Salad Leaf Production Project
by
India Masson-Taylor
Apprentice at
Duchy Home Farm
January 2010-December 2011

Soil Association
Organic Apprenticeship Scheme
I would like to dedicate my project to Ian Cox, who sadly passed away last year. Ian was a fountain of knowledge, and I was lucky enough to have him as my mentor.

I want to thank him for all of his guidance, and teaching me his old school ways of working. He made my years at the farm such a joy.
Brief Overview of the Farm

My apprenticeship has been spent at Duchy Home Farm in Gloucestershire. Duchy Home Farm is a mixed farm with dairy and beef cattle, sheep, pigs, arable and vegetables spread over approximately 1,900 acres. The vegetables are a small part of this, using only about 50 acres of land. Within this there is a protected area that includes four 30 metre poly tunnels. The rest of the vegetables are grown in rotation in 4 fields. There is a farm shop which is open 3 days a week, as well as two markets—one in Tetbury on Wednesday and one in Cirencester on Saturday. There is also a box scheme of approximately 120 boxes which we deliver twice weekly within a 12 mile radius.
Introduction

Of all the things I have learnt while on my apprenticeship, I have been most interested in herbs and salad leaves. It has opened up a whole world of different tastes, colours and textures that I knew nothing of before. An ‘interesting’ salad used to mean putting some rocket leaves on top of a pile of iceberg lettuce!

As you will read about over the next few pages, my project has been based on producing a consistent flow of salad bags for our farm shop and box scheme. Initially, I thought it would be good to do a selection of different salad bags, but it turned out that this seemed to be just fitting to a supermarket way of doing things.

Apart from working out how to have a continual supply of leaves, the part I have found most interesting is discovering how to put together a good salad bag. As they are all made up by hand and not everything always goes to plan, the contents vary. One rule that we consistently kept to was that we never used too much of any one flavour family, for example spinach leaves and beet leaves, as this could be too overpowering within a mix. 

In terms of taste, herbs add interesting flavours in the right quantities or when paired well. Also, never underestimate the power of the eyes; it’s very important to have a balanced palette of colours and leaf types for it to be appealing to all the senses. Also, because we use so many different leaf types in each bag, the quantities of each slightly change each week. The constant is that the mix is always balanced in texture, colour and flavour, therefore you can categorise it seasonally into background flavours that bulk it up, strong flavours to add extra dimension and shapes and colours to add interest. In winter you want stronger flavours and textures and in summer lighter.
The bags do change flavour, from herby and light, to being heavy on the oriental brassica side of things, but this is to do with the seasons.
Anyway, I think one wants different things from a salad bag at different times of the year-lighter in summer and more robust in winter months to stand up to heavier foods and colder temperatures.

One also has to be realistic about the cost of producing each bag and therefore the price it can be sold at. In winter, when there are fewer leaves around which take longer to pick, therefore it is important to think about how to get the bags looking and tasting good, but not at your expense! An example is to use Chinese cabbage cut into 1cm ribbons. It tastes amazing raw, doesn’t go brown after cutting and bulks up a bag well. Everyone’s a winner!
The salad leaves at D.H.F are not a main crop and therefore do not have a specific area to grow in, rather they fit around other crops where it’s convenient, so trying to keep on top of everything was rather complex! We also have limited tunnel space, so getting crops in for winter was sometimes problematic. I started by trying to record every type of herb, lettuce type and oriental leaf we grew, but this turned out to take a huge amount of time and also sent me almost crazy! For the purposes of this project I decided to just record the cut and come again lettuce leaves. Even though this is technically the background flavour and the part that bulks out the bag, it is always the largest and most constant part to go in the bags, no matter what time of year, so it is very important to get this part right. We had

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1 I was taught this by Anneke at Worton Organic Garden. She totally changed my view point on salad leaves, thank you!
done a trial of C.C.A previously, but only really started growing it properly when I started my project. Before, we grew heads which were then cut up for the salad bags or sold as whole.

My ideas for what would be important to record evolved over the course of the project, hence why I only have, for example, the amount of seed sown from half way through the project. Hopefully, though, it will still be a cohesive body of information.

It also has to be noted that my results are from only one year. Obviously every year differs to the next. But as a general guide for 2011, the weather was outlined as follows: Really cold start; hot and dry March/April; dry summer; fair autumn; mild winter (until December when I stopped recording). All year very low rainfall.

