DIY Pantry Staples

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This eBook has been extensively updated and reformatted and expanded, it was previously published under the title – “Under the Choko Tree Cookbook Volume Two: Kitchen DIY”

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0.0 Introduction

Context

The subjects covered in this eBook centre around the pantry, but also include the fridge and freezer as well and any other areas where food is stored. This is eBook can provide ideas if you are looking for things to make for, and out of, your pantry!

Introduction

While Under the Choko Tree is about living sustainably and not fine dining, it is inevitable that discussions turn to food, one of our basic needs. In various areas of our website you will find information and suggestions on how to produce, preserve and cook food using sustainable techniques, and now individual recipes as well.

There are also a whole stack of foods which we buy, that are quite easily made at home, often raw materials already in your pantry. There may also be a requirement to grow or buy in a new ingredient or two and/or make or buy some new equipment, and that is part of the fun too!

There are a number of advantages to approaching the idea of some kitchen DIY –

- Improved resilience – by taking the ability to make some of the foods we would normally buy back into our own hands, if they become unavailable, for whatever reason, we can make them ourselves.
- Ingredient control – If we make 'em, we know what goes in 'em! Once you know how to make a particular product you can ensure that only organic, sustainable, ethically sourced or home-produced ingredients are used. If there are suspect ingredients or ones to which family members are allergic included in the product, they can be left out or replaced with a more acceptable substitute.
- Freshness – No shop bought item can compete with the freshness of pantry products that you make yourself, for and from your pantry, when you want to, nothing can compete with that!

- Satisfaction – it can be remarkably satisfying to home produce food of any description and that includes the products discussed here. Just knowing you have the knowledge and skill to make these foods is a great thing!
- Variation and originality – There are a huge number of recipes and processes covered in this eBook, but in reality they are just the start! You can come up with variations or even new products that suit your tastes, the ingredients you have available and lifestyle perfectly, using what is presented here in this eBook as inspiration.
- Fun – many of these processes can be fun to try for the cook, but also fun to include the family in the production process, and it is a great way to teach kids about how they are made. They are also fun to eat!

It is a wonderful thing to be able to make your own foods as described here. Start with something simple and then work your way along until you feel more confident with some of the more complex processes. Include your family and give it a go!

1.0 What's in the Pantry?

1.1 Introduction

While the pantry audit was originally about packaging, after conducting one I found the idea had many other merits to recommend it. By doing an audit just before a food shopping trip, you will know what you have run out of and what you are running low on so that you can put together an accurate shopping list, topping things up before you need them. This saves you both time and money because you won't be running out of foods and maybe having to make a sudden trip to the shops to pick up an 'essential' for that pantry staple recipe you are halfway through. A regular pantry audit also enables you to keep an eye on foods that are approaching their 'use by' date so you can use them up before they go over, again saving money and reducing waste.

1.2 The Pantry Audit

Using a pantry audit (and including the fridge and freezer) can give you a handle on the food packaging waste you are generating and have on hand, and then provide the information needed to help you start reducing it. Addressing food packing waste is a great way to start on your journey towards zero waste!

It doesn't take long to do, I did ours in about half to three quarters of an hour, with some extra time taken to sit down and analyse the results. The prime issue is plastic food packaging, especially after all the issues we have been having with sending Australian recyclable plastics overseas, then the receiving countries no longer accepting it. We have little in the way of local processes to recycle it, so now a lot is ending up in land fill. As you conduct your audit, making a note of the type of packaging the food was bought/stored in will make later analysis easier as you can hit the stuff in plastic packaging first.

Also, the frequency you use each item is worth recording so that you can hit the biggest fish first (to coin a mixed metaphor). I did this by using three numbers to set out the highest use stuff –

1. used daily to weekly (high use)
2. used monthly or less (low use)
3. Dead stock. (forget it!)

If you are anything like us you will have dead stock in your pantry. That is to say stuff that we never use and which has been sitting around forever, taking up valuable space in our pantry. It may be dead stock because our tastes have changed over the years, it was something which looked good but when we tried it we found it not to our tastes, or it may be something we over-bought which has gone out of date and we are not game to use it. Or it may be that it was an impulse buy which seemed like a good idea at the

time but, if we had thought about it, we would have known it was not really 'us'. Rare, but it does happen!

To conduct the audit is fairly simple, download the **excel spreadsheet** I put together, or develop your own, then go through your pantry (and fridge if you want that in your terms of reference) item by item and write down every product in there. Against each item you can also make a note of the packaging type (plastic bag, paper bag, glass jar, cardboard carton, plastic jar etc.) and if you want to be really thorough, the pack size and number of packages which you have. You can then make an estimate of the frequency of use of each item using the one to three scale above. By looking at the amount you store and the usage score it will give you an idea of which items to hit first to get the best bang for your buck in terms of the volume of packaging waste you are generating.

The next trick is to highlight any and all pantry and fridge contents which are in packaging which you find unacceptable. To help you decide how far you want to go, I suggest you consult the hierarchy of packaging (check out the next section - 4.3), which lists packaging types from the best (ie none) at the top, to the worst (non-recyclable plastics) at the bottom. You decide how far up you want to go.

Once you have developed all this data, it is then a case of analysing it and working out what changes you are going to make. From the work I did with our pantry/fridge audit, it seemed to me that there were four (or in reality five) options that I could see –

The Options

1. Buy a similar product, packaged further up the hierarchy
2. Buy from one of the emerging 'bulk buy/packaging free' places
3. Make the product at home (ideally from bulk sourced or home produced raw materials)
4. Use up and not replace
5. Oh yes! I have no idea at the moment!

The Details

1. Buy a similar product, packaged further up the hierarchy – So maybe you buy your mayo in a plastic jar and there is another brand available in glass, or you have been buying your flour in 1kg plastic bottles, but it is available in paper bags or even better, bulk, packaging free! I realise there are some other issues at play here. You favourite hot sauce may be available in a non-recyclable plastic bottle and you know the other brands packaged in glass bottles just won't do the trick. It can leave you in a quandary because you really, REALLY like that hot sauce! If you can't make an equivalent one yourself, one approach I suggest is a blind taste test.

The Blind Taste Test

Get hold of a small amount of all the readily available hot sauces, which have been appropriately labelled, from friends and acquaintances or even buy a small container of each. Have someone trustworthy (this is NOT the time for practical jokes!) put a small amount onto a plate or in a container like a shot glass labelled as 1,2,3 or a,b,c; etc, anything so that you don't know which is which. Try each one and rate it from best to worst according to your taste. Then review the results with your trusted colleague to find out which brands were high on your list of acceptable ones and what they were packaged in. I tried this approach when we were looking a mayo, and found that my pre-conceived notions were just not correct. By doing a blind taste test, it is the actual flavour of the product you are rating, not the brand and you may find that hot sauce in a glass bottle is actually OK!

2. Buy from one of the emerging 'bulk buy/packaging free' places etc. – There are a whole stack of places opening up which will allow you to by bulk pantry staples such as flours, pasta, rice, sweets etc. into your own containers or glass jars you can buy in the shop. We have a number around here including The Source, Nom Bulk Foods, Honest to Goodness, Naked Foods and Scoop Wholefoods. They are scattered all over Sydney, although if I were honest, the concentration is greater in the east than out here in the west. We now buy flour, dried beans, oats, dried fruits, nuts and sweet treats (shh!) and other staples in our own bottles and jars regularly.

There are other options too, particularly for refrigerated items, like your friendly neighbourhood deli and greengrocer, who are likely to allow you to buy their products weighed into your containers, especially if you become a regular customer. Food coops are another possibility and if there is not one in your area, maybe you could start one? Farmers markets quite often are not just for fruit and veg (although packaging free fruit and veg is great too!) but also have lots of artisan and value-added products like jams, sauces and chutneys etc in re-usable glass jars.

3. Make at home – There are a large number of books and websites out there dedicated to people who want to make their own stuff, including pantry staples like jams and sauces, preserves, spice mixes, pasta – all sorts of things. In fact, the purpose of this eBook is to provide ideas, methods and recipes for doing just that!

4. Use up and not replace – This is mostly our go-to for dead stock, unless it has well and truly exceeded its use by date, then it gets composted and not replaced! I bought lentils to try, but found that Linda is not a fan, I don't mind them but it won't be a huge disappointment if we use the ones we've got and call it quits. Likewise we have fooled around with wine vinegars in various guises, but I am not a fan and Linda isn't much of a fan either so I am casting around for recipes that are not too disgusting, failing that they will be used as weed killer or disinfectant!

5. I got no idea! – Hopefully you won't get too many of these. One that came up for us was marshmallows, packed in soft plastic, we use them rarely in winter over the fire when the kids are here.

Now with your recording an analysis done, you are primed for action! Have a recce in your local (or as local as you can find) packaging free store and see what they have that will allow you to switch some of your purchases over to bulk. Or pick a product or two and work out your waste reduction strategy for them and then implement it. The whole process is interesting, gives us an appreciation for the waste we generate, and can be lots of fun. It will also move you towards your waste reduction goals, whatever they may be. Good luck!

1.3 The Food Packaging Hierarchy

We all face choices when we buy food and one of the choices we make is how the food is packaged.

The idea of a hierarchy is we start at the top (best case scenario) and work our way down, looking for the most appropriate answer, until we hit the answer which works for us, hopefully before we hit bottom (worst case scenario). It may be that we have no choice and do end up at the bottom of the hierarchy, but by using the tool to look at our options, sometimes we can choose an option higher up the hierarchy than our current 'go-to' option.
Thus the food packaging hierarchy is a tool to allow us to evaluate our choices in one small area of our lives. An area which can have a negative impact on the environment and, after thinking about it, come up with the best solution for us.

The Food Packaging Hierarchy

1. Packaging free – if we are talking about packaging and its impact on the environment once it is thrown away, then to buy something packaging free just has to be the ideal way to go. There are now options for buying in bulk and taking your own containers for refill as well as supporting traditional businesses like your local purveyor of fruit and veg or delicatessen who can provide food packaging free. Obviously if we produce it ourselves it is packaging free also. Unfortunately we can't always get what we want

packaging free because either it is not offered packaging free by the retailer or because we are not in a position (for whatever reason) to make use of a packaging free option.

2. Reusable glass jars/bottles – Even in this day and age, where plastic is king, there are still lots of food products provided in glass jars and bottles, which are by and large re-usable. The use that comes first to my mind is to use them to make our own food preserves and we have found over the years that by accumulating glass bottles and jars we can increase the amount of preserving we do each year at no extra cost. The weak link in this chain can be the lids which may eventually have issues with the sealing ring, but there are places now where you can even by the new lids (while recycling the old ones) and keep the glass containers in use. Of course preserves are not the only thing they can be used for, they can also be used as a storage container for stray nuts, bolts and screws in the garage (another old habit which needs reviving), to produce food by using them to grow sprouts or even to do soil testing eg the soil texture test or even to replace plastic as ffod packaging in the freezer. There are sites on the 'net which can give you ideas on how to reuse glass jars and bottles from the sublime, to the ridiculous!

Even if you don't want to use these handy glass containers yourself you can pass them on to friends, family and neighbours to help them in their own preserving efforts or to schools or preschools for craft use. By using our purchasing power to buy a glass packaged product over its similar, but plastic packaged rival, we can send a powerful message to the product producers.

3. Reusable steel containers/aluminium – sadly, over the years these have become less and less common, and when they are available they are usually only produced for a short time as a product promotion. They are still out there though and can be used to store the product which they originally held when bought in bulk, or other bits and pieces as required.

4. Recyclable glass/steel/aluminium containers – Some glass containers aren't really practical for anything other than what they were originally designed to do, such as the

smaller, irregularly shaped containers used for jams or condiments. So any glass container that won't be reused in your system immediately fits into this category. To be fair, some steel food cans can be re-used in crafty situations (eg pen holder etc) or as no cost pots for plants, or even to construct a rocket stove. The down side of these ideas is that over time the steel cans will rust out and deteriorate to the point where they will be absorbed back into the soil and entropy wins again (a small win for entropy but a win nevertheless). The up side is that glass, steel and aluminium can be recycled endlessly and will turn out a product as good as the original, in fact as far as glass is concerned, less energy is required to melt a tonne of glass recycling than is required to melt the raw materials (silica sand, soda ash, limestone etc) to make a tonne of glass, not to mention the mining costs, so it is a win/win!

5. Compostable/recyclable paper/cardboard containers – strangely enough these actually seem to be becoming more popular. I have noticed a number of products including some sweet treats, packaged in paper/cardboard rather than clear plastic or polystyrene foam. This is a change also worth encouraging, although the downside is that if we compost these containers they may miss out on going to landfill but the embodied energy is lost and entropy wins again. Another downside is that paper and cardboard products cannot be recycled indefinitely. Every time they are recycled the pulping process reduces the fibre length to the point where the stock becomes useless, at which point composting is the best option.

6. Reusable plastic containers – Some of the food containers which were once served by glass packaging are now contained in plastic containers which with a bit of thought can be re-used, eg peanut butter, fruit, mayo, honey, jam etc. once they are washed out! These can be used for a number of things but because they are plastic and can't stand heat they are no good for home preserving. You could use them for storing spices, dry goods, grains etc.

7. Recyclable plastic container – Recyclable plastic containers have a number symbol which tells you the type of plastic it is made from and while all of these are able to be recycled, there needs to be a system in place to recycle them. In Australia at the moment (April 2019) our recycling system is in a shambles because we relied on it being

done overseas and the countries involved have refused to take our rubbish. This has resulted in plastic packaging which is theoretically recyclable going to land fill. Regardless of this fact, plastic is downcycled, rather than recycled, meaning that it is used to make a lower grade of plastic and so eventually winds up in an unusable dead end in most cases. Which plastics are being collected for recycling in your area will vary over time, so it is best to talk directly to your local council or their waste contractor to find out what is happening.

8. Non-recyclable plastics/mixed – any plastic not marked with an identification number cannot be recycled, with the exception of soft plastic bags which were used by Redcycle but are now starting to be picked up for use by RecycleSmart. There are also containers made of mixed materials like tetrapak which are difficult to recycle.

1.4 The Food Buying Audit

A buying audit is complementary to a 'Pantry Audit' (see previous section) in that the pantry audit tells you in some detail of the food which you have on hand at the time of the audit, the 'Buying Audit' allows you to track the type, amount and cost of foods coming into the household over time.

I have a fair idea of the sorts and amounts of food which we buy in general, but there is no substitute for measuring and for recording the data. We have a supermarket, greengrocer and butcher within walking distance and to save transport energy these tend to be our go-to.

I wanted to know what we were spending so I could see what opportunities there were for –

- Home production
- Bulk buying
- Substituting from other sources.

First, I set the criteria for the audit. It would cover food purchases from the supermarket and greengrocer and to a lesser extent, butcher which we have been using less and less as we move towards a plant-based diet. It did not include: takeaway (traditional on a Friday night) or bulk purchases like a 25kg of rolled oats and skim milk powder ($90 and $120 respectively) which occurred during the time of the audit.

To help me record the data I was generating I put together a (very) simple Excel spreadsheet. Excel spreadsheets also have a 'sort' function which helps me to analyse the data by grouping together purchases of similar products over time. The headings I used for the grocery sheet was –

Date – so that I had an idea of the time that items I purchased regularly would last before they needed to be rebought.

Item – this one is important to get right and by that I mean to use the same item name each time they are entered on the spreadsheet. If an item is entered as 'baked beans' initially then 'beans, baked' when bought next and then as 'Fred's Baked Beans' a third time it makes sorting for analysis very difficult. Entering each item under the same name each time means they will group together when sorted. Simple I know but it easy to make a mistake……. Or so I've heard!

Size – how many grams, kilos or litres of each product is bought at a time, which can give you a feeling for how much of each product is bought over the time of the audit, and can then be extrapolated over a month, 6 months, or year or whatever. Thus you can hit the high use stuff first.

Number – This is just there so that when I bought multiples of the same item, I didn't have to enter each one separately, but I would still be able to work out the total numbers of that item over the period being measured.

Total cost – how much each item (or number of items) cost all up to give me an idea of how much I was spending over time. This column could be aggregated to give me a total spend during the audit timeframe.

I then put together as similar sheet for Fruit and Veg, and meat. If you want a blank copy to model your own on, it can be downloaded **here** and is available as Appendix 1 (Grocery Data Blank).

A	B	C	D	E
Date	Item	Size	Number	Total cost
2/01/2019	Peaches - Sliced	825g	2	$7.00
21/12/2018	Peaches - Sliced	825g	2	$5.60
16/12/2018	Peaches - Sliced	825g	2	$5.60
6/12/2018	Peaches - Sliced	825g	3	$7.50
23/11/2018	Peaches - Sliced	825g	3	$10.50
17/11/2018	Peaches - Sliced	825g	2	$7.00
30/10/2018	Peaches - Sliced	825g	1	$1.75
21/10/2018	Peaches - Sliced	825g	4	$11.20
8/10/2018	Peaches - Sliced	825g	3	$10.50
25/09/2018	Peaches - Sliced	825g	3	$8.40
15/09/2018	Peaches - Sliced	825g	2	$5.60
15/09/2018	peanut butter - smooth	780g	1	$6.50
8/10/2018	Pie apples	800g	2	$8.60
15/09/2018	raisin toast	650g	1	$3.50
5/11/2018	Salada wolemeal crackers	250g	1	$2.00
5/11/2018	Salmon tin - spring water	95g	2	$3.00
15/09/2018	Salmon tin - spring water	95g	2	$3.00
5/11/2018	Shampoo Elvive	325g	1	$8.00
21/10/2018	Soy Sauce - Kikkoman	1 litre	1	$8.00
16/12/2018	Tartare Sauce	220g	2	$4.00
21/10/2018	Tofu - Macro Sate	200g	1	$4.00
16/12/2018	Tomato sauce	500ml	1	$1.47
21/10/2018	Toothpaste - Cedel	110g	1	$1.75

Sample of what the records may look like

To operate the audit was a fairly simple matter. Every time I made a purchase within the criteria I had set out I made sure to get the receipt and then as soon as I got home (mostly, alright I saved them up until the end of the week!) entered the data for each one into the spreadsheet. I did this for a period of four months, but you could do it for as long or short as you like, bearing in mind that the longer it goes on for, the more information it will yield.

After four months I sat down and did a bit of analysis, the easiest way to do that (for me) was to sort for item name so that the items were aggregated, and it turns out over those 4 months we bought –

• 9 tins of sliced beetroot, total weight 7.5kg for a bit over $21 (could be home produced and/or preserved)
• 26 tins of sliced peaches (in juice), total weight 21.5kg for $80.65 (no way to grow at our place but could be bought in bulk in season and home preserved)
• 16 x 750g loaves of bread for $76 (home baking)
• All up $746 worth of groceries, $260 worth of F&V and $10 worth of preserved meats for homemade pizza (we did have some meat in the freezer we were working through to use up).
• Not too bad for a family of 2 for four months, I think!

This approach can also be used to identify other consumables such as cleaners, paper products, personal care products or what have you! It all depends on how much information you want to generate about your spending habits.

It depends on what is important to you and what your big-ticket items are in your journey towards living a sustainable life, but whatever they are decide what you need to measure to control them, and then do it!

