around a quarter (26%) described chalky soils.

Q10 How would you describe your soil type?

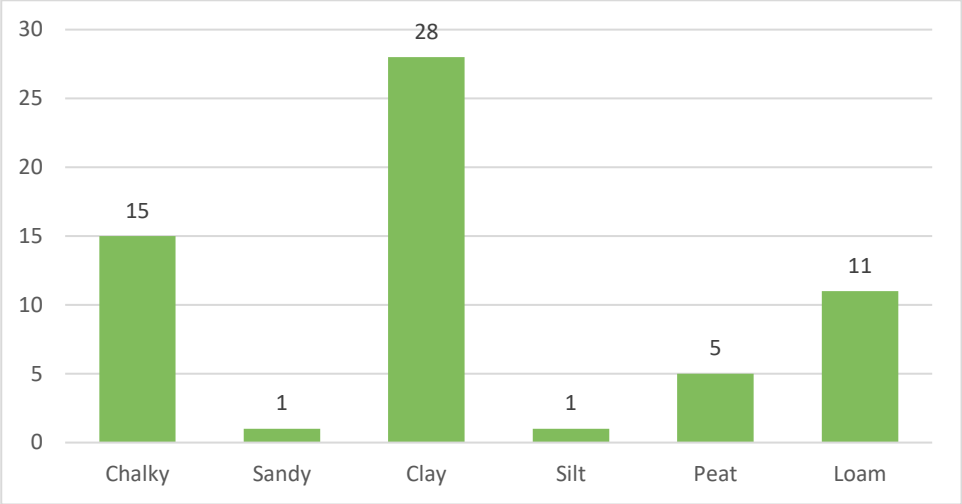

Figure 5. Q10 - Soil types

Crops

A wide variety of crops are being grown in the Eastbourne area: fruit are especially popular, with 81% of respondents describing fruit frees and 76% cultivating soft fruit. Three-quarters of those surveyed grow herbs and a similar number (69%) grow root vegetables. Salad crops are also widely grown, as are squashes and pumpkins. Allium (onions, shallots, leeks and garlic) are slightly less popular (grown by 58% of respondents), along with brassicas (broccoli, cabbage, kale, spouts etc – 47%). Cut flowers and vines are cultivated by relatively few growers in our survey.

Q11 Which of the following do you grow?