I try to keep the ratio at 1 part ‘Our Mix’ to 3 parts lettuce leaves. This is not a strict ratio, it depends on what flavours are available and the time of year. What I will never do is have large quantities of lettuce leaves and small amounts of ‘Our Mix’, as you might as well buy a much cheaper lettuce!

Our bags weigh 150g each. The bag contents changes with the seasons, but like the seasons they have a rolling change over point. As a general rule the bag contents were as follows:

**February**  Our Mix: Mibuna, mizuna, Chinese cabbage, Choi sum, winter purslane, rocket, chives. Lettuce head broken up. Radicchio

**March**  Our Mix: Pak choi, red frills, Choi sum, mibuna, mizuna, Chinese cabbage, coriander, winter purslane, rocket, chives. Lettuce head broken up. Radicchio

**April**  Our Mix: Red frills, lots of different mustards and pak chois, Chinese cabbage, rocket, winter purslane, chervil, sorrel, land cress. Lettuce head broken up.

**May**  Our Mix: Mint, chives, coriander, rocket, Oriental brassica tips, spinach. Cut and Come Again lettuce(tunnels).

**June**  Our mix: Dill, curly and flat leaf parsley, chop suey greens, chervil, baby coriander, mint, chives C.C.A lettuce (outside)

**July**  Our Mix: Summer purslane, chervil, chives, chop suey greens, nasturtium flowers, parsley. C.C.A lettuce (outside)

\(^2\) ‘Our Mix’ is a mixture of everything including, oriental brassicas, rocket, herbs etc. In other words, not lettuce leaves.
August  Our Mix: summer purslane, chervil, chives, chop suey greens, nasturtium flowers, parsley, coriander, dill, basil (lots of different types), amaranth, red orache, anise hyssop. C.C.A lettuce (outside)

September  Our Mix: Radicchio, red frills, chervil, chives, garlic chives, coriander. CCA lettuce (outside)

October  Our mix: Mizuna and mibuna, rocket, chervil, coriander, dill, parsley, anise hyssop, dill, pak choi flowering heads, nasturtium flowers, chinese cabbage. CCA lettuce (outside). Salanova heads broken up.

November  Our Mix: Toyko bekana, rocket, southern giant, ruby streaks, mizuna, coriander, parsley, chervil, pak choi, Chinese cabbage. CCA lettuce (tunnels), salanova heads broken up.

December  Our mix: Toyko bekana, rocket, southern giant, ruby streaks, mizuna, coriander, parsley, chervil, pak choi, Chinese cabbage. CCA lettuce (tunnels), salanova heads broken up.

The next section is a glossary of the different plants we grew, and what I think about them. If anything this is mainly because my memory is so bad, I wanted to have a visual aide for the future!
Salad Bag Ingredients

**Cut and Come Again Varieties (drilled)**

- Lettony (Green Batavia)
- Redlo (Red Lollo Rossa)
- Diablotin (Red Cos)
- Oaking (green oak leaf)
- Sadawi (Red Oak)
- Red Salad Bowl
- Baby Leaf Green Oak
- Palosta (Green Cos)
- Cerbiatta (Oak leaf)
- Till (Oak leaf)
- Green Salad Bowl
- Galasta (Green Cos)
CCA or Whole Head (grown from plugs)

We grew a large selection of lettuce heads all year round. As these were rarely used in the salad bags, I am just going to list the varieties we grew that year. The only exception to this was the variety Salanova, which was grown alongside the CCA for the salad bags. It is an excellent variety, with very good germination, it grows as an almost flat rosette, so the leaves are all practically the same small size, which is very good for salad bags. The red type is particularly pretty and both taste delicious. People started to request them as heads in the shop.

Amorina (Lollo type)  Nasir (Oak Leaf)
Bergamo (Lollo Type)  Nika (lollo type)
Briweri (Butterhead)  Noisette (Batavia)
Cocarde (Oak Leaf)  Solix (Oak Leaf)
Fenston Kamalia (Batavia)  Till (Oak Leaf)
Kamalia (Batavia)  Red Sails
Marvel of Four Seasons (Butterhead)  Roxy (Butterhead)
Oriental Greens

Chinese Cabbage-Delicious, grows well though a bit of a slug magnet! Versatile with a long shelf life.

Green in the Snow-Don’t like it much for salad bags, but it forms yummy stems and heads for stir fry bags.

