

The Global Garden

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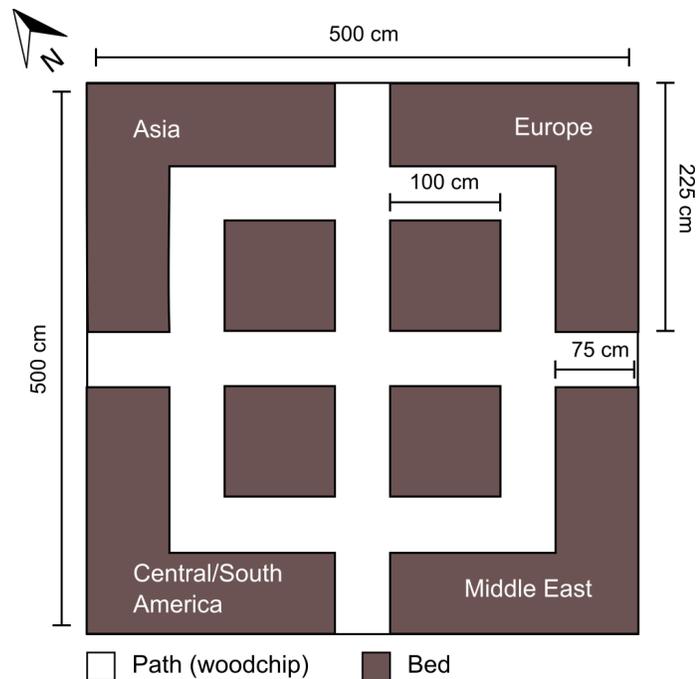
The concept

The concept is to have a “global garden”. Although all gardens are arguably global, we’ve split the bed into regions based on where vegetables were originally domesticated. This highlights the diversity of provenance of even the vegetables considered “everyday” in the UK. Particularly for Asia and Central/South America, when around these vegetables you are immediately transported to these regions. During this time where opportunities for global exploring are limited, this is particularly important.

With a changing climate in the UK, it also makes sense to trial some vegetables from warmer climates. As well as these plants being genetically adapted to the changing UK climate, they should also be less vulnerable to pests and disease compared to standard species.

The design

The design allows optimal access to the growing areas as we’ve split the area into primary outer beds and secondary inner beds. The idea is to have herbs from these regions in the inner beds along with other companions to increase beneficial insects and reduce pests. Thanks to the paths between the beds, one can walk through and truly feel surrounded by nature. Additionally, the symmetrical nature of the garden lends it aesthetic appeal.



Growing methods

Ideally this bed would be grown as polyculture/intercropping - nitrogen fixers, high nutrient feeders and everything else in between would be grown together to reduce the need for rotation and make pests and disease establishment and spread more difficult.

Further research is needed to see whether other companionship aspects of the growth of the veg, e.g. different heights, growth rates, timing of planting, shading (e.g. to reduce potential weed growth, stop other crops bolting), could also be used to benefit overall growth in the beds

Vegetables

We've selected a large number of vegetables. Some such as tomatillos seem to be grown by gardeners quite widely in the UK. Others such as daikon are more experimental but can still be sourced. It's hard to deduce how many crops can realistically be grown without investigating a number of other aspects such as planting distance, size of plant, potential support needed further and this will be done if this proposal is selected.

If possible, selected varieties should be perennial as more effective root systems can be put down. This helps to combat the impacts of weather extremes due to better access to water and nutrients. Avoiding annual planting also reduces soil disturbance, reduces labour requirements and is likely how historical cultivars were grown. The majority of vegetables selected by us, even if not "standard" choices, are visually similar to more well known species and therefore shouldn't cause confusion when supplied to the groups preparing meals.

Companion plants

We'd like to use companion planting as much as possible in the beds. As well as edible companions, non-edible companions should be used without compromising bed space too much. Depending on whether they deter pests or pull them, they should either be planted in the main bed polyculture or in the secondary bed to separate them from the primary vegetables. As such, we have relaxed the thematic constraint of each regional section to allow a better choice of appropriate companion plants.