2.0 Pasta Sauce and Tomato Processing

2.1 Our Original Process

Over the years I have made pasta sauce that, although based on tomatoes, contained a number of other ingredients such as onion, chillies, herbs, ginger, even sugar, salt and vinegar. I now make it with tomatoes alone, it still last well but allows the final ingredients to be added to the sauce so it can be varied, depending on your tastes.
I was lucky enough to be able to buy a small box of Roma tomatoes from our local greengrocer quite cheaply, it has not been a good year for tomatoes at our place.
I got a heavy, four litre pot and then filled it to the brim with tomatoes, and just a bit of water in the bottom to start the process off. A heavy pot is good for this type of work because it diffuses the heat and reduces the risk of the sauce catching. If you only have thin walled pots you can still buy a steel heat and flame diffuser from kitchen shops that will also reduce the likelihood of catching, in the old days when I was a kid they were made from asbestos.

Flame and Heat diffuser

I just covered the pot and set it to a low heat and went about other things. An hour later I checked and it was simmering nicely, I used a potato masher to push the tomatoes down and mash them up, and added more tomatoes to bring the pot back to full. After another hour I removed the lit and let is simmer uncovered for another couple of hours to concentrate the sauce.

I let it cool and then put it through a Porkert brand “fruit press” that I bought from a kitchen shop. You put the tomato mix in the top and turn the handle, the good stuff is forced

through a strainer and the seeds and skins come out the front. The seeds and skins are then given to the worms.

Once strained I pack the sauce off into clean recycled glass jars with “pop top” lids, the lids being only screwed on lightly. I then stood the jars back in the pot, filled it with water and boiled the full jars for an hour or so. They could then be lifted out carefully and placed on a tea towel on the sink to cool, after tightening up the lids. When the lids pop down with a “thunk” they are properly sealed and will last at room temperature in the cupboard. Label and date and they are ready for storage or use.

Processing the sauce through the fruit press

The finished product

2.2 The Process Now (10 years on)

Every year we make a load of pasta sauce the traditional away and diced tomatoes the easy way, usually around 50 jars of each, enough to last us a year and since I wrote the original article (above), the process has changed a bit.

The Tomatoes

We just don’t have the land to grow as many tomato plants as we need to keep us in passata for a year. I do make a half dozen jars from our own tomatoes when we have a good year but that is about the most I can hope for, so I buy them in. I do get them from a number of sources, mainly from a couple who grow them locally at their farm about a half hours drive away, but I have bought organic (when I have the cash) from my friend who runs the organic shop, and chemical free (not certified organic, but almost the same thing), from

a farmers market about 40 minutes' drive away. I have also gone in to Flemington markets on a Saturday morning and bought directly from there. Depending on how many bottles are left over from the previous year, I usually get 50kg to 70kg of tomatoes all up, but this will be over several weekends. I can process up to 25kg at a time, more than that just gets too much.

The Pots & Jars

Over the years the size of the pots I cook up has increased, the old 4 litre pot just doesn't cut it anymore! My current go-to tomato pot is a 20 litre 'Ball' brand preserving pot, with a curved glass lid. It is the biggest pot we have, and it enables me to fit a full 16kg box of tomatoes into the one pot. Also, unlike my older 4 litre pots, it has a steel insert allowing me to use the solar powered induction cooker when I can. If we don't have enough sun then it is back to the gas stove.

The 'Ball' 20 litre cooking and preserving pot

The 10 litre Pot with Rack

For processing (boiling) the filled jars of tomato sauce, I have a ‘Baccarat’ brand 10 litre pot which is also able to be used on the induction cooker. While I did not buy it with one, I was able to get hold of a circular rack exactly the right size to fit in the bottom of it, to keep the jars up off the hot bottom of the pot during the boil. The 10 litre pot will accommodate 10 of the 375gm jars which we use for preserving quite comfortably. While we have used a number of different sized jars over the years, we find that with just the two of us, the 375gm jar is now ideal.

The Tomato Squeezer

For years we used the ‘fruit press’ referred to in the original article (above) and while it was lots of fun and extracted the good stuff in one pass, it was PAINFULLY slow. To process half a dozen jars did not present much problem but the number of jars we were looking at these days it just did not cut the mustard. So we looked around to see what else there was but settled on a ‘Gulliver’ brand tomato squeezer. It is a bit of a pain to clean, but it is so much faster than the fruit press, that I could whip through 5 times the jars in half the time of the old one.

So most years we use our hand powered ‘Gulliver’ but a couple of years ago we got my elder daughter a high grade electric tomato squeezer, and it makes the poor old ‘Gulliver’ look pretty sick. Again, though, it is a fair amount of work to clean up so it makes the most sense to use it for as many jars as we can manage on the day, such that we generally use it when we are getting together to prepare tomato sauce for all of the Sweeney clan.

The Process

This is pretty much the same, but here it is in more detail –

1. I wash the tomatoes as I take them out of the box, slice them in half and add them to the cooking pot. Once the pot is full I put the heat on low, so I don’t burn any of the tomatoes at the start, and put on the lid, after an hour or so or when there is liquid from the tomatoes in the bottom of the pot I take the lid off and put the heat up higher.

2. At this point, the tomatoes will have packed down and I will add more if we have more to process. Once I get a good boil going I back the heat off to a simmer again. I will give the pot a mix every time I walk past it. I usually start this up between 9:00am and 10:00am, and then at this point leave things to simmer uncovered until around 3:00pm.

3. Towards the end of the simmering time I pull out the jars I intend to fill (most have been used at least once) and the lids, most of which have also been used at least once. I do buy some brand new lids every so often just to make sure I can replace any dodgy ones, but I bought a load of jars 10 years or more ago and those, along with some recycled ones, work well for us. I sterilise them either by boiling for 10 minutes or sticking them in the oven in an old baking dish at 130°C for 10 to 15 minutes. If I time it right I can pull them out just as the tomato mush is ready to process.

4. I set the ‘Gulliver’ up on the corner of our kitchen bench and then grab a couple of 20 litre containers we use for bulk store to place underneath the edge of the bench, this is just the right height for the output from the Gulliver to fall into a glass jug, for pouring the processed tomato sauce into the sterilised jars. On the other side of the ‘Gulliver’ goes a bowl to catch the waste seeds and skins.

5. I then carry the, by then 2/3 full hot tomato pot, over and place it on the bench (with a tea towel underneath it, you think I'm suicidal?) and then ladle out the cooked tomato mix into the 'Gulliver' and turn the handle. This delivers processed tomato into the jug and waste into the bowl. Once the jug is almost full I tip the waste form the bowl into the Gulliver again and process it a second time, this extracts the maximum of the goodies. I then stir the jug to distribute the concentrated tomato goodies into the rest of the sauce. When the waste goes into the bowl a second time it gets tipped into another container reserved for tomato waste, which is usually given to the worms.

6. I use the jug to fill up jars, usually about 2.5 jars per full jug (it is only 1 litre), screw on the lids and then place them into the 10 litre water bath, which is hopefully close to boiling. I redo the process until the water bath contains all 10 jars, I put the lid onto the pot and then boil the jars for an hour. Once the jars are boiled I remove them from the water bath and place them on a tea towel to cool. I then repeat the process with the second batch. One 12kg box of tomatoes produces roughly 20 completed jars.

7. The jars just sit there overnight but depending how hot they were when they went into the water bath, the indicator button in the centre of the lids will start to 'click' into the down position (you can hear the audible 'click') within a few minutes. If they fail to do this there is a problem, probably a dud lid, so the lid will need to be replaced with a new one, and the jar re-boiled.

8. That's it, just label and store in a cool dark place until you need them.

This all sounds like a bit of work, and it is, but it is also very satisfying to look over the fruits of our labours at the end, and to be able to pull out a jar from the pantry in the middle of winter and make a pasta dish with the taste of last summer's sun in it.

2.3 Pasta Sauce Maker Road Test

Every summer for the past few years we have been buying a load of local tomatoes and spending a weekend making enough tomato pasta sauce to last the rest of the year, one or two days working making enough jars for us to have spag bol every week if we want to. The advantages to us are, local produce and reduced food miles, we know what goes in (tomatoes and nothing else), we use recycled glass jars, reduced trips to the supermarket and reduced cost.

During this time I have had the opportunity to try out three different styles of machine so I thought I would put down how I found them:

Type: "Fruit Press" manufactured by Porkert

Description: Made of tinned cast iron, this is a heavy duty unit that looks a bit like a meat mincer. The cooked tomato goes into the relatively small hopper in the top and you wind away at the drive handle which drives a screw that forces the tomato mulch against a screen (you get two screens, I use the finest) and the tomato sauce comes out the delivery chute while the waste travels along the machine and out the end.

Cost and availability: $60 about 5 years ago, bought in a specialty shop

Ease of Use: Reasonably easy, ladle the cooked tomato stuff in, turn the handle and away you go. There is a turn screw in the end where the waste comes out and it can be a bit of fun getting it set right, get it wrong and either the machine backs up and stops working or too much waste comes out and your extraction rate goes down.

Extraction rate: High, if you get the set screw setting right all you get out the end is very dry seeds and skins, all the goodies go into your preserving jars.

Speed: Slowest of the bunch, make sure you allow plenty of time especially if you have lots to do.

Versatility: This will extract the pulp of any soft fruit. I used it to make a chilli paste that nearly took the top of my head off like a Frisbee, it was immediately christened “fire starter paste”. It really does concentrate the flavours.

Clean up: Reasonably easy, pull apart the machine and wash in hot water making sute to get every last bit of fruit out of the body and drive screw. Make sure it is dry before being put away or you can get rust on the bits that don’t have the tin coating.

Type: ‘Mouli” food mill

Description: This is the sort of thing we used to use to make baby food. It is a plastic shell with a handle that a screen fits into (you get three with the unit and again I use the finest) and a stainless steel scraper that is held onto the screen by a spring. You turn the handle and the scraper rotates, forcing the cooked tomato against the screen, pushing through the sauce and leaving the skin and seeds behind.

Cost and availability: $20 - $30 for the plastic body, more for stainless steel. I would probably go for stainless steel, it lasts longer and doesn’t get discoloured by the cooked tomato the way the white plastic does.

Ease of Use: Very Easy – dump in the tomatoes and turn. When you finish there will still be some tomato sticking to the bottom of the screen, but you can scrape it off with a teaspoon pretty easily.

Extraction rate: Medium - not as good as the above fruit press but still pretty good.

Speed: Medium – speed is middle of the range.

Versatility: Very versatile, it can reduce any cooked food to mulch quite quickly.

Clean up: Easy – wash up in the kitchen sink quickly and easily.

Type: "Tomato Squeezer" Manufactured by Gulliver

Description: This one is a somewhat larger machine with a hopper that sits on top of a rotating drum, as the drum rotates two spring loaded vanes force the tomato sauce through a screen (one size of screen only) and spits the skins and seeds onto a chute out the back of the machine, the tomato sauce is delivered down another chute at the front. It is made out of stainless still and feels a bit "tinny" but seems to do the job OK.

Cost and availability: Around $55 from a specialist cooking supply shop.

Ease of Use: Very easy, just slop in the cooked tomato to be processed and turn the handle.

Extraction rate: Not as good as the others, some tomato sauce is spat out with the skins and seeds, but the extraction rate can be improved by putting the waste skins and seeds back through the machine.

Speed: Verrry fast. If you have a lot to do this is the machine for you. A side benefit of the speed is that if you pack off and process the tomato sauce quickly, you lose less heat and so the boiler comes up to temperature more quickly, and you save on fuel.

Versatility: Not very. This is designed for processing tomatoes and that is it.

Clean up: A bit more hassle, being larger it takes a bit of hassling around to get it in the sink and there are some nooks and crannies that the tomato mulch can get caught up in which take time to clean out.

2.4 Tomato Processing the Easy Way

In summer here at the choko farm we take advantage of the availability of tomatoes, home grown ones but also some bought in from local farms. I have mentioned above how we make our yearly supply of tomato pasta sauce about now and I have just finished off this year's batches. I bought in a load of tomatoes and found that there were some left over, but

not enough to start another batch of sauce. Coincidentally Linda has been campaigning for bottled diced tomatoes as well as the sauce so I have processed some diced bottles, and this is how I did it.

Packing the jars

The process is incredibly simple. I grabbed a large glass bowl, cut the part where the tomato attaches to the bush out and then diced the tomatoes into the bowl. Those of you out there who are real cooks should probably look away now! The easiest way I came up with for dicing the tomatoes was to cut the tomato lengthways then crossways almost all the way through, the sliced the through the tomatoes from the side so that they collapsed into roughly one centimetre cubes.

Setting up to boil

With the tomatoes cored and diced I got hold of my preserving jars, I just use recycled glass jars with pop-top lids. Using my newly acquired stainless steel jam funnel I ladled the cubes into the jars up to about one centimetre from the top. I used the cylindrical handle of a wooden spoon to pack the diced tomatoes in as tightly as I could to push out air bubbles. A light sprinkling of citric acid on top ensures that the pH is low enough to prevent botulism, then top the jar up with a bit of water or tomato juice.

With the lids applied they can now go into the water bath for processing. I placed the jars so they are not touching the bottom or each other. I was lucky enough to pick up a 25cm wire round cake cooling stand which fits the bottom of the pot I use as a water bath pretty well and that keeps the jars of the bottom of the pot, fill to just below the lids with cold water. I put the pot on the flame and applied the heat and kept an eye on the temperature such that it took an hour or so to rise from cold to boiling. My jars were only 375ml so I kept them in the boiling water for 30 minutes but if you were using large jars (say over 2 litres) I would leave them boiling for another 10 or 15 minutes to make sure the heat penetrates fully.

Ready to Go!

Once the allotted time was passed I pulled them out and placed them on a wooden cutting board to cool and made sure the lids were tight. As the jars cool the pop top lids pop down with a loud click, letting you know they are properly sealed! Once cooled I labelled them with the contents and especially the date. If you do this on a regular basis it can be very handy to know when an individual jar was processed, so that you use the oldest ones first.

There you have it! Tomato wastage averted and a happy wife, and as we all know happy wife = happy life!

2.5 Pantry Tomato Soup

A short while ago Linda had some dental work done, and was not up for solid food. I wanted to give her something soupy for lunch that was quick, easy and could be made with what we had in the house. I know, I know, somebody in the back will be yelling ‘canned soup’, but

neither of us are canned soup fans so there was none in the house. After some thought, this is what I came up with:

Ingredients –

- A knob of butter
- One small onion, diced
- A garlic clove, diced
- 0.5 stock cube
- Pinch of Italian herbs
- Handful of curly pasta
- A jar of our homemade tomato pasta sauce (see above)

Method

1. In a pot, toss in the butter and place on medium heat and when it is melted add in the onion and garlic, fry until fragrant

2. Add in the tomato pasta sauce and half a stock cube, quarter fill the tomato sauce jar with water and slosh around to remove remainder of the sauce, add to the mix.
3. Heat to a simmer and stir to incorporate the stock cube. Once the soup is simmering, add the pasta. Add the Italian herbs.
4. Simmer until the pasta is done, about 12 minutes, stirring occasionally.
5. Serve.

While Linda was very happy with the result, she said it was a bit too tomato-y so it could be diluted a bit more and could even provide enough soup for two.

Note: The homemade tomato pasta sauce only contains tomatoes, no salt or other additives, these are put in when the sauce is made into the final dish.

3.0 Making Hard Sweets

Okay, I make no claims for this stuff being healthy or not rotting your teeth or being able to cure scurvy. These are good, old fashioned boiled sweets and when you (or more likely your kids) have had more sunflower seeds, unsweetened carob and dried fruit than they can handle and are screaming for some rubbish……this will do it for you!

The recipe that I am going to tell you about is cheap, requires only one piece of specialized kit (maybe), is very versatile, easy to make (even for the compleat idiot such as myself) and all of the gear is storable. So you can stock it away and when, one rainy day, the kids are driving you crazy you can drag it all out and yell "let's make lollies!". Always a guaranteed winner.

If you are good with such things, you can extract your own essential oils and flavours, and or colours and make this a bit healthier than it is, but the recipe as it is, is based on evil artificial colours and flavours, although less processed alternatives are available these days.

To make these sweets you will need –

Ingredients

White sugar
Liquid glucose (known as corn syrup in the USA)
Water
Colours
Flavours

I can buy all of the above in our local woollies, but if you have a specialty craft or cooking shop near you, or even a health food store, you can get most of the stuff from them. The colours and flavours are available in 25 ml bottles, cost peanuts and last for ages as each batch only needs a few drops of each, so you can afford to get a range to expand your sweet making options.

For each batch of lollies the measures are –

Sugar (white granulated)	2 cups
Liquid glucose	½ cup
Water	½ cup
Colour	2 - 4 drops
Flavour	1-2 teaspoons.

Method

Place the sugar, liquid glucose and water into a pan and heat it up to melt in the ingredients. Bring the mixture to the boil, which will initially be about 110ºC but over about 15 minutes this will rise to about 150ºC, at which time remove it from the heat and stir in the colour and flavour. This is where the specialized kit comes into it, to know the temperature you need a sweet thermometer, but if you are a cook (as opposed to someone who mucks

around with food – like me!) you will know how to tell without using one. The mixture will pass through a number of stages (soft ball, hard ball etc.) the last one, and the one we are interested in is the hard crack stage. This is where if a small amount is put into water, it goes hard and can be……..well, cracked. Otherwise, I reckon a sweet thermometer is a good investment!

Once your mixture is up to the right stage, pour it onto a greased (or non-stick) tray and let it run out to 3 to 6mm thick, and cool a bit. The edges will cool quickest and before they go hard lift an edge up and cut it into 25mm x 25mm (for example) squares using scissors (this works – trust me). Keep them separated until cool otherwise you wind up with one huge lolly! Once cool store them in an airtight jar, dusted with icing sugar, again to avoid them picking up moisture and resulting in that huge lolly thing again!

Now if you want to have some fun, and enjoy screwing with people's minds (like I do!) you can make batches that do not make sense by mixing up colours and flavours. For example make orange coloured lollies with a lime flavour or green ones with a strawberry flavour, red ones that taste like lemon……..I think you get the idea. We have been conditioned since childhood to expect that certain colours go with certain flavours, and when the expectation is not met, you get some interesting responses. Try it on your family and friends – it's fun!

As promised, you can do interesting stuff with the basic mixture eg, pour round dollops onto a greased or non-stick pan and press in a stick – bingo – lollypops; or make two batches of different colours and draw them out, twist them together and cut them off to form two tone lollies. You can use the mixture to coat apples, add a stick and get toffee apples. As you can see the mixture is versatile and I'm sure that once you get into it more ideas will come to you.

If you want to extend the range of yummies you can make, get in some popcorn (unpopped), sweetened condensed milk, cooking chocolate, desiccated coconut and what-the-hell maybe some of those sunflower seeds and dried fruit (I won't tell if you don't). If

you make your own it will be cheaper, you will KNOW what rubbish has gone into them, and it's fun.

For reference, any self-respecting cookery book will have a section on confectionary, so have a trawl through your bookshelves or get yourself down to your local opportunity shop, second hand bookshop or any fine book retailer. Bloody hell now I'm sounding like an ad……..just get into it!