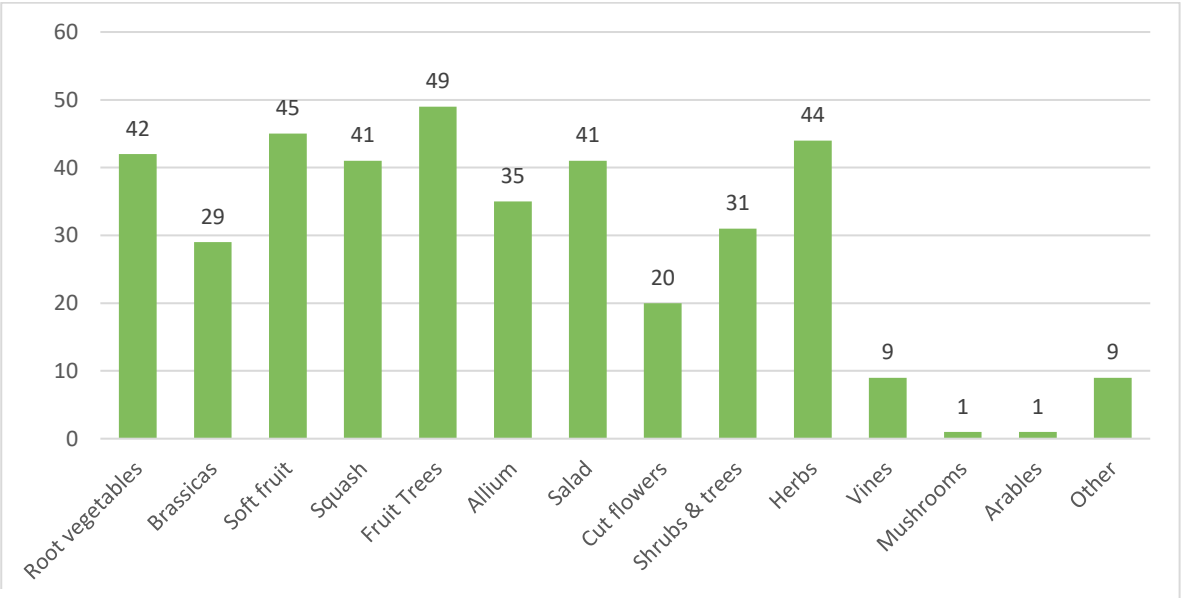

Figure 6. Q11 - Types of crop grown

Changes in climate

Growers in the Eastbourne area have noticed considerable changes in the weather and climate over the past five years. By far the most significant change reported (78% of respondents) since 2018 has been an increase in the intensity of rainfall. Thirty-three people (56%) reported stronger winds since 2018 and 49% said they had experienced a rise in the number of dry days/drought. Increased damage from pests is seen as a serious challenge for growers (51%), and one that is linked to a changing climate. Almost a third (29%) of growers reported extremes of higher temperatures, compared with only 2% reporting a rise in frosty conditions.

Q12 Which of the following climate related challenges have you faced in the last five years?

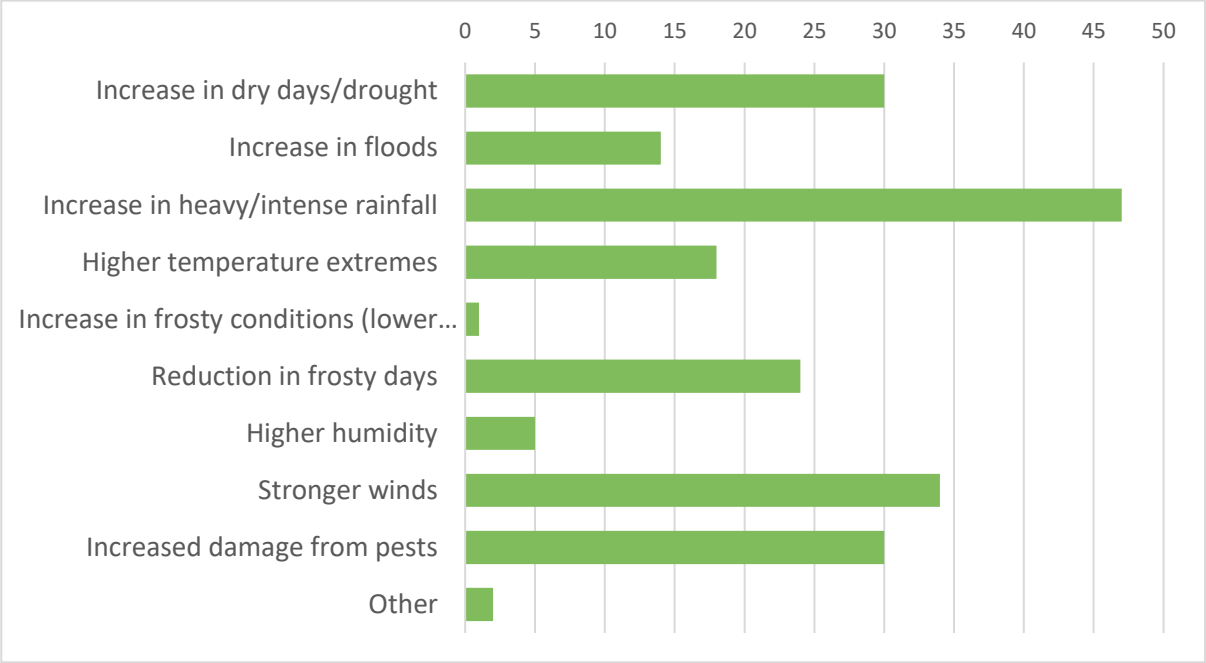

Figure 7. Q12 - Climate related challenges faced

Q14 Can you tell us how these challenges have affected your growing, your harvest and your profits (if relevant)?

When describing how the changing climate is affecting their growing, many people reported the challenge of dealing with waterlogged soils.

Rainfall and temperature

"It took a long time for the ground to dry out this year - and the couch grass kept growing despite this, so this and other weeds for out of hand, while the ground was too wet to weed or dig."

"The extreme rainfall meant that I lost some plants over the winter due to rotting in the ground. Fewer flowers meant fewer pollinators. It has been a very disappointing year in the garden."

