**RIVERSIDE MARKET GARDEN DOCUMENTATION OF WORK**

**STEPHEN WATTS 2014-2015**

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**MARKET GARDEN “FOREST GARDEN”**

**FOREST GARDEN EDUCATION**

The aim will be to plant out 20+ apple trees in the lower area of the market garden and about 50+ soft fruit bushes (mix of gooseberries and black/red /white currents)

In combination with establishing this perennial plant resource for the market garden, designed for commercial production, we will plant these as part of educational workshops, throughout the new year 2015 – from February through till the end of March. These workshops will aim to work with local people and school groups and young people to teach them how to plant a plant, get them working together as a group, and educate them about forest gardening and the importance of perennial plants in future food growing systems (agro ecology). These workshops can also act as a means by which we can promote the market garden.

It will be intended that the fruit trees we plant are primarily local, heirloom and heritage varieties which will allow us to link in with the national heritage welsh orchards scheme.

The fruit trees can be primarily be provided by Coed Forest garden.

We will need £200 - for the fruit trees from coed forest garden.

The soft fruit will need to be partly bought in.

We will need to invest in stakes and planting aids. £200 to cover all details.

**Development phase –**

**NOVEMBER – DECEMBER – Mulching**

**We need - £400 - invested in mypex mulch mat to roll over the ground to suppress the weeds now, in anticipation for planting in FEB through till end of March.**

**TOTAL COST = £800**

**STAGES OF PLANTING – Preliminary dates (will fix in next 2 weeks)**

**February =**

**SATURDAY 7th and SUNDAY 8th - workshop planting fruit trees.**

**SATURDAY 14th and SUNDAY 15th – workshop planting fruit trees.**

**March =**

**SATURDAY 7th and SUNDAY 8th – workshop planting fruit trees.**

**SATURDAY 14th and SUNDAY 15th - workshop planting fruit trees.**



**SOME OF THE MORE UNUSUAL VARIETIES OF APPLES PLANTED - 2015**

**Lady’s Finger of Bledington –**

**remains on the tree long after the leaves have fallen and when picked and stewed it does not break up and has no noteworthy flavour in the north of England. In the Cotswolds, however,” the fruit ripens in November and the flesh is sweet”. Its spectacular dark maroon colouring and unusual shape always elicits an awed and favourable response when viewed in apple displays.**

**Cybele delrouval -**

**An excellent new variety from France - sweet, crisp, juicy - one of the best mid-season varieties. A good cropper. Eat fresh. Stores for 1 month.**

**Golden Nobel -**

**A late season cooking apple. Golden Noble was introduced at the start of the 19th century, and quickly became popular in Victorian England. It had all the qualities considered desirable by the Victorian housewife - it was a nice large size, it cooked down to a creamy puree, required little (expensive) sugar to sweeten it, and it was a good keeper. Golden Noble is also a good apple variety for the gardener, easy to grow, heavy-cropping, and the tree usually grows in an attractive shape. Golden Noble has one of the highest vitamin C levels of any apple.**

**Renette du Coulon -**

**An old French russet variety, and remains the definitive French russet variety. Also known as Reinette Blanche du Canada. Eat fresh and use for Cooking. Pick late season and store for 1 – 2 months.**

**Gros Api - Dessert apple - Said to have originated in the Forest of Api in Brittany, France. It was recorded in 1628. Fruits have firm, fine, white flesh with a sweet, sub-acid and perfumed flavour.**

**Winter Pearmain apple - A good sweet eating apple, that stores right into the winter and beyond. Eat fresh and Cook it. It keeps its shape when cooked. Harvest late season and store for 3 months or more.**

**Channel beauty -**

**This one is a heavy cropping late desert apple. Pick in Oct, use from Nov to feb. A cox’s orange seedling with a good sweet taste, crisp and juicy.**

**Tamar beauty –**

**Similar to Channel beauty, a desert variety from the tamar valley. It has many uses, and as the name suggests, it is a very beautiful apple with great shape.**

**Red Roller -**

**A beautiful Cornish apple, used primarily for desert. It is Red and sweet. Pick mid season.**

**Morgan Sweet**

**- A traditional welsh apple. Pick and eat in September. Has been also used as a popular cider variety. Very good for juice.**

***For more info about the market garden go to riversidemarketgarden.co.uk***



**DETAILED STEP-BY STEP DIRECTIONS TO PLANT A FRUIT TREE**

The idea of planting some form of fruiting tree appeals to everybody [or at least the vision of plucking ripe fruits from a tree you've planted yourself]. What follows is an attempt to comprehensively describe all the actions necessary to increase the plant's chances of attaining a productive, healthy and long life. This information has been compiled from many sources and suggestions, combined with years of practical experience.

You can purchase OPEN or FIELD-GROWN stock. POT OR CONTAINER-GROWN are more likely to have ingrown and restricted roots and may have spent too long in too small a pot, but have the added bonus that you can be more flexible with when you plant them out, as open or field grown plants require planting immediately. If you obtain potted stock, ensure that the ROOTBALL is thoroughly disentangled when the plant is transplanted or potted up.

YOUNGER plants [1-3 years] will probably become re-established in their final positions more quickly than older [3-5 year old]. Nursery growing conditions will have been as close to perfect as possible, to ensure maximum growth in the stock offered for sale. Care should be taken to try to ensure that these high levels of fertility are maintained during the first 5-7 years while the tree is becoming established in its final position. Unimproved soil will check the tree's growth in its formative years, postponing its full establishment and cropping.

**SOIL IMPROVEMENT** should aim to allow the plant to fulfill its prodigious growth potential, first by remedial, mechanical addition of enough bulky organic matter to render a sufficient area and depth of soil readily penetrable by the plant's roots and secondly by the addition of sufficient concentrated long-term, slow-release fertilisers to allow the tree to generate a sturdy and balanced structure of healthy wood which will be capable of bearing the weight of many years' fruit crop. Imagine that each tree may produce hundreds of pounds of fruit annually when it is mature. The future return justifies a generous investment to help guarantee that outcome. Spend at least the value of the plant on feeding its formative growth with bulky organic matter and concentrated fertilizers. Once fully established, the plant will be capable of exploiting all the indigenous, unimproved soil available to it.

SPACING. The size of the mature tree is dependent on the vigour of the rootstock which the fruiting wood has been grafted onto. The full extent of growth of various rootstocks vertically and laterally are as follows; dwarf 5-10 ft, bush/semi-dwarf 10-15 ft, half-standard 15-20 ft, full standard 25 ft +.

**PLANTING SEQUENCE.**

Dig a hole 2ft/3ft wide and 12-18 inches [30-40cm] deep. Put the topsoil into a mound on one side.

Break up the subsoil in the bottom of the hole with a fork to ensure good drainage under where the roots will grow and remove any large stones or obstacles to root growth.

Fill half the hole with rough organic matter and fertilisers that will take 3-5 years to break down. Using a fork, first mix with some subsoil and then a couple of spadefulls of topsoil.

Overfill the rest of the hole with more mature organic matter and short-term, soluble fertilisers[such as aged compost and seaweed]. Stir the mix with a fork again bringing up a small proportion of the rougher lower half. Add more topsoil until there is 50% soil in the mix. This completes the radical preparation of the soil to ensure the plant thrives in its first few years and forms a strong and healthy structure. This operation can be carried out during the longer days and better weather earlier in the year [September-November], allowing the additives to settle and be consolidated, and permitting much quicker planting if required during the dormant season [December-February].

 Dig a hole into the mixture 18 "/40cm wide and deep, larger if the roots are up to a foot [30 cm] long.

Form a mound of improved soil at the bottom of the hole.

Spread out the roots in a circle in all directions and place it gently onto the mound.

Check that the graft point is 2"[5cm] above ground level to stop the fruiting stock from rooting and if possible that the graft wound faces towards the sun [south] so that it stays dry and heals over.

Place the stake between the roots so that it meets the tree without disrupting its branches and supports it vertically. Holding the tree away, push the stake into the subsoil and drive it in a further 6-8"/15-20cm with a lump- hammer. Check that the tree and stake are still positioned correctly and adjust either as necessary. Except in especially exposed, windy sites or on light soils, using extremely dwarf rootstock, a stake that protrudes 12"/30cm above soil level will be sufficient to protect the tree, without making it dependant on support.

Tie the tree and stake together loosely at the point where they touch making a figure of eight between the two, using strips of rubber [1x12"/3x30cm] or other soft, elastic, non-synthetic materials.

Tease out the lowest main roots from the rootball and spread them radially to cover as much area available as possible. Remove any broken roots. Settle the main and/or fibrous roots into the mix pointing outwards and hold them in place with improved soil mix. Firm down gently with the knuckles or palms of your hands. Aim to guarantee maximum contact between the roots and soil so that the plant can draw on the greatest area possible as soon as it starts to grow in the spring.

Identify and separate roots growing further up the taproot and attempt to create a second circle of roots 2"/5cm above the first. Vigorous rootstocks may have enough growth to permit a third circular tier or level of roots to be arranged.

Cover the highest roots with 4"/10cm soil mix and press firmly with your fists. Firm pressure minimises the danger of leaving an air or water pocket near the roots which could damage them or even make the tree unstable. The further away from the plant's stem, the harder the pressure can be, since the mix acts as a buffer protecting the roots from damage.

Loosen and stretch and tie the rubber so that the stake is firmly supporting the tree.

Spade another 6"/15cm of mix and topsoil around the tree and tread down to form a slight mound all around. With your toe pointing towards the trunk, stamp the ground down with your full weight, so that your heels create a circle of well-compressed soil 12"/30cm radius around the tree.

Fork over a circle of topsoil outside the compressed soil to bring the whole area back to level.

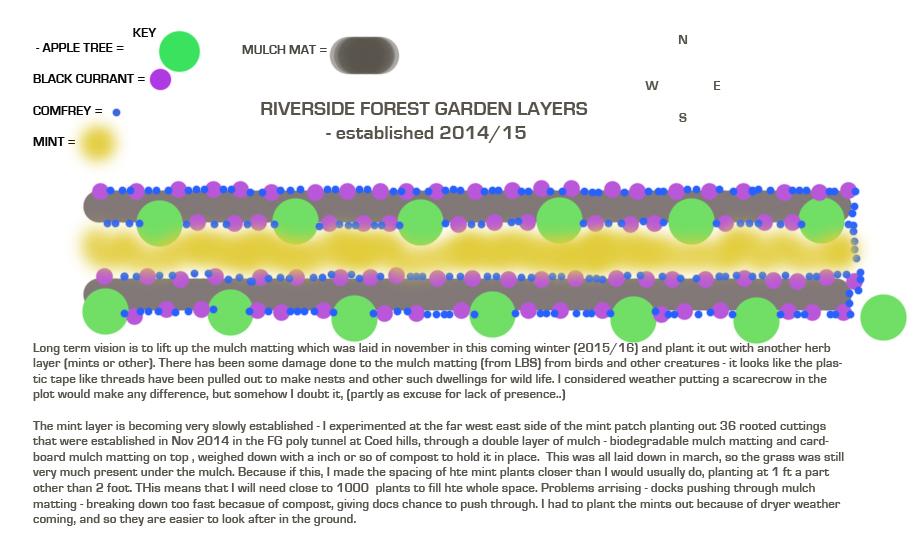
A second, less substantial stake [such as a simple bamboo cane tied with soft string] can be used to supplement the ground-anchor stake whenever a plant is especially tall or on an especially windy site. On well-protected sites, the anchor-stake can be omitted and the bamboo used for the first year only.

**AFTERCARE.** The purpose of following the complete instructions for planting is so that the tree can be provided with all the conditions needed to succeed with as little ongoing intervention as possible. Problems later in the life of perennial fruiting crops can most often be directly attributed to insufficient soil preparation and care when planting.

**WATERING.** Plenty of organic matter in the vicinity of the young plant's roots will help to guarantee that it does not die even during prolonged drought. However, an extended period of dry weather during the tree's first period of growth in its new situation, during the hot, long days of late spring and summer [May to August], could severely restrict growth and delay the young plant's establishment until the following year. If drought lasts for more than four weeks during this period, water thoroughly [50-100 L] and repeat every fortnight.

**MULCHING AND WEEDING**. In the first few years of a tree's life, its rootsystem will extend outwards in the soil at the rate of about 15cm/6 inches in each direction each year. Care should be taken to ensure that weeds do not outcompete the tree's roots for moisture and nutrients over the whole rooting area especially at the drip-line, which corresponds to the outer edge of the rooting circle, where most of the tree's fibrous feeder roots are concentrated. Young plants should only be mulched with permeable materials which will readily allow rainwater to penetrate straight through to the roots.

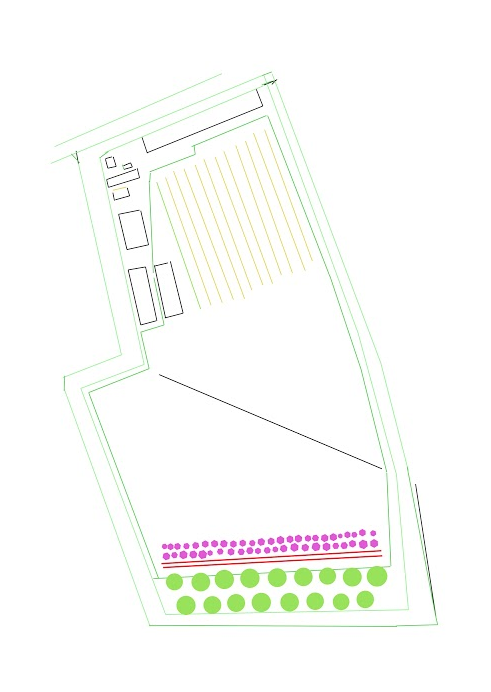
**PRUNING.** During the first 5 years of the tree's life, it is possible to form the skeleton or superstructure which could bear the weight of crops for many decades into the future. Careful attention to the removal of any small pieces of dead, diseased and damaged wood will help to reduce the chances of minor ailments developing into major problems. Try to read the present shape and habit of the tree and allow its natural form to be expressed. Assess its current shape first in the three dimensions of space and then project this forwards in time to what it will develop into in one, five and ten years. Try to reduce the tree's vigorous, leaf and branch, structural growth by shortening extension growth to allow fruiting on mature wood which is strong enough to bear the weight of fruit. Plums and cherries should only be pruned during April to July, when the sap is flowing strongly enough to heal wounds quickly.



COMFREY . RIVERSIDE FOREST GARDEN LAYERS - established 2014/15

- Long Term vision is to lift up the mulch matting which was laid in november in this coming winter (2015/16) and plant it out with another herb layer (mints or other. There has been some damage done to the mulch matting (from ) from birds and other creatures. It looks like the plastic tape like threads have been pulled out to make nests and other such dwellings for wildlife. I considered whether putting a scarecrow in the plot would make any difference... )

The mint layer is becoming very slowly established. I experimented at the far west eastside of the mint patch planting out 36 rooted cuttings that were established in Nov 2014 in the polytunnel at Coed hills, through a double layer of mulch; biodegradable mulch matting and cardboard mulch matting on top, weighed down with an inch or so of compost to hold it in place. This was all laid down in march, so the grass was still very much present under the mulch. Because if this, I made the spacing of the mint plants closer than I would usually do, planting at 1 ft a part other than 2 foot. This means that I will need close to 1000 plants to fill the whole space. Problems - arising docks pushing through mulch matting, meaning that the mulch matting is breaking down too fast because of compost on top, giving docs chance to push through. I had to plant the mints out because of dryer weather coming arriving in june, making watering pots an issue, so they are easier to look after in the ground.



Following pages are a collection of notes, in reverse chronology, from the most recent to the oldest, outlining my thinking process. Reverse chronology has been chosen as a way of showing most relevant thinking first.

**FURTHER NOTES - JULY 2015**

Conversations with kia. Scale wrong, to big and too small, missing a trick with social and therapeutic . to get this to work need smaller. To get commercial to work need bigger. More contracting out

COMPOST - the virtues thereof -

Need to explain the benefits of soil improvement - . Most drainage, most pests, most weeds all relate to soil problems.

Lack of soil fertility, causing multiple problems, frustration at what I perceive as a design fault, . growing and acting in ways that I know to fail but feeling powerless to help , talking to tom in the field while digging docs I am aware of the problems arising before they arise. Recommendations to add 200 tons of compost \ organic matter every three years for next 9 years. Contract out… feeling recommendations not taken on.

Much wasted effort and wasted labour because of poor understanding of the importance of soil improvement and soil type and condition.

feel that the “Investment return cycle idea” not fully grasped at meeting. Understanding not taken on. Why. Because of lack of experienced. This directly relates to soil fertility.

**Market garden write up**

· Determining the balence between growing for production and growing for therapy

· -challenges .