4.0 Soy Products

4.1 Making Soy Milk

As a high protein food source that you don't have to hunt, catch, kill, gut, butcher, clean or do generally unpleasant things to before you can eat it, soy beans have fascinated me for a long time. The problem is that they don't taste all that crash hot by themselves and you generally have to spend some time and effort to disguise the taste. Hence after having tried a few things that were generally regarded as unacceptable by the family, I let the idea rest. However, we are lovers of Asian food and I have done some reading over the years about how to go about it another way, processing the soy beans into an entirely new form of food – that bland white stuff called variously tofu Doufu or bean curd, depending on where you come from. The process is interesting and, dare I say it, fun to carry out and you get high protein munchies at the end of it. What could be better?

Well alright, lots of things but if you are interested in living more sustainably and/or self-sufficiently it is worth while trying the process out to see if homemade tofu is for you. There are a number of steps to the process and at each step the result is edible in its own right so you get exposure to all sorts of oriental goodies, although some are more acceptable to my western palate that others. The two basic steps are turning soy beans into soy milk then turning the soy milk into tofu. This article concerns itself with the first process, a second article will be written about completing the tofu production process.

First grow or buy you soy beans. Seeing as Australia produces large amounts of soy beans they are neither expensive nor hard to find, being available in most supermarkets, or health food shops if you want the organically grown variety. I use the supermarket variety and find them OK. I have tried to grow my own but I must admit to not much success thus far. Look for beans labelled as organic to avoid using genetically modified (GM) product.

1 cup of soy beans rehydrated Vs Dried

The dried beans that you buy look like small yellow ball bearings and are about as appetising. They need to be rehydrated so the first step is to soak them overnight in plenty of water, they expand quite a bit so allow plenty of room in the container. The following process is based on starting with one cup of dried beans.

Once the beans have absorbed the water and gained their more bean-like appearance, they must be ground up so that the milk can be extracted. The traditional Japanese way to do it is to use a stone grain grinder, but I imagine that a Moulinex style hand food processor would work just as well. I use a blender – so much for tradition!

Soy beans in blender prior to whizzing

All you do is dump in the rehydrated beans, add two cups of water and blend until you get a fine white sludge. This sludge looks and smells like a soy bean flavoured smoothie and I can tell you it tastes as good as it sounds. In Japanese it is called go and may be fried up with garlic and onion in a bit of butter and salt and pepper to make a party dip, put into soups or scrambled eggs, used in bread mixes or even made into vegetarian patties with breadcrumbs and diced vegetables then deep fried. So even if for some reason you get stuck at this stage it is not a total loss.

A soy bean smoothie!

Assuming you want to go on to the next stage, boil six cups of water in a large pot, say about four litre capacity then pour in the soy bean thickshake and stir over a moderate heat until the froth starts to rise. Then is starts to rise if fills the pot very quickly, so keep stirring and reduce the heat to low and simmer for 10 minutes. The cooking of soy products is very important because there is a substance in the soy bean called a trypsin inhibitor which funnily enough, inhibits trypsin, and enzyme essential for the digestion of protein. This substance is deactivated by cooking so to get the full value out of your soy bean products they must be cooked – but enough of the theory!

Simmering soy bean sludge Batman!

Now that you have simmered your soy sludge, you need to filter out the gritty bits of ground up soy bean. The way i do it is to put an old (but clean) pillowcase into a large colander or strainer and then put the whole assembly over a (roughly two litre) pot. Pour in the sludge. The soy milk flows through and the soy grits (called okara in Japanese) are left in the cloth. To get most of the soy milk out it is traditional to use a press, but not having one I fold the pillowcase over and twist it around to squeeze out the milk. The problem is that the stuff is still damn HOT, so wear a pair of thick rubber gloves and have some cold water on hand to take the sting out. Then pour another two cups of water over the okara and squeeze it out again to get the maximum amount of milk out. Make sure the cloth you use is well washed beforehand, first time I tried this trick I got soy milk full of blue fluff.

Soy bean sludge and pillowcase in the colander

You know have two products – soy milk and okara. The soy milk can be consumed as is, converted into tofu right away or put in the fridge for later. In a closed container it will last a week or more in the fridge. The okara looks like breadcrumbs and according to the books has a "subtle" flavour which to my gross western palate translates as "bland". I must admit the first time I tried it I didn't think much of it, but the taste and texture (very nutty) tends to grow on you over time. If after giving it a chance you still don't think much of it, it makes a high protein poultry food that our chooks love.

Fine Okara grits

Assuming you don't want to use it as just chook food, what else is it good for? It can be incorporated into vegetable soups, used as a thickener in onion, mushroom or curry sauces (when ground finely – whizz for a bit longer in the blender!) put into scrambled eggs or bound with eggs, made into patties and fried – nice but a bit gritty. It can also be made into balls with garlic, onion, ginger and bound with corn flour, then deep fried and dipped in sweet and sour sauce. When added to flour products such as bread, pancakes or muffins it increases their protein content and adds nuttiness to the texture. So you see that it can be a versatile food in itself and being a by-product of the process it is virtually free, so don't let the chooks have all the fun!

The Finished Product!!!!!

4.2 Turning Soy Milk into Tofu

The process of turning soy milk into tofu is similar to turning cow's milk into cheese, but a different type of coagulator is used. The coagulators used for making tofu are various calcium and magnesium salts, the two most readily available being calcium sulphate (plaster of Paris or gypsum) and magnesium sulphate (Epsom salts). The traditional coagulator which achieves the finest flavour and texture is Nigari, which is a mixture of calcium and magnesium salts extracted from the sea. I would like to digress here for a moment because the way they obtain Nigari is fascinating!

Many years ago when my interest in a more sustainable/self-sufficient lifestyle was just starting I was reading about making salt from seawater. The book said that the easiest way was to boil up the sea water until salt crystals were left in the bottom of the container, but this method left impurities in the salt referred to as the "bittern salts" which gave the sea salt a (predictably enough) bitter flavour. This was where the book left it, with no hints on how to extract the bittern salts to get decent tasting salt, so I filed that information away in the back of my mind and carried on.

Sometime after that I was reading up about tofu and found the process for making nigari. First make sea salt by the boil down method then put the salt crystals into a hessian bag and suspend it over a trough or pot in a humid atmosphere, like by the sea somewhere! The nigari is exceptionally water soluble and it absorbs moisture from the air to the point where

it becomes liquid, dripping into the vessel placed underneath the bag of salt. The water can be boiled off giving nigari crystals. So there you have it, the Japanese not only worked out a way to extract the impurities from their salt but found out an important use for the impurity, amazing!

You can start the process off as soon as you have extracted the soy milk, or you can put the soy milk in the fridge and do it up to a week later. I find that the soy milk will keep for up to 10 days in the fridge. If you are using fridged soy milk you will need to reheat it to simmer for five minutes, removing it from the heat once this is accomplished.

Reheating to simmer

To coagulate the soy milk resulting from our one cup of dry soy beans add half a teaspoon of dry coagulant (nigari or Epsom salts) dissolved into half a cup of water. The plaster of Paris is not water soluble, but a similar amount will need to be slurried with water before addition to the soy milk. Pour the liquid coagulant over the top of the hot soy milk, one third of the volume at a time and mix it gently though the soy milk, then cover and let stand for 10 to 15 minutes to finish coagulating.

Curds and whey in the pot

What you wind up with is a soft white curd floating in a yellowish whey. The next step is to filter the curds and press them into tofu. You can retain the whey and use it in bread making of as soup stock. To filter out the curds I press my faithful and long suffering pillowcase into

service again and use it to line a white Tupperware strainer (I'm sure that 80% of the Australian population have one tucked away in a cupboard somewhere.) I then pour the curds and whey thought the pillowcase/strainer assembly (any decent size strainer or colander will do the trick really) and let the whey drip through. If i am feeling particularly frugal I will catch it and use it in cooking but most times it winds up down the sink.

Pouring curds and whey into the colander

The whey drains out leaving the curd

Saucer and cans in place - pressing the tofu

One point on the coagulator. I realise that Epsom salts do have other medicinal uses and have been used in the past to free up sluggish bowels, but the amount used here is very small and I think most of it remains in the water phase (the whey). In any case, I have not suffered any ill effects from using it.

What you do next depends on how firm you like your tofu – I like mine firm so it holds together when I stir or deep fry it. What I do is fold the pillowcase over the top of the tofu and place a small plate or saucer on top, then place an 800gm and a 425 gram tin on top of the saucer to act as weights to press the tofu. I leave that there overnight and the result is very firm tofu. The next morning you just remove the weights and the saucer, unfold the pillowcase and there it is. Wash off any fluffy bits of pillowcase left behind and put the tofu

in a container covered with water and store it in the fridge until you want to use it. It will last a week or two if you change the water every few days.

Pure white, tasty tofu

Now that you have made your tofu you can stir fry it with veggies, noodles, meaty bits or whatever and marinated in your favourite sauce or the sauce added after it is cooked. It can be deep fried until it is golden brown, then eaten by itself or added to other dishes. It can be added to Japanese or Chinese style soups or used as an ingredient in a Chinese firepot dinner. It can even be cut into slabs and put on the barbeque to make Aussie style tofu, which might shake up your guests a bit, or even convert them over to a new taste. Tofu, because of its subtle (or dare I use that word again – bland) flavour and its ability to take on the flavours of other foods it is very versatile. I recommend scanning the Asian cookbooks in your local library and copying down any promising recipes.

So you can see that to make tofu is not all that complicated and is certainly no more work than pasta making or baking your own bread. It is a lot of fun and you get a nutritious foodstuff at the end. Tofu can be an important source of protein, particularly if you follow a vegetarian or vegan lifestyle. It is also high in calcium. Or it can just be a change, something new and tasty to add to the family's diet.

5.0 DIY Pasta

5.1 Our Process

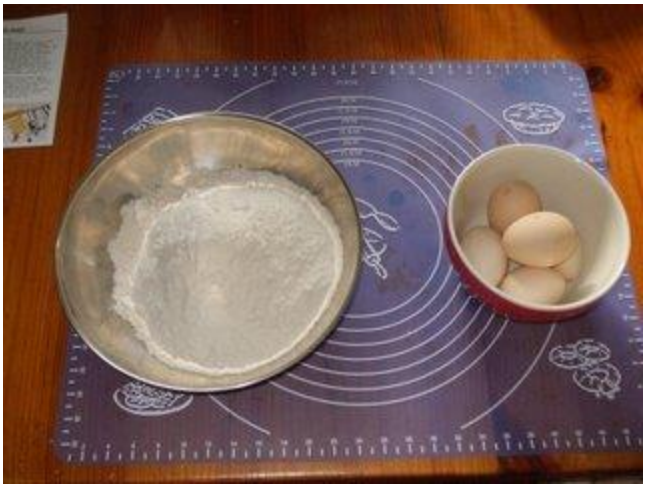
Pasta! Easy to make, versatile and tastes great! So why not make it yourself?

If you have your own chooks and eggs you already have half your ingredients and if you can grow your own wheat then you can have completely home produced pasta. I tried home grown wheat years ago but didn't get much of a harvest so I use unbleached organic flour sourced from Demeter Farm mills, but we do use our own chook eggs so we are getting there.

OK, I do cheat, I use a pasta machine. Strictly speaking it is not necessary, you can roll pasta dough out with a rolling pin and then roll it into a.....well.....roll, of pasta then cut off lengths and unroll them, cook them and eat them. But I find that the pasta machine makes it easier and more fun, so that I am more likely to do it

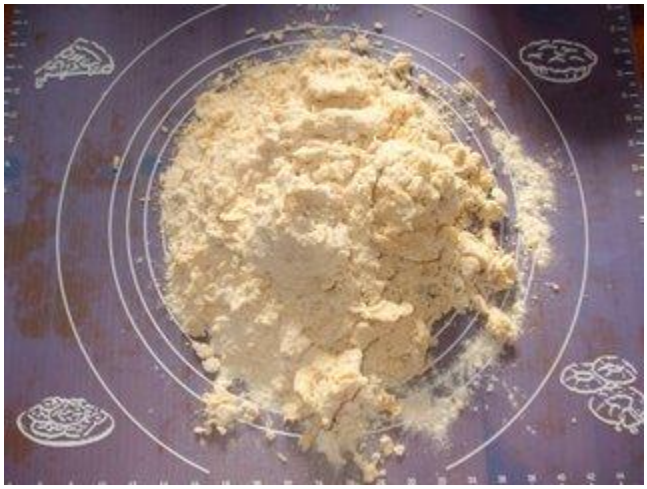
.

Making the Dough

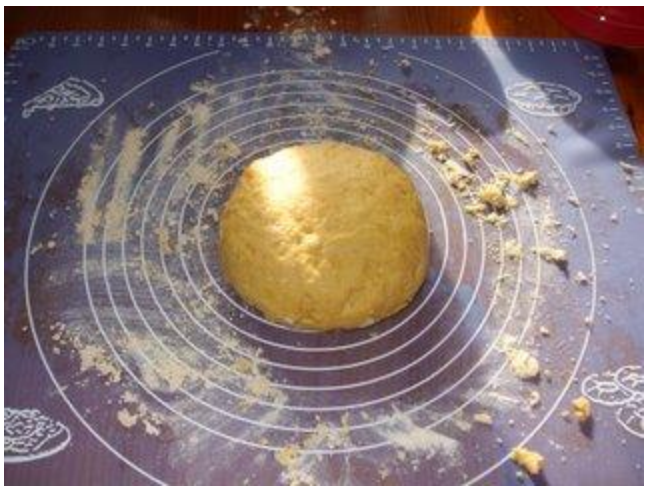


1. Measure out 500gms of flour, we use a mix of organic 50% wholemeal, 50% unbleached white flour, into a bowl, make a well in the centre and then crack in 6 eggs (if you are going to all the trouble of making pasta and don't have any chooks yourself, at least use free range eggs).

2. Mix the eggs into the flour with your fingers. The wholemeal can make for a stiff dough so you may wish to add in a bit of water or olive oil if you are having difficulty working it.



3. Turn the flour/egg mess (oops that should read mix) out onto a floured surface; marble slab, wooden table or plastic kneading sheet and knead the mix until the texture and that lovely golden egg pasta colour are uniform throughout the ball of dough.



4. Wrap the ball of dough in a tea towel and let it rest for half an hour. If you want to take a break at this stage don't leave it too long. I once made up the dough, made some pasta then covered the rest in plastic wrap and put it in the fridge meaning to come back to it later. Within a day or two it had turned a disgusting grey/brown colour, it may have still been OK to use but no-one here was interested in yecch coloured pasta!

5. The cut the dough into roughly 1cm thick slices and run it through the pasta machine with the rollers on their widest settings, lightly flour it, double it over and run it through again, repeating until the dough is smooth.

6. Reduce the thickness of the dough by passing it through the machine, reducing the distance between the rollers each time, until you have the dough as thick as you want it.

Making the Pasta

Now you have the dough right where you want it you can make into homemade pasta. If you want lasagne, all you have to do is cut the sheets to size so that they will fit in your lasagne dish, the pasta will expand when cooked so cut it a bit small. Because the lasagne noodles are uncooked you will need to boil them for 10 to 12 minutes before assembling your lasagne.

If you want to make spaghetti or fettuccine, your machine should have come with rotary cutters to allow you to make either if these favourites. The big hint is to flour the dough sheets well before cutting otherwise the fresh, sticky pasta will stick to the machine, the cutters and itself driving you berserk and ensuring that this is you one and only experience with homemade pasta. Flouring the dough sheet will also make it easier to separate the

strings of pasta. Either cook them immediately or set them out to dry. They can be hung over a broom handle or equivalent supported on a couple of chairs or even a clothes airer. You can buy specific pasta drying gadgets, but why bother?

Filled pastas like ravioli or cannelloni take a bit more effort and there are other attachments for your pasta machine to make it “easier”. Personally, having tried the ravioli maker, sorting out two sheets of pasta going into the machine and keeping it topped up with filling and then getting the ravioli out the bottom and stopping them sticking together. I should have had the doctor up my medication first because it really did push the envelope on frustration.

The zigzag ravioli cutting wheel

The ultimate came when I finally made a sheet of good looking ravioli and put it down on the bench seat near the table I was working on to dry off a bit, when my eldest came in to see how I was going and promptly sat on it. It is best to draw a curtain over the resulting hullabaloo. There must be a simpler way!

And there is! For a few dollars you can buy a wheel that is sort of like a pizza cutter but it cuts a zigzag line. To make ravioli easily place one sheet of pasta on a hard, clean surface, place on small lumps of filling on a grid pattern and then lay your second sheet over the top. Use the zigzag roller to cut between the lumps of filling and it seals as well as cutting. Stress free ravioli!

The zigzag wheel can also be used to cut out different shapes of pasta (as can a pizza cutter) to give you a bit of variety, but any way you cook it, homemade pasta is a great way of using up those excess home grown eggs and making a great feed at the same time.

This is what it's all about - homemade pasta and home grown veggies!

5.2 DIY Pasta – An Alternative Experience by Kevin Mechelmans

Ingredients

600g flour

6 large eggs

Method

Place the flour on a board or in a bowl. Make a well in the centre and crack the eggs into it. Beat the eggs with a fork until smooth. Using the tips of your fingers, mix the eggs with the flour, incorporating a little at a time, until everything is combined. Knead the pieces of dough together – with a bit of work and some love and attention they'll all bind together to give you one big, smooth lump of dough!

Preparing the dough

You can also make your dough in a food processor if you've got one. Just bung everything in, whiz until the flour looks like breadcrumbs, then tip the mixture on to your work surface and bring the dough together into one lump, using your hands.

Once you've made your dough you need to knead and work it with your hands to develop the gluten in the flour, otherwise your pasta will be flabby and soft when you cook it, instead of springy and al dente.

Finished Dough

There’s no secret to kneading. You just have to bash the dough about a bit with your hands, squashing it into the table, reshaping it, pulling it, stretching it, squashing it again. It’s quite hard work, and after a few minutes it’s easy to see why the average Italian grandmother has arms like a wrestler! You’ll know when to stop – it’s when your pasta starts to feel smooth and silky instead of rough and floury. Then all you need to do is wrap it in cling wrap and put it in the fridge to rest for at least half an hour before you use it. Make sure the cling wrap covers it well or it will dry out and go crusty round the edges (this will give you crusty lumps through your pasta when you roll it out, and nobody likes crusty lumps!).

How to roll your pasta

First of all, if you haven't got a pasta machine it's not the end of the world! All the mammas I met while travelling round Italy rolled pasta with their trusty rolling pins and they wouldn't even consider having a pasta machine in the house! When it comes to rolling, the main problem you'll have is getting the pasta thin enough to work with. It's quite difficult to get a big lump of dough rolled out in one piece, and you need a very long rolling pin to do the job properly. The way around this is to roll lots of small pieces of pasta rather than a few big ones. You'll be rolling your pasta into a more circular shape than the long rectangular shapes you'll get from a machine, but use your head and you'll be all right!

If using a machine to roll your pasta, make sure it's clamped firmly to a clean work surface before you start (use the longest available work surface you have). If your surface is cluttered with bits of paper, the kettle, the bread bin, the kids' homework and stuff like that, shift all this out of the way for the time being. It won't take a minute, and starting with a clear space to work in will make things much easier, I promise.