“No two years seem to be the same - so it’s difficult to plan varieties of crops.”

“The lack of natural cold spells to kill off pests means that many seeds are eaten entirely before they have a chance to grow into a crop. Fungal issues persist for longer - in short there is much more 'work' to get plants to a point where they can thrive.”

Pests

“Our main problem has been in damage to plants from slugs and snails. We have struggled to get any young plants established so our crop total has reduced substantially. The insects have won the battle this year.”

“Slugs have been abundant this year and eaten their way through kale and many of the small salad and brassica plants I had grown from seed. Pigeons also took their share. My partner took to collecting slugs late at night and would take them to a green space nearby each morning!”

“So many slugs and snails eating my cabbages! I won’t be growing more (I don’t use pellets). I'm reconfiguring my garden with drought-resistant plants.”

Eastbourne allotments

Adapting to challenges

Of the various ways in which Eastbourne-based growers have responded to the challenges caused by changing weather patterns, the most common is conservation agriculture. Almost 70% of people surveyed use techniques such as no-till cultivation or crop rotation.

Around a third of growers use climate-resilient crop varieties and the same proportion have invested in wind protection. Wicking beds, which draw water from a reservoir beneath a bed, have been used by some growers (22%). Other solutions such as hydroponics, vertical farming, precision agriculture and integrating growing with renewable energy are rarely used or unknown.

Q15 Have you tried any of the following?

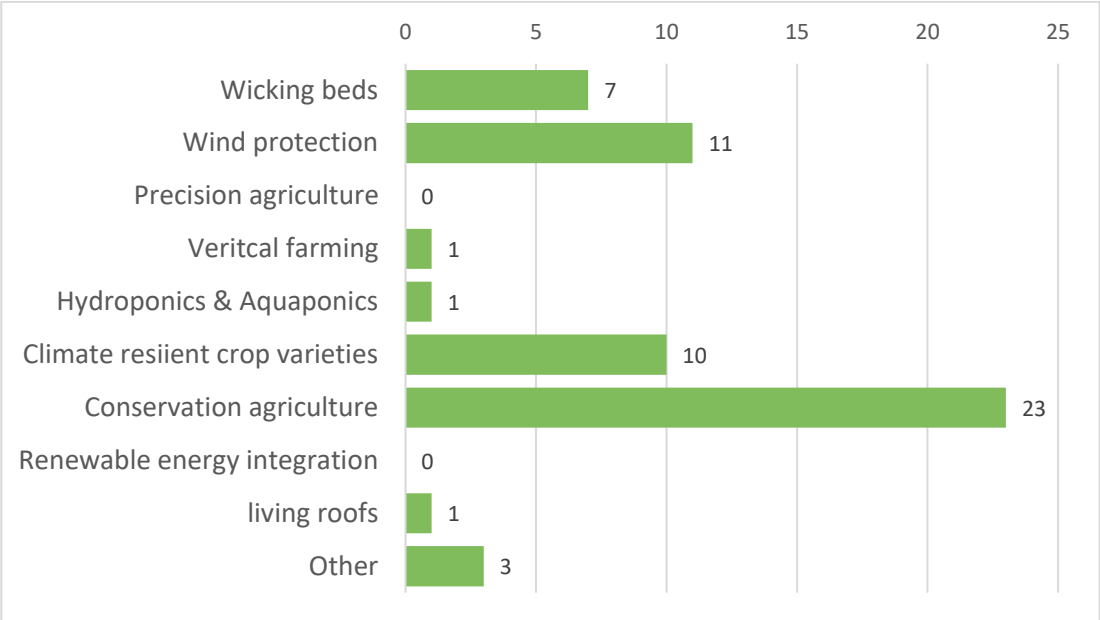

Figure 8. Q15 - Methods used in adapting to challenges

Q16 What other growing practices have you tried to combat climate challenges?

Rainwater storage and drainage

"The increase in number of dry days led us to run out of water for feeding young crops and fruit trees, so we have greatly increased the number of rainwater butts on the site to maximise the amount of rainwater collected (there is no mains water on site)."

"I have six water butts which I use to water my garden in the hot dry summers. I grow vegetables and fruits which are more tolerant of our hot summers and succulents that need less watering."

"I took up my concrete front garden and replaced it with membrane and gravel and drought-resistant plants such as lavender, so that more water is absorbed into the ground in heavy rain."