· Thoughts on being up here.

· There are so many interacting factors at play

· I am reminded of the conversation with the farmer Bob. He spoke of getting all the plowing done before winter, in the autumn, and "the lord will take care of everything else".

· I perceive that soil prep is still behind this year though it is better than last year.

· All the transplanting needs to happen as early as feasibly possible. This is made easier if one has a good infrastructure: soil s well improved, wind protection, etc.

· Early transplanting will mean that plants have there roots a decent depth into the ground before the dry weather comes. It means that you need to improve the soil to a quality whereby you can access the land and dig even when it is still wet.

· Soil improve meant break down- all the things you need to think about.

· Micro climate breakdown

**Market garden work**

· Order delivery of straw

· Mulch out tree s and fruit bushes

· Transplant more herbs

· Make decision about the mints where they should go

· Decide about teaching events

· Decide about volunteering events

· Interpret journey

· Work for Kier

· Food culture courses

· Write up for mg

Perhaps we should all seek or own self interest more- links into funding idea what would be the best way to achieve management of the field

More metaphor's around the fox- presence is required. My own journey in life is challenged by desire to travel vs the desire to grow. Looking back over old iching reading the wanderer.

Operational side to the market garden - a clear defined plan. Who's role is who's- I came up this morning and felt that there was nothing for me to do. Is this a reflection of me or of something else in the system?

Look into marketing idea s in general around urban food growing initiatives - remember that the bringing of the project was designed around wanting to create more local food. Human scale sufficient systems are the most efficient, but people will always want their own choice in buying if they can...

**Riverside Market garden - Key thoughts - May 2015**

In reflection of the fact that UK farming survives primarily through subsidies -

Given that the more land you own, the greater the subsidy you receive, not only means that large scale farms are more likely to survive, but consequently small scale is not only made less possible, and new initiatives to set up small scale operations are directly impeded in achieving sustainability. The reality of massive subsidies basically amounts to almost zero access for people to get into the farming world, or access any land per se, other than allotments, unless there is an inherited asset.

What we need is greater access to land, for the majority of people, especially those on low wage or with health problems.

Market gardening on the whole offers opportunities for people to get into a productive scale of operation, without needing to invest in the equipment that is required to compete in the commercial realm. Most market garden scale operations exist through the support of committed members and loyal box customers who usually have some ethical or moral understandings around the way food is produced, as well as often funded through organisations that recognise their benefits to people and the environment.

It has been my personal opinion for a long while that the benefits of organic food growing on a local scale extend way beyond the obvious health benefits of eating fresh organic produce. The therapeutic value in working the land, engaging with a season occupation that ties you in with natural cycles and rhythms is vast, encompassing not only physical health but also mental and spiritual. To put it another way, organic culture is therapeutic by its very nature. What then occurs when determining the scale of operation of growing is at what scale of operation does hand production cease to be therapeutic and start to become laborious and even a hazard to health? It can be seen of as fairly obvious that hand digging a whole field of potatoes would be dangerous for one's back, if it all relied on one person to dig. In this respect, having a bit of technological kit would make it a far more therapeutic process. Yet at the same time, large scale spraying with weed killers is not only dangerous to one’s health, but also hazardous to people living close by. Small scale opens up the opportunity for massive inclusion in the process, generating jobs, and physical activities, but simply cannot afford to pay people to do this. If the key intention of a market operation is to make money through selling, a balance has to be found between making money and maintaining the inclusive therapeutic qualities of a project. If one simply scales up to match commercial operations, one not only abandons the ethical and environmental ideals that one set out with, but also sacrifices quality of produce for quantity.

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**Local specific knowledge**

The multiple interacting factors affecting the growing conditions of any site, make the knowledge required for that site local specific. To put it another way; there are so many differences from area to area, and field to field, that ultimately, one has to learn the right methods and timing from direct experience, rather than relying upon some imported knowledge from outside.

However, culturally speaking, many areas become stuck in particular ways of doing things, out of custom or habit, which do not necessarily correspond with changing times and climate. Somehow, a balance needs to be found between experimentation of new techniques, and with traditional techniques. Without demonstration sites existing for trialling new techniques and crops, there is little chance of influencing farmers choices, because they rely upon their crops as an income and experimentation is risky and uncertain. In investment terms, farmers have to feel confident to succeed if they are changing their outputs to new crops and techniques of farming.

Also worth taking into account is the investment and return cycle. All organic processes to produce a sellable product take time to produce, and with this in mind, it may be that a perceived failure one year, is just a necessary step in the process to achieve the desired result. Soil conditions for example, following an organic method, take not only time to put into conversion to organic status, but more practically, take many years to get their fertility levels to suitable organic growing conditions. (my predicted recommendations to get the site to a decent standard long term would be to add 200 tons of compost \ organic matter every three years for next 9 years, whilst also contracting out management of green manure patches.) Until that point is reached in terms of soil improvement, every year crops will struggle, and timings will be compromised because the soil is less workable and adaptable. Poor understanding of the need for improved soil ultimately results in wasted labour and efforts.

A good soil allows early cultivation and transplanting, resists drought, assists transplanting, gives one the possibility for direct sowings, and keeps plants healthy and so free of most diseases. In combination with this, the desired micro climate needs to be sort through wind breaks, which will take a minimum 15 years to get reasonably established. This is why most new initiatives setting out to do market gardening usually seek out an infrastructure which already assists the growing of annuals and fruit trees, like walled gardens and orchards on country estates, so that an immediate return can be gained through the accumulated good practice of the past.

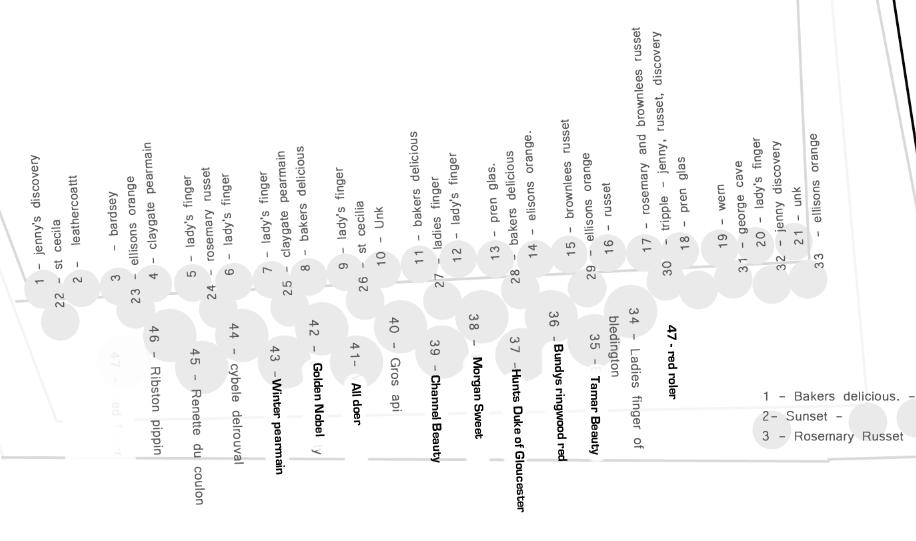
**Social protocol**

There are enormous possibilities for RCMA market garden to set up social activities on the site. The infrastructure is just getting to the point where courses, one day events and workshops, volunteer days and open days are all possible. Even training soil association apprentices would be a possibility. The more social opportunities there are, the greater the value of the site for the area.. This social inclusion value is the key to long term protection of the site, and also can contribute financially to the project as a whole. Making the social side of the site work requires a committed presence on site following weekly activities eg "Gardening friday" (like the volunteer days which are already happening), and a structure within the annual year which is planned out largely in advance (open days in august, september etc). Linking these activities in with Coed Hills Rural art space allows the market garden to access greater facilities to teach and host people on the site. If Coed were even more engaged and supportive of the MG Coed could set up a “Coed garden college”, where students could teach themselves allotment growing, forest garden growing, biodynamics, permaculture, market gardening, indeed all the theory and practical of food growing.

As far as the operational side to the market garden works, one needs as much as possible, a very clear defined plan. Roles need defining just as much as cropping systems. Things need to be clear enough so that if anyone turns up ad-lib, there will be a task for him or her to engage with. For this to happen, presence again is required. The metaphor of the fox comes back to me - a guardian of the crops, there for their own self interest at catching a rabbit. We need a “guardian”; someone who sticks around… It makes me question my own desire to travel vs the desire to root and grow. This commitment is a challenge to one’s own ability to stick at something for the long term good. It needs someone who’s rooted to the place and the people, and feels a sense of belonging to the field and the landscape.

**UPDATE FROM FEB - APRIL 2015**

**HERE IS A MAP OF THE VARIETIES PLANTED OVER THE WINTER OF 2015**



Now we are in the spring the work with perennials is diminishing, and annual work takes precedence.

Reflecting back here are my key thoughts as to the work done so far…

**Riverside orchard - (MGFG - market garden forest garden)**

The trees are all in the ground and they are coming into bud. Numbers 1 - 33 are all on m106 rootstock, 34 - 47 are all on m111 rootstock. My feeling is that with the wind, site and soil conditions, they will be slightly dwarfed from what their full potential will be, and they will grow slowly. This slow growth however is beneficial to the long term strength of the tree. I hope to not need to stake any of the trees here. The soil is if anything slightly alkaline (as is much of the vale due to limestone bedrock. Most apples and fruit in general prefers a slightly acidic soil (ph 6.5) but there are many places on limestone which have orchards - jurassic limestone belt running from dorset coast to lincoln comes to mind…it may be that certain varieties are more suited to the limestone conditions than others. we shall see.

**Regarding varieties -**

The m106s were all grafted at coed in 2012 and were grown on there for 2 years before planting out. As mentioned, they were becoming very badly vole damaged over a period of 2 weeks from about the beginning of november 2014. When I found them I realised that they needed to have guards on, and decided to immediately plant them out. I realised that this would impact the sell-ability of the trees so I decided to give them all to the MGFG orchard, and if they die (ie don't come into bud in the spring from the ring barking) then I would replace them with another tree. Therefore, you will notice that the M106s are some of the same varieties. I would ideally like to have each tree a different variety. (more on this later), but buying in trees costs around £15 per tree and, having learnt how to graft proficiently now, it seemed like a not worthwhile investment. (now I have over 150 varieties possible - more on this later). So, they all went to the market garden, and over the last few weeks I have been seeing most of them come into bud. so...

Good News! - the vole damage has been mostly avoided, and the trees are rescued. I will need to stake some of them up over the summer as the angle to which they are growing is too leaning. When I planted the 106’s out in november/dec time I used cowbridge compost, and I inoculated it with some of poppy’s biodynamic cowpat pit preparation - its full of micro nutrients and is very biodynamically active, meaning that it helps stimulate microbial activity in the soil. I also used the biodynamic tree paste that she brought back from the course to paint over the trees roots before planting. Perhaps this helped establish the trees, and heal them after the vole damage, but I didn't do any controlled trial experiments so we will never know. I am sure that it will have helped build mycorrhizal links in the soil for the trees, which as most nurserymen know, is essential for proper establishment of trees. (many trees die if they don't build mycorrhizal associations in the soil in the establishment phase. all of the coed hills forest garden trees were inoculated with the mycorrhizal jelly before planting, and they established very quickly and fast. The mycorrhizal links that trees build feed the trees nutrients and water and essentially become the trees immune system. I was keen that these links be made for the trees in the market garden, but didn't feel it necessary to buy the tree paste inoculant, largely because I have established many trees successfully without it. and I know that by adding compost and other inoculants you are already encouraging these links to be made.)

The hare in the market garden has nibbled over the tops of some of the tree guards causing damage to the trees, but it is not a concern for me, because as long as the graft point is intact the tree will not die. These nibbles will however change the overall shape of the tree, causing more branching lower down.

I aim over the next few months to get all the M106’s mulched with straw so that they can be free of weed competition over the coming growing year.

The planting day on feb 14th went really well with about 8/10 people turning up to help plant. All the 111’s were planted then, as well as the start of planting out the black currants and red currants- the second canopy layer to the forest garden. The majority of this second layer is black currants with a few red currants dotted in between. The hare doesn't seem to be interested in eating these so i have not put guards on them which is a great relief because there are lots of them. There around 3 between each of the m 111s and 1 between each of the 106’s. This makes a total of at least 100 fruit bushes planted, which have all been propagated on site, both down at coed forest garden, and also from ones propagated by Keir and Sofie a year or two ago.

I have in the last week or so planted 36 mint plants out through double layered mulch, and about 180 comfrey cuttings, all direct root propagation into the edges of the mulch matting. Comfrey is a deep rooting mineral accumulator, it comes into leaf before the grass and so will replace the grass in the long run, becoming the main understory plant. The mint will not replace the grass but will hopefully require minimal maintenance. There is a possibility that there could be animal (hare/rabbit) damage done to the mint, but I imagine that the strong peppermint flavours will not be so attractive to them as the sweeter grasses that are in the area.

**NOVEMBER NOTES - -**

I felt bound from the start that I had to uncover the stories from the previous workers in the market garden, to get a full picture of the process of the project, so that I could direct my energy in the most useful way. I interviewed all the previous growers other than Adam. Following is the notes from some of my interviews. I wanted to uncover the blocks in the communication, the challenges, the stumbling blocks, and by bringing them to light, know where to apply my time.

**MEETING WITH SOPHIE – NOTES -**

Sophie expressed that the same challenges that she and Keir had on the field were the same challenges that Adam, the previous grower had experienced. Ultimately there was little difference in having an “experienced” grower, as the problems were soil and infrastructure based rather than cultivation strategy based (i.e. lack of knowledge).

She expressed that the massive layers of bureaucracy that one has to take on with big funding creates a block in the communication. As a remedy to this, she expressed that their needs to be a protocol for communication set up. She asks the questions –

How do budgets get solved?

How do problems get solved when they arise?

There needs to be a protocol for these questions.

Sophie expressed her willingness to get re-involved, particularly around customer communication. Indeed, this seems to be her particular skill, as she always got more customers, and was brilliant as making them feel a part of the project with her door to door deliveries, where she would talk to them all in person. Sadly this will be missed, as the new delivery system will make the customer feel less connected with the project, as the delivery guy is not a part of the riverside project but runs his own business.

Sophie expressed that she would be gutted if the market garden fails as so much effort has been put in and she supports the projects aims and ideals.

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**MEETING WITH KIER – NOTES**

Kier expressed that their seemed to be an unwillingness to “shape the vison”, within the RCMA board of directors. He expressed that he would like to see more effort to “concrete the reality”.

His vision is that “This specific field can sustain up to 70 veg boxes.” – For next year he would like to see 70 veg boxes delivered weekly.

He advised a limited purchase of other produce. He advised that the vision for how the field is divided is to maintain a minimum level of cultivation – 3 ½ acres of annual cropping. 1½ of other – this other can be diversified . (forest garden)

We spoke about how much of the big food funded projects are driven by middle managers. They are removed from reality, which means that it comes down from a hierarchy with “project management speak”, which lacks a ground up strategy. This in turn makes the project unstable.

Kiers time is limited – likely up until 2016 spring.

-

The diversification project lacks understanding of how the timing of what we already grow fits in with the new other products which may get added to it. Eg - Its not clear how the diversification fits in, – is it going to go in the veg boxes? is it going to go to its own route of sale?

He expressed feelings of frustration, stagnation and pressure.

We chatted about thoughts regarding where the money is going –

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We spoke about a “master plan” - Where is the “master plan”? Is there a master plan? (eg drainage and wind breaks) and identified the need to make a master plan. (is this a role for Stephen?)

-

**KEY POINTS TO ADDRESS IN THE MASTERPLAN –**

**WATER** – Water pressure problems.

**DRAINAGE** – contractor – Rich wright already come up with pond idea. Why has this fallen by the wayside?

**NURSURY SPACE** - If we set up a nursery space , is there the infrastructure to keep the water pressure up? (likely not). Irrigation research is needed.

**PEST MANAGEMENT** - Rabbit problem starting up. (as well as pheasants) . Nematodes . (investment)

**ROTATION**

Discussed the need to break up the site, to smaller plots – 6 plots. Each one can have its own rotation. Simplifies it. The wind breaks can be the markers for the boundaries of each plot. There is the need for at least 3 large windbreaks. Final design for wind breaks will get drawn up at the end of October, ready for contracting in nov – feb.

**CROPS**

30 types of crops feels too many. Need to simplify (not diversify!)

Cold store needs to be the mushroom lab for the winter. (as there doesn’t seem to be money for it currently to build our own. Or is there?). Rent will need to be paid to rawley.

**CULTIVATION STRATEGIES**

Regarding plowing – challenging bringing in own kit. Need to get our own equipment. Need to learn plowing / cultivation techniques with own kit to a scale that is manageable. This will allow us to control the timing better. Are there the finances for capital investment into equipment? Potential to downsize operation. (need to find more stability of operations.)