The companion plants we will consider generally are the following:

Plants that deter pests through volatiles:

- Marigolds (deters whitefly and aphids from crops e.g. tomatoes, sweetcorn, beans)
- Onions and leeks (deter carrot root flys and aphids)
- Herbs
 - Thyme, marjoram, sage, coriander, parsley, mint, catnip
- Summer savory

Plants that pull pests/ sacrificial plants:

- Nasturtiums (Attracts cabbage white, blackfly to protect e.g. cabbages, cauliflower, broccoli)

The four sections

Asia

We've selected three brassicas - pak choi, choy sum, mizuna. Due to the susceptibility to pests (in particular, cabbage white), ideally all plants should be separated and intercropped with other plants e.g. as brassicas are nutrient hungry, soybean (or another legume) should be

intercropped with them e.g. root vegetables daikon and ginger. Soybean is an unconventional choice but could be harvested young for edamame. Ginger prefers to be shaded and could therefore use soybean as a companion. Cabbage white lay eggs on nasturtiums and therefore should be planted in the secondary beds to “pull” adults away. Asian mint will be included, whose strong smell deters pests, and also lemongrass. These will both be grown in separate pots, to stop the Asian mint spreading and to allow the lemongrass to be moved inside over winter.

Central/South America

There are a number of potato alternatives which originate from Central/South America - mashua, yacon, oca. We don't think they will be affected by blight but it's not clear whether they will be as susceptible to other soil pests such as wireworm. It is likely that even if they are, they will be less susceptible than potatoes. Lima bean (similar to broad) should be intercropped with tomatillos for nutrients. Achocha are similar to courgettes and produce very high yields. They seem to have been grown successfully in the UK. Cucamelons have a similar, low-maintenance growing style to tomatoes and are generally of little interest to pests. Mexican coriander and amaranth will attract pollinators, with the latter also providing aesthetic appeal and high yields. We should try to source amaranth from the Nepalese!

Middle East

We have picked several pulses and beans, namely peas, broad beans and chickpeas. Peas and broad beans in particular have a well documented ability to encourage nitrogen fixation, which all those sharing the soil will benefit from. If these are grown on pole then this can provide shade for the spinach and kale from the strong sunlight. Beetroot and lettuce are known to grow well together, as the lettuce leaves block out weed growth leaving more water and nutrients for the beetroot. White butterflies are deterred by the scent from celery, which will protect the kale.

Europe

In order to deter carrot root fly, carrots should be planted with alliums and garlic chives should be planted in the secondary bed. Taunton Deane kale is a perennial brassica and can grow up to 2m in height. As such, plants should be positioned carefully to ensure the shade provides benefits to other vegetables or conversely, so the shade falls outside of the plot. We've also selected two more brassicas, Romanesco and red cabbages. Similarly to the other regions, care should be taken to separate plants and to intercrop with non-brassicas. Ideally a legume should be intercropped with brassicas to provide nitrogen fixation, however there doesn't seem to be a legume with European origins. French beans might be the easiest cheat here! Other heritage UK vegetable varieties should be investigated further for inclusion in this bed.

Planting and harvesting schedule

Region	Name	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Legend	
Asia	<i>Chinese cabbage</i>													Sowing indoors	
	Pak choi													Sowing outdoors	
	Asian mint													Harvesting	
	Lemongrass													Planting tubers, roots, set or offsets	
	<i>Cucumber</i>													Planting out seedlings	
	Choy sum													Bringing inside over winter	
	Mizuna														
	<i>Aubergine</i>														
	Ginger														
	Daikon														
	Soybean														
	C/S America	<i>Green bean</i>													
Lima bean															
<i>Peppers</i>															
Oca															
Cucamelon															
Tomatillos															
Amaranth															
Mashua															
Achocha															
Yakon															
Mexican coriander															
Europe	Carrot														
	Romanesco														
	Red cabbage														
	Taunton Dean Kale														
Middle east	Beetroot														
	Celery														
	<i>Lettuce</i>														
	<i>Onion</i>														
	Pea														
	<i>Radish</i>														
	Spinach														
	Broad beans														
	Kale														
Chickpeas															

All times are estimates | Optional veg. in italics