"With careful water management (water butts and ensuring soil is well looked after and has got a top layer preventing drying out) problems with dry spells can be almost avoided. As for heavy rains - improving soil and incorporating a lot of compost and manure into the clay soil (but not digging it in) will improve drainage."

Gather Community Garden, Eastbourne

Experimenting with crops

"Higher temperature extremes mean that we have to be quite selective about which varieties of fruits and nuts we grow. We don't plant Bramley apples as their skins are too thin, making them prone to becoming sunburnt and literally cooking whilst still on the tree."

"We are experimenting with planting more Mediterranean crops like olive trees and apricots."

"We have been gradually planting, and experimenting with, a range of perennial crops, as they have deeper roots... we have had lots of success with perennial plants."

"Adapting to what is best for the plot. There are opportunities to grow crops I would not have considered even five years ago. I have managed to grow mangoes and avocados from their seeds, so may be able to plant them outside soon."

"An allotment limits what can be attempted. I only grow tomatoes now at home in my small garden because of blight. I grow scab-resistant potatoes. I rotate onions/leeks/potatoes into different raised beds every three years."

"It's a learning curve. Trying different methods, growing different crops, some more successful than others, but giving things a go is the best advice I can give."

Controlling pests

Q18 Which of the following methods of pest control have you tried over the last five years?

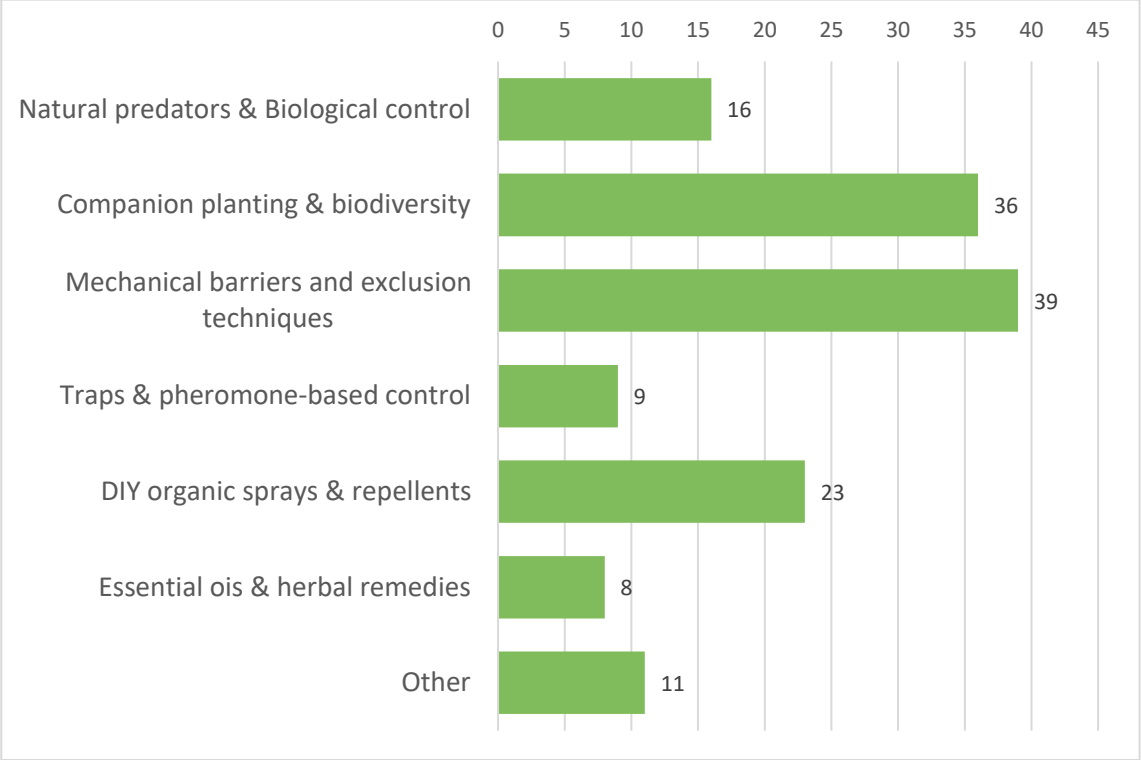

Figure 9. Q18 - Methods of pest control

"This year has been prolific for slugs and snails in particular and I saw an increase in Mullein moth caterpillars on Verbascum's compared to previous years. However, we did find several frogs and toads in the garden this year, so have built a small wildlife pond."