**MARKETING PERENNIAL PLANTS / “TREE PRODUCTS”** – resources required – capital investment. does this feed into the box scheme or a separate market or both? - AMELIA TRUST – they already do potted plants on the farm. Talk to alistare on grounds,- 07970 098664 (used to be a stock farmer, is current supervisor) –

DIRECTIVE FOR Marketing TEAM regarding GRAFTED FRUIT TREES – TARGET - allotments plus community gardens, and create a link with the SOCIAL AND THERAPUTIC HORTICUTURE network.

**TIMING** – wheel of the year

**OPEN DAYS** – need to get established. Suggestion to open a “pick your own” for fruit. Maybe veg as well.

**COMPOST** – get screened stuff to trial for plants. Question needed for rawley – can we get access at the bottom for compost?

- Potting – cowbridge compost – LEIGH – 07807322217

**REGARDING DIVERSIFICATION -**

Diversification can be an ‘element’ of the existing boxes – What other elements are there? Feeding in quicker. (True diversification takes 4/5 years).

**MEETING WITH TIMO – NOTES –**

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He offered me useful contacts – Dai Turbo, (kia has number) , John Griffiths. (local contractors for doing plowing- knows everything.. )

Also the people down at the bottom of the woods.

He suggested that I nurture as many links as I can. (pen coed – deal with him, not her)

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KALE – Fleece damage 2012/3 – much damage – needed more high protection. (details – to research cultivation strategy.)

He suggested that cash is made through getting crops to fill the hungry gap - A need for season extension – kale and others.

**OCTOBER - Thought Process regarding riverside market garden**

Within a permaculture framework, one has to look at both the human based structures as much as that earth based structures in terms of identifying where the problems of sustainable systems lie, so that design can be addressed as to how to solve these problems. In many ways, our human orientated view of the world dictates our practices within which we build our lives, and so to really make a change in our physical practices is by necessity to make a change in a social and psychological practice.

For this reason, it is important for me to look into the human structures of the riverside market garden. I will describe the interviews that I have had with people previously involved and effected by the market garden project, and the perspectives of all involved from my best perspective.

**DEFINING THE VISON –**

As I have not yet been fully clear of what the original intention or vision is for the market garden, I will begin by making some distinctions of perspectives of what a “market garden” is, and suggest some visions for this.

To be as clear as possible, a market garden is by definition, a garden that produces for market, a variety of produce, usually plant based, and food based. It is also presumed that it is done on a smaller scale than industrial food, and also is more diverse than such, and so it is some way of producing and selling food on a “human scale” to give some income for a small holding, small business, family or collective.

My feeling is that the intention of the Riverside market garden, as laid out by the board of directors, is to set up a viable market garden business for a few employers (perhaps as little as two people), selling healthy organic food grown at Coed hills, at the markets and by doing so, help bring more healthy nutritious produce into Cardiff and the local area. A sideline intention, I feel, is also that the market garden can help promote an alternative way of producing organic food that is sustainable, within an age of peak oil, climate change and changing culture. This vision is shared by many other market gardens, and this is a reflection of a greater aspiration within society at large. We have seen since the mid nineties a growing trend in the redevelopment of a local food culture. To be sure, as the pressure to produce more local food increases, there will be a greater need for such market gardens to produce food for their local communities to ensure that people get affordable, healthy food; current spending on health insurance, medications, combined with an ever increasing cost of food prices means that people will become more aware of the intrinsic value of local organic food, and will want to support such endeavors.

**Idealism vs. pragmatics**

Currently, however, the time has yet to arrive when locally grown organic food on market garden scale is able to compete realistically against supermarket efficiency to feed the majority of people, and so the majority of market garden produce is bought by those middle or upper class who have the ability to afford its higher premium. This will surely change, but until then, market gardens will always be faced with a dilemma of ideals; on the one hand you have the urge to produce food at an affordable rate to the majority, and on the other, you have the ideal to stick to your methods of production, in terms of growing organically and on a sustainable, less mechanized scale. By doing this, the majority of people in todays modern age will be producing a product that when the sums have been done, will be paying them about a few pounds an hour, or so, unless they are quite remarkable growers who have learnt to specialize in organic methods of production combined with an established infrastructure and high fertility site. Hence why many new projects fall into a funding trap to pay wages, which when the funding is dropped, so the project drops, as most people would not be willing to work for less than minimum wage. (Despite the fact that many farmers within this country currently earn minimum wage or less).

If one instead decides to be willing to drop ones ideals for a more pragmatic solution, it is quite easy to slip into simply becoming the very thing that one wanted to avoid and create alternatives to in the first place; that is, creating a sustainable food farming system to support local economy and feed people healthy food. For example, one could be willing to scale up all machinery, go non organic, be willing to buy into the supermarket way of doing things just so that wages can be paid and a “living” made, despite the awareness that one is likely going to be going to be faced with a moral dilemma.

So, with this in mind, let us be prepared to find a balance between idealism and pragmatics, and think more organically: let us be prepared to drop our ideals for a reality where we have to embrace something of the current system, whilst also holding on to a sustainable vision for a future food culture, knowing full well the challenges involved.

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**PRAGMATICS – GETTING THE JOB DONE.**

Background –

From conversations with Debs, I have a clear understanding that she is keen to avoid the idea of their being a “model of best practice”; she rightly pointed out to me that each area is unique, and regarding what this 5 acre field can produce, we need to begin working with local knowledge, and work within the limitations of the site rather than impose ideas from other places which may not work. There are some crops that are bound to do well on the site, and others that will be bound to fail. We can build upon what has already been tried and tested. This however doesn’t take into account changing climates; for example, there are many people already planting up fields in the area as grape production for wine, which most people would be surprised to hear. If current climate changing trends continue, it is important to be willing to experiment, and learn off others the different potential crops and cultivation strategies, as climate change is something that effects everyone, regardless of local specifics.

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**BUSINESS PROJECTS THAT “WORK”; RESEARCH INTO WIDER MARKET GARDEN CONTEXT**

**(Reference RCMA)**

- To research -

- Ian tolhurst

- Darrel Marrion – Worley hall organic garden

- Forest row biodynamics

- Micro salads business

- <http://www.chagfarm.org/>

**Key questions to research regarding business –**

1 - what is “Valuable” to current culture/society?

2 – What is the financial vision for RCMA? (What is the long-term strategy for making the business work?

3 – Is this long-term strategy realistic, given the actual limitations of the site?

4 – is this vision of a realistic scale, or is it too big or too small?

5 – What is the potential to minimize costs through sustainable design? (Rich Wrights vision of water management for the site)

**ACCOUNT THOUGHTS –**

QUESTION – will not all short-term funded growing projects that are denied ability to invest in capital to develop the necessary infrastructure, be destined to fail to generate reasonable income and business sustainability?

**CONTEXT –**

1 - Growing projects take lots of initial investment.

(It is unlikely that a new project is going to make money in the first stages)

(To be in it for financial gain with a short-term vision doesn’t work)

2 - Working to strengths within the team

(– Gillian, has left – not taken up on her strengths. (also Michaela, Timo, Sophie)

3 - People need to feel that their role is valuable.

(Links back to “what do people value?”)

**NOTES FROM THE MEETING**

**BACKGROUND**

Kier – head grower

Debs – Admin

Simon – “financial hat”

Steve G – Project manager

Grady – chef

Stephen – consultant.

Agreement was made to come up with a more efficient structure for the management of the project as a whole; there needs to be a continuous discussion flow between growers and directors.

Simon spoke about the customers as being “pioneers”. He also spoke about “added value items” becoming the core business. (As part of the diversification project)

Conversation tapped into the idea of CSA’s. The term “pure CSA” was mentioned, which made many of us feel that this project somehow is a CSA but not a “pure CSA”.

There is a need to diversify not only our practice but also our thinking.

The box deliveries are becoming a collaborative effort – to cut out financial inefficient practice. (Welsh food box). “Post office”. Steve spoke about a “classic veg box”.

**LINKS**

(Food Cardiff. Sustainable food city- to link with) (balance “ideal” with need for financial viability) (the lady goes green)

A need was spoken about needing to demonstrate responsibility to funders.

There are 130 shareholders (ish)

The key point at the meeting seemed to be about finding the best model/vision for the project that would work.

There was word spoken about offering 4 seasonal open days.

Also about – LOCAL vs. Non LOCAL produce. (links with other CSA networks? )

Convenience – a conflict in interests about the challenge of striking a balance between convenience and practicality – Stephen offered the thought that going down a path of convenience is something that distances the grower from the consumer. Simon feels that it is one of the only ways to get the business to work.

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**My thoughts after meeting – October 2014**

RCMA seem largely “insulated” from the wider world of market gardening, largely because of lack of experience within the organization of actual market garden practice.

There is a great need to partnership with a promotion organization, and to stress the unique selling point (USP) to a wider market. The ideal needs to me maintained, as this is one of the USPs of the project. Maintaining the project within the wider context or peak oil and climate change will help the project to bring joined up thinking to the project.

I will begin my work with riverside by getting up to speed with what has already been achieved by other employees and members of the market garden. By this I mean that I want to know what has been tried already, regarding getting the business off the ground so that I can avoid going down routes, which have already been tried and tested, and so avoid “reinventing the wheel”.

So, to begin my research to get me up to speed, I have had interviews, or brief chats with all of the people currently involved, and nearly all of the people who have been involved in the past.

I have made notes of some of the key points from these people.

One thing which is clear to me from the start, is that there needs to be more communication between the board of directors and the staff on the ground, and that there to some degree, needs to be a protocol regarding the communication between parties, so that things can get communicated efficiently and in advanced time for when actions need to happen on the ground so that delays to the cultivation practices can be avoided.

Therefore, this document is also a means by which I can communicate between parties and hence use it to ensure that everyone is “singing from the same hymn sheet”. (Ref – Steve “choir” at the meeting)

**First Reflections on Crop types, Quantity and Timing for market garden 2015 –**

Jerusalem artichokes - could be more yeild than 4kg per sq m. Could grow more of them. (6)(Easy crop, unusual..) Wind issue (also a wind break!).

Beetroot - Could focus on growing more beetroot (16). Recommend Cylindra - deep rooting/ long beetroot- stormyhall –

Brusselsprouts - fiddly - may be worth reducing quantity by third -( 4)

Broad beans - 2 x double row. Direct sowing. Wind an issue.

Calabrese - feels like too much of these. Reduce by third. (Or spread cropping out) (4)

Cabbage - fine - season extension to get year round. Slug issue- focus on timing. BD preparations against slugs, nematodes. (Suggested 12 if certain variety grow well through winter)

Cauliflower. - treat like Cabbage - too much though: cropping season shorter + more that can go wrong. Reduce by third. (4)

Chard - grow more of this - could double. (16) valuable summer and autumn/ winter green. And spring regrowth. Easy, no problems.

Celeriac - little experience growing - it must get transplanted at right time though. Slug prone.

Celery - transplants.– (don't think its 6 kg per sq meter once all the other bits removed)

Courgettes - suggested indoor at entrances for early cropping. Not recommend outdoor planting.

Fenel - reduce by third (4) - much can go wrong with bolting. Time transplant right.

Dwarf French Beans – I would do climbing varieties, better than dwarf but more effort on structure building. Reduce by third (4)- windy site, effort in building structures and protection. (Possibly remove all together).

Kale - grow more - easy crop does well - increase by 3rd (12).

Kohl rabi - timing crucial. Short season, reduce to (4)

Leeks - get transplanted early - increase to 32. Plant through mulch mat to save on weeding.

Lettuce - increase to 12. (Easy an reliable). Spread cropping. Avoid sowing and transplanting over midsummer and hot weather. Could do through mulch mat. Save weeding.

Onions - avoid all together?

Peas - early indoor crop, otherwise avoid all together (wind problems outside).

Purple sprouting broc - transplant later than brussels, cabage and caulie, - on similar rhythm to kale. Could grow from seed.

Salad bag – double the quantities perhaps – its an easy thing to grow? - only time of year not getting salad bag is May - bolting and flowing phase. – this is the time to shift from winter salad (mustards) to summer salad. (Lettuce, chicory, basils, wild rocket)

Spinach - only indoor – because of slug problem. Timing is key - can bolt.

Spring cabbage - more of a priority than 'cabbage' because out of season, greater value.

Spring onions - are they too fiddly? Transplant early

Squash - increase if we have capacity to store - grow as much as poss.

Turnip - early indoor sowing, harvest by may, only after solstice outside.

Veg work plan –

5day week, 4 weeks a month - 20 days a month. (2people plus volunteers - 60 days a month. )

February

- Jerusalem artichokes - Transplant.

Start off leeks from seed - direct sown into polytunnel (PT) seed bed. Lettuce - trays.

- HARVEST - Picking salad , spring greens, kale. Brocoli. Use up squash.

- SOWING - Could sow some early kale in PT in trays.

- Preparation where possible for march crops - when soil dry enough - cultivate and manure and compost.

March

* continue leek sowing and lettuce sowing indoors.
* Sow beetroot, radish, turnip. direct indoors.
* Could transplant spring onions indoors. (Risk outdoors)
* Could try direct sowing of broad beans outdoors toward the end of the month, provided good conditions and reasonable sheltered site. Same goes for the peas.
* Towards end of month - many things can begin to get transplanted - brassicas to outdoors (given proper soil improv)- priority brassicas to transpant this month, would be brussels and calabrese, followed by cauli and cabbage. Kale can wait till later in year.
* Cucumbers into pt - Towards end of month - transplant (started early – timing)
* Harvest. - Continue picking ps brocoli, spring greens, and salads. Leeks, and use squash. Collect end of artichokes, (can be harvested up until end april but will have sprouted by then), transplant unused ones- save some big ones!)

April

* over busy with transplanting - working with fluctuations of weather *, catch the ' waves'* - BD calendar will help with planning.
* Transplant - brassicas- prioritizing which ones - brussels, cauliflower, calebrese .
* Beetroot could be begun now for transplant outdoors, but risk of slug damage - better wait till may (temp warmer).
* Indoors - all can be transplanted - peppers, tomatoes, aubergines - all are priority crops.
* Get started on leek transplant if possible! Certainly sowing more seeds.
* Get lettuce in ground indoors and out, to cover the gap of leaf from the overwintering greens going to seed.
* Direct sowing of broad bean, if not already.
* Harvesting - end of leeks. Ps brocoli, squash, all the greens bolting to seed! Chard regrowth.

May

* key month for sowing and transplanting beetroot.
* Tend to early transplants - planks in paths - slug traps etc.
* Direct sowings of climbing french, and runners. (If you want to do them)
* Choosing the right day(s) in May to transplant squashes is essential. If squash transplant doesn't get complete till june, that's ok, but they should all be out before midsummer. (need to be flowering before midsummer preferably)

My feelings after working with Kier on crop plans was that by following a school of thought or discipline, nourishment will be found, meaning that looking into projects which are already well established, and taking their model as a model of best practice, we will be able to make the project as a whole productive. Following is a few case studies looking a projects which are successful in market gardening.

MARKET GARDEN RESEARCH

WORTLEY HALL ORGANIC MARKET GARDEN -

SHEFFIELD -

<http://www.organickitchengarden.co.uk/> - Darrel marrion Head Grower

Background –

Wortley hall organic market garden is an extension of Heeley City Farm. Its aims are to grow more crops around sheffield while also providing an opportunity to have a deeper hands on learning for growing organic veg. It gives people access to a space to learn and to get hands on experience who would otherwise not have access.

They pay a minimal rent for the land. Special arrangement for providing veg for the cafe at Wortley hall.

Wortley Hall Walled Garden is an organically certified kitchen garden near Sheffield, South Yorkshire. Since April 2004 [Heeley City Farm](http://www.heeleyfarm.org.uk/) has undertaken its restoration and use in order to achieve a number of aims:

1. To develop a social enterprise supplying quality [organic food](http://www.organickitchengarden.co.uk/index.php?id=organic-conversion-and-methods&lang=en)to local communities.

2. Provide learning opportunities through [courses, workshops and volunteering](http://www.organickitchengarden.co.uk/index.php?id=training-volunteering&lang=en).

3. Provide educational visits for schools and community groups

4. Open to the public for [events](http://www.organickitchengarden.co.uk/index.php?id=events&lang=en), such as Heritage Open Days, Apple & Pear Day, Plant Fairs.

Soil Association certified, Licence no. G9343

Conversion to organic status only took two years, which recognised that the garden had not been cultivated for a number of decades. The soil is a deep clay loam, so the challenge is to maintain its high fertility and good structure...and get on top of the weeds.