Dust your work surface with some flour, take a lump of pasta dough the size of a large orange and press it out flat with your fingertips. Set the pasta machine at its widest setting - and roll the lump of pasta dough through it. Lightly dust the pasta with flour if it sticks at all. Click the machine down a setting and roll the pasta dough through again. Fold the pasta in half, click the pasta machine back up to the widest setting and roll the dough through again. Repeat this process five or six times. It might seem like you're getting nowhere, but in fact you're working the dough, and once you've folded it and fed it through the rollers a few times, you'll feel the difference. It'll be smooth as silk and this means you're making wicked pasta!

Now it's time to roll the dough out properly, working it through all the settings on the machine, from the widest down to around the narrowest. Lightly dust both sides of the pasta with a little flour every time you run it through. When you've got down to the narrowest setting, to give yourself a tidy sheet of pasta, fold the pasta in half lengthways, then in half again, then in half again once more until you've got a square-ish piece of dough. Turn it 90 degrees and feed it through the machine at the widest setting. As you roll it down through the settings for the last time, you should end up with a lovely rectangular silky sheet of dough with straight sides - just like a real pro!

If your dough is a little cracked at the edges, fold it in half just once, click the machine back two settings and feed it through again. That should sort things out. Whether you're rolling by hand or by machine you'll need to know when to stop. If you're making pasta like tagliatelle, lasagne or stracchi you'll need to roll the pasta down to between the thickness of a beer coaster and a playing card; if you're making a stuffed pasta like ravioli or tortellini, you'll need to roll it down slightly thinner or to the point where you can clearly see your hand or lines of newsprint through it.


Making Ravioli

Once you've rolled your pasta the way you want it, you need to shape or cut it straight away. Pasta dries much quicker than you think so whatever recipe you're doing, don't leave it more than a minute or two before cutting or shaping it. You can cover it with a damp clean tea towel which will stop it from drying.

6.0 Home Vinegar Making

6.1 Making the Factory

One of the skills that we have pretty well lost is the art of home vinegar making. If you look up the old texts the way they generally tell you to do it is to get hold of an old wine barrel, turn it on its side and then drill plenty of holes in the top half, to let the air in. Fill the bottom half with wine of some description and wait. The problem is that you really, REALLY must like your vinegar because this will make a lifetime supply in one go. I wanted to be able to experiment with different types of vinegar and make small amounts for my own use, plus where was I going to put a bloody big wine barrel so that it would remain undisturbed for weeks at a time? There had to be a way that the old folks used to make their vinegar on a small scale without all this rigmarole.

One night I was leafing through some old Grass Roots magazines from my library when I came across an article by a bloke who had developed a small scale process based around Fowlers Vacola bottling jars and a wooden box. I have taken and developed his ideas and this article is the result. But first (don't you hate it?) a bit of theory –

Vinegar is an organic acid that is formed when ethanol or ethyl alcohol (ie the stuff you drink) becomes oxidised. When an unpreserved alcohol beverage is left open to the atmosphere organisms will make their home in the alcohol and gradually turn the alcohol to acetic acid and thus the beverage into vinegar. Most alcohol beverages that are produced commercially contain sulphites which are designed expressly to prevent this wondrous transformation occurring, after all most people don't like taking a swig of wine only to wind up with a mouthful of vinegar.

The Box

Top of box showing divider and jars in place

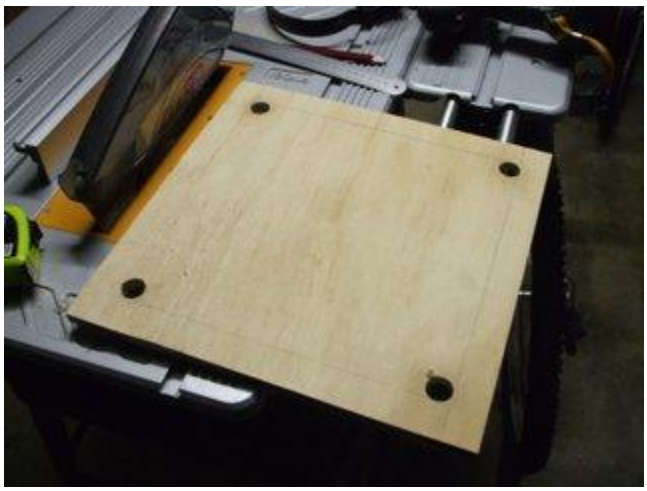
The system I had originally read about was based on No36 Vacola bottling jars which have a volume of about a litre but when I checked my stock of such things I found that I didn't have any no36s but I did have a number of No75 Vacola jars which have a volume of about two litres. This seemingly irrelevant fact is actually significant because the size of the bottles will determine the size of the box and Vacola No75 bottles have a maximum diameter of 125mm so that will be the minimum internal dimensions for each compartment of the box that I was about to construct.

I was able to find some 12mm thick x 240mm wide pine boards left over from other projects to make the sides and internal dividers, and some 12mm thick plywood for the top and the base. The front and back are 362mm long (x 240 x 12) and the sides are 320mm long (x 240 x 12) as are the internal dividers. It was fairly easy to make the edge lap joint for the internal divider by cutting a slot in the centre of each divider board the same thickness as the board and to half the width of the board so that both dividers fit together to form an "X".

The Box - from the front before fitting the lid

I drilled and screwed the edges of the main boards to form a box, then drilled and screwed the plywood bottom on to provide some rigidity, then assembled the edge lap joint and slid the X into place inside the box and drilled and screwed it into place to lock it in and provide the box more rigidity. Now for the lid!

One thing that you need to make vinegar is for the wine and the bugs to have access to atmospheric oxygen so that the alcohol can be oxidised to the acid (in this case from ethanol to acetic acid) so a solid top is not what was needed. I drilled four 12mm holes in the corners of the 12mm plywood I was going to use for the lid so that I could use my jig saw to cut out the centre of the lid leaving a 30mm wide surround with nice rounded internal corners.



The lid - holes drilled ready to cut out the centre

To keep out vinegar flies and other nasties but leave the tops open to the air I cut out some fly screen mesh to the same size as the lid and then place it on top of the lid. I found some timber off cuts in amongst my pile of "I can't throw that out it'll come in useful one day" and cut out 4 20mm x 30mm battens, 2 x 360mm long and 2 x 300mm long. I set them on the top of the lid to hold the fly screen mesh on and then drilled, countersunk and screwed them in place from underneath so that the fixing screws did not show. Almost finished!

During the acetification or vinegar making process it is quite possible there could be some acid fumes evaporate so I got hold of some decent sized brass hinges (and, OK, they looked pretty good too). I also got hold of and fitted a brass hasp and staple to keep it closed just in case I needed to, you never know when the cats might wake up one night crazy for vinegar and there goes all my hard work down the drain (or down the cat as the case may be).

The Vinegar Factory complete and in service

So the box is now complete and ready for phase 2 is to set up the factory to actually produce vinegar – see below.

6.2 Making the Vinegar

I have made vinegar! Unfortunately, wish as I might, that is not true, it is the collection of bacteria and cellulose that is "mother of vinegar" (*mycoderma aceti*) that has made it for me. How can you get hold of this mother of vinegar I hear you ask? Well to my mind there seems to be three ways –

- Buy some – A less than satisfying solution because this is about doing things for yourself, but perhaps the quickest and easiest option if it is available to you. Here in Aus the suppliers seem to pretty few and far between. At least I was not able to locate one.
- Buy some unpasteurised vinegar – better, but not perfect. I did go down this route and it worked well for me, more of that later. Residual mother of vinegar will in commercial vinegars cause them to go cloudy so they are mostly pasteurised and/or preserved chemically to prevent it re-forming. Thankfully there are still some health food shops and even producers who will sell at least cider vinegar in its unadulterated/untreated form.
- Start from scratch – Not very technical and it does take some time, but by fermenting your own alcoholic beverage and then leaving it uncovered and untreated, with access to the air those wonderful bacteria will find YOU! Although even this approach is not without its problems.

So how difficult was it? Mmmm, reasonably!

My idea of having four compartments in my vinegar factory is that they would each contain a different type of vinegar: one for cider, one for white wine, one for red wine, and one for.... cleaning vinegar. You know the stuff they talk about in the natural cleaning books that show you how to clean your house with 3 or 4 natural products. Well one of them is invariably white vinegar, so how cool would it be to make your own?

Anyway, that was the theory and I suppose we should discuss how each one went down –

Cider Vinegar

This one was perhaps the easiest. Get hold of some of that "live" cider vinegar from your local health food shop or wherever. It doesn't matter whether it is organic, biodynamic or what, it just has to be unpasteurised and unpreserved so if you see any numbers in the small print ingredients, in all probability it is preserved and won't work. I trawled extensively through our usual supermarkets and didn't find one that would work. The key is that they will usually tell you on the bottle that it still contains some mother-of-vinegar and not to worry if it goes a bit cloudy, that will be a selling point.

Cider Vinegar showing mother-of-vinegar

Anyway, once you have your cider vinegar grab your glass vinegar making jar and then add the contents of your vinegar bottle to it. Now top it up with an equal volume of HARD cider, remember that the reaction is between the mother-of-vinegar and alcohol so non-alcoholic apple cider won't work. It seems to work better if you de-gas your cider before adding it to the vinegar. Mix well and apply some old pantyhose or stocking material over the mouth of the jar held in place by a rubber band to act as a last defence against the bugs you don't want.

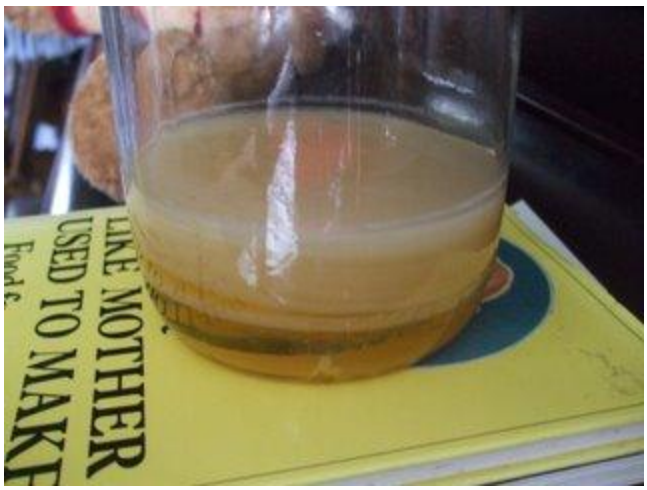
Place the jar of vinegar/cider into your factory, shut the lid and leave it undisturbed. Over the next few weeks a thin translucent white layer should form on top of the liquid like a raft but if it is solid white, gray and/or fuzzy it may be mould and you will need to start again. You need to leave the factory as undisturbed as possible because the raft on top of the liquid can sink if the jar is knocked, say by your significant other doing the vacuuming or if one of the kids decides to "investigate". If this happens the production of vinegar from alcohol will stop because the raft is no longer in contact with the oxygen in the air, but given time another mother-of-vinegar raft will form so not all is lost.

The end of the process is a bit difficult to gauge but the best advice I can give you is to sniff your cider regularly and when it smells vinegary enough, you're there. Of course this is not the end of the process and I assume you will want to keep it going so pour out your vinegar into a holding container of some description, glass or stainless steel would be best and discard the mother-of-vinegar, preferably in the compost. Clean out your vinegar factory jar and give it a wash in really hot water and allow it to cool, then replace half of your vinegar batch in the factory jar and top up half and half with new hard cider, replace your pantyhose over the mouth of the jar (not on your legs) and put the jar back in your factory box to start again. Put the harvested vinegar into a nice bottle with a lid that seals and label it. If going cloudy doesn't bother you leave it as it is otherwise you might want to try pasteurising your vinegar by heating it to a temperature of 66°C and holding for 30 minutes to keeping clear and bright.

White Wine Vinegar

While not being drinkers, we do seem to have accumulated an alarming number of alcoholic beverages (no you can't have any, get your own!) as prizes, gifts etc and I swapped a couple of likely bottles of good plonk to my daughter for a cask of moderately priced white wine. It was, as with all wine except the stuff you make yourself, preserved with a sulphur based reducing agent designed to prevent oxidation, so I half-filled the factory jar with the wine, then threw in some commercial white wine vinegar (also preserved) and left it open to the air. The theory was that the oxygen in the air would eventually react with the preservative and remove it from circulation. Nothing was happening after a month or so, I "seeded" the

wine/vinegar mix with 5mls or so of the cider vinegar which by that time was starting to develop a very nice mother –of-vinegar raft on it.



That's one thick mother, of vinegar

The weather was still cold, we were just coming out of winter, so it took a while for anything to happen, but happen it did! Over time a very thick mother-of-vinegar formed, not the 2-3mm thick one on the cider vinegar, this was 30mm thick! Although it did seem to be doing its job and there was a definite strengthening of the vinegar odour. After the initial round of vinegar making I poured off the vinegar, removed the mother-of-vinegar, poured the vinegar back into the jar and added an equal quantity of white wine. Again it has produced a mother-of-vinegar 30mm thick so I don't know what is going on there.

Red Wine Vinegar

Not a happy making story this one. I poured some red wine into the factory jar and left it open to the air, and again nothing happened so I inoculated it with 5mls of the cider vinegar and it seemed to form a very thin mother-of-vinegar raft. So I removed the raft and topped up with an equal amount of new red wine and so far.....it has done nothing! The mother has not seemed to have its usual effect and more research is needed.

Cleaning Vinegar

Another terrific idea! Well sort of. To create the alcohol is easy, just dissolve some sugar in water, throw in some yeast and away you go. That's what I did in the last factory jar, the idea being that the fermentation would proceed and there being no preservatives involved, the bugs would find the alcoholic solution and proceed to do their thing. Well it kind of worked but I got the wrong sort of bugs. When the yeast goes in the material carrying the yeast makes the solution cloudy, I suspect it is a flour type material, and I think it was this

that resulted in furry grey layer of mould that formed instead of the mother-of-vinegar. More work is required here and I think the trick is to make the alcohol in a fermenter as you would normally; filter out any extraneous crap, then put the filtered solution into the vinegar factory.

Sugar, water and yeast fermenting and somewhat cloudy

So if you set it up right you can have your own vinegar factory, albeit on a small scale, and produce all sorts of vinegar for yourself. I used to know one lady who would make mulberry vinegar so almost anything is possible and if at some stage you want to go into it big time – find yourself a wine barrel!

7.0 Sauces

7.1 Five Easy Sauces

As with a lot of people, we have a selection of recipes which we cook regularly and this works for us, but you have to be careful or it can become repetitive and menu fatigue sets in! One way of switching things up is to alternate sauces to change flavours of the basic meals, to keep things fresh. It is even better if the sauces are easy to make, are made from pantry staples and the odd fresh ingredient, and quick to prepare. The following four sauces, which we make and use on a regular basis, fit these criteria well. They can be combined with a number of meals (including ones in our recipe section) so that things are always fresh and you don't ever have to worry about menu fatigue.

Sate Sauce

2 hugely over heaped dessertspoons of peanut butter

270ml light coconut cream

2 teaspoons soy sauce

¾ teaspoon of chopped chillies (I use de-tuned stuff from a jar, because we don't use much chilli but always have a jar of this stuff around. You could always make you own.)

Directions

Place the peanut butter, coconut cream and soy sauce into a saucepan and heat with stirring to disperse the peanut butter.

Once the peanut butter and coconut cream are homogenous, add in the soy sauce and chilli and stir well. Heat to simmering temperature and serve.

Works well with a stir fry, veggie patties or beans and rice.

Curry Sauce

1 small onion (diced)

1 Teaspoon garlic (crushed)

1 tablespoon butter

2 heaped tablespoons plain flour

3 level teaspoons curry powder

1 cup of water

1 chicken stock cube (or two teaspoons homemade stock powder)

Directions

Melt butter in a saucepan, add onion, garlic and chicken stock cube, sauté for couple of minutes.

Add flour, curry powder and stir to combine, add 1 cup water, extra if a thinner consistency is required. Stir until the mix boils and thickens. Serve.

Works well over veggies or beans and rice

Curry sauce over chicken schnitzel and fried rice makes a great dinner

Mushroom Sauce

1 tablespoon butter

200g mushrooms, diced (can be fresh, dried the rehydrated or canned)

Cup of water

Teaspoon salt

2 teaspoons of corn flour

Directions

Melt the butter in a saucepan, add mushrooms and sauté for 5 minutes or until reduced down to approximately half the volume. Add salt.

Pour in the water and bring to the boil, predisperse the cornflour in a very small amount of water and add to the sauce while stirring until the sauce boils and thickens.

The water and cornflour can be varied depending on the desired thickness of the sauce,

Then serve

Works well over veggies.

Cheese Sauce

1 tablespoon butter

3 heaped tablespoons plain flour

1 cup of water

I cup grated cheese (we find a mild cheese like cheddar works well)

Directions

Melt the butter in a saucepan and add the flour, mix and cook for I minute.

Add the milk and mix until homogenous, a whisk works very well for this.

Add the cheese and melt, the finished thickness of the sauce can be adjusted by adding more milk.

Works well over veggies.

Stir Fry Sauce

I have been looking for a stir fry sauce for a while that wasn't disgusting! We have found this one to work well!

2 tablespoons Oyster sauce (we use a mushroom based vegetarian one)

2 tablespoons sweet chilli sauce

1 tablespoon Soy sauce (we use Kikkoman)

1 tablespoon brown sugar

Directions

Measure the ingredients into a small bowl, stir to combine and it is ready to go!

We use all of these sauces regularly to add colour to our meals, and you can too!

7.2 Pizza Sauce

I take a 2.5 litre saucepan and fill it with cut tomatoes, I just cut them in half and toss them in until they hit the rim of the saucepan. I add in maybe a quarter of a cup of water to start tings off and prevent catching, then turn on the heat. I turn the heat onto low until the tomatoes start to cook down and once there is some liquid in the bottom of the pan I turn up the heat and cook them for a few hours. I stir them every so often to make sure they are not catching on the bottom.

I cook them until the liquid level is down to 50% or less volume in the saucepan, but I keep an eye on them more frequently towards the end and drop the heat back to low so I don't get black burnt bits in our sauce. Once the tomatoes are evaporated down I process them to remove skins and seeds. This can be done a number of ways but for a relatively small amount like this, the best way is probably to get hold of a 'Mouli' food mill, they are not expensive and will do the job a lot quicker and easier than a kitchen sieve and a spoon.

With the tomatoes now missing their seeds and skins, I return them to the saucepan and reheat them. I fry up a couple of large, diced onions and 4 diced cloves of garlic and toss them in once they are cooked translucent. I add a teaspoon of salt (you might want more or less) and herbs like dried oregano and basil. An alternative is to use an Italian herb season mix, in which case a couple of teaspoons generally works well.

With the sauce completed but still hot, I pack it into 250ml jars (which have been previously sterilised along with their lids) and affix said lids and process for 1 hr at 100°C by boiling in a larger saucepan. Once processing is complete, I remove them from the boiling water and sit them on a tea towel to cool. Ensure that the pop-top in the lid pops down to show a vacuum has been formed or you will need to re-process, perhaps with a new lid! Or use the jar immediately.