"Poly culture (growing multiple crops of multiple varieties together), has helped pollination and reduced pest pressure."

"We do not use any chemicals on our allotment, but we do kill the slugs and snails. Instant death with a trowel."

"Definitely neem oil, and companion planting has been helpful. Apple-maggot traps and nets also highly beneficial but the nets have to be monitored regularly as occasionally small birds or bumblebees can get trapped."

"Peppermint oil works a treat!"

"We deliberately leave patches for pollinators, beetles, slow worms and hedgehogs. It seems to be working as I get more slow worms each year."

"I'm using cardboard to keep soil covered in winter, as it keeps down weeds, and planting squashes or courgettes through it in the spring."

New opportunities

Looking back over the past five years since 2018, 78% of cultivators reported extended growing seasons and 37% of respondents had tried new varieties of crops. Around a quarter mentioned increased collaboration with other growers. However, only 17% reported greater yields.

Q20 Looking back on the last five years, have you experienced any of the following:

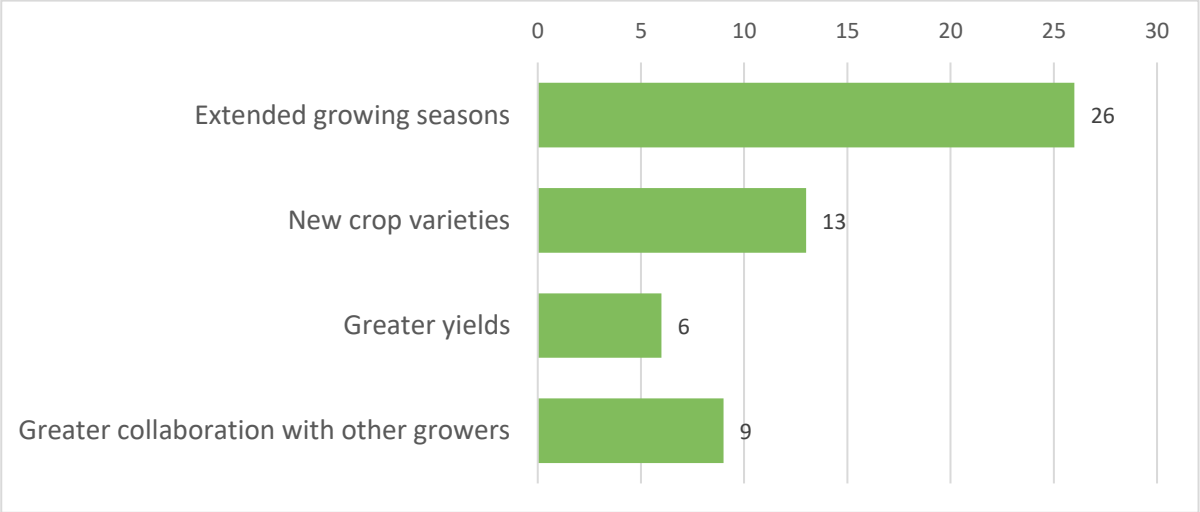

Figure 10. Q20 - New opportunities

Strategies for helping growers in a changing climate

Rooted Community Garden, Eastbourne

Respondents to our survey are keen to engage through workshops and projects to share ideas about the most resilient crop varieties, how to improve drainage and soil fertility and tips for dealing with pests. The work of the community gardens and Eastbourne Allotments Garden Society (EAGS) is widely appreciated.

"In my little niche many people would like allotments but are not gardeners and either reject plots or give up too soon... Maybe the young should be taught more about the food they eat and the challenges of growing crops and livestock."

"It would be also nice if more allotments were available for others to make us more self-sufficient, but specifically it would be nice to have allotments that are just for beekeeping or rearing chickens."

"Digging is bad for the soil and everything that lives in it. Sheet mulching works. People need to know this. No-dig saves time, money and effort and produces good crops without so much effort."

"Please ask the community to help the local council to transform some pockets of land in the town by sowing wildflower seeds, planting saplings, putting up bird, insect and bat boxes, doing beach cleans and do particularly get local schools involved."