INTERVIEW WITH DARREL – OCT 2014 - QUESTIONS

* *Is there a “model of best practice” that this garden follows?*

Darrel expressed that he has largely made up the process as he has gone along; that is, he has not followed specifically any model, but worked alongside his existing experience, and gathered bits from other projects. He has done a professional horticultural training and also written his own NVQ course on organic horticulture.

*How many volunteers do they use?*

Over the course of a year they have about 24 main volunteers. 10 to 12 on a good day - 3 to 4 on a quiet day. They run volunteer days twice a week.

The courses that darrel runs bring in volunteers to the garden.

*What size of operation is it?*

2 ½ acres of established walled garden. (mixed perennials - old orchard, and annuals) Store room, processing room. group space for tea, lunch, volunteers to process seeds etc.

(darrel also manages 4 other key sites - meersbrook walled garden, heeley city farm, norfolk park site, and firth park site.)

*What grows well here?*

Leeks, onions, salads, kale.

*What things don’t do well here?*

Peppers (high altitude = cold) Aubergines.

*What has done well recently? is there anything that is doing better/worse because of climate change?*

Key thing is that weather is becoming more extreme = prolonged periods of diverse weather. So key thing is finding crops that are resilient and not putting too much “eggs in one basket”.

*Are you experimenting with new crops and processes and if so what?*

No experimenting with new crops, but experimenting with different varieties within the crops that are known to do well.

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*regarding business – What is the financial vision ? (What is the long-term strategy for making the business work?*

It was never part of the projects plan to make a growers wage out of selling the crops.

Timing is key - The key selling months are September, October, November and December. The other months you are building on the project. There are a few products that will see you through the gaps - Leeks will continue through till feb / march.

Heeley City farm gets its unique selling point (funding point ) as a project by providing volunteer work days every day of the week.

Darrel recommended doing research into<http://www.growingcommunities.org/>

ACCOUNT THOUGHTS

MANAGEMENT –

When do you meet up to have meetings with the core team? How often?

this is a day to day process - meetings happen daily but not in a regulated way.

*Do you work on making the management structure efficient in process ?*

Darrel recommends having stand up meetings to avoid wasting time.

*How many customers do you have?*

Separate - Darrel just deals with the growing - he does not run a veg box scheme. He just provides produce for a variety of vegetable distributors, including 3 veg box deliveries.

*Where does the produce go?*

New roots, Beenies, University, Heeley city farm cafe, Markets, Regather. (has links with all of these.)

*How do you deliver?*

Darrel made a point about the fact that everywhere he delivers to are on route on his way home. He distributes the veg himself, without the need to go too far out of his route.

*How are you finding a niche market? (USP)*

Darrel had already worked for an organic retailer for 5 years and studied marketing before taking on growing for sale so he knows the market. He has not had to find USP’s. He finds retail easy.

*What volunteer roles do you have?*

Organic food growers training. greenfingers training.

*Who funds you currently?* - little pots of money.

*Do you have shareholders?* - No shareholders - Heeley city farm is a charity.

*Do you have seasonal open days?*

4 to 5 through the summer months.

KEY POINTS TO ADDRESS IN THEIR MASTERPLAN –

*WATER* –

Mains water connected . Only needs to use to establish newly planted out plants. Keeps an eye on the weather.

*DRAINAGE -* already good.

NURSERY SPACE -

They have a tunnel and hard standing for starting off as many plants as they can. They propagate potted herbs and fruit trees as well for sale.

PEST MANAGEMENT - Control rats with poison. (pigeons are the main problem to deal with).

ROTATION -

Spoke to darrel about the need for proper cultivation equipment - He says that unless you have proper storage for new tractor (eg two wheel one) there is no point in investing. Until then its a good idea to contract out the ploughing to farmers in area.

CROPS -

we spoke about the need for proper cold storage. Darrel designed his own cold storage units. They were done very affordably using old shipping containers.

TIMING – wheel of the year

We spoke about season extension - its as much a practical thing as a USP thing - it spreads out the work rather than it all gathering at one time of year.

OPEN DAYS –

4 or 5 a year over the summer.

COMPOST

Off earth supply.

Because of the already very good fertility on site there has only been the need for bringing in about 10 tonnes each year as a supplement. There are soil building processes in place using green manures.

CULTIVATION STRATEGIES - The tractor

<http://www.sep.it/>

<http://www.tracmaster.co.uk/bcs/two-wheel-tractors.html>

Spoke to darrel about the need for proper cultivation equipment - Darrel uses this model. He really recommends it - He says that unless you have proper storage for new tractor (two wheel one) there is no point in investing. Until then its a good idea to contract out the plowing to farmers in area.

IF we do go down the route of getting this tractor, he recommends getting these attachments -

* spader
* rotavator tiller .
* rotary plough. (does ridge and furrow)

He says that there is an operational issue - you need to know how to use it. He learnt the hard way.

Regards direction of cultivation - best off cardinals if flat site is flat, otherwise follow contours.

**MARKET GARDEN RESEARCH**

**FULL CIRCLE - as a branch of Sheffield organic Growers**

**SHEFFIELD -**

<https://www.facebook.com/fullcirclefarmsheffield> - Fran - Head Grower of

Background –

Sheffield Organic Growers is a cluster of independent organic growers, based on a 12-acre site in the beautiful Moss Valley on the edge of Sheffield.

Sheffield Organic Growers sells a range of produce, including vegetables, fruit and herbs, through local outlets including [Sharrow Marrow](http://thesharrowmarrow.com/), Zeds, Nether Edge Farmers Market and through the [Regather Box Scheme.](http://www.regather.net/box)

We also supply:

* [Hazelhurst Community Supported Agriculture Co-op](http://hazelhurst.coop/)

A local community project which runs a veg box scheme and provides opportunities for volunteering and learning food growing skills.

And we are the home of:

* [Full Circle Farm](https://www.facebook.com/fullcirclefarmsheffield)

Full Circle Farm is a new addition to the Sheffield Organic Growers site. It is a team of 5 young enthusiastic growers providing delicious, organic vegetables. Their principles are to improve soil fertility, grow nutritious food, sell all produce locally, help to build a resilient food system and to help their buyers connect to the land.

Sheffield Organic Growers was set up by Huw Evans, and the site has been managed organically since 2011. We are registered with the Soil Association (No: AB21837) and all of our produce is certified organic.

Site is owned by Huw Evans

**QUESTIONS**

*What is the vision for the project? -*

Its changing - currently short term vision is managable. specialise in salad growing- follow martin and sarahs model.

* *is there a “model of best practice” that this garden follows?*

Garden has just gone through a massive reshuffle. - now down to 1 key growers and a couple of volunteers. Have learnt off a variety of growers through wwoofing and volunteering.

*How many volunteers do they use? - 2*

*What size of operation is it?*

1 acre - large tunnel and a hlaf tunnel. Supply regather box scheme.

*Are you experimenting with new crops and processes and if so what?*

Salads are the main focus and experiment.

*regarding business – What is the financial vision ? (What is the long-term strategy for making the business work?*

Veg box scheme is the main and reliable focus of generating an income. Have considered joining CSA network but felt it was too much admin at this stage (only 1 person manages the whole project currenty- ie fran) Recognise a huge demand for salads. Would like to expand in the future and support more local growers.

ACCOUNT THOUGHTS

MANAGEMENT –

How did you get initial investment for the project ?

- 5 people invested £1500 each- covering materials and seeds and rent. etc.

* all wanted to do a bit of everything which didnt work well. Fran recommended that splitting the roles at an early stage would have been a good move to make.

*How do people define their own roles ?*

* easy to not value some of the tasks that are essential eg admin

*How many customers do you have?*

65 - aiming for 150 .

*How are you finding a niche market? (USP) - SALADS*

*What volunteer roles do you have?*

Organic food growers training. greenfingers training.

*Strong links with REGATHER TRADING CO-OP.*

*Who funds you currently?* - no funders but regather have got little pot for social enterprises that they will apply for.

*Do you have seasonal open days?*

Sheffield organic growers have a few through the summer months.

KEY POINTS TO ADDRESS IN THEIR MASTERPLAN –

*WATER* –

Borehole - run with a generator.

*DRAINAGE -* Land drain- digging to lay down water take away pipes and ditches.

NURSERY SPACE - propagate at house. Sold a few plants in spring. Now bought in many plants.

ROTATION - improvise.

TIMING – wheel of the year- copies martin (local biodynamic grower on site)<http://www.mossvalley-marketgarden.co.uk/>

COMPOST

Municipal waste facilities, - manure facilities - green manures.

CULTIVATION STRATEGIES - The tractor

Rotavators - / tractors - share facilities with Sheffield organic growers - have lots of attachments for the tractor.

**OrganicLea**

[**http://www.organiclea.org.uk**](http://www.organiclea.org.uk/we-work-for-change/)

OrganicLea is a worker’s co-operative community growing initiative located in Chingford, north-east London. Organiclea currently cultivate 12 acres of land producing a wide range of fruit, vegetables and herbs, plant seedlings as well as providing training and volunteering opportunities and paid employment. The site includes extensive glasshouses, open fields, scrubland, and wooded areas as well as workshop space and yurt for training. Organiclea currently provide boxes for over 300 people across Walthamstow as well as running a weekly market stall at the Hornbeam café and supplying a number of restaurants and cafes across London.

**History**

They began as a community group reviving one acre of an abandoned allotment site in Walthamstow Forest. The produce was shared amongst the workers and surplus distributed to the local sure start project and sold on a local market stall. Over time, “the notion of a local food scheme which would facilitate the production and distribution of local food within the borough was born and in 2003 we published a report exploring the desirability and possibility of creating such a scheme in Waltham Forest” (Organic Lea, 2015).

The OrganicLea project evolved in to a community-led box scheme, weekly market stall and community café, the Hornbeam. Extensive mapping of the history and heritage of food growing in the Lea valley has accompanied Organiclea’s work from the beginning. The Lea valley was once known as the ‘bread basket’ of London.

In 2006, OrganicLea published a report which proposed development of a ‘local food hub’: “a place where local people can get quality local organic produce, find out about food issues and develop their own food growing skills.” With the support of a grant from the Big Lottery’s Making Local Food Work programme, the community centre was refurbished and weekly box scheme developed. This was accompanied with a range of courses, workshops and events.

Following closure of the local authority of Waltham Forest plant nursery in 2007, a process of lease negotiations and funding applications followed and by 2009, OrganicLea were planting the first crops in the nursery. In 2010 a lease was agreed for an initial ten years, which has since been extended to 30.

They are currently funded by City Bridge Trust, London Borough of Waltham Forest and a number of small grants including the People’s Postcode.

They grow a wide range of salads, vegetables, herbs and fruits as well as edible flowers. They also have a number of bee hives on site managed sustainably.

In terms of fruit cultivation they have a Vineyard, Orchard, Cherry Bank, Raspberry Row, Quince Orchard, Entrance Field Espaliers and Mediterranean Fans.

**Box scheme**

They provide over residents with a weekly box. As well as produce from the organiclea site, this also includes produce from local organic farms and cropshare.

“‘Cropshare’ is a scheme where local gardeners and allotment holders can legally sell their surplus fruit and vegetables through our box scheme and market stall.” (OrganicLea, 2015).

**Restaurants, Cafes & Grocers**

As well as the box scheme, two market stalls and community café, organiclea provide produce to four cafes and restaurants and cafes in Walthamstow, two greengrocers and two hubs which then distribute across London.

* The Deli Station is a van based delivery scheme based in Enfield, delivering to 7 restaurants in London.
* The Euston loop working with Bikebox (a delivery shceme training young people with cycling skills) to deliver 15kg of mixed salad to four outlets in Islington, Euston and Kings Cross, arriving within 24 hours of harvest.

They also have an edible flower business operating on site.

**Workers’ Co-operative**

In their own words “we produce and distribute food and plants locally, and inspire and support others to do the same. With a workers’ cooperative at our core, we bring people together to take action towards a more just and sustainable society.”

A workers’ cooperative is “a form of business organisation where the activities are managed by the workers directly, without the need for separate managers, owners, or bosses. Organiclea is a not-for-profit enterprise: if there is any surplus it is reinvested within Organiclea, or in support of other co-ops or not-for-profit organisations with similar aims.

We want to see a world based on equality and co-operation, where people can take control over all aspects of their lives. Taking collective control over our own work is a starting point… we aim to reduce reliance on exploitative structures and build a secure base from which to challenge injustice and encourage others to do so. Our aim is to create livelihoods for co-operative members through local food growing, distribution and community work. Currently, most of the members earn a modest part-time income. These workers are also committed volunteers and agree to certain obligations as paid workers of the co-op. There is a procedure of application for volunteers wishing to become a member of the co-op” (OrganicLea, 2015).

**Volunteering**

They offer a number of volunteer opportunities. They are open to the public every Tuesday afternoon, Wednesday and Friday as well as every last Sunday of the month which is a community ‘open day’ involving a number of workshops and supper. On Wednesday the cooking club provides a free lunch to the volunteers and gardening team.

They also provide a service for at risk young offenders. One of the voluntary trainee roles is linked with support to volunteers at risk.

They have recently set up a buddy scheme which “trains volunteers to support others to participate in volunteering at Hawkwood Community Plant Nursery. This year buddies will be offered the opportunity to gain an AQA accreditation in supporting volunteers as well as getting practical experience supporting others” (Organiclea, 2015).

**Training**

Currently they have four paid members of staff, one paid apprentice grower and ten unpaid trainees working 1-1.5 days a week. They are also a Permaculture LAND project.

They run a number of courses on site in the workshop space and yurt space including City and Guilds level two in horticulture, permaculture design course and a number of other courses on gardening, beekeeping and woodwork as well as health, nutrition and cookery.

**Community growing**

As well as volunteering, training and employment opportunities on site, Organiclea support growing beyond the site within the area. They offer outreach work for community gardens and support housing associations, sheltered housing networks, community nurseries and childrens centres, day centres and community nurseries. The support they offer includes: support with project development, fundraising advice, design and establishment of community food gardens, in consultation with user groups, facilitation of practical sessions in the garden, structured training in practical food growing skills, awareness-raising and demonstration stalls, community green space ‘makeover’ days.

They also offer a garden care scheme for private gardens, school gardening support service providing pathways to employment for volunteers. They also offer a range of other training opportunities in organic gardening, health and nutrition.

**Supporting local food economies**

“Organiclea finds support from being part of a wide network of like-minded growers, and from its early days has always tried to support others to develop their growing skills, recognising the social, economic, health, environmental and community benefits achieved when people grow food in the spaces around them. As well as offering training and providing seedlings and resources like compost, this support takes the form of specific tailored support to local community groups and organisations that want to start or develop their own food growing projects. The *Common Sense Growers* initiative, begun in 2007, aims to bring the benefits of food growing to as wide a range of people as possible, including excluded or vulnerable groups, providing support which ranges from project planning and design to regular practical training sessions with users.” (OrganicLea, 2015)

Many of the plants used in the cultivating of these sites are purchased from Organiclea nursery.

See Plant list http://www.organiclea.org.uk/we-help-you-grow-your-own/plant-sales/

**Ethics**

Organiclea have a commitment to permaculture principles, sustainability, and organizational structure as a workers’ cooperative.

They state that they believe:

* Small-scale food producers should have greater access to and control over the land they use for food production;
* Access to land must be free from discrimination of all kinds;
* The skills necessary for small scale food production should be made more available;
* Small producers should have the right to save, sow and sell their own seeds;
* Seeds should not be open to commoditisation through intellectual property rights or contamination by Genetically Modified seeds;
* Water exists for the benefit of all living beings and it should be under public, democratic, local and sustainable management;
* Access to water should be a right guaranteed to producers who use ecologically sound methods of production.

They belong to the Land Workers’ Alliance, Community Food Growing Network and Food Sovereignty movement.

Tools & Resources

*Hawkwood Plant and People Nursery: A journey in permaculture design*

 Summary of the permaculture design process developed for Hawkwood plant nursery, with words, pictures, maps, tables, photographs, challenges and inspirations.

*Seedlings from the Smoke (2013)*

Self-published journal of head gardener, Ru. See also his blog. https://organiclea.wordpress.com/about/

*The Lea Valley Food Growing Puzzle*

*What’s in Your Salad?* Poster identifying some of the more than 40 varieties of leaf, flower and stem in our mixed salad bag.

Fruits of the Forest. A report on the desirabilities, possibilities and practicalities of a Waltham Forest Local Food Scheme (2003)

**Little City Gardens**

[**http://www.littlecitygardens.com/about-2/**](http://www.littlecitygardens.com/about-2/)

“A 3/4 acre urban farm in San Francisco, and it is an experiment in the economic viability of small-scale urban market-gardening. We have been working steadily for a year towards our aims: to craft a way for urban food production to sustain us economically, to build community through innovative, collaborative local food systems, and thus to help establish the path of ‘urban farmer’ as a career.” (LCG, 2015)

**They source five restaurants.**

“Little City Gardens is currently a small farm business, an educational site, and a working model of food production in San Francisco. We provide greens, herbs, and seasonal veggies to restaurants and local markets and, as of Spring 2015, we’ll offer a small flower CSA to neighbors and SF residents. We offer occasional tours and workshops in the garden.