7.3 DIY Applesauce: The Natural Sweetener

Why on earth would you want to make your own apple sauce? After some consideration there are a number of reasons why you might want give it a go –

- If you have access to them, you can use local apples and reduce food miles; if you have your own apples, so much the better.
- You can make it very energy efficiently by using the techniques in this article.
- You can make it to YOUR taste, exactly the way you like it.
- If made using local apples in season you can save money, particularly if you go through quite a bit.
- You know exactly what goes in because you control exactly what goes in.
- Apple sauce is handy to have around as a healthy alternative to sugar as a sweetener.
- It is ridiculously easy and fun to do.....well I had fun doing it anyway (and I suppose that says something about me....)

Have I converted you yet? If the answer is “yes” read on, but if not I’m sure you’ll find something else on this site to interest you so please, have a wander! Anyway, for those of you still with me, this is how we did it.....

We are lucky enough to have an apple producing area within an hour or so drive from our place so we set off to see what they had on offer. It seems that apple sauce benefits from having different types of apples blended together to construct it and as a result we picked up 4 kg of Pink Lady apples and 2kg of Gala apples. The pink lady’s were particularly sweet so guaranteed good flavour and the total cost was less than $3 per kilo of apples, bargain!

I know these look like mini spring rolls but they are apple cores!

To maximise fuel efficiency we used our 8 litre pressure cooker to cook the apples so that there was no need to boil the living daylights out them for hours and hours to mulch them down. The process was a very simple one; we cored the apples and then fed the cores to the chooks, although I must admit I am unsure if even coring them was necessary, then cut them in quarters. It is important for even cooking, especially for the short times required by pressure cookers, to cut the apples into roughly the same size pieces. Then I tossed them in to the pressure cooker with about 20mm of water in the bottom. When making apple sauce in the pressure cooker the apples can foam up and clag the steam vent so don’t pack them above the “maximum” line on your pressure cooker. If there is no “maximum” line allow at least 50mm freeboard just to be sure.

Our Pressure Cooker

Once there are enough apples in the pressure cooker seal it up and place it on high heat to get it cooking quickly, but once the temperature is reached and you get some steam blowing off turn the heat down to minimum and start your cooking timer. The apples will only take four minutes to cook so keep an eye on them and once the timer goes off, remove them from the heat and allow the pressure cooker to cool down naturally to the point where the contents is still hot, but not under pressure.

Processing the Apples

While all this is going on you can sterilise your jars by boiling them up or putting them in the oven at 100°C for a while, then remove them and line them up ready to fill. To remove the skin and any residual bits of core I passed the resulting apple mulch through a rotary food mill, with the output neatly filling a 3 litre glass bowl. To the three litres of apple sauce we put in half a cup of our own freshly squeezed lemon juice, this added a bit of tang as well as more acid to help with preserving the sauce. With the apples we had it took two full runs of the pressure cooker and we still had a few eating apples left over.

Three litres of Apple Sauce!

All that was required then was to ladle the sauce into the pre-warmed jars, a wide mouth jam funnel makes this easier, wipe the top of the jar and threads put the lids on loosely and process in a boiling water bath for an hour, remove from the water, tighten up the lids and let them cool. You should only use pop-top lids so that you know when they pull a vacuum (and suck down with a POP!). If any of the lids don't suck down try removing and wiping the inside of the lid and then reprocess as before or just put them in the fridge and use immediately. Alternatively you could place the apple sauce in a plastic, freezer safe container and freeze it.

The Finished Product

Store them in a cool, dark, dry area and you should get 2-3 years from them. The apple sauce is a great natural sweetener; on porridge for breakfast, roast pork sandwiches for lunch or on ice cream after tea for dessert, I've also heard it can be substituted as part of the fat when baking, so get cooking!

8.0 Spice Mixes

8.1 Stock Powder

Making your own stock at home can be fun and rewarding, but it can also be time consuming and if (like me) you are crap at stock making it can be disappointing and frustrating. So if you want to make up a batch of stock quickly for, say, a soup noodle or you want to add some concentrated flavour to a dish you are working on, stock powder (commercial or home produced) can fill that need.

There are other reasons why you may want to make stock powder –

- You know what's in it – if you don't put in any MSG, artificial colours, flavours or preservatives you can be absolutely sure there is none of them in your mix.
- Zero waste – this applies particularly when you are looking to replace stock cubes, but if you get your raw materials supplied bulk, into your own glass jars or (in the case of dried herbs) produce them yourself, the product will be zero waste.
- Blend to your own taste – it may be you find the commercial stuff not to your taste, so you can experiment and come up with your own version which suits you.
- Freshness – you know the freshness of your ingredients and if you are regularly using your stock powder you can be sure it will always be fresh.

- Interesting – making your own stock powders from scratch is a fascinating pastime – and you get food at the end!

Having decided to have a go at making our own stock powder, I did a bit of research and came up with a starting formulation based on a recipe in the "Naked Kitchen Veggie Burger Book" by Sarah Davies. This is what I came up with:

½ cup nutritional yeast
1 tablespoon onion powder
1 teaspoon garlic powder
3 teaspoon salt
1 teaspoon thyme
1 teaspoon parsley
¼ teaspoon ground sage leaf
¼ teaspoon rosemary crushed or ground
Pinch turmeric

A couple of notes about the ingredients –

Nutritional yeast – this usually comes in the form of flakes and can be bought bulk into your own containers at places like the Source Bulk Foods or packaged in health food stores and sometimes supermarkets. It is baker's yeast which has been "deactivated" (read "killed") by toasting and gives a wonderful nutty cheesy taste often described as umami.

If you have some yeast which is no longer giving your bread a good rise, try toasting it in a pan on the stove until it is golden, thereby making your own nutritional yeast.

Onion and Garlic Powder – this is also available in bulk from a local spice supplier and we get it weighed into our own jars. It also comes in flake or granule form and because we use the flake in other recipes I buy that and use a coffee/spice grinder to grind it to powder when powder is required.

It is quite doable to dice up your own bought or home-grown onions and garlic and dehydrate them so that you can reduce costs, use up home grown produce, or ensure only organic ingredients are used.

Parsley, Sage, Rosemary and Thyme (sounds like a good line for a song) – these can all be easily grown and dried at home, or bought packaged or bulk if home production is not feasible for you. They can be ground in a spice grinder or mortar and pestle before use to improve ease of mixing. It is also possible to rub the fresh herbs through a fine sieve before adding to the mix but the shelf life of the stock powder will be very short, requiring it to be used immediately or stored in the fridge for only a few days.

Turmeric – is a bit trickier but can be grown and processed at home, we did it.

Testing

My flavour reference was Massell Chicken Stock Cubes because we like them and I use them quite a bit. Once I had a mix I was happy with I got two identical cups, put in half a stock cube in one and a teaspoon of the stock mix (figuring one was equivalent to the other) and added a (250ml) cup of hot water into each. Without her knowing which was which I gave them to Linda to taste. Without hesitation she identified the homemade one as very weak and bland. (bugger!)

To discover what my problem was I weighed both the half a stock cube and the teaspoon of stock powder. Low and behold, while the half stock cube weighed 6 grams the teaspoon of powdered stock only weighed 3 grams. No wonder it tasted bland! I added another teaspoon of stock powder to the original cup and we both had a taste test. This time the two cups were difficult to tell apart. Success!

Storing and Using

So the big hint is, for stock equivalent to good chicken stock add two teaspoonsful of stock powder per cup (measuring cup = 250 mls) of hot water. Store the made-up stock powder in a sealed container stored in a cool, dark, dry place and it should last 12 months.

8.2 Mexican Spice Mix

This took a little bit of work. We used to buy the packet stuff but had some concerns with it as noted above. We downloaded a few recipes off the net but it took some fooling around to get to a formula we liked the flavour of and was not so hot it took our heads off.

The formula we worked out is as follows;

- 1 teaspoon chili powder
- 2 tablespoon + 2 teaspoons ground cumin
- 1 tablespoon salt
- 1 teaspoon ground black pepper
- 2 teaspoons garlic powder
- 2 teaspoons onion powder
- 2 teaspoons paprika
- 1 teaspoon dried oregano
- 2 teaspoons cornflour

This is a good start, and you can go from here. We buy the spices whole or grow our own and grind them just before use, which keeps the flavour fresh. As far as the onion and garlic powder goes, you can buy the powder, buy dried granules and grind in the spice grinder before use or grow your own, dry and then grind. The oregano is also easy to grow, dry and grind. We have not tried anything with DIY paprika, so it is bought in as well.

Add 3-4 dessertspoons to the filling mix above, cook up for a minute or two then add ¾ to 1 cup of water which will thicken things up nicely as it reheats.

9.0 Dairy

Making dairy products at home based on milk from your own cow or goat (or sheep?) would be a great thing but is just not doable in a suburban situation (believe me, I contemplated it!), but is there an alternative?

The way we do it is to buy in a 25kg bag of skim milk powder from a food industry supplier or wholesaler (many of whom will sell to the public) and then store it in food-safe plastic 20 litre buckets. A 25kg bag fits well into two of these buckets and being low fat it will last a long time, particularly if stored in a cool dry place. One bag will last the two of us almost two years. You can buy full cream milk powder if that is more to your taste and it will make some of the dairy products easier to produce, but will not last as long in storage, full cream milk lasts up to a year in storage, but skim milk can last 2 years plus.

We use it not only for making milk in the (glass) bottles for consumption as is in breakfast and coffee, but also to go in recipes like cakes and biscuits, soups and sauces, bread, quiche and impossible pies. It can also be used to make dairy products for your fridge like cheese and yoghurt as discussed below.

9.1 Homemade Ricotta Cheese

We have fooled around with cheesemaking in the past, and had some fun with it, but I never really thought about it in terms of serious food production. If we had access to a cow or had our own goats it would make sense, but there didn't seem much point in buying all the raw materials then making it ourselves, but recently things have changed!

Over the past few months we have been buying powdered skim milk, to save money, reduce our packaging waste output and to improve our resilience, and very recently we bought a 25kg bag of the stuff to take things to the next level. So if we have a guaranteed supply of skim milk, using it to make cheese, yoghurt etc, rather than buying it, makes a whole lot of sense to me!

Also, we use ricotta cheese on a regular basis, and it is Simple (note the capital "S") to make.

All you need is –

2 cups skim or full fat milk made up into 2 litres of water (to make 2 litres of skim milk from powdered milk put one litre of water into a container, whisk in two cups of skim milk powder until they are dissolved and then top up to two litres with water)
1 teaspoon citric acid (you could use lemon juice, vinegar or other acidulant)
1 teaspoon of cheese salt

The Process

Place the milk into a heavy bottomed pan.
Mix the citric acid with ¼ cup of cool water and then pour it into the milk, mixing well.

Place the pan on the heat and heat gently to 85°C – 90°C, taking 20 to 30 min and stirring throughout to stop the milk catching on the bottom as it heats. Coagulation of the milk will start about 80°C.

Once at temp, leave for 10 min to coagulate

Ladle the curds into a filter made from several layers of cheesecloth sitting in a colander, retain the whey if you are going to use it for something else.

Pull the corners of the cheese cloth together and tie them up and suspend it to drain for 20 – 30 min or until you reach the consistency you are looking for.

Remove from the cheese cloth and store it in a sealed container in the fridge, it should last for a week.

When we made ricotta using the above process, using skim milk, we got a yield of 385 grams.

General comments

We made a batch with full cream milk powder and skim milk powder. While the skim gave a smaller yield it and was a bit chalky in texture it tasted great and worked well in the recipes we tried it in.

9.2 Homemade Paneer

This was another experiment during the original No-Buy July. I wanted something else which I could make using the powdered skim milk which could add variety to the meals I was making, and something Indian sounded like a good idea. While of all the experiments we did during NBJ this was probably the least satisfying, the end product was edible and tasted OK, but was different to authentic paneer in that it was chewy rather than creamy. I suspect this would be corrected if full cream milk (fresh or powdered) was used in place of the skimmed milk.

Recipe

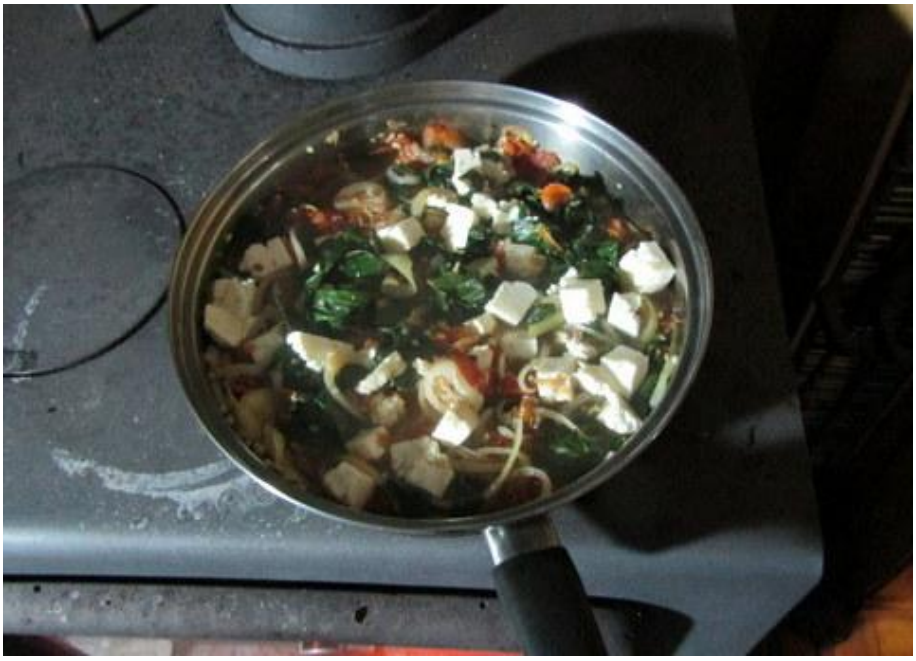
2 cups of skim milk powder made up into 2 litres of skim milk

1 teaspoon of citric acid dissolved in ½ cup of hot water

Method

1. Place the milk into a pan with a solid base and bring to the boil, I used a thermometer held next to a wooden spoon to both mix the milk while it was heating to prevent scorching and keep an eye on the temperature at the same time.
2. When the milk starts to boil, reduce the heat to low and drizzle in the citric acid solution, but continue on low heat for 10 to 15 seconds.
3. Remove from the heat and stir slowly as the curds form, then leave it sit for 10 minutes.
4. When the curds have settled below the whey, use a slotted spoon to remove the curds and place them in a colander lined with 2 or more layers of cheesecloth.
5. Pull up the corners of the cheesecloth and tie off to form a bag, hold the bag under a stream of warm water for 5 to 10 seconds to remove any excess citric acid.

6. Return to the colander or place in a cheese mould and top with a plate and approximately 2 kg weight to press the cheese for 2 hours.
7. Unwrap and consume, or refrigerate for up to 2 weeks.



I made the paneer up into a recipe with silverbeet (what else?) chopped tomatoes, onions and spices called Saag Paneer. The texture of the paneer was somewhat chewy but not unpleasant and coupled with vegetable biryani (made with basmati rice, chopped veg and biryani spice in a rice cooker) it was a very tasty dinner.

9.3 Mozzarella

Many years ago, back when we actually had a milkman and the milk was delivered in glass bottles we accumulated a surplus and I decided to get hold of some unflavoured junket tablets and turn it into cheese. I was interested in the process but somewhat lacking in understanding so to cut a long story short, after much hassle I produced a cheese flavoured roof tile. Sad but true.

So, when we got the idea of a family get together (on the occasion of my elder daughter's birthday) to make cheese I decided that there would be no repeat of that sad tale and, I cheated. I bought a 30 minute mozzarella cheese making kit from the lovely folks at Green Living Australia and using the kit we had a hugely fun time and actually made edible cheese! This is how we did it.

When we got the kit it contained a number of things, but obviously no milk! At this point i would love to say that I walked down the backyard and milked the house cow, returning to the kitchen with 4 litres of fresh milk. Unfortunately in suburbia that is a difficult thing so to get my skills up I bought 4 litres of cold, pasteurised and homogenised milk after walking to our local supermarket. As far as i am aware we don't have any working dairies near us so so have to make do with what you can get hold of.

The first step was to measure out the stuff you need to throw into the milk to help it along its journey to becoming cheese, the measures are by volume and quite small so it is worth investing in some small spoon measures. We already had some graduated spoon measures that go down to ¼ of a teaspoon so we were able to work through it. The following measures are for four litres of whole milk and the stuff we had to measure out was –

- Calcium Chloride - 1/8 Teaspoon of Calcium Chloride solution diluted in ¼ cup of unchlorinated or demineralised water. The calcium chloride is added to increase the calcium content of the milk, making up for calcium lost during pasteurisation which reduces the time taken for the rennet to precipitate the curd and results in a firmer curd.
- Citric Acid - 1 ½ teaspoons of citric acid, diluted in ¼ cup of unchlorinated or demineralised water. The citric acid, as the name suggests is an organic acid derived from citrus fruit and acidifies the milk to assist the rennet coagulate the cheese.
- Lipase - 1/16th of a teaspoon of lipase dissolved in ¼ cup of unchlorinated or demineralised water. Lipase is an enzyme that produces a stronger flavoured cheese. It needs to be stored in the freezer.
- Rennet – Quarter of a rennet tablet diluted in ¼ cup of unchlorinated or demineralised water if you don't use lipase; half a tablet if you are using lipase. Rennet is the enzyme which does most of the work of coagulating the milk. It also benefits from storage in the freezer.
- Cheese salt – 1 to 1½ teaspoons. Cheese salt is very coarse and is not iodised. It is good stuff, absorbing moisture from the curd, helping the whey drain and making the curd shrink, it acts as a preservative and improves the flavour. The first batch we

made we used 1 ½ teaspoons and found the cheese to be a bit salty but the second batch only had 1 teaspoon and this seemed best for our taste.

Note – instructions are great, if you read them! The first time we made the cheese we missed the bit about doubling the rennet if you use lipase. This meant that it took a longer time to coagulate and we got a softer cheese; it was all OK in the end but make sure you double up on the rennet if you are going to add lipase.

To make all this stuff easy to identify and help keep track of where we were up to, we put the container with each of the ingredients on a sheet of paper and then wrote down what all of the stuff was next to each container.

So now let us cheese:

Pour the milk into a stainless steel pot big enough to give you some stirring room, so if you are using 4 litres of milk your pot should be 5 or 6 litres in capacity, then add in the calcium chloride, lipase (if you are using it) and the citric acid solution. Stir them all in well!

Heat the milk to 32°C, gently and keep stirring as it heats. With luck it will start to curdle as the heating progresses.

Once the milk gets to 32°C, you can add the rennet solution (tablets dissolved in the water) and mix gently but well. We got a broad bladed spatula and moved the milk around but also with a sort of up and down motion too, to make sure that the rennet was well distributed throughout the milk.

Remove the pot from the heat and let is sit undisturbed for 5 or 10 minutes until you have what is called a “clean break” or the curds firm up and start to pull away from the side of the pot. This seemed to take forever with the first, low rennet batch and if it is not happening with your batch leave it for a few minutes extra. It did eventually happen with us but took about 20-25 minutes whereas with the second batch it was almost instantaneous when we added the rennet. Milky whey means you should leave it longer, clear yellowish whey means you are good to go.