"It's extremely important to encourage younger generations to get involved and I think every school should have either their own plots or regular visits to certain sites."

"Chefsinschools.org.uk is an inspiring initiative. I believe it mainly operates in the West Country. It would be great to see it here in Eastbourne too."

"Gardening, particularly growing food, is a challenge, with lots of knockbacks - but it's very rewarding. It would be lovely to see children and young people given the opportunity to grow their own vegetables and fruits."

Next steps

Further research

Although the research has been helpful in identifying growing practice, opportunities and challenges for small-scale growers locally, we were disappointed not to hear from more commercial and large-scale growers. We would like to extend the survey to reach more commercial growers.

The survey revealed a strong interest in experimenting with innovative growing methods. Our next step is to explore and test these methods, including wicking beds, hydroponics, and vertical growing systems. This phase will involve collaborating with various growing groups, such as community gardens, schools, and clubs, to install the necessary equipment and evaluate their effectiveness in local conditions.

To ensure a thorough and scientific approach, we plan to partner with a university research group. Together, we will design and implement experiments to compare the success of different growing methods under identical conditions. This collaboration will provide valuable insights into the viability and efficiency of these methods in our specific environment.

Practical support for Eastbourne’s growers

Several respondents expressed a desire to meet other growers regularly to exchange ideas and experiences, particularly in tackling local challenges like pest control. To address this, we propose organizing a series of workshops that bring together both amateur and expert growers. These workshops will provide a platform for knowledge sharing, networking, and collaborative problem-solving.

Several of Eastbourne’s community allotments and gardens regularly provide produce for the town’s food banks and community fridges. The Eastbourne Food Partnership is working to better co-ordinate this, linking growers with the wider community and supporting the cultivation of healthy, affordable and locally produced food. Eastbourne Eco Action Network is seeking grant funding for an electrically-assisted cargo bike that can be the fulcrum of a sustainable delivery system across the town – connecting growers with local food banks and retailers.

Conclusions

Our work with Eastbourne's growers has demonstrated that there is a thriving community of passionate, experienced people who are cultivating a wide range of fruit and vegetables. Balconies, patios, allotments and community gardens are all part of the mix – and they build on a long and rich tradition of market gardening in this part of East Sussex.

Growers have faced a variety of challenges in recent years, many of which are linked to our changing climate: milder, wetter and windier conditions are having a profound impact on crops grown outside, particularly in terms of flooding amid more intense rainfall and increasing numbers of slugs and snails. Finding solutions will take time and involve collaborative ways of sharing ideas on drainage and controlling pests, preferably without resorting to harmful chemicals.

Rooted Community Garden, Eastbourne

Appendix A
Survey questions

This section contains the survey questions in full.

Eastbourne Area Growers survey

This survey is part of a project to understand and map the landscape of growing in the Eastbourne area in 2024. We hope it will provide a bird's-eye view of what is being cultivated – be in it private gardens, allotments, community orchards, nurseries and commercial farms.

It will summarize the various challenges faced by growers in a changing climate. How are local fruit and vegetable crops being affected by droughts, flooding, more extreme temperatures or diseases? And what might be some of the solutions and opportunities for individuals, community groups or businesses?

The survey has been developed by Eastbourne Food Partnership, Eastbourne Eco Action Network and Blue Heart – an initiative that is seeking innovative ways to predict and mitigate the impact of flooding in the area to the benefit of local people, businesses and the environment.

We would be very grateful if you could take a few minutes to complete the survey. As a thank you, we will enter your name into a prize draw to give you a chance to win a £30 John Lewis voucher.

Thank you!

Protecting your data

- We are collecting this information for the purposes described above.
- We will not use your data for any other purposes.
- We will anonymize all data before we publish any results.

Data storage and security

- Your data will be securely stored while we conduct this research.
- Access is restricted to authorized personnel only.
- We will delete your data after completing this research.

Third-party sharing

- We will not share your data with third parties without your explicit consent.