**CSA sample**

Each week’s box will include (with some variation depending on the week):

a half pound of our artisinal salad mix  our salad mix is seriously special! it is composed of over 25 varieties of greens, herbs and edible flowers. a complex range of flavors: sweet, nutty,spicy,tangy, fruity and floral.

one bundle of cooking greens on any given week this could be: kale, braising mix, mustard greens, rainbow chard, or fava greens, or collard greens, pea shoots etc

one bundle or basket of other produce on any given week this could be: radishes, tokyo turnips, beets, fennel bulb, mixed variety carrots, cabbage, peas, green beans, artichokes, leeks, scallions, green garlic, spring onions etc

one bundle of culinary herbs this will be a hearty bundle of one or more of: marjoram, oregano, thyme, tarragon, garlic chives, tarragon, cilantro, dill, or parsley. Basil in the summer!

and from time to time a small garden flower bouquet or a surprise piece of Little City Gardens artwork. This could be recipe ideas, farm notes, a broadsheet, or a poster.

“We focus mostly on cooking greens, tender salad greens and herbs — crops that do well in San Francisco year round. We also grow cut flowers, as well as turnips, radishes, beets, onions, garlic, artichokes, cut flowers, edible flowers, squash, and many different culinary and medicinal herbs.

“We are working toward an urban farming model that makes up for its small scale by recycling urban resources (neighborhood composting), eliminating transportation costs (deliveries by foot and by bicycle), creating active, face-to-face relationships with neighbors and customers, and enlivening new forms of community support. The more community we can build around the growing of our food, the more power we can have to change our food systems.”

“We aim to be a self sufficient business, relying as little as possible on outside funding. We want to be accountable to ourselves and our immediate community via the sales of our produce. Even as anti-capitalists, we would like to believe in the power of simple, conscious commerce and direct community support.”

**See also** [**http://www.littlecitygardens.com/2012/02/2011-year-end-digest/**](http://www.littlecitygardens.com/2012/02/2011-year-end-digest/)

**Land**

“One of the biggest obstacles we have noted in our attempt to run a financially viable farm business is the issue of land tenure. In order to invest in the infrastructure needed to farm, and to make the kind of emotional physical commitment a farmer must summon in order to be successful, she needs a secure lease with at least 5-10 yeas of tenure if not more. Farming on a month-to-month lease with the looming threat of development has been a huge challenge for us and has motivated us to politically activate on the subject. We are currently working with a growing group of urban agriculture allies on legislation at the state level that would incentivize urban property owners to make long term leases to gardeners and market farmers. We’ll keep you posted as this develops.

Beyond this, there are other ways that city government and consumers could help urban agriculture flourish: small business start-up grants would help people without access to credit get into this low-margin-of-profit field. The city could sponsor collectively managed greenhouses and materials depots. More individual and institutional (schools, hospitals, city offices) commitments to sourcing food from urban farms would increase demand and encourage farmers.

**Ethics**

Our mission Little City Gardens is a small urban farming business in San Francisco, CA, that grows, sells and distributes healthy food within the city. As we work, we are developing, as well as analyzing, the potential for economic viability in the field of urban farming. We seek to serve a diverse population, and to build a community dialogue about food systems, by involving and educating members in our processes and problem solving.

Our values In our garden, and in our lives, we value:

thrift creativity collective decision-making transparency careful observation sensitivity to people and place bold ideas humility

**Growing Communities**

**Garden sites**

In 1997 GC acquired a butterfly tunnel acquired in a public park in Stoke Newington, Clissold Park. This was followed by subsequent acquisitions of a number of other sites on the margins of Hackney public parks including Springfield Park in Clapton in 2001 and Allens Gardens on Bethune Road in 2004. More recently, GC acquired a 1.4 acre ex-council nursery site in Dagenham, the first GC ‘Starter Farm’.

**Patchwork farms**

GC now run three market gardens within Hackney, managed by a head grower and assistant grower, employed by GC to oversee production. GC have also set up a ten-month apprenticeship training program, providing training for a team of apprentice-growers. Following completion of the program, apprentices are encouraged to set up their own patchwork farm within Hackney to grow salad to feed in to the GC box-scheme. There are now nine patchwork farms (including St Paul’s and St Michael's vicarage gardens, The Castle Climbing Centre, Hackney Marshes Tree Nursery, Stellman Close, 24 Clapton Square, 25 Clapton Square, St Matthews church garden, Landfield Estate and Kynaston avenue). As well as the growers employed and apprentices, the sites also rely upon a team of over 120 informal volunteers (GC, 2010). The sites are open to volunteers during garden on Mondays and Tuesdays.

Most of the market garden and patchwork farm sites focus on the production of salad crops, herbs and flowers which feed into the box-scheme. Some also have fruit trees and a mix of vegetables.

The patchwork farm sites provide salads for the box-scheme and over 30 restaurants and shops 10 months of the a year.They are now producing almost one tonne of salad per year. The patchwork farm sites are Soil Association certified and are managed using organic wildlife gardening principles. Some of the sites are also used as community spaces for horticultural education, including organic gardening classes, a ‘learning to grow’ school scheme and many other events and an ‘eco-building’ for hire.

**Community orchards**

In 2007 GC worked with a local resident’s group to plant a community orchard in a public the Hackney area, with 35 fruit trees and a range of fruit canes, herbs and wild flowers planted in between the trees. The site was planted to “improve Butterfield Green by providing a place for enjoyment as well as sharing knowledge about growing fruit” (Community Group, 2011). It was also recognised a site providing habitat for wildlife within the area. The fruit trees planted included a range of local varieties. “This preserves different varieties of fruit as far as possible, as well as making sure that the fruit trees are best suited to our local growing conditions” (Butterfield Green Users Group, 2012). The orchard is maintained by local residents with support from the parks service. Within the orchard, community members have the possibility of adopting a tree (which includes assistance with planting and maintenance), sponsoring a tree (which involves contributing financially to care and costs) and participation in the planning process of the orchard. The orchard is managed according to agro-ecological principles.

**Box scheme**

The GC box-scheme now supplies over 900 bags of fruit and vegetables to over 520 households within the Hackney borough (GC, 2010) throughout the year. It operates as a weekly collection scheme, with over 12 pick-up points located across the borough and is based on an up-front standing-order payment scheme. According to GC, the box scheme offers a “weekly selection of seasonal organic produce” GC offer a range of sizes and types of box including standard and small veg bags (with the option of no potatoes) and a standard and small fruit bag. The boxes also include a newsletter with news from the farms, GC, information on the produce included and recommended recipes.

The GC box-scheme sourcing policy operates on a principle of subsidiarity so that produce from beyond a certain allotted boundary may be purchased according to availability and demand. The Food Zone Model situates urban growing at the core of the food-growing zone, with a focus on perishable salad crops. This then stretches out to the rural hinterland for fruits and field-based vegetables and livestock and further afield to Europe for fruits and ‘hungry-gap’ veg and internationally for spices, coffee, chocolate and fruit. In their view, this model presents a future food system “less reliant on fossil fuel, artificial fertilisers and pesticides”. Instead, it is based upon using renewable energy, appropriate technologies and restoring biodiversity in terms of wildlife and soil micro-flora and fauna.

**According to GC, the box-scheme aims to:**

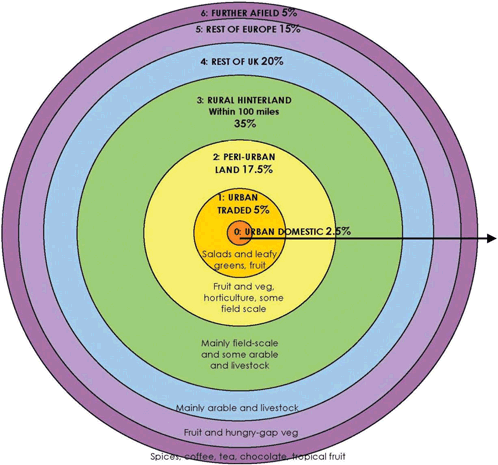
* **Support small sustainable farmers and help them to thrive.**
* **Generate income with which to create jobs for them and their community and to be financially viable.**
* **Increase/stimulate sustainable food production in and around urban areas.**
* **Build community**
* **Provide their community with affordable, great food.**

**(GC, 2012)**

**Food Zone Model**

Their Food Zone Model aims to support local sustainable agricultural production, including urban growing. According to GC, “the closer fresh produce is grown to where it is eaten, the greater the environmental benefit will be, as reducing the distance a food has to travel to get from where it is consumed reduces the environmental impact of transporting the food. Highly perishable produce, such as salad and soft fruit, needs more energy for packaging and refrigeration, so should travel the shortest distance…How close produce is grown to where it is eaten can also have benefits in terms of freshness, nutrition and flavour. The aim of the GC model is to source as much food as we can from as close as possible and then work outwards.” GC thus prioritise the growth of salads within close proximity to the site. An estimated 5% of the salad contained within the box scheme originates from the GC facilitated urban growing sites. Brassicas, roots and potatoes are mainly sourced from the peri-urban and rural hinterland of London. Seasonal fruits are also sourced from these areas. Focussing upon developing working relationships with a small group of producers, GC source the majority of produce from 25 small-scale key growers. 81% of vegetables and 23% of fruit were sourced from local farms (defined as within 129 miles). 87% of vegetables sourced from the UK (2008-2009 Supply).

***Food Growing Zones***



**Source: GC, 2011.**

**According to GC, “the UK fruit season is much shorter than the veg. For example the apple season is generally mid-August to March; the pear season is a bit shorter. In the summer we can usually source organic UK plums and some cherries but a lot of other organic UK fruit isn’t produced in large enough quantities or produce (such as strawberries, raspberries) is too delicate for the bags... Between March and July there is hardly any UK fruit available so we rely on produce from elsewhere….We believe there is an argument for continuing to provide access to organic European fruit and all-year-round bags for those that want it. However, some people on the scheme get the fruit bag only at certain times of the year (when the UK apples and pears are around) and go without fruit for the rest of the year.”**

**The fruit bags contain “varieties of mainly UK and European seasonal fruit each week. These are a combination of the following depending on seasonal availability: pears, grapes, oranges, clementines, fairtrade bananas, kiwi fruits, plums, cherries, peaches, nectarines, limes, lemons, grapefruit, apples” (GC, 2011). According to GC “Only our Fair Trade organic bananas come from outside Europe” whilst the oranges come from a cooperative in Italy. They do not buy air freighted produce or produce grown in heated greenhouses. Apples included in the box-scheme are sourced from one of the organisations key growers and varieties include Braeburns, Cox, Discovery, Fiesta, Jonagold, Russet, Spartan, Stark and Worcester. The standard fruit bag has 4 varieties of UK and European “a seasonal selection of fruits” each week, with about 3-5 items of each. (GC, 2013).**

**The box-scheme is based upon the underlying principles of GC, as outlined below:**

***GC Principles***

|  |
| --- |
| 1. **Ecological food production, defined as certified organic or biodynamic, sustainably harvested from the wild or home-grown without the use of artificial fertilisers or pesticides.** 2. **Mainly plant based food production. Any animal products we trade or support are from systems with high environmental and animal welfare standards. We define these as mixed farming systems, grass-fed livestock and farms that are aiming to reduce their dependency on bought-in animal feeds.** 3. **Fresh/minimally processed food. Fresh, unprocessed food is less energy intensive, better for health and needs less packaging.** 4. **From appropriately scaled operations. By prioritising small-scale sustainable producers we can make a direct contribution to their survival and the diversity and sustainability of the food supply chain.** 5. **Local, seasonal and direct produce.**   **-Seasonal consumption can help to minimise the environmental impact of the food we eat. If produce is in season in the UK, it is more likely to have been grown locally.**  **-Dealing directly with farmers help us to trade in a way that is personal, transparent and fair, cutting out the profit taken by intermediaries and helping the people that consume the food to understand where their food comes from and how it is produced.**   1. **Low carbon. We need to maximise the positive environmental impacts of our projects by using resources wisely.** 2. **Trade fairly. We must be prepared to pay farmers and suppliers what they need in order to be able to produce food sustainably, while also giving our customers a fair deal and giving ourselves a fair return for our work.** 3. **Promote trust. We need to be honest and open in our financial dealings with those who supply our food (and expect the same from them).** 4. **Promote knowledge. We cannot make produce cheap but we can work to change perceptions of value so as to make the produce ‘affordable’.** 5. **Foster community. We can’t make ‘community’ happen but we can work to create the conditions whereby it has a chance to emerge and we can work to create situations whereby people feel connected with us, with each other and with the people who produce our food.** 6. **Financially viable. The best chance our projects have of growing into the long-term solutions we are seeking to establish is if they are able to exist independently of external funding.** 7. **Enshrine the principles. It is important that we have an organisational structure that ensures these principles are built in to our work, regardless of changes to membership, staff, committee or trustees. (GC, 2012)** |

**GC Underlying Ethics**

**According to GC, the model draws upon the idea of creating change by building a new model rather than fighting the existing reality. They are inspired by Buckminster Fuller who said: *“you can never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete” (GC, 2013).***

**LIST OF KEY PROJECTS TO VISIT - - PROJECTS TO RESEARCH -**

**KEY to make contact with Soil Association - Rachel Harries on t: 0117 987 04601 - csanetworkuk@gmail.com**

**CSA’S**

[**http://www.soilassociation.org/communitysupportedagriculture/findacsa**](http://www.soilassociation.org/communitysupportedagriculture/findacsa)

**CASE STUDIES -** [**http://www.soilassociation.org/communitysupportedagriculture/casestudies**](http://www.soilassociation.org/communitysupportedagriculture/casestudies)

**VALE OF GLAMORGAN**

[**http://pencoedgrowers.co.uk/**](http://pencoedgrowers.co.uk/)

**WALES-**

[**http://www.bancorganics.co.uk/**](http://www.bancorganics.co.uk/) **- pontyberem, / carmathen**

[**http://www.coca-csa.org/**](http://www.coca-csa.org/) **- Pembrokeshire / st davids.**

[**http://www.flintshare.co.uk/**](http://www.flintshare.co.uk/) **- North wales - flintshire- (apple juice. honey)**

[**http://www.chagfarm.org/**](http://www.chagfarm.org/)

[**http://blaencamelbox.com/**](http://blaencamelbox.com/) **- pembrokeshire**

**SHEFFIELD -**

[**http://www.organickitchengarden.co.uk/**](http://www.organickitchengarden.co.uk/) **- Darrel marrion**

[**http://www.sheffieldorganicgrowers.co.uk/**](http://www.sheffieldorganicgrowers.co.uk/)

**SOMERSET**

[**www.organicherbtrading.com/**](http://www.organicherbtrading.com/) **-**

[**http://www.pukkaherbs.com/**](http://www.pukkaherbs.com/) **- sebastien.**

**(bristol)**

[**https://orders.leighcourtfarm.org.uk/**](https://orders.leighcourtfarm.org.uk/)

[**http://thesevernproject.org/**](http://thesevernproject.org/)

[**http://www.thecommunityfarm.co.uk/**](http://www.thecommunityfarm.co.uk/) **- Luke Hassel, Ben Raskin**

**GLOUCESTER**

[**http://www.theorganicfarmshop.co.uk/**](http://www.theorganicfarmshop.co.uk/)

**IPSWICH**

[**http://www.the-oak-tree.co.uk/**](http://www.the-oak-tree.co.uk/)

**WIDER UK PROJECTS -**

[**http://www.regenerativeagriculture.co.uk/**](http://www.regenerativeagriculture.co.uk/) **give samples to try.**

**historical context for organic -** [**https://en.wikipedia.org/wiki/BASF**](https://en.wikipedia.org/wiki/BASF)

**WILD GARLIC HARVESTING – FIRST DRAFT –**

**study for riverside market garden – april 2015**

**On Sun 5th april I woke at 630am, gathered tools- a knife and boxes for harvesting, and harvested for 1 hour. I collected 2 full boxes of leaf. I then washed and packed up the leaf in half hour. Finished by 8am, with about 18 full bags of leaf.  
 -  
  
Considerations for Operation**  
- requires knowledge of wild plants - risks to harvest are picking wrong plant - 2 key poisonous plants can easily be accidentally harvested - lords and ladies, and dogs mercury - plus  
a number of other lesser poisonous plants - blue bell, lesser celandine, butter cup, and ivy.  
  