Mizuna-Great in winter salads, but think as it gets more summery it gets tougher and less flavoursome.

Mibuna-same as mizuna

Namienia-Looks like a fat version of mizuna-good in winter slad.

Osaka Purple-Love it in the salad bags, the leaves look very unusual and have amazing flavour. When large perfect in stir fry bags.

Purple Pak choi-Good taste, crunch and look. Good for adding colour to winter/early spring salad.

Pak choi-Hanakan-Good juicy stems, with good weight and shape

Purple choi Sum

Red frills/Ruby streaks-New fave! Great both in salad bags and stir fry bags. Looks and tastes great.

Red pak choi-Lovely looking leaves, tasty too.

Golden Streaks

Sessantina-Delicious small leaves, very useful for small broccoli like heads that add weight to slald bags as well as delicious flavour.

Serifon

Sensopai-Nice taste, but nothing special, no different to other O.B. They annoy me because the leaves are thin so therefore bruise easily, and when they’re large they’re very round so don’t fit in bags and when you fold them again they bruise. Also they are very flat so don’t add much structure to the bag.
Southern Giant-One of my faves. Prolific growth, very tasty as small leaves in salad bags. Also, very 3D in shape so make salad bags look fuller
Tatsoi-Grows flat to the ground. Labour intensive to harvest, but for some reason there always seems to be a lot of it when everything else is low.

Tokyo Bekana-Grown in winter it’s very useful. The leaves look like oak-type lettuce leaves with a mild flavour, and don’t bruise easily. Grow quickly-good for filling up salad bags.
Tatsai Bok Choi-Great in winter bags.

Additions

Corn salad-Really helped in winter, but only d’orlanda, the big leaf type, also sown in tunnels-went bananas!
Chrysanthemum-Chop suey green-used sporadically but never really took off. Nice to grow just for the flowers
Claytonia-Used a lot in our salad bags as it is juicy but not too strong in flavour, so good for bulking out bags. Also looks unusual, people would comment on this.
Cress-land and Greek-Like both for their unusual flavour and shape, but had to be careful because if we weren’t on top of watering they’d get very bitter.
Purslane-golden and green-I love the texture and flavour of purslane-another unusual plant that’s also very 3D. I only like the green one as I think the yellow one looks like an ill version of it!
Radicchio-I especially love Rossa di Verona-it looks like a painting! God colour injection in winter bags. Robust flavour works well with other winter salad.
Rainbow chard-like spinach, nice variety in a bag.
Red orache- I like the taste, but not sure it’s that suitable for salad bags.  
Red amaranth- I like the taste, but not sure it’s that suitable for salad bags.

Rocket- Esmee, rucola, salad rocket-Great all year round. During winter we would get a few cuts but in summer we’d just cut once and turn it in.
Spinach-baby leaves great for salad bags. Grow quickly and well.
Shiso-I like the taste, but not sure it’s that suitable for salad bags.

Herbs

Anise hyssop-New to us this year. Alena bought some seeds in to try and it turned out to be a massive hit. Unusual looking leaves with a wonderful flavour. Also very sturdy little plants that survived being dug up accidentally twice!
Basil-lime, lemon, petra, anton, mammouth, aroma, nufar, green ruffles, large leaved, cinnamon, chen, lettuce leaf. We had quite a few problems with the basil. We could germinate them, get little seedlings, then for some unknown reason about 90% of them would die. But what did remain did well, transplanted into the tunnels. I especially liked the large leaved, as they taste good and grow very well. Also the green ruffles and petra as they taste good and look very unusual.
Chives-A staple all year round. It looks pretty in the salad bags and adds good flavour.
Chervil-One of my new favourite herbs. Tastes delicious, a delicate flavour that brings a whole new dimension to the salad bags. Difficult to buy anywhere, so people always commented on the unusual flavour(in a good way!)
Coriander-another favourite, though it divides people into lovers and haters! Saying that, if it is put in like the parsley(not in big branches) then it adds a nice flavour depth that isn’t overpowering.
Dill-tetra-Another favourite, especially for adding an unusual zing to salad bags.
Garlic chives-Another new plant. We grew a test patch, which we used personally and will definitely be growing more next year. A totally different flavour to add.
Mint-Pots of mint in the tunnels bring a fresh flavour to the bags at the beginning of the season when we all crave fresh new flavours.
Parcel-not a massive fan for salad as the flavour is too pronounced.
Parsley-Italian giant, plain French-always good to have growing at all times. Yummy in the salad bags, as long as you don’t put big branches of it in-no one wants just parsley in a mouthful.
Sorrel-A wonderful zesty leaf that brings life to a salad bags at one of the trickiest times of the year.
Flowers

**Borage** - During first year we added a lot of borage flowers to the bags, but as the amount of bags we had to do each week increased from about 50 to 600, it wasn’t really possible as they took so long to pick.