Your rights

You have the right to:

- Access your data
- Rectify any inaccuracies
- Request deletion of your data

Appendix A – survey questions

1. Your name

2. Are you responding as an individual or representing an organisation/group?

   ☐ individual
   ☐ organisation/group

3. Name of your group/organisation?

4. Your postcode
   For mapping purposes, it would help us to know where you are growing. If you prefer, you can give us just the first four characters of your postcode. *

5. How would you describe your growing operation?

   ☐ Commercial nursery
   ☐ Allotment
   ☐ Gardening club
   ☐ Community garden
   ☐ Private garden
   ☐ Farm
   ☐ Other (please specify below)

6. Other:

7. Approximately how large is your plot in square meters (m2)?
   (4,000m2 is approximately an acre, 10,000 m2 is a hectare)

   ☐ less than 20m2 (20 square metres)
   ☐ 20-199 m2
   ☐ 200-999 m2
   ☐ 1,000-1,999 m2
   ☐ 2,000-3,999 m2
   ☐ 4,000 m2 or more

8. How would you describe your growing terrain (select all that apply)

   ☐ Hillsides/slopes
   ☐ Flood plain
   ☐ Coastal Wetlands Woodland
   ☐ Walled garden Level ground glasshouse poly tunnel
   ☐ Other (please specify)

9. Other terrain

10. How would you describe your soil type? (select all that apply)

    ☐ Chalky
    ☐ Sandy
    ☐ Clay
    ☐ Silt
    ☐ Peat
    ☐ Loam (balanced mix of sand, silt and clay)

11. Which of the following do you grow? (select all that apply)

- ☐ root vegetables (potato, carrot, parsnip, beetroot, chicory, Jerusalem artichoke etc.)
- ☐ brassicas (broccoli, brussel sprout, cabbage, kale, radish, turnip etc)
- ☐ soft fruit (strawberry, raspberry, blueberry, gooseberry etc.)
- ☐ squash (courgette, marrow, pumpkin, butternut etc.)
- ☐ fruit trees
- ☐ allium (onion, leek, garlic, shallots etc.)
- ☐ salad (lettuce, cucumber, tomato etc.)
- ☐ cut flowers
- ☐ shrubs and trees (other than fruit)
- ☐ herbs
- ☐ vines
- ☐ mushrooms
- ☐ arables (wheat, barley, maize, oilseed rape etc.)
- ☐ other (please specify)

12. Which of the following climate related challenges have you faced in the last 5 years?

- ☐ increase in number of dry days or drought
- ☐ increase in number of floods
- ☐ increase in heavy/intense rainfall
- ☐ higher temperature extremes
- ☐ increase in frosty conditions (lower temperature extremes)
- ☐ reduction in number of frosty days
- ☐ higher humidity
- ☐ stronger winds
- ☐ increased damage from pests
- ☐ other (please specify)

13. Other climate related challenges

14. Can you tell us how these challenges have affected your growing, your harvest and your profits (if relevant)?

15. Have you tried any of the following:

- ☐ **Wicking beds**
  (using water reservoir at base to minimise water wastage and ensure plants receive a constant supply of moisture)

- ☐ **Wind protection**

- ☐ **Precision Agriculture**:
  Using technology like GPS, sensors, and drones to monitor crop health, soil conditions, and weather patterns. (This allows for precise application of water, fertilizers, and pesticides, reducing waste and improving efficiency.)

☐ **Vertical Farming**:
Growing crops in stacked layers, often indoors, using controlled-environment agriculture (CEA) technology. (This method uses less land and water and can be done in urban areas, reducing transportation emissions.)

☐ **Hydroponics and Aquaponics**:
Growing plants without soil, using nutrient-rich water (hydroponics) or combining fish farming with plant cultivation (aquaponics). (These systems use less water and can be set up in areas with poor soil quality.)

☐ **Climate-Resilient Crop Varieties**:
Using, breeding or genetically modifying crops to withstand extreme weather conditions, pests, and diseases. Examples include flood-tolerant rice and heat-resistant wheat.

☐ **Conservation Agriculture**:
Practices like no-till farming, cover cropping, and crop rotation to maintain soil health, reduce erosion, and sequester carbon. (These methods also improve water retention and reduce the need for chemical inputs.)

☐ **Renewable Energy Integration**:
Using solar panels, wind turbines, and bioenergy to power farm operations, reducing reliance on fossil fuels and lowering greenhouse gas emissions.

☐ **Living roofs**

☐ **Other** (please specify)

16. Other growing practices you have tried to combat climate challenges:

17. Can you comment on any of the adaptions you have made to your growing? How easy were they to implement? How successful were they? Any lessons learned?