Using a knife that is long enough to extend right to the bottom of the pot, cut the whey across, down and diagonally through the pot so you effectively get whey cut into 2 centimetre cubes. The reheat the curds and whey to 38°C or 40°C, stirring gently the whole time to ensure that the heat is evenly distributed throughout the pot.

Once you get there take the pot of the heat and keep stirring, the longer you stir the firmer the curds, then after 10 minutes or so rest scoop the curds out into a microwaveable bowl. We do this by starting off with one of those round, long handled scoops with all the holes in them and then when you get down to the little stuff pour the whey through a fine mesh colander to get the last bits and add them to the bowl.

While all this activity is going on the curds in the bowl will continue to spit out more whey which can be poured off back into the original pot, then use your hands to press out more whey, returning it to the pot.

Put you bowl of curds in the microwave oven (you knew that was coming didn't you?) and nuke it on high for one minute, then drain off any whey that has come out of the curd. The next trick is to fold the curds over on themselves in the bowl and press them down in the same way you would knead bread. It should coalesce into one mass with a shiny surface.

Put the bowl back into the microwave and nuke for a further 30 seconds, remove and drain then knead it again. By now it will be getting quite warm, after years in the chemical industry working with hot paraffin wax I have developed asbestos fingers but if you find the temperature on your hand uncomfortable use (CLEAN!) rubber gloves.
When the cheese has cooled a bit while kneading, replace in the microwave and nuke for a final 30 seconds and add in the salt. Continue to knead until the cheese becomes stretchy at which point the process is complete.

You can now divide the cheese in half and drop into cold water to cool it down. We divided it into three balls, one for each family. The mozzarella will store in the fridge foe a week, we decided to store ours in water the first time and it went sludgy on the outside but still tasted OK. Storing dry in a sealed container seems to be a better option.

9.4 Yoghurt (in small amounts)

My introduction to yoghurt was as a teenager (yup, THAT long ago) in the form of commercial “SKI” brand yoghurt. It had loooots of sugar and who knows what else in it, but that was what I thought yoghurt was. We bought an electric yoghurt maker after we got married and I tried to reproduce the only yoghurt I was familiar with and failed dismally! We gave the yoghurt maker away to a friend and that was it.

Until now!

Just recently my sweetie has been applying Greek yoghurt to various items of food (bean burritos, mixed bean chilli, veggie soup etc.) instead of sour cream. Me, I lurve sour cream but it has a limited shelf life, we were coming up to No-buy July and even if I could make it (which I can’t) the main raw material is cream, which is a bit sparse in our neck of the woods if you can’t buy it. So I started using her Greek yoghurt instead, and while it is a bit different to the sour cream it is still quite palatable. It was time to have a go at yoghurt making again, but this time for savoury, rather than sweet purposes.

But there were still two considerations –

1. We don't go through a lot, maybe one of those 200g tubs in a week, and most of the commercial yoghurt makers start at one litre, and
2. We have gone across to using powdered skim milk to reduce packaging and save money. In fact, before we started "No-buy July" we bought a 25kg bag of the stuff. If we can make yoghurt from it as well, that would be a great thing!

My first trick was to construct a yoghurt maker from stuff we had floating about which could make the small batches of yoghurt which would suit our needs. Hence this article.

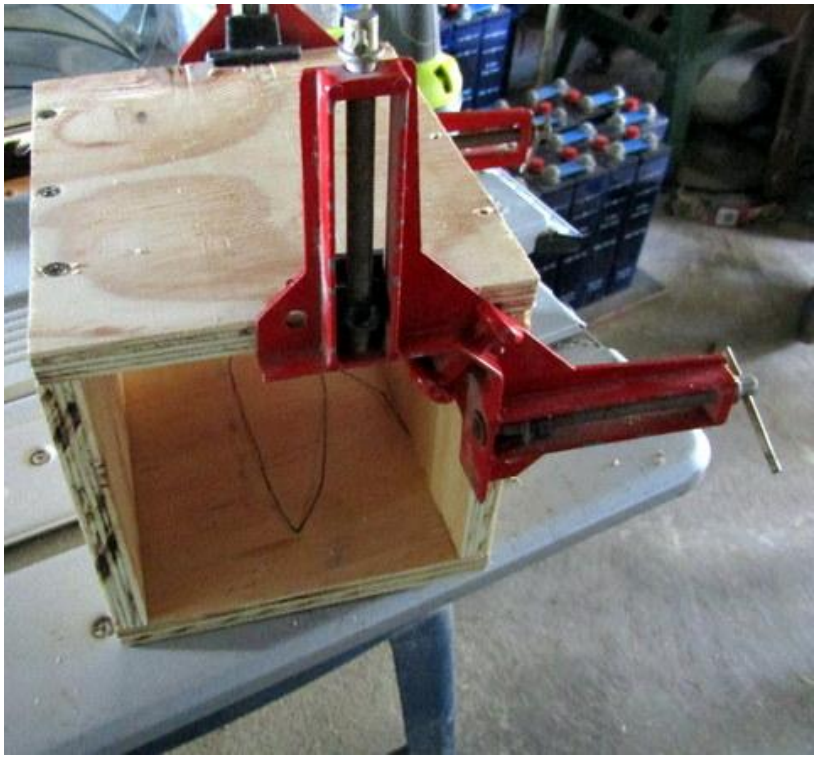
Constructing the Yoghurt Maker

The Box

After some casting around I decided to build the maker around a 350ml glass jar, of which we have plenty around here since we use them for preserving all the time. To maintain the correct "yoghurting" temperature I decided to put in 25 to 30mm of insulation around the glass jar, with a wooden box around that.

The material of construction of the box would be plywood, mainly because the neighbours across the road were throwing some sheets of plywood out and I souvenired them. We had polystyrene sheet (from packaging) and polystyrene beans (from previous projects) and I was able to find a couple of mild steel hinges in the garage so I was right to go!

Using 14mm thick plywood I made a box 155mm x 155mm x 205mm high. I cut out 2 pieces 180mm x 130mm, 2 pieces 180 x 155 and 2 pieces 155mmx 155mm. Using a couple of mitre 90° angle clamps to line up the first two sides, then drilled and screwed them using three equally spaced 8 gauge x 30mm chipboard screws. I attached the next side using the same process and then added in the fourth side by anchoring it to the box on one side with the angle clamps, making sure it lined up with the other side, then screwing it into place. It was then a simple matter to secure the fourth corner the same way. I then put the top and bottom on the box using two screws drilled and screwed in on each side of the top and bottom.



The box was sort of completed, but there was no way to get into it! So I measured down 32mm from what I designated to be the top (ie the best looking end), drew a line around and cut what became the top away from the rest of the box using a circular saw. It could just as easily have been done with a hand saw.

I used the couple of 35mm long by 25mm wide mild steel hinges I found and drilled and screwed those in to complete the box.

The insulation

As previously mentioned, the insulation would be polystyrene foam waste which is light, efficient as an insulator and free! You don't have to have a hot wire polystyrene cutter but it sure makes things easier. I measured up the inside of the box and using a the hot wire cutter resting against a metal rule to give me a nice straight edge, cut the first 32mm thick slab to use as the bottom and placed it into the box. With that in place, I cut three more, then using a pencil I sketched a circle on the centre of each of them, the same diameter as the glass jar. I didn't have a template for the hole so when I cut them out they were not as round as I would have liked, but would do the job. To finish off I cut a square of 18mm thick foam and then cut the central hole in it. With all the layers assembled in place the fit of the jar wasn't absolutely perfect, but it fit well enough to do the job.

To provide insulation for the lid but still have a bit of flexibility so it could conform to the lid of the glass jar I elected to use a small “cushion” filled with polystyrene beads. Linda was helping me with that, she cut out a rectangle of cotton material 140mm x 290mm, doubled it over and sewed around the three edges to make a bag. She left 25 – 30mm of the final seam unsewn to fill the bag through, then turned it inside out. I filled the bag loosely to about three quarters full with polystyrene beads. To achieve this I used a plastic funnel and due to static the little polystyrene balls got EVERWHERE! Hint: use a metal funnel if you have one!

With the little pillow now full, she sewed the hole shut and it was ready to go. It fits very neatly into the inside of the lid and doesn't fall out when you open the box. The yoghurt maker was now complete. I didn't spend a lot of time finessing the exterior of the box, because I was unsure of how well it would work, but how well it did work is the subject of the next part of this eBook.

Constructing the Yoghurt!

As mentioned above how I constructed our yoghurt maker, we have been applying Greek yoghurt to various items of food (bean burritos, mixed bean chilli, veggie soup etc.) instead of sour cream. Rather than buy two products, and so we could make our own, we went over

to using Greek yoghurt exclusively. Before making our own, there were two considerations I needed to take into account –

- We don't go through a lot, maybe one of those 200g tubs in a week, and most of the commercial yoghurt makers start at one litre, and
- We use bulk powdered skim milk to reduce packaging and save money.

Hence the development of an apparatus to make small amounts of yoghurt, based on our own stored skim milk, and with it now in place it I could press it into service.

To make the Greek yoghurt using our set up I needed somewhere to start, being unable to conjure the required bacteria directly out of the air, so I had a look to see what commercial Greek yoghurt is out there for use as a starter. Sadly, some are adulterated with all sorts of colours, flavours, sugar and other crap, and some are pasteurised, so that the beneficial bacteria are killed and it is rendered useless as a starter for homemade yogurt.

If you can get hold of some commercial yoghurt which is listed as 'pot set' (and lacks all the other rubbish) it is a broad hint that the bacteria will still be living, better for you to eat and better to make yoghurt with. We found that 'Jalna' brand pot set Greek yoghurt in 200g tubs worked out very well for us and was an excellent starter.

Our process is as follows -

1. Sterilise jar and lid – We will be keeping easily metabolised bacteria food at the exact temperature that bacteria like to be at, so to minimise the likelihood of the whole thing being commandeered by 'unauthorised' bacteria, we sterilised the jar and lid we were to be using first. We did this by boiling both for 10 minutes, although we could have had the same effect by putting them in the oven at 120°C for 10 to 15 minutes. If I am boiling up preserving bottles I throw in a spare jar for yoghurt making at the same time.
2. Put one jar full of skim milk in milk saucepan, and add one dessert spoon of skim milk powder and stir to dissolve. We make up skim milk from the powder as we need it, usually on a ratio of a cup of powder, made up to one litre of water. The

completed milk gets measure out into the milk saucepan and then it is just a case of adding in an extra dessert spoon of the powdered milk for extra viscosity in the finished yoghurt. (We like our yoghurt pretty thick around here pardner!)

3. Heat to 92°C while stirring – This is to sterilise the milk, again, to prevent the build-up of unauthorised bacteria. I do this over the gas on medium, stirring with a lab thermometer I bought in my younger days. Stirring with any type of thermometer would work, just so the milk doesn't catch on the bottom of the pot.
4. Cool to 45°C – I take the milk saucepan and then place the bottom of it into a pyrex jug full of cold water to cool the milk down. I stir continually until the temperature hits the 45°C mark or thereabouts.
5. Add in starter (1 dessert spoon of commercial yoghurt) and stir to disperse. The idea is to have the milk around 40°C for the yoghurt bacteria to be able to thrive, but the starter we use is cold from the fridge and so adding while the milk is a bit warmer, allows it to take the mix down the last few degrees and get the temperature spot on.
6. Pour the milk mixture into the sterilised jar, screw on sterilised lid and place it in insulated box (yoghurt maker).

I leave the milk/yoghurt mix in the yoghurt maker overnight and in the morning we have nice, thick, Greek Yoghurt. The result has been a bit variable for me and I am not 100% sure

why. Mostly I get thick yoghurt but on the odd occasion it will come out thinner. Anyway, if this is the case, pour the yoghurt into some cheesecloth and suspend it for a short time, until enough water has drained out and you have the thickness of yoghurt you like.

9.5 Making Spreadable Butter

Years ago we used butter. Then there was a lot of negative publicity about saturated fats, including butter, so we moved across to margarine. Lately there have been margarine horror stories (most of which are probably crap) but the pendulum does seem to have swung back the other way. Plus, the margarine we buy and use comes in plastic tubs, which is a concern for two reasons –

1. Possible leaching of plastic additives (eg plasticisers) into the margarine, and
2. The plastic, while being 'recyclable' is highly likely to not be 'recycled' even though we dutifully wash up the tubs and put them into our recycling bin.

Yes, it is possible to wash the tubs up and then use them as containers for stuff in the pantry, kitchen, garage or office, but in my experience they eventually breakdown and wind up in the recycling, or worse, landfill anyway. So this does not solve the problem only defers it for a while. Plus over the years you find yourself up to your armpits in empty (but very clean) margarine containers.

So, what to do?
We decided to go back to butter, wrapped in paper to obviate the plastic packaging issue, but we also wanted it to be spreadable, hence this article!

First Try

Spreadable butter is made by combining regular butter with a vegetable oil of some description. I decided to use virgin olive oil because it was Australian produce, is pretty good for you and was our oil of choice (packaged in steel) so I already had it available to me. I read around trying to find out what the best ratio of oil to butter was, and that seemed to

be one cup (250ml) of oil to a 250g pack of butter. This seemed a bit much to me so I decided to cut back a bit to ¾ cup of oil (190ml) and see how it went.

Process

I took the butter out of the fridge and left it to warm to room temperature for most of the day, having read of all the horror stories of people in a hurry trying to soften it in the microwave and winding up with melted butter instead (a big no-no!). I placed the softened butter into a bowl and mulched (technical term) it around with a fork making a thorough mess, then tossed in about half the oil, using the fork to combine the butter and oil.

I have read on the internet where people use a food processor to achieve the butter and oil mix, and how it results in a 'whipped butter' texture, but this was not what I was shooting for, I just wanted standard butter…… but spreadable. I must admit, using the fork was a bit of work, but as I added more oil to the butter it did get a bit easier to mix. By the time I had mixed in the whole ¾ cup, the butter was quite sloppy and I was concerned I had put in a bit too much but resolved to see how it went.

I placed the spreadable butter into a glass container with a re-usable plastic lid. I know, I know! But the lid did not contact the butter, and it was the best I had at the time. Now, courtesy of my elder daughter, I have glass containers with wooden lids and only a thin silicone seal, so there!

Results

The results have been pretty positive. While the butter is not super spreadable it works OK, but I'm thinking the original ratio may have been a teensy bit right. Also, even though it is virgin olive oil under some circumstances (like when applied to hot steamed vegetables) it can give the butter a bit of an 'olivey' taste that I am not over-wrapped in. Having said that, I think this has been a success overall, and I would happily do it again, but in the interested of experimentation my next mix will be with a more neutral tasting oil and I might up the level to a full 250ml cup.

Olive oil summary –

Pros: we already had some; it was packed in steel not plastic; it was produced in Australia

Cons: The strong olive taste was not pleasant to us

Second try

As mentioned above I was pretty satisfied with the original spreadable butter but wanted to try with a more neutral oil, so I got hold of some grapeseed oil, which has been used by others for this purpose. It is available in glass bottles which is what I wanted. My original thought had been for rice bran oil, but was only able to find it in plastic bottles, which kind of defeated the purpose somewhat.

To ratchet things up I added one cup of oil to a 250gm block of butter, and while I must admit I am unsure whether it is a property of that particular oil or whether the butter was a bit warmer, but it mixed in effortlessly and in a few minutes I had a quite homogenous oil and butter mix. I let it cool in the fridge and it hardened up quite nicely but still remained quite spreadable. Also the oil, which was quite neutral in taste and smell, did not really impact the flavour of the butter, so that was a plus.

Grapeseed oil summary –

Pros: packed in glass not plastic; mild flavour

Cons: Not produced in Australia; it was marginally more expensive than the olive oil

Third try

This time I again went for a very light oil in the form of macadamia oil. It was also packaged in glass (in a 250ml bottle, perfect to mix with one 250gm block of butter!) and had the benefit of being Australian produce. I followed the process I worked out previously – allowed the butter to come to room temperature, placed it in a bowl, mulched it with a fork and then added the oil. I added the oil in increments of about 50 ml at a time and, again, it mixed with the butter really well. The fork did the mixing job well and towards the end I could have even used a whisk to incorporate the oil the viscosity of the mix was so thin. With the oil and butter mixed I placed it into a glass container with a bamboo lid and then stuck it in the fridge. Overnight it hardened up nicely but still remained easily spreadable. To

be honest, there seemed to be no discernible difference in taste between the macadamia oil/butter mix and the grapeseed oil/butter mix, but the macadamia oil is considerably more expensive, being almost twice the cost of the grapeseed oil.

Macadamia oil summary –

Pros: Packed in glass; mild flavour; Australian produce.

Cons: Expensive

Conclusion

Our conclusion has been that we will buy in some grapeseed oil and that will likely be our go-to to make spreadable butter with, but if we are flush with cash we will splash out and get the macadamia oil!

10.0 Grain-Based Staples

10.1 Tortillas/Flatbreads

10.1.1 The Original Process

I like Mexican food (the admittedly anglicised stuff available here anyway) in general and tortillas wrapped around it in particular. Mind you I was concerned by some of the additives and the level of packaging of the damn things so maybe something a bit more home cooked was called for. I also like making gadgetty things that help me do stuff around the house. During my researches and in my efforts to go low tech and increase the variety of food stuffs we make I found that concept of a tortilla press interesting. I could indulge two interests (food and gadgets!) in one activity by constructing my own tortilla press. Unfortunately, it didn't end well.

As usual I did some research on the net and came up with a design for a tortilla press. I had some 20mm thick DAR pine floating around so I cut out an upper and lower plated, then from the bottom platen a place for the pivot and lever to apply pressure to the top platen forcing it to squish (technical term) down on the bottom platen, added some braces at each end and then put on the hinges as you can see from the photos below.

The idea is to stick plastic food wrap on each platen, make a ball of dough and place it in the centre of the lower platen, then press the platens together using the lever pressing down on the top platen forming a nice thin disk of dough, ready for cooking. Pine is a cheap and readily available timber to construct things out of but it is not the strongest timber I have ever worked with. Either than or I don't know my own strength!

While operating my tortilla press (of which I was very proud I might add) the resulting tortillas, while being nice and round, were not of the required diameter or level of thinness which I required. I am a male and admit that the cure for this problem which first occurred to my brain was to apply more force. This proved to be the incorrect solution. This became

evident when the tortilla press failed catastrophically, ripping the area where the lever was attached right off the press. Embarrassment was severe!

As a result of the aforementioned catastrophic failure, I followed my usual procedure when such things happened and tossed it into a corner for later consideration. Unfortunately I still wanted homemade tortillas and the ones I made using a standard rolling pin were just too thick.

While I had not given the idea up I had gone off it somewhat, but by chance (and for a very modest price) I was able to buy an elliptical rolling pin. It is amazing how much easier things get when you have the right tool for the job and this type of rolling pin allows you to put extra pressure right where you want it, getting a nice thin product. When wielded skilfully around the edges you also wind up with a nice evenly round product. As can be seen below I am not yet skilful!