**Calendula** - pot marigold - another colourful flower that people like.

**Nasturtium** - always a great staple in the bags, with a long season. Great splash of colour.

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**A Break Down of CCA Lettuce Production**

**Tools used**

![Salad Harvester Image]

**Salad Harvester**  An amazing tool that dramatically reduced harvesting times. It worked especially well when we reduced the rows from 9 to 6 per bed. It costs about £200, not cheap! It works best for heavily planted long beds of salad. It is close to pointless for small areas, or un-uniform planting. Look after the blade and keep it clean it.

![Big Plastic Bins Image]

**Big Plastic Bins (with lids)**  I harvested the CCA straight into these bins to about half full, then they could be stored with the lid on until I was ready to bag up. It keeps the leaves fresh and crisp, and meant that they took up little space in the fridge when stacked on top of each other. Also, the less handling the leaves receive the better—previously we harvested into black plastic bags. I have kept it to a variety per row as they all grow at slightly different speeds—I don’t want one stressing out another.
**6-Row Seeder**  
Another tool that massively reduced time, a downside being it’s massive price tag(around £500). Saying that, it wasn’t just used for salad crops, and for the scale we were using it for it saved a lot of man hours. It also meant that the lines were straighter than before(once I got the hang of it!) when we did it by hand, this aided the weeding. It also works well on bed formed beds, not so well on hand hown beds with clods on. We didn’t use all 6 slots, just 3 at 11.5cm spacing.

Below is a drawing explaining how we drilled the beds with the 6-row seeder. I have kept it to a variety per row, as we learnt from a test patch that the varieties grow at slightly different speeds and we didn’t want them racing against each other and getting leggy.

I’m afraid that my note taking wasn’t as good as it should have been, and I’m sure I’ve missed a few harvest amounts, especially for 2 weeks in September when I was away from the farm.

**1st Section-10m**

**13th April**  Trial bed. The first strip(1st 3 lines) was 2.5 inch spacing, then we moved to 4 inch spacing. This worked much better.

<table>
<thead>
<tr>
<th>Lettony</th>
<th>Diablotin</th>
<th>Oaking</th>
<th>Lettony</th>
<th>Palosta</th>
<th>Diablotin</th>
<th>Redlo</th>
<th>Oaking</th>
<th>Lettony</th>
</tr>
</thead>
<tbody>
<tr>
<td>16th June</td>
<td>1st cut=3kg.</td>
<td>Could have got a lot more, but wanted to keep a good balance between Our Mix and lettuce leaves.</td>
<td>20th June</td>
<td>2nd cut=12kg</td>
<td>11th July</td>
<td>3rd cut=15.6kg</td>
<td>4th August</td>
<td>4th cut=8.7kg</td>
</tr>
</tbody>
</table>

**2nd Section-10m**

**27th April** From here on all spacing is at 4 inches.

<table>
<thead>
<tr>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th July</td>
<td>1st cut=18kg</td>
<td></td>
<td>4th August</td>
<td>2nd cut=7kg</td>
<td></td>
<td>11th August</td>
<td>3rd cut=3.25kg</td>
<td>Total harvested: 28.25kg</td>
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<td></td>
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</tr>
</tbody>
</table>
3rd Section-10m

11th May

<table>
<thead>
<tr>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
<th>Sadawi</th>
<th>Cerbiatta</th>
<th>Till</th>
</tr>
</thead>
</table>

6th July 1st cut=11.2kg
4th August 2nd cut=8kg
11th August 3rd cut=3.25kg
Total harvested:22.5kg

4th Section-10m (all green)

25th May

<table>
<thead>
<tr>
<th>Salad</th>
<th>Baby leaf</th>
<th>Galasta</th>
<th>Galasta</th>
<th>B.L.G.O</th>
<th>Salad</th>
<th>Salad</th>
<th>B.L.G.O</th>
<th>Galasta</th>
</tr>
</thead>
</table>