Cleavers, although edible, can mistakenly be harvested, and needs to be avoided to ensure true product.  
  
Targeting best, most vigorous clumps of wild garlic, growing solely as garlic with no other species present in the clump, and cutting leaf above any other low lying species - ivy - and spreading out in a box, giving a second check to the harvested leaf to ensure no other species have been cut is essential.  
  
Early morning harvesting when weather is cool is best for long term storage of leaf, avoiding direct sunlight prevents too much wilt. Best harvested on day of sale.  
  
Effect on woodland -  
  
Wild garlic has been establishing its self as an ancient woodland indicator on the lower east side of the main pond for the past 30 years or more. As the woodland matures, the wild garlic will continue  
to spread, due to right conditions, - canopy shade, and moisture, plus space to expand.  
  
 **Sustainable use -**  
Harvesting over a long period of time will affect the bulbs capacity to regenerate each year - continued cropping draws energy out of the bulbs, and could effect the growing capacity of the bulbs, which could in turn mean that other species move in where the cropped plants are,  
due to them being weakened. Provided just 1 or 2 cuts are made from a particular patch it is unlikely that this will occur.  
  
Treading carefully around the plants to ensure that minimal damage is done to the harvestable areas should be born in mind while harvesting.  
  
Cutting down and pulling out key poisonous plants - lords and ladies and dogs mercury - will help to establish easier to harvest beds, and encourage the wild garlic to form denser clumps making harvesting easier, safer and quicker.  
  
  
**Future potential**

The potential for wild garlic to continue to establish large patches suitable for harvesting throughout coed’s woodland, is almost limitless, provided the woodland continues to be thinned and managed in a sustainable way.

**MEDICINAL HERB TEA PRODUCT**

* A brief overview of key considerations for small scale harvesting operation at riverside market garden, April 2015

OVERVIEW

In 2014 I harvested many wild and medicinal plants and dried them in room temperature conditions at Coed Hills Rural art space, next to Riverside Market Garden. I usually dry herbs for my own personal use every year, specifically to get myself through the winter period, when medicinal herbs die back, but I have also harvested more than I need for my own personal use and sold them or given them away as gifts to friends, often around Christmas time. I have never tried to make much of a product out of them, simply selling them as loose dried herbs in paper bags.

When considering the diversification project for riverside I thought it would be a worth while experiment to trial making more of a sellable product – a “gourmet tea selection” – hand harvested and bagged/ specialized herb teas/medicinal teas/ unusual teas – something which can not simply be bought in your average supermarket.

The average cost of a bag of tea (non organic) in a supermarket is 2p or less. This price even reflects the herb teas that they sell (common ones being peppermint) as well as the standard teas. I knew it was going to be impossible to get my prices as low as this, so the real selling point of my teas has to be something different. The key thing being in my experience quality – you CAN tell the difference dramatically in my home harvested herbs and the ones in the shops. The question is, is the difference worth the price that I would need to charge to make the operation worthwhile?

As most producers know, the extra premium of products is created through specialized packaging. - You are not selling simply a product; you are selling a label and a fantasy. The inspiration for this experiment was Pukka herbs. They have really taken the UK herb market by storm, selling 20 tea “satchels” for £2.39 – which roughly works out at 12p per bag. The quality of their herbs is great. They are all organic, and the finished marketable product looks simply fantastic. -<http://www.pukkaherbs.com/pukka-products/pukka-teas/> - they have even won awards for their teas. This does not however mean that there is not also a market for selling bulk herbs (loose tea) – indeed, I myself only buy loose tea, and only of those that I cannot get myself in the garden in quantity, but I tend to get these at specialist herbal shops, and it is not really sold as “tea”, but as medicinal herbs. (which I use by making infusions and decoctions from).

I found on eBay a guy selling empty tea bags quite cheaply and thought that there would be a possibility to create something similar -<http://www.ebay.co.uk/itm/100pcs-Empty-Teabags-String-Heat-Seal-Filter-Paper-Herb-Loose-Tea-Bags-Teabag-/191180261758?pt=LH_DefaultDomain_3&hash=item2c833b497e>

Already the cost from this seller was 3p per bag, (100 empty bags for about £3) so I was going to struggle to reach my mark of 12p per bag.

Anyhow, on April 5th I got out by bags of dried herbs and within about a couple of hours, give or take a bit, I filled 190 bags with my own harvested herb, tied and ready for use.

BAGGING OPERATION –

To be specific – the details of the operation were as such-

Hygiene – I washed my hand thoroughly using alcohol-based hand cleaner. I cleaned bowls, and surfaces, and got a teaspoon.

I had 5 bags of dried herbs available to me – apple mint, water mint, peppermint, nettle, and meadowsweet.

I decided to combine the three mints together to make a mixed mint bag. (Apple mint +peppermint +water mint) and have the other two separate. I had much more nettle than the others due to its abundance here at coed.

I emptied the dried herbs into a bowl to take out the stalky bits – by rubbing the herbs into a powder, the stalks come to the surface, and the powdered herb is much easier to fill into bags. Some of the herbs needed to be left by the fire to become crispier so that filling into bags became easier.

I filled 46 bags with mixed mint, 120 with nettle, and 24 with meadowsweet, using a teaspoon. I tied the bags with a double knot and placed into containers.

This took about 2 hours. I figured out with practice that you could roughly fill 3 tea bags in 1 minute with dried herbs and tie them. (It does say on the eBay site that these are “heat sealing” tea bags – I did not know at the time and I am unsure how one would go about heat sealing – perhaps with a heated element?). So you could fill and tie 180 in an hour with practice. The key thing is that the herbs must be well dry and crumbled to make filling easy.

-

Picking and drying operation –

I roughly estimate with nettle as my example, that you could harvest a kilo of quality fresh nettle in about 20 minutes or less.

The time spent drying a kilo of fresh nettle would take anywhere between 3 day to 3 weeks to get nicely dry and crisp, depending entirely on the drying conditions. Drying conditions can vary dramatically. There would be at least an extra half an hour of time spend in drying these herbs.

So I estimate that the whole process to get just short of 200 tea bags could be achieved in about 2 hours of work, on a home-based scale similar to what I was using. (Most basic methods and equipment).

Which would work out at 100 bags in an hour, or which would work out roughly at 40 seconds work per bag.

So if one wanted to charge £10 per hour for their time to do 100 bags, they would have to charge a minimal 10p per bag. This has not even taken into account the boxing, or the selling process. In most commercial outlets, %40/%50 is added on at retail price. So we are already looking at about 20p per bag, not to mention the box cost, which could be an additional cost.

I estimate that a minimal round figure of 20p per bag could be achieved. One could likely sell boxes of 20 tea bags at £4 to specialist places who wanted our product but unlikely going to sell to veg box customers who could buy a similar product (from pukka for example) for £2.39 for 20 tea bags (and they will often have the edge on design/marketing facilities).

CONCLUSION –

So my conclusion is that it is not really a viable option to do home scale herb harvesting and compete at the commercial market (meaning the veg box customers in this case) unless efforts are made to invest in a better herb harvesting infrastructure, and so reduce the bagging, harvesting and drying time for all the herbs. However, if links can be made to restaurants and other buyers who wish to support our small-scale operation, then this would be possible to make a business out of. It would be worth doing some market research however, to ensure I have made the right conclusion, that veg box customers would not be interested in paying £4 for 20 tea bags.

(Notice that Pukka get many of their herbs grown and harvested in India (just as the rest of the tea companies seem to do) and other such places where wages can be much cheaper and people are happy to work for much less than what we would call minimum wage. This could be one way around the operation, but then one looses ethical credibility and defeats the original intentions of the project.)

**Brief for Riverside Community Market Garden**

Working 1 week out of each month (5 day week) - FROM OCT - JUNE - I propose to -

Act as a consultancy for the market garden along these 2 points as follows -

point 1 - ACTIVE WORK WITH CLIENTS - work with a chef (s) and members of the market garden, giving them produce from the forest garden of a variety of different products, and explain to them the edible qualities of these foods, how to use them and what nutritional values they have.

Point 2 - COLLABORATION - ACTIVE WORK ALONGSIDE MARKETING COORDINATOR - I will help assist a *detailed marketing strategy* (I stress the need for this to be collaborative) with market research co-ordinator - giving advice on marketing strategies, explaining the potential of each product (meaning specifically plants of perennial nature - e.g forest garden type crops, e.g - comfrey liquid feed), and give examples of who else is marketing these products and how they are doing so. (e.g pencoed growers)

*(I would like to stress that these two points are tied together, and so working on one is often connected with working on the other.)*

BREAK DOWN OF THE DETAILS -

point 1 - ACTIVE WORK WITH CLIENTS

1a - working in the forest garden - giving clear information and education. This will involve running workshops for the members of the market garden. I will explain the process of how to propagate these plants *(need to choose specific set of plants)* to members of the market garden, and how to produce them up to market scale, and explain the challenges of doing so, with each product respectively. *(this specifically means making a list / spreadsheet for the plants)*

1b - on exploring new products from the market garden, working in partnership with - 1 - existing growers, (Kier) and - 2 - *market researchers ?* *need to know who these people are* - using the plants in the forest garden and the wild plants around coed as a starting point. I will provide examples of produce every week.

Regarding the exploration of new products: This has 2 main levels (extrapolation of point 1b)-

1b-1 - helping and assisting production, and methods of taking new crops to a marketable level.

1b-2 - assisting design of market garden in partnership with co-ordinator grower. - identifying the site design and infrastructure as a whole and assisting its development. (Soil fertility, access and infrastructure). Working from my 10 years experience with growing organic food, I will assist where I see fit the design and support the growers in achieving this design to increase efficiency of business.

Point 2 - COLLABORATION - ACTIVE WORK ALONGSIDE MARKETING COORDINATOR- WHO IS THIS? need to define roles -

Working alongside market researcher - ?- I will engage in intensive and extensive research around current existing projects across the UK which are already taking products of a perennial plant based nature, to market level production and document this information and thoroughly as possible. Using this information I will feed back to the market garden growers and directors, (keir and who ever else) so that clear visions of new possibilities can be realised and made use of.

Either party will have the right to terminate this agreement by giving at least 30 days’ notice

in writing to the other party

Maximum budget £4,999 including £1,000 capital elements Contractor: Stephen Watts

Time Frame: September 2014 - June 2015: 6 months @ one week per month equivalent.

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Details as follows -

point 1 - ACTIVE WORK WITH CLIENTS -

1a - working in the forest garden - giving clear information and education. This will involve running workshops for the members of the market garden. I will explain the process of how to propagate these plants *(need to choose specific set of plants)* to members of the market garden, and how to produce them up to market scale, and explain the challenges of doing so, with each product respectively. *(this specifically means making a list / spreadsheet for the plants)*

KEY POINT TO RAISE -

*HOW ARE THESE WORKSHOPS GOING TO RUN? WHO ARE THE MEMBERS?*

SESSIONS IN THE FG - each month breakdown as follows -

OCTOBER -

ROOT CUTTINGS - mints, and all Laminaecea family - eg motherwort, Wormwood, Daisy family, Yarrow, Mints, Thymes, Horseradish, Hyssop, Lemon Balm, Tanzy, comfree,

ROOT DIVISION - chives, perennial onions, sorrel, mints, lemon balm, comfrey.

HARDWOOD CUTTINGS - Figs, Grapes, Blackcurrent, redcurrent, jostaberry, worchester berry. rosemary etc

suggested dates - 19th - 23rd of Oct. (teaching 24th - 25th GTF)

NOVEMBER -

ROOT CUTTINGS - mints, and all Laminaecea family - eg motherwort, Margoram, lemon balm, catmint, feverfew, santolina, mint, chives,

Rhubarb, thyme,

ROOT DIVISION - herbs - mint, hyssop,

HARDWOOD CUTTINGS - Figs, Grapes, Blackcurrent, redcurrent, jostaberry, worchester berry. HERBS - rosemary, sage, thyme.

Suggested dates - 16th - 20th of nov.

DECEMBER -

ROOT CUTTINGS - mints, and all Laminaecea family - eg motherwort,

ROOT DIVISION - chives, perenial onions,

HARDWOOD CUTTINGS - Figs, Grapes, Blackcurrent, redcurrent, jostaberry, worchester berry. HERBS - rosemary, sage,

Suggested Dates - 14th - 18th dec

1b - on exploring new products - from the market garden, working in partnership with - 1 - existing growers, (Kier) and - 2 - *market researchers ?* *need to know who these people are* - using the plants in the forest garden and the wild plants around coed as a starting point. I will provide examples of produce every week.

OCTOBER -

New products - Hawthorn berries, raspberries (potential to propagate), horse radish, rosehips, nettles, home saved seeds. (potential is apples and pears, hazel nuts)

NOVEMBER -

New products - potted herbs for sale. Sloes. (for sloe gin) (potential is apples and pears.)

DECEMBER -

New products - looking into oca - perennial root crop. Salsify. Scorzonera. (potential is still apples and pears.)

1b-1 - helping and assisting production, and methods of taking new crops to a marketable level.

*(NOTE TO SELF - NEED TO CHECK WITH GRADY ABOUT DATES - NEED TO TALK TO COED ABOUT POTENTIAL TO USE KITCHEN SPACE )*

OCTOBER - Dates - between 27th and 31rd of October I will be able to assist the on site management of gluts, in particular, getting un usable produce for sale, used through creating processed products. (thinking kol rabi and squash) I can assist the harvesting of products, and support Kier in his management of the site. I can assist the establishment of other crops. (overwintering) . Cuttings - test - potted plants - plant set up.

NOVEMBER - Dates - between 16th and 20th of November I will be able to assist the on site management of gluts, in particular, getting un usable produce for sale, used through creating processed products. I can assist the harvesting of products, and support Kier in his management of the site. I can assist the establishment of other crops. (overwintering) .

DECEMBER - Dates - between 14th and 18th of December - Assisting with onsite production.

*(NOTE - I need to check with Keir whether he can make these dates - )*

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1b-2 - assisting design of market garden in partnership with co-ordinator grower. - identifying the site design and infrastructure as a whole and assisting its development. (Soil fertility, access and infrastructure). Working from my 10 years experience with growing organic food, I will assist where I see fit the design and support the growers in achieving this design to increase efficiency of business.

OCTOBER - infrastructural design layout - meeting with Kier on 1st of October - to draw out an intrastructural plan for the market garden along permacultural principles . (taking into account budgets, etc) -

*(NOTE - WRITTEN UP NOTES FROM MEETING - not drawn up - NEED TO DRAW UP A PLAN. BUDGETS NEED CLARIFY BEFORE THIS CAN BE DONE. MUST GET SIMONS NUMBER - PHONE TO CHAT ABOUT FINANCES)*

(A key focus on composting and fertility building for the site as a whole. develop a fertility management plan.) Compost testing - for weather its good for potting - quality control - ask about grading.

Back logging fertility - to improve quality. help market garden for setting up herb nursery. Use FG as place to get cuttings.

Evolution of Site - working on what’s already been established.

NOVEMBER - infrastructural design layout development- assigning contractors to put into place - edible windbreaks, a management plan for the field. - meeting with Kier on 1st of november?

DECEMBER - begin Implementation of infrastructural design. major soil improvements across site. drainage - need to research costs - contractors etc . meeting with Kier on 1st of December ish…

Point 2 - COLLABORATION - ACTIVE WORK ALONGSIDE MARKETING COORDINATOR-

Working alongside market researcher - I will engage in intensive and extensive research around current existing projects across the UK which are already taking products of a perennial plant based nature, to market level production and document this information and thoroughly as possible. Using this information I will feed back to the market garden growers and directors, (keir) so that clear visions of new possibilities can be realised and made use of.

RIVERSIDE MARKET GARDEN PRODUCT DIVERSIFICATION PROGRAM

Outline -

To create a initiative which addresses the market potential to sell agroforestry/forest garden based products from the Coed Hills Forest garden as part of the Welsh Government Knowledge Transfer program.

£5000 available. 5 year old forest garden already partly established. Idea to use money to also help expand the cropping potential of the forest garden to maximise use of space for market. Also create changes to design to make cropping/management more efficient.

Timescale - june 2014 - june 2015

- Precursors

- Confirm the desired projection for the forest garden with Richard Wright. (as far as I am aware he is keen on the Market Garden Project taking it on)

- Confirm “ownership” of project with Rawley clay, in terms of site management, and usage - will there be a rent paid on the land, as there is with the market garden field? (tenancy is currently technically non existent, but given that the project has been created with Environment Wales funding money to create a community resource project, primarily focused on education, it should by definition be “tenanted” by the local community, as well as the current users and maintainers of the garden .