The recipe I used was wonderfully simple, using only four ingredients – flour (actually 5 ingredients because I used 2 types of flour), salt, water and olive oil in the proportions below –

Wholemeal flour (ground on our own mill!) 1 cup
Bakers flour 1 cup
Salt ¾ TSP
Olive oil 3 Tbsp
Water (warmed) 2/3 cup

To make:
Mix the flours, oil and salt in a bowl and then slowly add the water while mixing it in with your fingers. Keep adding the water and mixing until it comes together into a dough, turn out and knead for a couple of minutes. Put back into the bowl and let the dough rest for 20 minutes. Cut the dough into 8 equalized wedges and then form into balls. Using the elliptical rolling pin, roll out each ball into a thin disc. Place into a lightly oiled man on medium heat and let it cook until bubbles form, for me this was a couple of minutes, then turn over and

cook on the other side. Consume immediately or store in an airtight container in the fridge. Freeze if you want to keep them longer.

The end product might not be too pretty (or at least mine weren't) but they tasted good and were flexible enough to wrap around the filling so I didn't make a mess of my shirt (again). All up they only took half an hour to prepare including waiting time and a couple of minutes to cook each one. They are a worthwhile addition to your culinary repertoire.

10.1.2 Tortillas Rewrapped

Wraps finished and filled, yum!

I love wraps! I am especially a fan of something-and-salad wraps for lunch. I am not really a fan of the commercial ones though, especially due to packaging and their content of additives. I know the additives are in there to make the wraps shelf stable, but I just don't like ingesting them! It is also cheaper for us to make them from staples we already have on hand and are bought in bulk.

About ten years ago I started experimenting with making our own wraps and after a few (sometimes ghastly) mistakes I was able to settle down on one particular formulation and kept making that.

The recipe is almost the same as above:
Wholemeal flour 1 cup
Bakers flour 1 cup
Salt 1 tsp
Oil 3 tbsp
Water 2/3 cup (warmed)

To make them I put all of the dry stuff, plus the oil into a bowl, then add the water slowly as I use my hands to mix the dough. I have found that by holding back a bit on the water it is

easier to get a good texture on the dough as sometimes too much water can make the dough a bit sticky. Once the dough is mixed it needs to rest for 20 minutes so I put a tea towel on top and put it aside. Once it is ready I cut the dough into four or eight pieces, roll them out using a tapered 'French' rolling pin and circular board (which works for me!) and place them on the preheated pan.

Dough made, cut to four pieces, ready roll out

We have a wok ring on the stove, so I get that going and put a large fry pan (290mm bottom) on it to heat up. I have found that putting the wraps on the pan when it is still just heating up slows down the cooking process, but at the same time dries them out so that they lose some of their flexibility. Heating the pan to 180°C to 190°C works best and I use an infrared thermometer to check before putting the wrap in the pan. If the temperature is right, it only takes a couple of minutes on each side to cook them perfectly.

Once cooked I remove them from the pan and put them between folds of a tea towel to let them cool down but not dry out. (It is usually the tea towel from the top of the bowl that I use)

The recipe above was designed to make eight wraps (or tortillas) to a batch of dough, which I found to be interesting but not particularly convenient, because the wraps came out somewhere between 150mm and 180mm in diameter, and that was somewhat smaller than

I wanted. I changed things up and started making four wraps per batch of dough, which brought them up to 240mm in diameter, and this turned them into a decent meal.

Rolling out

Fast forward to the first No-Buy July (2019) and all of a sudden, I was making them all the time, twice or three times a week. I also found that they were quite versatile. While I am not sure my internal system would deal with a breakfast wrap, we do have them regularly for lunch and tea. Recently I have also gained an appreciation for the smaller eight-wraps-to-a dough-batch size as well.

The lunch wraps we consume are generally something and salad and the something is usually cheese, salmon (for Linda, not me) or egg salad. The salad depends on the time of year but at least contains our lettuce and, where possible, tomatoes. Other salady stuff includes capsicum, mushrooms, cucumber, beetroot, grated carrot, potato salad (When I make some) corn kernels and whatever else we have on hand. By changing things up we can keep it fresh, and they make a tasty and filling lunch. Around Christmas time I have also been known to add a bit of ham!

Rolled out

For the evening meal I put together tea-wraps (sometimes referred to by me as T-Rex for some reason!) which we make and eat for tea. They are always full size wraps. I do a stir fry of onion, capsicum, mushrooms, grated carrot and cabbage, sometimes with egg, sometimes not and a bit of soy sauce added. I then put some mayo or garlic aioli onto a wrap, plus some grated cheese, then put the stir fry on, wrap it up, and crisp it up in the sandwich press.

Another thing I do, also with full sized wraps, is to heat up some previously cooked beans and toss over some of our home-made Mexican spice mix and a bit of water. Then we put salad on a wrap, some of the beans, some cheese and yoghourt plus a bit of sweet chili sauce, roll and eat!

Cooking

With the small wraps, these are usually eaten with a Mexican inspired filling. This can be onion, capsicum and mushroom, stir fried with added Mexican spice. One of the small tortillas is placed flat, with some cheese on it and a portion of the filling placed on top, followed by a second small wrap. They are then toasted in the sandwich press and then cut into quarters and consumed in the form of Anglo-quesadillas. Sometimes we add yoghurt and sweet chili sauce too.

Completed, ready to fill

Another way we use them is as soft tacos, consuming them wrapped around my home made ‘Mexican’ rice with or without salad, stir fry similar to what goes on the quesadillas above, grated cheese and yoghourt.

With the large four to a batch sized wraps, we usually consume one each, leaving two left over for another meal. They do tend to fall apart a bit after a day or two, however, so any leftovers go into a container and into the freezer immediately after making. The same process goes for any leftover small tortillas.

Anglo-quesadillas

Over the years our homemade wraps/tortillas have become a constant part of our diet, originally put together as an experiment, their position solidified by the original No-Buy July and still regularly in use today!

10.1.3 Green Tortillas!

I like the flatbreads I make which we call, rightly or wrongly, tortillas. They started out being a homemade substitute for the commercial ones you buy at the supermarket which we used when having a Mexican style dinner. I home made them, so I knew what went into them (no additives), to reduce our waste due to packaging on the commercial ones and because ours were cheaper.

I've being doing it for a few years now, but it has only been since last July (2018) that I have been making them a couple of times a week as a more generalised homemade loaf style bread substitute as well. I started up doing this during no-buy July and liked them so much I've kept it up ever since. They are also fairly quick to make so if caught without bread, I can throw them together in half an hour and away we go! They are a great feed.

But, you know though, you can always improve things!

I've also been fooling around with drying leaf crops and using the resulting leaf powder in foods we make at home. There are three reasons I added it in to the homemade tortillas as an experiment –

1. It turns them GREEN!!!!! – this was a lot of fun, adding some variety to what we eat.
2. it added extra nutrition in the form of vitamins and minerals,
3. It replaced some of the bought-in flour that we use with something we can home produce for nothing.

The **recipe** I use is –

Wholemeal flour	1 cup
Baker's flour	¾ cup
Dried leaf powder	¼ cup
Salt	1 TSP
Olive oil	3 Tbsp
Water (warm)	2/3 cup

The Process

I mix the flours, leaf powder, oil and salt in a bowl and then slowly add the water while mixing it in with my fingers. I keep adding the water and mixing until it comes together into a dough, then I turn it out and knead it for a couple of minutes. I put back into the bowl and let the dough rest for 20 minutes then cut the dough into 4 quarters and form the dough into balls. Using an elliptical rolling pin on a round wooden board (with a line cut into it about the size of a finished tortilla - 24cm) and roll out each ball into a thin disc. I Place each tortilla into a (very) lightly oiled pan on medium heat and let it cook until bubbles form, for me this was a couple of minutes, then turn over and cook on the other side. They are best when consumed immediately but can be stored in an airtight container for a couple of days or frozen.

So, how did it go?

Compared to the normal 'no leaf' tortillas they were very similar with only minor differences –

1. **Flavour** – when eaten by themselves with no spread or fillings there was a very mild (in this case) beet-like flavour, which all but disappeared when the tortillas were eaten with a filling.
2. **Texture** – Again, very similar, although perhaps a little drier and less flexible, but hardly discernible.
3. **Colour** – They were GREEN!!!! A very dark green, darker than commercially available green tortillas. It seems to me that you could reduce the amount of leaf powder in the mix to a half or less than in the recipe I made and get a somewhat lighter green tortilla similar to the commercial ones, if that is what you are looking for.

Overall, it was an interesting experiment and I will be making green tortillas on a regular basis.

10.2 Crackers

This was something I wanted to play around with during **No-Buy July**; a snack food we could make at home from stuff we have hanging around in the pantry makes sense to me! They would be cheaper than the commercial ones and there would be no strange additives to worry about. We even used organic flours. To make things easier I used our pasta maker to roll out the dough and a ravioli wheel cutter to give the crackers a crinkled edge, although I could have used a pizza cutter or even sharp knife but I like the look of the crinkled edge.

My approach was two-fold, first I made a batch of the cracker dough, turned it into crackers as per the process below and then divided the unbaked crackers into 4 portions. The first one I left bare as a control, sprinkled onion flakes over the second portion, homemade curry powder over the third and a commercial biryani spice mix over the fourth. I only used my fingers to sprinkle the spice mixes and onion so it was a bit hit or miss, in future I will use a sieve.

The second experiment was to put the flavouring agent into the dough and then make the crackers as normal to see how the flavours worked out. I used garlic powder in one and some homemade chicken stock powder to flavour the other. I did wonder whether cooking the crackers would make the flavour stronger or weaker but in the event it make the flavour weaker, but the end result was pretty good anyway.

Recipe

1 cup baker's flour

1 cup wholemeal flour

2 teaspoons salt

2 teaspoons sugar

3 tablespoons of olive oil

2/3 cup water

For the batches I added the flavouring agent to I added 2 tablespoons homemade stock powder to one and 2 tablespoons of garlic powder to the other.

Process

1. Measure out the dry ingredients into a bowl (including flavour powders if used) and mix them around to combine (I used a whisk for this).

2. Add in the wet ingredients and mix (I used fingers!) and knead them together to form a ball of dough.

3. Pat the dough between your hands to give it a rectangular shape and run it through the pasta maker on setting ‘1’, folding it over until it holds together as it goes between the rollers, then run it through on ‘2’ and then on ‘3’. This will get it to the right thickness.

4. Place the dough onto a flours surface and cut the crackers into the desired shape with the ravioli cutter or whatever you want to use. Pierce each cracker a number of times with a table fork so that they do not bubble up during baking.

5. If you want to add your flavours on top, brush some water onto the top of the unbaked crackers and then apply your chosen flavouring.

6. Place the crackers onto a silicon baking sheet so that they are slightly separated from each other and bake in the oven at 230°C for 12 to 15 minutes. Towards the end of the bake, keep an eye on the crackers as they can go from perfect to burned in a short time!

Results

Sprinkled flavours

Control (unflavoured) – tasted OK, would go well with any number of dips.

Onion – The onion had a tendency to burn and it wasn’t the best tasting cracker I have ever had.

Curry – Definitely a winner! If I had a more even coverage for the curry powder they would

have been perfect.

Biryani Spice – As for curry above!

Incorporated flavours

Chicken stock powder – I found these to be really great and took them along to a Permaculture Sydney West meeting and the feedback from everyone was that they thought they were very good too. If you find them a bit salty for your taste, leave out some of the salt in the dough recipe.

Garlic Powder – I also found these to be good, but my personal taste is that I prefer the stock powder ones. I took these to the PSW meeting too and again, they were very well received.

The types of flavours you can sprinkle on or incorporate into the basic cracker is almost endless and I will definitely be trying crackers with our home-made Mexican spice mix and onion powder too.

Update

I have taken to making our crackers on a semi-regular basis and the two winners seem to be plain (for Linda) and topped with curry powder (for me).

10.3 DIY Breadcrumbs

When I was a young fella I had a couple of Italian mates that I used to hang around with, the Italians of course brought a wonderful culture of frugality to Australia (not that I appreciated it at the time) not to mention the food. On the clothesline of one of these guys places more often than not was a string bag full of thick slices of Italian bread, but it took me some time to realise that it was not there to feed the birds but to be turned into homemade bread crumbs. So I thought why not do the same?

We make our own bread and sometimes in summer, when it is hot and humid the last lumps at the end of the loaf go mouldy (no preservatives) and wind up going into the composter, so rather than that happen I have taken to drying out those last end bits. The best way to do it is to cut the bread up into 25mm or so cubes before drying it, that provides more surface area to speed up the drying and make processing easier, although sometimes when I am in a hurry I cut them up after drying. Some people also cut off the crusts first but I don't bother.

Once the bread is cut up make a bag of cheesecloth or some other open weave cloth or perhaps even a mesh onion bag and then hang it up in a warm airy spot you could even hang it up from the clothesline. I hang ours up in our greenhouse because on a hot summer day it will hit 50°C+ in there and will dry even the biggest lumps in a day or two at the most

so even if you had one of the small plastic ones that could be worth a go. The big hint is to make sure that your bread crumbs are DRY before processing them i.e. the bread is hard as a rock with no squish, only crunch. If in doubt leave the bread to dry longer, breadcrumbs with added penicillin due to mould forming on inadequately dried breadcrumbs is not a good look (or taste for that matter).

Assuming your bread is now roof tile hard and dry it is time to process them into crumbs and there are a number of ways to do this –

- Using a food processor,
- Stick them in a plastic bag and liberally apply a rolling pin, or my favourite,
- Stick them in a blender.

Set up your blender and remove the cover for the hole in the top, start your blender running top speed and drop in some cubes and process until you get the crumb size you are after, making sure you don't overfill the blender. Just process a few cubes at a time. Then place the crumbs in an air tight container so they don't reabsorb moisture from the air and go soggy. That's it!

So you don't need to dash out to the shops to grab hold of a packet of Krummies next time you need bread crumbs, you will have your own and the crumbs from homemade bread are

tasty, cheap and healthy (you know what is in them!) – as well as reducing food miles. They are also useful and versatile for crumbing, stuffing and topping your home made dishes so why not give it a go yourself?

10.4 Sourdough (Solar Cooked)

There is an article of mine on making a solar oven **here** and in that article I expressed doubt that it would be capable of baking bread in winter. Well, I proved myself wrong and very happily so! I have developed a bread recipe that can be used as sourdough or conventional yeast and bakes to a turn in the solar box oven, even in mid-winter even though it takes a bit longer.

Sourdough Starter

This process cheats a little bit in that it starts off with dry yeast rather than letting a flour and water mix sour naturally, but it works reproducibly.

3 tablespoons of instant mashed potato flakes (Deb or equivalent) or mashed potato

3 tablespoons of white sugar

1 cup of warm water (50% hot water 50% cold water)

1 packet of dry yeast

Combine the potatoes sugar water and yeast in a covered container, I used a 1 litre round Tupperware container which worked pretty well for me. Let is sit in the kitchen, somewhere out of the way for 5 days and be sure to stir it daily with a wooden spoon. On the morning of the fifth day feed the starter with 3 tablespoons of potatoes, 3 tablespoons of sugar and a cup of warm water. In the evening take out 1 cup of starter to make the bread with and refrigerate the remaining starter.

Feeding the Starter

Keep the starter covered but not sealed in the refrigerator and feed it once a week using – ¾ cup of sugar, 1 cup of warm water and ¼ cup potato (mashed or flakes) and leave it uncovered in the kitchen for 8 to 12 hours. If you are not going to make bread, remove a cup from the starter and give away or add to your composter.

Making the Bread

Mix the following components in a large bowl –

3 cups of organic plain flour

3 cups of organic stone ground whole meal plain flour (or any mix of flours you like)

½ cup sugar

1 tablespoon of salt

½ cup oil (I use olive oil but whatever works for you)

1 cup of starter (Replace with 2 teaspoons of yeast if no starter)

1 ½ cups of warm water.

Mix everything with a wooden spoon and then let it raise for about an hour. Then turn the dough out onto a floured surface, I use a marble slab (an el cheapo $10 one) and knead for 5

minutes or so. Have extra flour on hand for dusting the surface and your hands, as the dough will get quite sticky!

Once kneaded, place the dough into an oiled bread tin and leave overnight to rise.

This recipe makes the right amount to fill a bread tin 280mm long x 110mm long x 100m wide (at the bottom), so you may need to vary things a bit depending on your bread tin, If you are going to make the bread in a solar oven the base of the tin should be as flat as possible (not stippled) and be painted black on the outside for maximum solar heat gain. Place the tin in the oven so that one of the long sides is facing the sun, this also helps the cooking process.

The bread will cook well in the solar oven, but I don't time it I just keep and eye on the colour of the crust and once it goes sufficiently brown I take it out. Part way through the cooking, say 20 to 30 minutes after going in the oven turn the bread so that the other long side is facing the sun to ensure an even cook.

Remove the bread form the bread tin and place on a cooling rack covered by a tea towel.
If you want to make bread NOW and don't have time to wait, the recipe works well with dry yeast, just add 1 packet (or two teaspoons) of dry yeast with the dry ingredients and add 2 cups of warm water instead of 1½ and the starter.

I have found this recipe to give a good result at all times of the year, I have been making it for over 5 years now, although it will take a bit longer to cook in winter.
Happy Solar Baking!

Update Oct 2010: While this is a good bread the original recipe came from the US and they like their bread a bit sweeter than we do generally so you may wish to reduce the sugar to 1/4 of a cup, it will still rise OK particularly with the dry yeast. Another inclusion could be two teaspoons of bread improver to make it a bit less crumbly and better for sandwiches. Also if you are using dry yeast it is not necessary to leave the loaf overnight, it should be risen enough to cook after a couple of hours.

10.5 Bulgur

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Wheat has been one of our primary exports for years and is still produced in vast quantities by Australian farmers today. It is very good for us providing an excellent balance of protein, carbohydrates, fibre, vitamins and minerals. (Yes I know some have allergy issues but this is still basically true). It is ridiculously cheap for what it is, with a 50 kilogram bag of wheat grain, or berries as they are sometimes called, costing less than $20 (1996 prices) although organic or biodynamic wheat will cost more ($89.95 per 20kg bag, 2024 price). Most of us consume our daily ration as bread, either homemade or shop bought, but there is another food that is easily produced from wheat berries – bulgur, also called burgul.

Wheat berries, the raw material

Originally produced in the Middle East, and much used in Middle Eastern cuisine, bulgur is a way of making wheat berries easier to digest and more palatable. There is also the convenience factor as bulgur is much quicker to cook than unprocessed wheat and its final form is more insect resistant that conventional wheat flour.

There are a number of steps to making bulgur and the product of each step is edible in its own right, able to be used without further processing in many interesting ways. Depending on the books you read, directions for making bulgur will vary from those given below, but I have found these methods to work for us.

Method

Steaming

The raw wheat berries are steamed to make them soft.

This is done by placing one cup of wheat, one cup of water and one teaspoon of salt in a small pot. The small pot is then placed, uncovered, on a rack or other support in a larger pot which contains some water. The lid is then placed on the larger pot and the whole set up put on high heat for 15 minutes, after which the heat is reduced to 'simmer' and left until the wheat has absorbed all the water. This may take up to an hour or more.