26th July 1st cut (whole section)=12kg
11th August 2nd cut=7kg
27th September 3rd cut=1.4kg
29th September 4th cut=600g. Probably last harvest-a lot going to seed and leaves getting tough.
6th October 5th cut=1.2kg
Total harvested:22.2kg

5th Section-10m

8th June

<table>
<thead>
<tr>
<th>Sadawi</th>
<th>Red Salad Bowl</th>
<th>Cerbiatta</th>
<th>½ Till</th>
<th>R.S.B</th>
<th>Sadawi</th>
<th>Sadawi</th>
<th>R.S.B</th>
<th>R.S.B</th>
</tr>
</thead>
</table>

2nd August 1st cut=16.8kg Perfect time to cut-good strong leaves, good mix.
23rd August 2nd cut 10.4kg
13th September 3rd cut=8.4kg
13th October 4th cut=3kg
Total harvested: 38.6kg

At this point I started to record the weight of the seed used. Starting from the left is the amount of seed we started with, and where there are further quantities, it’s because the seed ran out and I topped it up.

6th Section-16m

This section was this length to fill the end of the bed. It used up the space but a bit annoying for recording results/quantities!

22nd June

<table>
<thead>
<tr>
<th>Till 1g</th>
<th>Oaking</th>
<th>Diablotin</th>
<th>Diablotin</th>
<th>Oaking</th>
<th>Redlo</th>
<th>Redlo</th>
<th>Oaking</th>
<th>Daiblotin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redlo</td>
<td>2.8g</td>
<td>1.3g</td>
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<td></td>
<td></td>
<td>Palosta</td>
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<td>9g</td>
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</tbody>
</table>

Total seed: 5.5g
10th August 1st cut=21.2kg
22nd August 2nd cut=16kg
1st September 3rd cut=8.4kg
29th September 4th cut=1.9kg
6th October 5th cut=400g
Total harvested:47.9kg

The beginning of October was extraordinarily hot, which has definitely helped all the plants along and given us an end of season boost.
### 7th Section-10m

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<thead>
<tr>
<th></th>
<th>Oaking</th>
<th>Diablotin</th>
<th>Palosta</th>
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<th>Diablotin</th>
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<th>Oaking</th>
<th>Diablotin</th>
<th>Palosta</th>
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<tbody>
<tr>
<td><strong>Total seed:</strong></td>
<td>2.8g</td>
<td>1g</td>
<td>1g</td>
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<td><strong>12th September</strong></td>
<td>1st cut=10kg</td>
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<td></td>
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<tr>
<td><strong>27th September</strong></td>
<td>2nd cut=2.6kg</td>
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<tr>
<td><strong>4th October</strong></td>
<td>3rd cut=2.6kg</td>
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<tr>
<td><strong>6th October</strong></td>
<td>4th cut=1.7kg</td>
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<td><strong>13th October</strong></td>
<td>5th cut=4kg</td>
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<tr>
<td><strong>25th October</strong></td>
<td>6th cut=400g</td>
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<tr>
<td><strong>9th November</strong></td>
<td>7th cut=225g</td>
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<tr>
<td><strong>Total harvested:</strong></td>
<td>21.5kg</td>
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Cutting down to 6 rows, as with 9 rows/bed, the outer rows were getting pulled up by the horse when it weeded the pathways. It is also difficult to harvest more than 3 rows at a time with the salad harvester, which also needs a flat surface, which the horse does not leave behind!

### 8th Section-10m

<table>
<thead>
<tr>
<th></th>
<th>Palosta</th>
<th>Sadawi</th>
<th>Lettony</th>
<th>Lettony</th>
<th>Sadawi</th>
<th>Palosta</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total seed:</strong></td>
<td>2.3g</td>
<td>0.45g</td>
<td>0.4g</td>
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<td>0.45g</td>
<td>0.3g</td>
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<tr>
<td><strong>12th September</strong></td>
<td>1st cut=7kg</td>
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<tr>
<td><strong>29th September</strong></td>
<td>2nd cut=600g</td>
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<tr>
<td><strong>4th October</strong></td>
<td>3rd cut=400g</td>
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<tr>
<td><strong>5th October</strong></td>
<td>4th cut=150g</td>
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<tr>
<td><strong>9th November</strong></td>
<td>5th cut=225g</td>
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<tr>
<td><strong>Total harvested:</strong></td>
<td>8.4kg</td>
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</tbody>
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### 9th Section-10m