18. Which of the following methods of pest control have you tried over the last 5 years?

☐ **Natural Predators and Biological Control**:
Introducing beneficial insects like
ladybugs, lacewings, and parasitic wasps that prey on pests such as aphids and caterpillars12. (This method helps maintain a natural balance without the need for chemical pesticides.)

☐ **Companion Planting and Biodiversity:**
Growing certain plants together to repel pests or attract beneficial insects. For example, planting marigolds with tomatoes can deter nematodes, while basil can repel aphids.

- ☐ **Mechanical Barriers and Exclusion Techniques**:
  Using physical barriers like row covers, nets, and traps to prevent pests from reaching crops

- ☐ **Traps and Pheromone-Based Control**:
  Setting up traps that use pheromones to lure and capture pests. This method is effective for monitoring and reducing pest populations

- ☐ **DIY Organic Sprays and Repellents**:
  Making homemade sprays using ingredients like garlic, neem oil, and soap to deter pests.

- ☐ **Essential Oils and Herbal Remedies**:
  Utilizing essential oils like peppermint, eucalyptus, and lavender to repel pests. (These oils can be applied directly to plants or used in sprays)

- ☐ **Other** (please specify)

19. Do you have comments on your experiences with controlling pests?

20. Looking back on the last five years, have you experienced any of the following:

    - ☐ extended growing seasons
    - ☐ new crop varieties
    - ☐ greater yields
    - ☐ greater collaboration with other growers

21. What other opportunities do you think changes to the local climate have presented, or could present, to you as a grower?

22. Are there things that could be done locally, or nationally, to help you adapt your growing to a changing climate. For example: Information forums? Policies? Workshops? Conferences? Technology? Cooperative gardening?

23. What else would you like to tell us?

24. Would you be prepared to participate in a follow-up interview to help with this project?

    - ☐ yes
    - ☐ no

Thank you - please supply your email address below so that we may contact you.

Appendix B
Survey response data for multiple choice questions

Q4: What is your postcode?

BN20	12	BN24	3
BN21	11	BN26	1
BN22	18	BN27	1
BN23	14	BN8	1

Q5: How would you describe your growing operation?

Commercial grower	0	Private garden	28
Allotment	23	Farm	1
Gardening club	0	Other	4
Community garden	4		

Q7: Approximately how large is your plot in square meters (m^2)?

< 20	20
20-199	26
200-999	7
1000-1999	2
2000-3999	0
4000 or more	3

Q8: How would you describe your growing terrain?

Hillsides/slopes	7	Walled garden	10
Flood plain	5	Level ground	36
Coastal	8	Glasshouse	14
Wetlands	3	Poly tunnel	7
Woodland	2	Other	5

Q10: How would you describe your soil type?

Chalky	15
Sandy	1
Clay	28
Silt	1
Peat	5
Loam	11

Q11: Which of the following do you grow?

Root vegetables	42	Cut flowers	20
Brassicas	29	Shrubs & trees	31
Soft fruit	45	Herbs	44
Squash	41	Vines	9
Fruit Trees	49	Mushrooms	1
Allium	35	Arables	1
Salad	41	Other	9

Q12: Which of the following climate related challenges have you faced in the last five years?

Increase in dry days/drought	30	Reduction in frosty days	24
Increase in floods	14	Higher humidity	5
Increase in heavy/intense rainfall	47	Stronger winds	34
Higher temperature extremes	18	Increased damage from pests	30
Increase in frosty conditions (lower temperature extremes)	1	Other	2

Q15: Have you tried any of the following?

Wicking beds	7	Climate resiient crop varieties	10
Wind protection	11	Conservation agriculture	23
Precision agriculture	0	Renewable energy integration	0
Veritcal farming	1	living roofs	1
Hydroponics & Aquaponics	1	Other	3

Q18: Which of the following methods of pest control have you tried over the last five years?

Natural predators & Biological control	16
Companion planting & biodiversity	36
Mechanical barriers and exclusion techniques	39
Traps & pheromone-based control	9
DIY organic sprays & repellents	23
Essential ois & herbal remedies	8
Other	11

Q20: Looking back on the last five years, have you experienced any of the following?

Extended growing seasons	26	Greater yields	6
New crop varieties	13	Greater collaboration with other growers	9
Hydroponics & Aquaponics	1	Other	3