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USAGE OF THE SPACE

Rawley expressed that he is keen for the usage of the garden to still be accessible to the coed residents. This is partly a logical step, (allowing residents to help by managing and maintaining the gardens as well as the market garden growers who will use it primarily for production for market, as the residents have greater potential presence on site, giving better access for weeding and harvesting, and planting; much of the harvesting is best done on a daily basis, as much of the cropping is gradual and continuous rather than all at once. Also, it makes sense that the most local people to the land get to “buy” first shares in the produce; it would be silly if the residents were denied access to “pick your own” to only then have to go to buy the same produce from the local supermarket. However, there is the potential for local residents to grow the majority of what they need within the area considered the crofter field; indeed there is already much of what they need within this area, so if this were implemented, the forest garden would become only a contribution to what they would be needing). There is also an extra incentive from residents to have the forest garden as a “play area” for the children living at Coed Hills.

Indeed, within the term “forest garden”, an approach to the design of the garden encompases the idea of not just creating an edible productive system, but also in creating a beautiful and spiritual place - a place of contemplation, a garden for the soul, which ensures a habitat for a wide diversity of species to live, alongside the human ecology. Residents currently hope that this aspect of the garden continues.

However, one of the challenges of this “multilayered management/usage” is that it becomes hard to gauge an equal share of input. Transferring the use of the space from many residents usage, to the market garden usage, would simplify the space, making it easier to gauge where the labour required to grow the produce is coming from and make a clearer picture on an investment and return cycle. One thing to be avoided in a multilayered management system would be that of unequal share of the labour, in relation to harvesting the produce. For example, If the Coed residents were simply harvesting the produce, without engaging in wider aspects of the project (maintenance, propagation, fertility building and promotion/marketing) while the market garden residents were putting in the larger share of labour in maintenance etc, then this would be an imbalance and an unequal share.

It would be possible to transfer much of what is currently in the forest garden into the crofter and permaculture space so that the residents would have no need to make use of the forest garden for their own produce. This way the usage of the forest garden could be kept purely for market garden use.

This however would take a few years to establish, and in the meantime, it would be sensible for the residents to continue to have access to the forest garden for general harvest purposes, provided that they make use of the produce, and take the basic steps towards managing and maintaining the space.

Key steps to creating products from the forest garden

The ideal recommendation for the steps towards making products from the forest garden would be to focus on distributing the naturally created surplus from the abundance of produce that cannot be used by the existing residents and growers of the produce. This surplus has already begun with a number of products, like the raspberries, and blackcurrants, as well as many of the herbs (mints, etc). This will continue to expand into all the fruiting crops over the next 4 years, as the top fruit moves into high production. As the top fruit develops its full canopy, the forest garden herb layer will become more focused on herbs which will tolerate a semi shade condition, so some of the more sun loving herbs will be slowly taken over by the more shade tolerant ones. Priority of the maintenance of the forest garden should take into account 2 aspects - desirability of product in combination with ease of growing. The plants which are both desirable from a marketing point of view, as well as easy to produce will be given priority of place.

(It ought to be stressed here that regarding the value of products from the forest garden, by far the greatest potential for value from the forest garden is not in its ability to produce valuable goods for sale, but from using it as an educational and therapeutic resource, delivering teaching sessions, and valuable therapeutic sessions, inspiring people with a taste of what is possible to do, on a relatively small scale, and to give people an idea of the potential to set up many more projects on a similar scale, offering these people advice and information, as well as plants, to set up their own.)

1 - WORK WITH WHAT IS ALREADY ESTABLISHED

There are a number of products that are already directly being produced by the forest garden this year, 2014, now in its 5th year since establishment. These are fruit - apples, pears, plums, and a wide variety of soft fruits - gooseberries, blackcurrants, redcurrants, strawberries, raspberries. Currently this year, the top fruits are not really producing a surplus to resident requirement, but the soft fruit is just beginning to produce a surplus.

This autumn it would be possible to trial a diversification initiative by using the surpluses from the forest garden to sell through the market garden veg box scheme. The main products that the market garden could make use of would be the herbs, both fresh as well as dried. The second area of usage would be the surplus fruit, which could be made into jams or sold as fresh fruit. The recommendation regarding the soft fruit which will be in surplus would be to preserve it, so as to give it more added value as a product (“value-added” product), as well as to make distribution of it easier, as it will have a much longer distribution time.

With regard to the herbs, these fall into two main categories - Medicinal, and Culinary. The medicinal herbs are currently in much greater abundance than the culinary herbs, and so, in order to make a market out of the medicinal herbs, it would be advisable to work with either a group of herbalists who own a shop for direct sale to them as a wholesale product, or to give current veg box users a basic medicinal guide as to what medicinal herbs are available, and how to use them; current general consumer patterns show a low knowledge of use of medicinal herbs within the general consuming public, and that those who do already use medicinal herbs regularly are also those who often grow their own, or already source their own. It would however, be valuable to do some market research through the box scheme to see whether there would be a demand for dried or fresh medicinal herbs.

Culinary herbs would probably have a more instant demand, as people already know how to use them (rosemary, sage, thyme etc) and would be keen to receive them in the boxes - indeed, there are already a number of veg box schemes that already include bunches of rosemary, sage and thyme, as well as other culinary perennial herbs within the box.

List of medicinal herbs in FG

motherwort

vervain

mugwort

pennyroyal

Lemon balm (2 types)

Common mallow

Lawn camomile

Betony

Lavender

Elecampane (inula )

meadow sweet

nettle

dandelion

goosegrass

sneezewort

Agrimony

feverfew

comfrey

borage (annual)

teasel

evening primrose

skull cap

mullein

ladies mantle

List of culinary herbs in FG (these are all also medicinal)

Sage

Rosemary

thyme

mints (types - water, pepper, cologne, pineapple, silver, apple, common garden,)

marjoram (2 types)

Sweet cicely

Fennel

Sorrel (3 types)

Perennial veg

Babington leek

Peren-kale.

EW tree onion

Other

Santolina

Wild strawberry

Oxeye daisy

Chives

tree lupin. ( Bees)

Comfrey

Tansy

cardoon

poached egg plant

scabious

ladies bedstraw

Mushrooms

Winecaps

- an overview - of plants that could be taken to an easy market level -

MARKET TYPES :

1 - FRESH FRUITS

raspberries

red, black and white currants

gooseberries

jostaberries

(future harvests - strawberries, apples, occasionally plums or pears, loganberries, worcester berries)

(fruit harvest made greater by investing in nets for all soft fruit)

VALUE ADDED PRODUCTS -

Easy to make - Jams, compotes,

- dried fruits (would mean investment in dehydrator)

Harder to make - jellies, wines, ciders, vinegars, juices, - blackcurrant, redcurrant, etc

(juices would require investment in equipment.)

2 - DRIED HERBS - 2a - “well known” medicinal teas -

mint (types - peppermints)

lemon balm

nettle

dandelion root (could roast to make dandelion coffee)

elderflower

VALUE ADDED PRODUCTS

elderflower cordial and wine, nettle beer, mint beer, dandelion coffee. medicinal tinctures, and beers.

2b - FRESH OR DRIED CULINARY HERBS

Sage (doesn’t do so well in FG)

Rosemary (needs plenty sun)

thyme (needs high maintenance)

mints (types - water, pepper, apple, common garden,)

marjoram (2 types)

Sweet cicely (best fresh)

Fennel (dried seeds)

Sorrel (3 types) - favourite of animals (pigeons etc) - needs protection.

2c - lesser known medicinal dried teas

motherwort

mugwort

pennyroyal

Common mallow

Lawn camomile

Betony

Lavender

Elecampane (inula )

meadow sweet

goosegrass

Agrimony

feverfew

comfrey root

borage flowers dried (annual)

skull cap

mullein

ladies mantle

st johns wort

VALUE ADDED PRODUCTS - tinctures, oils. smudging sticks. (incense)

3 - HONEY potential seasonal crop from about 10 hives

4 - MUSHROOMS - winecaps (needs protection from slugs)

5 - PLANTS

All of the existing plants within the forest garden can be propagated for sale through the existing veg box scheme. The plants which will have a high market value will be grafted fruit trees, followed by culinary herbs, followed by medicinal herbs. The process to propagate all of these is easy to teach, and is a rewarding skill to learn.

6 - SEEDS

Many of the plants within the forest garden can be propagated by seed. There is the potential to distribute seeds of these plants through the existing veg box scheme, primarily through saving the seeds in the autumn, and distributing in the winter and spring, in time for the new growing season. The value that seeds have from a market perspective is, like that of value added products, they have a much longer shelf life, and can be stored, with the correct storage methods, for many years, taking out the pressure to distribute immediately.

2 - WORK WITH EXPANSION OF THE FOREST GARDEN - DEVELOPMENT

Beyond working with what is already present, it would be a wise step to expand the forest garden to encompass the whole ground cover layer, north of the swales towards the back of the garden. The main question regarding this expansion is -

how much money can go into infrastructural development from the £5000 outline budget? To assist the development at the back of the garden we would do well to invest about £300 into high quality mypex to help suppress the weeds at the back of the garden. If we were going to split the money from the £5000 into infrastructural development as well as my labor time (say 1000 for infrastructure, 4000 for my labour) it would reduce the amount of labour time I would be able to put into the garden for development. If there is surplus money going into the forest garden for development (purchase of mypex, potting compost, etc) then I would be able to give about 1 day work a week towards the project (estimated 100£ a day, one day a week, for a year)

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Questions that arise from this proposal to employ someone to manage the development and to move the produce to a market level, are primarily around the changing dynamic to volunteer’s motivation to get involved with the garden.

Since the produce is currently being used primarily by the residents, this gives added incentive to volunteers to get involved as they will also benefit nutritionally from the activity, being able to pick some of their own produce in the process. If there are regulations on who gets to pick the fruit, it being saved for market distribution, volunteers will be likely to experience a loss in motivation to get involved with the process; propagation, planting, picking, processing, as well as general maintenance. Two models that would be interesting to employ or experiment with would be -

1 - a “pick your own” model, whereby people pay a certain amount at a fixed time of year to come and pick the fruit themselves, (employed by many market projects) and

2 - a “get out what you put in” model, whereby the volunteers get out produce, relative to the work they have put in in terms of labour.

My Role

I would see myself as a facilitator of a process. As briefly outlined above, I would be able to offer my time at a minimum of £100 for a days work. I would recommend that the time spent towards the project is focused primarily on organising teaching sessions to educate the managers of the market garden on how to propagate plants, and save seeds, and manage the growing and harvesting of the plants involved. (pruning, mulching, weeding etc) .

I also see my role as working in partnership alongside a market research facilitator. There would have to be good research done into the consumer market as to what products are desirable, as well as targeting restaurants with a list of what is available as “special foods”, or condiments, developing a good relationships with local chefs, and I would be able to work alongside someone who’s main role is to find out what forest garden products are most likely going to sell. It would also be worthwhile promoting the unusual uses to people through handouts, information, open days, and awareness raising about forest gardens, to create more of a demand for such products.

POTENTIAL ACTIONS FROM NOW

- Employ a marketing role - Do some market research - work alongside market researcher to develop a questionnaire to give to local veg box consumers and local chefs. (using existing knowledge of what is there already). Get feedback on what is marketable. Get the advice and model of good practice by researching similar forest garden projects. Use the “value added products” as a guide to see what people might be interested in. This could involve doing more research into the medicinal properties of the plants in the forest garden, and researching who might benefit from using them, and in what form. (fresh, dried, tincture). Focus down on a few things that can be done well, with likely success. (eg, elderflower cordial).

- Organise some harvesting and teaching sessions for the current members of the market garden to get to grips with the perennial seasonal produce of the forest garden. This could link in with the current teaching I am doing for the Growing the Future project, National botanical garden of Wales. (2 sessions a month, around what to do at each time of the year). Build a drying store. (funding for this?)

- Create cropping charts - showing people the brief cropping times of the plants in the forest garden, and showing how they overlap. Create a cropping management plan for growing and cropping the herbs and fruit. Strategize the cropping of the forest garden so that it can be managed in a routine, methodical way. This may involve editing some of the ground cover layer, and simplifying the design.

- Begin mulching out spaces for expansion of growing area, planting out the coming winter/spring, with plants propagated this year, taking into account the cropping management plan of the garden, creating a design that gives a consistent continuous harvest. Design in a maintenance plan, looking at the different levels of engagement and action annually.

Future outlook

There is the future possibility that jobs could be created from this project: a fixed paid role created for a forest garden manager and facilitator over a long period of time, as the infrastructure develops and crops become more consistent and continuous.

It would be good to know where the future financial profits made from sales of the products from the forest garden go, in terms of future management, and I would be keen to see the implementation of a “fair share” infrastructure whereby profits are distributed equally amongst the participants who are involved in the whole process. (i.e that of all the aspects of growing, marketing and distributing).

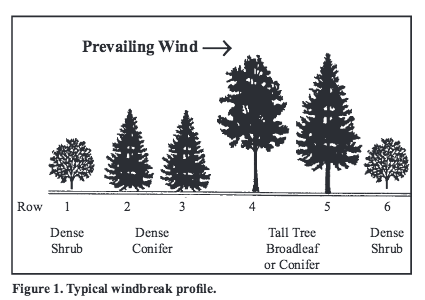
**REPORT REGARDING -**

**Western red cedar as a windbreak -**

the proposal is that we plant 90 western red cedars along the outside of the western hedge, to provide long term wind break protection, as indicated in the diagram opposite.

my choice of western red cedar as a tree was based on the fact that it offers superior wind protection than any other tree I have come across- At coed last winter I repaired the mushroom lab roof in a 40 mph wind, which was made only possible because I had western red cedars protecting me from the wind.

Secondly, we need tall wind breaks on the western side, as its likely that we are not going to be dividing up the field with small wind breaks, as it makes working the field impractical. Therefore we need a tree that will get above the height of the western hedge, to about 30 ft tall or more. (the width of the field is about 100 m so we need one which will get to about 10m tall minimum (30ft or more) to have a reasonable effect on reducing wind.



The cedar comes in the tall conifer category.

In addition to the hedge that already exists there, we should get a reasonable wind break protection in about 15 yrs. In the very long run, cedar trees are very valuable in terms of wood, being useful for all sorts of building, especially bee hives.

Planting these cedar will not take out any potential to add smaller windbreaks in the field to divide up the field in smaller ways.

Cedars ability to absorb wind force is one of the best, far superior to solid walls and fences, which the wind blows over. Evergreens with branches growing all the way to the ground form better screens than other trees. under optimal conditions, they can add more than 3 feet in height each year, potentially reaching 50 feet. Like others in its species, we need to make sure they are spaced at least 10 feet apart. Cedar will grow into a dense barrier. Native Americans and early settlers once used the vitamin C-rich foliage to treat scurvy. Most arborvitae hybrids grown today belong to the American arborvitae (Thuja occidentalis) or to the western red cedar, also known as Pacific red cedar, (Thuja plicata) species. The word arborvitae means “tree of life”.

I need to get the go ahead from bill clay that we can plant these along the boarder of the 10 acre this winter. They will be mulched and protected with guards from grazing animals.