<table>
<thead>
<tr>
<th></th>
<th>Palosta</th>
<th>Redlo</th>
<th>Oaking</th>
<th>Oaking</th>
<th>Redlo</th>
<th>Palosta</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total seed:</strong></td>
<td>2g</td>
<td>0.3g</td>
<td>0.4g</td>
<td>0.3g</td>
<td>0.4g</td>
<td>0.3g</td>
</tr>
<tr>
<td><strong>19th September</strong></td>
<td>1st cut=4kg</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>27th September</strong></td>
<td>2nd cut=3.7kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>29th September</strong></td>
<td>3rd cut=1.9kg</td>
<td>Quite good.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5th October</strong></td>
<td>4th cut=1.3kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9th November</strong></td>
<td>5th cut=225g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total harvested:</strong></td>
<td>11.1kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 10th Section-10m

<table>
<thead>
<tr>
<th></th>
<th>Lettony</th>
<th>Sadawi</th>
<th>Oaking</th>
<th>Oaking</th>
<th>Sadawi</th>
<th>Lettony</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total seed:</strong></td>
<td>2.6g</td>
<td>0.45g</td>
<td>0.4g</td>
<td>0.4g</td>
<td>0.45g</td>
<td>0.45g</td>
</tr>
<tr>
<td><strong>29th September</strong></td>
<td>1st cut=2.5kg, which is only half the bed, as other leaves are a bit too small. Save for next week.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4th October</strong></td>
<td>2nd cut=800g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6th October</strong></td>
<td>3rd cut=500g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>11th October</strong></td>
<td>4th cut=1.4kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>13th October</strong></td>
<td>5th cut=1kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>25th October</strong></td>
<td>6th cut=500g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9th November</strong></td>
<td>7th cut=225g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total harvested:</strong></td>
<td>6.9kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Total harvest of CCA per month in kgs

<table>
<thead>
<tr>
<th></th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25</td>
<td>39</td>
<td>128</td>
<td>42</td>
<td>31</td>
<td>.9</td>
</tr>
</tbody>
</table>

CCA bed at different stages of growth
Birdseye view of CCA bed. The picture on the right shows how much slower the variety on the right has grown.

**Working out ‘costs’ for a 10m section**

This is quite difficult to work out as it is split up into lots of different sections, so for ease’s sake, I am using average quantities, times and amounts of salad bags produced. I have only included the labour hours for the CCA, as I was the only person to look after it. The ingredients for Our Mix were in the tunnels, and very much part of the system there. As with most aspects of vegetable production, it is very difficult to break it down into time and cost sections, so please understand that this is a rough guide.

I drilled on 2 long beds in a field—all the beds were bed formed before I started, which reduced labour time, and the paths were continually weeded by horse, so another thing not to worry about. I have not included the cost of the equipment used, even though they dramatically reduced the labour time.

Average seed used: 2.5g
Average cost of seed/bed: £0.60

Work at £7/hour

How bed after sowing: 20 minutes
Sow seeds: 2 minutes
Put back in packet: 3 minutes
Weed by hand total: 80 minutes
Harvesting CCA: 30 minutes
Harvesting Our Mix: 120 minutes
Assembling bags: 140 minutes
Total hours: 6 ½ hours

6 ½ hours @ £7/hour: £45.50

Size of salad bags: 150g
Cost of salad bags: £1.80
Cost/kg: £12
Harvest CCA: 12kg
Harvest Our Mix: 4kg

16kg @ £12/kg: £192
Salad leaves are a high value crop. It seems obvious, but having set times in the week to do each task massively helped me to reduce wasted time and helped me stick to the schedule.

<table>
<thead>
<tr>
<th></th>
<th>Number of bags @ 150g</th>
<th>Total kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>48</td>
<td>7.2</td>
</tr>
<tr>
<td>March</td>
<td>110</td>
<td>16.5</td>
</tr>
<tr>
<td>April</td>
<td>130</td>
<td>19.5</td>
</tr>
<tr>
<td>May</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>June</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>July</td>
<td>600</td>
<td>90</td>
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<tr>
<td>August</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>September</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>October</td>
<td>200</td>
<td>30</td>
</tr>
<tr>
<td>November</td>
<td>200</td>
<td>30</td>
</tr>
<tr>
<td>December</td>
<td>140</td>
<td>21</td>
</tr>
<tr>
<td>January</td>
<td>140</td>
<td>21</td>
</tr>
</tbody>
</table>

If it seems that the quantities of CCA harvested don’t add up to the amount of salad bags produced, bear in mind that we had CCA crop in the tunnels on either side of the season. We also bought in lettuce heads in the less productive months to balance Our Mix in the bags.