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| |  |  |  |  | | --- | --- | --- | --- | | CONTEXT: Here is my diary to keep a record of activities and work relating to the market garden diversification project. Stepping into a new job requires some preliminary research into the existing business regarding continuity or flow: it is important to build upon the work that has already been done to avoid “reinventing the wheel”, and to get myself up to speed with where the market garden is at. By being more aware of the current situation of the market garden I can position myself in the most useful place and identify the issues that will need addressing to the best of my ability. | | | | | DATE | HOURS | WORK DONE | THOUGHTS | | 28th sep | 1h 20 | Picked for grady- box of hawthorn berries- 2 punnets raspberries - yellow and red -Bag of horse radish. Given to market - 72 packs of seed (max income 36£)- half goes to riverside market garden. Time - 1hr 20. |  | | 29th sep | 3hrs | researched the financial accounts of the market garden. I needed to get a good context of where the money flows were going, and get a sense of the financial situation of the business: this is the fundamental context : the business is not working financially. | From the reseach into accounts I concluded : 1 - all growing projects take lots of investment to get off the ground, not just in terms of resourses but also in terms of thoughts and ideas and design. (- the investment return cycle (see diagram) - ) - within the context of the market garden, key people have come and gone, without a clear contintuity from one role to the next. This means that there is a drop off time, where the new workers drafted in to the project end up reinventing some of the wheel (often repeating the same mistakes) that the previous person who has left has already covered. Clear documentation and shadowing of roles allows for continuity to take place, making sure that everyone is up to speed. 2 everyone needs to feel that their role is valuable - also - what do people "value"? - if people value money and their wages over the establishment of the project, this creates a tension in terms of how much people are willing to invest. It can create feelings of de motivation, as well as feelings of injustice in regards to how people value their time, e.g, directors putting in work for free for others to get paid, or a mis match of valuing different roles; some people valuing roles at different levels of importance - e.g - the "bean counters" are more important than the "bean growers", or vice versa. - 3 - we all need to work along our strenghts so that we keep our motivation for the project. It is important that people are genuinely motivated by the ethics of the project above the financial return that it could give them. This is particularly important in the context of funded projects. Questions to investigate - will not all large funded projects struggle to get food growing businesses established because of the nature of a "top down" investment creating an imbalence in motivations? How many large funded food growing businesses have been able to cut the umbilical cord of funding and survive? How did they "make it work"? How do we learn from their businesses? How many other large scale funded businesses are going through the same struggles? | | 30th Se | 8hrs | Research the details of other projects out there. chat to gillian re her thoughts on other projects. Chatted to debs around other projects out there. Chatted to kier regarding the compost course, and the design of the field. offered advice. chatted to steve. Written up a basic draft outlining the details of the brief. | slowly gathering the info about what projects are out there. I sense a mix of perspectives in the board - Debs has very different view of pencoed growers than steve's view. However, steve says that he really doesnt know what other projects are out there. I sense a strong need to make more local links with key people , can sense that some new people will come along to help out. Getting more concrete thoughts around the splitting up of the field. | | 1st oct | 4 1/2 hr | 1st oct - meeting keir. 10- 1. Meeting rawls - 130 - 230. Meeting with timo - 5 - 530 |  | | oct 3rd. | 1hr | Friday oct 3rd. Meeting with grady - discuss direction. Show new plants and possibilities. |  | | oct 4th | 1hr | Open polytunnel. Make compost. Meeting with sofie. Help out for 1hr |  | | MONDAY 13th OCT | 2hrs | defining details of the project - defining details of the contract. Work on the design. Chat with Poppy about projects to visit. Get insight into how her role fits in. | Contract needed simplifying and defining. Key points raised - who is the current market researcher? Need to specifically choose which plants to focus on. (this specifically means making a list / spreadsheet for the plants) HOW ARE THESE WORKSHOPS GOING TO RUN? WHO ARE THE MEMBERS? NEED TO CHECK WITH GRADY ABOUT DATES - NEED TO TALK TO COED ABOUT POTENTIAL TO USE KITCHEN SPACE )I need to check with Keir whether he can make these dates in October and november. WRITTEN UP NOTES FROM MEETING - not drawn up - NEED TO DRAW UP A PLAN. BUDGETS NEED CLARIFY BEFORE THIS CAN BE DONE. MUST GET SIMONS NUMBER - PHONE TO CHAT ABOUT FINANCES) | |  |  |  |  | | NOVEMBER | 3hrs | working on calendars .- planned dates for the fruit tree planting - get word out. publisity. - ordered mulch matting. | my feelings this coming year have lead me to revisit the biodynamic planting calendar. Having gone through thoroughly the calendar, (i found a good free downloadable biodynamic calendar - http://erikfrydenlund.dk/wp-content/uploads/2010/12/S%C3%A5kalender-2015-Pierre-Mason-engl-2-.pdf - ) I have selected out dates which fit with a calendar of events. - best sowing/transplanting/workshop days etc. I uploaded these dates onto google calendar much to my annoyance - google calendar is not as clear cut as it could be. | |  |  |  |  | | 1st december | 3hr | Meeting with Steve, debs, poppy and grady | I felt that I was a little bit behind, but acctually I feel that everything is on track. I have fixed dates for the tree planting and just need to make posters. | | 2nd | 4hr | lay down mulch - email work | the smaller pegs - 6 inch are better than the 9 inch ones from lBS - because the shallow soils - stones get in the way of the larger pegs. I ran out of pegs so need to order a few more. Decided on the spacing and design of the market garden orchard. The trees will be planted with the aim that the canopies will just about touch when full size so as to shade out the grass beneath. we intend to use some of the wind falls of the future for making cider. | | 3rd | 4hr | lay down mulch- dig up fruit trees that had got eaten - for planting in the market garden . | Because about 50 fruit trees on m 106 rootstocks (grafted march 2012) had gotten slightly damaged by voles, I decided that the best thing was to plant them up into the market garden as a long line of semi dense planted trees - an offering to the market garden - as they could no longer be sold - They should mostly survive. They are grafted trees from the forest garden . So local varieties . the ones that we plant on the 14/15th of feb will be ones grafted in 2013 spring, one year old trees from scions from west wales - LAMMAS project. | | 4th | 4 hr | planting fruit trees in the market garden | Shallow soils meant that I had to use a bar to dig the holes . can dig and plant about 15 trees comfortably in a day. | | 5th | 4 hr | planting fruit trees in the market garden | cold winds slow down work. trees will need staking afterwards, and lots of mulching with cardboard and compost. I used some of poppy's biodynamic tree paste to encourage rooting and mycorizal associations between roots and fungi. I planted the damaged parts of the fruit trees to encourage new rooting above the graft points. | | 8th | 1hr | designed fruit tree planting poster | date set for 14th of feb for a fruit tree planting weekend. | | 9th dec | 3 hrs | planting fruit trees. meeting with Patrick - grower at St hilary - with Poppy, lenka and keir, | Patrick showed us around and gave us a tour of his site. He is a grower with 40 yrs experience in the area. Him and his wife Carey have had experience setting up a plant nursury and also selling vegetables. Patrick will give us a plant list of the vegetables that he feels do the best. I dug another 8 holes for planting. 21 trees still to plant. | | 11th | 3hr | propagating plants in the forest garden for the market garden | slowly building up a collection of plants that will work for herb teas - planning on getting a load of teas ready that we can package and market well | | 12th | 3hr | propagating plants in the forest garden for the market garden | slowly building up a collection of plants that will work for herb teas - planning on getting a load of teas ready that we can package and market well | | 18th | all day | mended mushroom lab roof - | the mushroom lab had been leeking for some time, causing danger - electrics, and also damaging the floor . I first of all put up flashband , but it was not enough so I added a whole layer of poly tunnel plastic using left over wood to create a frame from the big barn developments, and left over plastic from the market garden polly tunnels. | |  |  |  |  | | JAN - 1st | 4 hrs | Feedback on Kiers Crop Planning 2015 | I focused on the things which I feel sure will work (eg chard) rather than the experimental things (eg cauliflower) , I encouraged more of the things which will work. | | 30th | 1hr |  | Skype meeting | | FEB - 9th | 3 hrs | Promotion of the market garden forest garden day . Compost research | feeling that facebook is not the best promotion tool. Also that Coed is quite a distance from cardiff in many ways for people to come out for day. | | 10th | 4 hrs | meeting with Patrick Cary - meeting with Kier. | meeting patrick was good , a local grower who knows his stuff re what works and what doesn't. The meeting with kier was to discuss the next steps regarding my role and to talk about derigation. | | 11th | 4hrs | work in MG propagation - experiements | worked on sorcing compost for tree planting. Got a water butt put into propagation tunnel, with watering can. Experimented with sieving into propagation tunnel, with watering can. Experimented with sieving the cowbridge compost. - made a seed mix - 50% sieved compost, 25% sand, 25% perlite. sowed homesaved peas - purple podded. brought up seaweed for kier | | 13th | 4hrs | 13th - preparations for fruit tree planting day. | weeding trees, moving compost, getting trees into position, spacing out. adding concentrates- seaweed. digging holes. getting tools ready | | 14th | 5hrs | 14th - valentine fruit tree planting day - MG. | a good day - we planted 14 M111 fruit trees - apples- in the market garden , every tree was a different variety. got photos on facebook. good weather and people really enjoyed themselves and learnt alot. | | 15th | 1hr | tidy up after planting day |  | | 31st | 2hr | work on grafting fruit trees. Mulch with straw. Mg and coed. | Fruit trees seem to do really well at coed provided that there is sufficient drainage in the soil, and suffient protection from the strong south west winds. Wild breaks are key to pollination. The damp conditions limit the varieties that are growable . | | March 4th | 3hrs | work for market garden - tea bag experiment. | After going through the whole process it is not going to be a money making operation unless one can mechanise the bagging process. (as opposed to doing it by hand) | | March 6th - | 3hrs | comfrey and black current planting in MG. Work 4 hrs. | combination of comfrey and blackcurrents does really well - will need netting from wood pigeons when cropping starts. Back currents also handle the clay really well, and crop well in shade (down at bottom of field) | | 11th - | 3hrs | MG- watering and weeding | general work in market garden - helping out with the annual process - chatting with Kier and supporting his growing. | | 12th - | 2hrs | watering and weeding | | 13th - | 4hrs | prep for MG mulching day | Straw dropped off from the Garn - the davies - Andrew - 07804260032 - james - 07411348741. useful free sourse. Heavy vehicles not appreciated in dropping off process. | | 31st - | 3hrs | work on grafting fruit trees. Mulch with straw. Mg and coed. | |  |  |  |  | | APRIL |  |  |  | | 2nd. | 2hrs | Sow seeds with poppy. | assisting poppy with gaining confidence sowing seeds, and general approach to propagation from seed. | | 4th - | 3hrs | work for market garden - tea bag experiment. | making more nettle tea bags. | | 6th - | 4hrs | comfrey and black current planting in MG. Work 4 hrs. | easy planting day | | 12th - | 1hrs | purchace of western red cedar | Wester red cedar report - see | | 13th - | 2hrs | work on maps and designs | finding photoshop frustrating at times, but on the whole a useful tool. wonder about necesity for detail. | | 14th | 1hr | update write up | see feb - april update | | MAY |  |  |  | | 4th - 13th - | 4hrs | work helping transplant polytunnel crops. Help poppy with transplanting | Now that we have entered into the "summer months" things busy up. It is transplanting time, and we manage to get much done by working together and a new inovation of using the potato plow as a furrow digging devise to plant brassicas and leeks through. Finding ways to speed up the process is essential. Feeling need to all support one another as growers, as it is a challenging site, and the work is physical. Lunch breaks are a delight. | | 23rd | 2hrs | gather two bee swarms. sow seeds in market garden. | | 24th | 3hrs | sow seeds in market garden with volunteers | | 25th | 5 hours | transplanting work in the market garden | | 26th | 5 hours | work in the market garden | | 27th | 5 hours | work in the market garden | | 28th | 3hrs | work in the market garden | | 29th | 5 hrs | take plants outside. Build tables , watering, collecting stones for infrastructure | |  |  |  |  | | 6th JUNE | 4hrs | Wedding - meeting with Steve reed - see notes on Word. visit hendrewenol | June, being perhaps the busiest month in the garden, took up most of my days, working on transplanting, and general annual tasks. me managed to also move plenty of rocks to assist with the washing areas, so that a hard standing was created over the muddy mess that was developing from continual footfall and wet. The volunteers were a delight to work with , but there were communication issues that arose out of poor communication regarding role at coed. I felt that no-one was to blame for this, but it was a shame that coed were so standoffish in terms of offering assistance to the MG. We got lots done with the volunteers and it made all the difference to peoples motivation in working up there. We all had smiles on our faces and the weather was a blessing. The speed we were able to achive tasks was at the right kind of speed necesarry to make the project work. we all worked really hard, and got the jobs done. | | 7th | 1hr | Wild food walk | | 8th | all day | International volunteers arrive - help them settle in | | 9th | all day | work with volunteers in Market garden | | 10th | all day | work with volunteers in Market garden | | 11th | all day | work with volunteers in Market garden | | 12th | all day | work with volunteers in Market garden | | 15th | all day | work with volunteers in Market garden | | 16th | all day | work with volunteers in Market garden. admin, write up re MG | | 17th | 2hrs | Visioning Meeting re MG | Seemed to be many misunderstandings at the end of the meeting as to what was finally agreed. Some thought that the project was going on pause, others thought otherwise. Misunderstandings were cleared up a few days later. | | 22th | 1hr | Meeting with debs and kier and steve, netting for strawberries. Docs and weeding. | Reflections on strawberries is that they need to be scrapped as they are not a variety that stores or market well, its good for instant picking so links with idea of pick your own. Other than this a waste of time. | | 23th | 2hrs | netting for strawberries, docs and weeding MG | | 24th | all day | Docs and weeding MG | JULY WORKING - this is the month of the heavy weeding- I went around on many days with a hedge cutter until we got the strimmer which sped up the process. The key in this month is to prevent weeds seeding themselves into the beds. Everything wants to go to seed in this month, so It was vital to prevent this happening so that the beds stay in good shape for next year.. It is also a key time to get ahead of the weeds that are developing around transpants - I roled out many layers of mulch matting between the squash plants, to assist surpressing the weeds that were developing. sadly this was a little too late, as the squash had already been stressed and the soil for them was weak and non fertile so they had little strenght as plants. Still , it gives one a good opportunity to pull back the matting and get it planted without need for plowing. | | 25th | all day | weeding mg | | 26th | all day | weeding mg | | 9th | all day | market garden weeding | | 10th | all day | transplanting brassicas in market garden | | 13th | all day | work market garden with tom | | 14th | all day | work market garden with tom | | 15th | all day | work market garden with tom | | 16th | 3hrs | market garden weeding | | 17th | 3hrs | market garden weeding | | 18th | 3hrs | market garden weeding | | 19th | 3hrs | market garden weeding | | 20th | 3hrs | market garden weeding | | 21st | 3hrs | market garden weeding | | 22nd | 3hrs | market garden weeding | |  |  |  | | 27th - 31st july | | work in market garden | |

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| |  |  |  | | --- | --- | --- | |  | | | |  | TRACTOR WORK / LARGE SCALE CULTIVATION | THOUGHTS | | JAN | PLOWING - i was made aware this year that the Garn, (01446772445 - 07802415444 - Helena) got all their plowing done for their wheat, Barley and Oil seed rape crops before Spring equinox- thats march 23rd. There are two key times for sowing grasses (wheat, barley and rye ) september for overwintering and spring,- april / may (when the soil has warmed up sufficently) . In May farmers are sowing corn with seeding machines . | Kier was sure that this was not possible on this field. I need to find out more of the details of how they work the land during the winter with heavy equipment. How they get them on the land without damaging the soil/compaction. It may be that after a few days of good dry weather they are able to get machinery on to plough. The Garn had put away all their plowing equipment by the end of march, so it suggests that it is possible to get the majority of soil prep done before spring equinox. | | FEB | | MARCH | | APRIL | POWER HARROWING and muck spreading. (muck spreading for squash bed) | What is the potential for using small scale equipment for power harrowing and general cultivation? Kier expressed that having Bob using his £80,000 tractor invaluable for speeding up the work. The tractor that we have simply doesn't have the capacity to do all the cultivation. Contracting out is necessary. The problem with contracting out is that we are less able to be flexible regarding timing. ......... Regarding green manures - sowing can be done at any time of the year other than Dec , jan and feb, but it is best done in June - September, when they can germinate fast and get ahead of the weeds. at all costs it it worth while preventing weeds seeding themselves into the garden - need to understand wild plant seeding cycles. | | MAY | POWER HARROWING, and drilling trench lines for transplanting outdoors. | | JUNE | POWER HARROWING and SOW CLOVER - and drilling trench lines for transplanting outdoors. Time to plow in fallow land - docs going to seed. Wild grasses seeding, - plow in before wild plants set seeds. Sow green manures on wild patches. | | JULY | POWER HARROWING - (sow clover (potential to undersow under squash), Key time to get the weeding done with tractor hoeing - July through to sep. | would power harrowing in July potentially damage the soil when it is very dry? - One of the observations is that the water content of the soil needs to be just right for it to be well worked . If its is too wet their is serious compaction, if it is too dry then there is a powdering of the clay which makes the clay turn into heavy lumps, dried out and cracked. Organic matter can alliviate this problem however. Perhaps July is the best time therefore for spreading the cowbridge compost, in anticipation for crops the following year. | | AUGUST and SEPTEMBER | 2nd week of August through to end of sep for sowing rye. |  | | sowing rye, vetch, . get back into muck spreading while the land is dry to get vehicles on. AUTUMN EQUINOX KEY TIME FOR SPREADING COMPOST FOR PREP OVER WINTER> - sowing overwintering brassicas (rape, mustards etc) | to trial - direct spreading of COW MANURE, LEAF MOULD, COWBRIDGE COMPOST, COMPOSTED WOODCHIP, with much spreader directly OVER GREEN MANURES - esp nitrogen fixers - CLOVER. CAN DRIVE vehicles over the green manure, which will incorporate the manure without loosing ground cover. Will work with most green manures, esp clovers and vetch and rye | | OCTOBER, NOVEMBER and DECEMBER | trial plowing for getting in early crops - create drainage, plowing in green manures, final much spreading. |  | | | |

A map showing the points where orchards have traditionally been planted in wales - There are plenty of traditional orchard sites in the vale of glamorgan…