1 Left: The protected area around the tunnels where we grow the more delicate crops, showing the beds where Our Mix was produced. Right: A view inside on of the tunnels, getting ready for winter with lots of oriental brassicas.
Conclusion

This has been a really interesting project to undertake and as well as teaching me a whole new area of skills, interest and passion it has hopefully helped the farm a lot too!

I think the salad bags have been a huge success-Hannah (who runs the box scheme) was especially happy as she liked being able to put them in the boxes as a vegetable portion not just a requested extra. This was the first time this has been able to happen.

One aspect of salad bag production that has appealed to me is that it is a very diverse crop. Not only do we make salad bags, but off of the same crop we can make herb bags and when certain plants, mainly the oriental group, go to seed or grow too large for salad bags, they can be made into stir fry bags, a great use of resources.

I think we all realised that the CCA was a very easy, low maintenance crop to grow and if looked after, easy to harvest with the salad cutter….which revolutionised my life!! What would normally take me hours was achievable in a fraction of the time. The only down side being that it works best in conjunction with mechanical bed prep as it relies heavily on soil surface being even-a little bumpiness and you harvest a lot of soil. This was obviously not a problem at DHF, but may be a problem for other set ups.

I also learnt the hard way that if you let the crop get even a little bit too big the leaves would start to go slimy, so that when you harvested, you would consequentially have to spend rather a lot of time sorting the good from the bad, which would add to labour time.

There’s also no point in growing something if you can’t sell it, no matter how wonderful it is! We had kgs and kgs of salad leaves in summer-too many- and couldn’t make salad bags as we didn’t have enough of ‘Our Mix’ to make a good ratio and we didn’t want to let standards slip. Luckily we could sometimes sell just CCA wholesale to Calcot Manor, but not always. This links into the fact that I always drilled 10 metre patches. In the future, the patches would vary according to sowing date.

We also discovered that people want salad bags all year round, not just during the summer months. What changes is that one wants a different type of ingredient in the bags to suit the season.

The bags were constantly commented on for their unusual flavours and diversity, to the point where people would reserve them so they didn’t miss out!

My time at the farm has been a life changing experience and I feel very lucky to have worked with such a great group of people. I am very excited about what the future holds.
I worked at DHF up until the end of 2011, and then moved with my husband to Ibiza with the view to make this our home. Bearing this in mind, my information about DHF may be a little out of date; I know for a fact that they have more tunnels now and have expanded production, but my project is based on the time I spent as an apprentice on the farm from the start of 2010 to the end of 2011.

We have now managed to buy 11 acres of land out here which we want to turn into a smallholding. Once we have prepared the land we will start small with some vegetables and chickens, with the view to expand slowly and steadily.

The Plot
Half the acreage is protected woodland, predominantly pine. The rest of the land is ‘common rustic farmland’-a completely wild overgrown patch of land interspersed with olive, fig and almond trees in desperate need of pruning.

The Soil
A rich red colour with iron content; this is common to the centre of the island, where historically all the farmland is located.

Water
Ibiza is a dry island with limited rainfall falling predominantly in the winter months which tops up the ground water level accessed by wells. Unfortunately this has been abused over time by over development and modern conveniences such as swimming pools. Tourism also swells the population from 60,000 residents to 2.5 million visitors in the summer, taking its toll on the water level. We have located the optimum position for a well, but wish to use water in a conservative manner, as well as harvesting rainfall in large covered tanks.

Climate
Mediterranean, rarely dropping below 0°C but rising steeply in the summer months, averaging late 20s.

Potted History of Ibiza

For an island with a land mass of a mere 25km by 40km, Ibiza has an extraordinary history. Almost every Empire has lost and spilled blood in its waters in their efforts to conquer the civilized world, as it was such a useful bridge between the East and West. This chequered history has led to a rich and diverse culture. Up until the 60s Ibiza was still very much a subsistence farming community. Agriculture is still often carried out as it was for centuries - without artificial fertilizers and pesticides. Instead, the fields lay fallow for several years and during this time produce - an overwhelming splendour of flowers. It is not uncommon to see horse and plough in the fields.