Steaming on the woodfired stove (lid removed)

The product is soft chewy wheat berries and at this stage they make an excellent alternative to rice in most recipes. It can also be used as a breakfast cereal with the addition of milk, sugar, fruit, yoghurt or whatever. It is a highly nutritious and breakfast cereals don't come much cheaper than this. At this stage the 'pre-bulgur' will keep for a couple of weeks in a

covered container in the refrigerator, so it is possible to cook up a week's breakfasts in one go if you want to.

Steamed wheat berries

If you don't like the amount of energy used in the above method, another way of doing it is to put the wheat, water and salt into a pot and boil it for five minutes. Then pour the contents into a vacuum flask (or other stored heat cooker), preferably one with a wide mouth, cap it an leave it overnight. The result is the same as the previous method but the wheat is cooked in its own stored heat, and it can be eaten, still warm, the next morning. Make sure there is plenty of room for expansion in the flask, because one cup of raw wheat makes three cups of cooked 'pre-bulgur'.

Parching

The steamed wheat berries are then parched.

This can be done under the griller, in the oven or in a frypan on the top of the stove. However you choose to do it, the steamed what berries are laid out in a single layer and then heat is applied. The wheat berries will 'pop' in a similar manner to popcorn, but without the increase in size, so you need to keep an eye on them to prevent any escaping. The grains will also need to be stirred every so often to ensure that they parch evenly. When the berries haver turned medium brown to dark brown, they will be ready.

Parching in the oven

At this stage it is worth chewing a few of the parched berries to taste their flavour, it is very similar to puffed wheat (funny about that!) and quite palatable. The parched wheat berries actually make a very cheap, palatable and nutritious breakfast cereal when milk and sugar are added. The can also be eaten as they are, or with the addition of a small amount of sweetener such as honey, as a TV snack. The parched berries will keep a number of months but should be stored in a sealed container or they will go a bit soggy and lose their crunch.

Wheat berries, steamed and parched

Grinding

The Parched Berries are then coarsely ground.

This may be done by setting your wheat grinder (if you have one) on 'coarse' and running the berries through, they should come out the other end looking like little lumps rather than flour. If you don't have a wheat grinder the same effect can be achieved by putting the grains into a blender or food processor and running it on high speed for a few seconds. Alternatively, the bulgur can be made by running the grains through hand powered meat mincer, which will do the job nicely.

The Bulgur is now finished and will store for months if kept dry, plus it seems to be particularly resistant to insect attack. In its final form the bulgur can be used in soups, as an ingredient of stuffing for meats or vegetables, in the form of a pilaf instead of rice, or as a base for the tasty Lebanese salad, tabouleh. To make tabouleh the bulgur needs to be cooked first, this is done by adding four cups of boiling water to each cup of bulgur and letting it stand for about two hours. The bulgur is then strained and squeezed with the hands to remove any excess water, and then it is combined with cooked chickpeas, parsley, mint, spring onions, tomatoes, lemon juice, olive oil and salt and pepper.

Many vegetarian or Middle Eastern cookbooks have tasty and interesting recipes that show you how to use bulgur, so why not have a bash at bulgur making? It is easy, cheap, nutritious and best of all……fun!

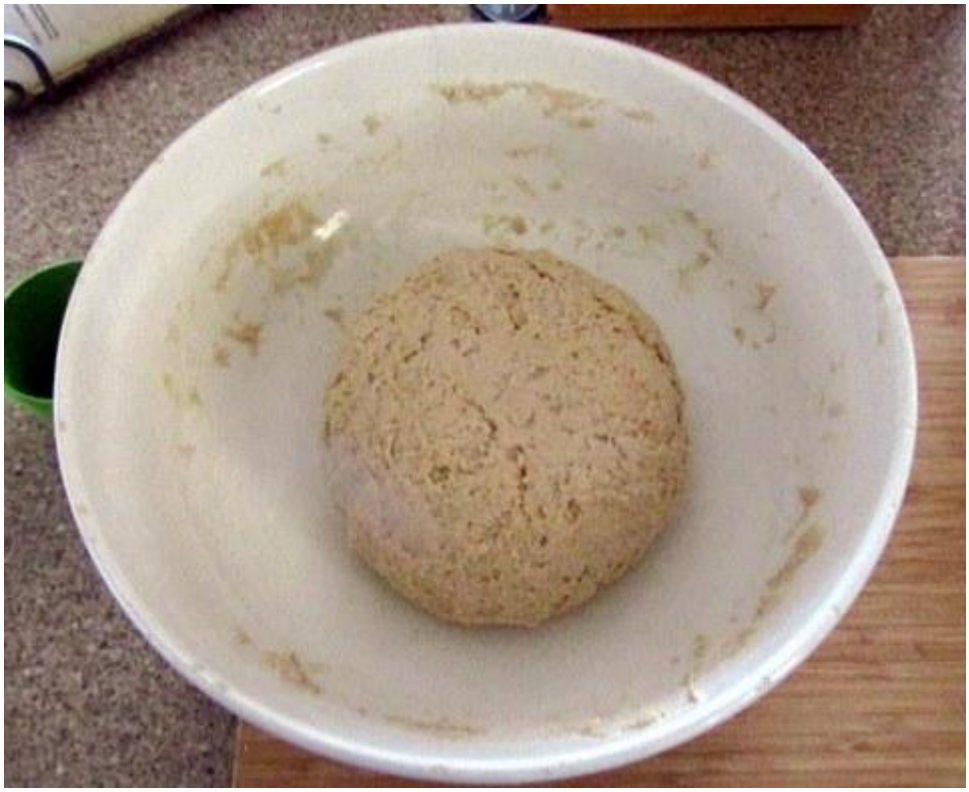
10.5 Seitan

Seitan, also known as wheatmeat or gluten meat, is something I have been interested in for a while because it is a meat substitute which can be made at home from readily available ingredients, in this case: flour and water. It is basically a case of separating the protein component of the flour (gluten) from the carbohydrate component of the flour (starch). Needless to say if you are gluten intolerant there is nothing for you here, move along.
In theory, the process is to make a ball of dough, then wash it in water until the starch is released and you are left with a sort of stringy ball of gluten. That's the theory. I watched a couple of YouTube videos and indeed (through the magic of editing) that was how it seemed to work, in no time at all you wind up with a ball of plant protein and then you go from there.

How it Worked

We have a supply of unbleached, organic bakers' flour on hand and that was what I used, I figured that bakers' flour was higher in gluten so I was ahead of the curve already. The process was indeed pretty simple up to a point.

I combined six cups of the bakers' flour with two and a half cups of water (the water content may need to be varied, depending on your flour) and mixed it around in a bowl until it came together into a dough and I then proceeded to kneed it for 10 minutes. The kneaded dough I then placed into a glass bowl, covered it in cold water and then left it to sit for 30 minutes.



A little interlude

The videos I had seen of washing the dough generally included using quite a lot of water and washing the starch down the drain. I thought that the process was very wasteful so my plan was to not only reduce the amount of water used but to capture the starch as well. Thus, on we go!

Washing the dough

I transferred the dough plus water into my original mixing bowl then topped it up with more water. I commenced to squelch (technical term) the dough through my fingers to wash out the starch while keeping the gluten threads intact. The water did go milky very quickly with suspended starch, but the gluten didn't seem to hold together as I was lead to believe it would. It sort of broke up and I had to sift through the water with my fingers to trap the gluten, smoosh (another tech term) it back into a ball and start again.

One result of this was that the washed starch component was still contaminated with gluten, my idea had been to let the starch settle out, decant the water, then dry and grind up the starch so I could use it as a thickener. Effectively wheaten corn flour (yes it is a thing). The other result was a reduction in the amount of gluten yielded at the end.

To cut a very long story just a tad shorter, I mucked around with the starch and gluten for a couple of hours trying to wash one out of the other with my hands. Not real smart on a winter's afternoon but there you go! At one stage I hit on the idea of using a kitchen sieve to allow me to wash the gluten with the starch flushing through with the water. It did work to a certain extent but resulted in fine particles of the gluten (it is still pretty soft at this stage) working their way through the sieve and contaminating the water/starch slurry. So it was not 100% success.

The water that was starch and gluten contaminated mostly went on the plants but I did reserve the large mixing bowl full of water and starch/gluten. In the end I was not able to separate the starch to my satisfaction so the whole lot went into the centre of the banana circle. So much for that idea!

The Gluten

Eventually I was able to get to the point where the wash water was only slightly milky, so I had obviously removed most of the starch. It was then just a case of working it between my hands to squeeze out as much water as I could. All in all I got about one and a half cups of more or less pure gluten, which I placed in a container in the fridge, basically because at that point I was stuffed and couldn't face cooking it straight away. This is NOT the dish to start so you can impress your beloved with your culinary skills a half hour before they are due to arrive!

Cooking the Seitan

I trolled around the net and found a fairly simple method of cooking the gluten to make it into something edible ie seitan. The 1.5 cups of seitan I had made was in a single mass, so I cut it up into pieces that were probably a bit bigger than bite size at about a centimetre thick and about 5cm by 3 cm.

To cook them I made up one litre of chicken stock, using my stock powder recipe (see above), and then added in ¼ cup of soy sauce. I brought it up to the boil, tossed in the seitan and reduced it to a simmer and simmered it for roughly 30 minutes. I found the result to be quite OK with the flavour absorbed from the stock/soy sauce and a firm almost meaty texture. Linda was less circumspect and pronounced it to be “salty rubber”.

The adventure continues!

10.6 Pizza Base

For years, when we had homemade pizza, I took the easy way out and bought some wholemeal Lebanese bread. That worked and worked well but I found that we really wanted some real pizza crust to munch on so I started making the recipe below. The amounts are perfect for two 28cm pizzas and as luck would have it, each 250ml jar of pizza sauce is ideal for those two 28cm pizzas!

Just as an aside, when we were using Lebanese bread as a base, we would have a pizza each, but with the from-scratch pizza base using the same toppings, one pizza will do the both of us. We still make two, but put one in the fridge for later.

Anyway, the recipe is –

1.5 cups bakers' flour (organic)
1.5 cups whole wheat flour (organic and freshly ground)
2 teaspoons yeast

1 teaspoon salt

¼ cup olive oil

1 cup warm water

Add flours, salt, yeast into a mixing bowl, measure out water and oil.

Make well in the centre and add liquids, mix until combined, I generally just use my fingers. Knead for 10 minutes.

Replace in bowl and cover with tea towel, leave for 30 minutes to rise.

Cut in half, form each half into a ball and roll out into two rounds about 5mm-6mm thick.

Top and bake at 220°C for 15 minutes, but check regularly after 10 minutes

Generally when cooking pizza (and there is nothing quite like the smell of cooking pizza is there?) I usually don't time it, I just keep an eye on them.

10.7 Muesli

This project has also been on the go since "**No-Buy July**". I have muesli for breakfast most mornings and I usually mix a bag of cheapie with a bag of the more expensive stuff to give me a blend that I like. Unfortunately this tends to generate some waste in the form of packaging and since neither are organic, it was clear I could do better.

My original concept was to buy in a large (somewhere between 5 and 15kg) bag of organic rolled oats and then put together a "muesli concentrate" which would contain all the other bits to turn rolled oats into muesli. This would then by mixed, in a pre-determined proportion, with the rolled oats to make the finished muesli. As with many plans, it really didn't turn out like that.

The organic rolled oats were pretty easy to get (from **Honest to Goodness**) and I got a 5kg bag for experimentation, next time the bag will be bigger. Storage of bulk rolled oats can be an issue because from previous experience I found that they attract pantry moth like nothing else, even into what I thought was a sealed container. So whether there were moth eggs already in the oats or they have the equivalent of ninjas on their team I have been

unable to find out. Even the often touted hack of putting some bay leaves in with the oats only resulted in a nicely worded note from the pantry moths thanking me for the added flavour.

Anyway, the only thing that seems to work around here for any length of time is to store the bulk oats in the freezer, which is what I do.
Now for the other bits!

My original idea was to get hold of a collection of dried fruits and nuts and then mix them to my own specification and add in some wheat bran straws (which add fibre and crunch) all hopefully in bulk and package free, to make a muesli concentrate. In practice what I found was that a bulk food place (**The Source**) which was not too far away had not only the straws, but also an organic fruit and nut mix containing: Organic Raisins, Organic Sultanas, Organic Cashew Pieces, Organic Almonds, Organic Pepitas, Organic Dried Apple, which was already pretty much what I was after.

Just for the sheer fun of it, my first mix also had a percentage (2%) of puffed brown rice (also bulk from The Source), but I found the brown rice really didn't add anything to the mix that I liked so once I had consumed them I didn't buy any more.

My initial experimentation to develop my formulation meant buying smaller amounts of everything just to try, so I took my own roughly 375ml recycled jars to buy the bulk materials in. Trap for young players: don't get the puffed rice in the jar that used to contain crushed garlic!

Now having more or less settled on my favourite formulation I got hold of some bigger (2 litre) glass jars to store the straws and fruit & nut mix in. My formulation is (by weight):
Organic rolled oats 75%
Organic Fruit & Nut mix 18%
Wheat bran straws 7%

All I do is weigh enough to make a kilogram of muesli into my clip top cereal container and turn it over and over (making sure to hold the pouring hatch closed, just sayin') until the straws and F&N mix are distributed homogenously through the mix. The only packaging involved is on the oats and that is a paper bag which is recyclable.

Cost wise it works out to about 80% of the cost per kg of an equivalent organic muesli bought packaging free.

2019 Update

OK, so I was happy with the taste side of the muesli but when I looked a bit harder at the costing, the organic fruit and nut mix was $40 per kilo! This seemed to me a bit much, and I could do better. So once the load I had bought was used I bought some bulk organic sultanas and rasins for less than $10 per kilo and then mixed them up with some casgews and organic almonds which we already had but were not being used. After a bit of playing around with percentages I found a mix that I really like and which is much cheaper that the organic mix. The percentages in the final mix are as follows –

Rasins 5.5%

Sultanas 5.5%

Cashews 4%

Almonds 3%

11.0 Dehydrating for the Pantry

11.1 The Basics

On my website you will find an article on building homemade **solar food dryer** to allow you to preserve your food by removing the moisture from it, but up until now, nothing about the process of drying. This article will give you an introduction in how to start using your dryer and enjoying what it produces.

Some Basic Rules

1. To get the best out of your drier, put the best in. In other words the best quality produce at the peak of its freshness is what you should be drying, not the tag ends of stuff that got left in the fridge and need to be used up before they go off.
2. Prepare the food to be dried correctly. Make sure you understand that some vegetables need to be blanched and some fruits require to be preserved by sulphuring (yuk) or addition of vitamin C.
3. Place the cut produce in one layer only on the drying tray, not touching each other.
4. Keep an eye on you produce to make sure that it gets the drying it needs. Storing not fully dried fruit, vegetables and meat can be a recipe for fungus or food poisoning.
5. Store you dried food correctly in an airtight container in a cool dark place to get the best shelf life out of that produce you have worked so hard to make.
6. Be diligent about your labelling so you know absolutely what is in that pack of dried up pinky black stuff and how long it has been there. It can save lots of worry or discarded food.

Drying Vegetables

Wash and dry the vegetables thoroughly and remove any tops and/or roots and slice 3-4mm thick as uniformly as possible to ensure even drying. Where appropriate blanch the vegetables by placing in boiling water for 3 to 6 minutes or steaming or microwaving for 4 to 6 minutes. Blanching has the following beneficial effects –

- It destroys any bugs which cause spoilage,

- Deactivates the enzymes which cause ripening, preventing the vegetable from continuing to age,
- Reduces vitamin loss,
- Preserves the colour of the vegetable, and
- Relaxes cell walls to make the drying process quicker.

Leave the vegetables in the drier until the desired state of dryness is achieved which usually results in a crisp or brittle texture, which may require removing the produce from the drier and storing in the house overnight if you are using the solar drier. Pack off immediately to prevent any re-absorption of moisture.

Drying Fruit

Cut the fruit in half and remove pit if present and dip in a solution of one table spoon of vitamin C powder (ascorbic acid) to 4 litres of water for two minutes then allow to drain. Place in the dehydrator. Most fruit has finished drying when still pliable but leathery.

Drying Meat

Generally speaking meat is dehydrated to produce either a jerky or biltong like product which is not cooked prior to drying and is eaten “as is” or meat to be rehydrated in soups or stews etc and this is cooked before dehydrating. In either case all fat should be removed prior to drying because the fat will go rancid, reducing the shelf life of the product.
Meat to be used in cooked dishes should be cooked to the point where it done but still tender then sliced for dehydrating and the dried until crisp. The making of jerky and biltong is a more specialised process and will be the subject of another article.

Rehydrating Dried Product

Vegetables may be rehydrated by soaking each cup of dried vegetables in two cups of hot water for half an hour then cooked until tender or alternatively they may be added to soups or stews at the start of the cooking process. Fruit may be rehydrated by soaking each cup of dried fruit in one cup of warm water until the fruit is soft and plump or alternatively it may be eaten directly in its dried form. As mentioned above, dehydrated meat should also be added to the soup or stew at the start of the cooking process.

11.2 Dehydrating Leaf Crops

It can be handy to be able to preserve your veg in times of abundance for times when they are not so abundant. Preserving leaf crops has its own unique challenges and over the years people have developed techniques to overcome these challenges and one of the most popular ways is dehydrating (drying).

I had not really thought much about drying leaf crops because I thought they would be too denatured, but I have found that drying them reduces their bulk considerable (Yeah, I know – der!) but when carried out using the correct technique, allows them to retain most of their nutrition.

There are a number of points to be taken into account when drying leaf crops to preserve them -

1. Use an indirect solar drier (or electric dehydrator) – The sun, while being a very efficient and free method of drying your leaves, produces considerable amounts of ultraviolet radiation which will have a negative impact on the nutrients in the finished product. Thus using the sun to dry edible leaves directly is not the best way. An indirect solar food drier uses the sun to heat up air, then conducts the warm, dry air through layers of the leaves to

remove their moisture. This removes the water from the leaves without reducing their nutrient value.

2. Dry the leaves within a day – this prevents moisture reabsorption overnight and subsequent moulding if you are using a solar drier. This is less of a consideration if you are using an electric drier as tis can be run until the process is complete.

3. Blanch the leaves before drying them – after picking and cutting the leaves, steam them for 3 minutes over boiling water, this kills any pathogens (important if the resulting leaf powder is to be used uncooked) and improves taste and nutrition.

The process

Drying your leaf crops to preserve them is a simple process –

1. Harvest – remember to harvest only as many leaves as you can process in a day and wash them in clean water to remove any bugs, snails, slugs etc. as well as any ummm errrr faeces that they may have left behind. I use silver beet, which we have in abundance, harvesting 10 to 12 large leaves each time which works out well for filling up our solar food dehydrator.

2. Prepare – remove any stems by scraping the leaves of the stems eg Malabar spinach, sweet potato or choko or cut the stems out of the leaves eg silver beet, spinach or rocket. If the leaves are large, cut them into 30 – 40mm squares, this will make for quicker and more even drying and that's what I do with our silver beet leaves.

3. Blanch – while preparing your leaf crops, boil up some water in a pot and place a steamer on top. Once prepared, place the leaves into the steamer and steam them for 3 minutes, and remove them. I used our usual veggies steamer on the induction cooker, just got the water boiling in the bottom pan then dumped the prepared leaves in the top steamer. After timing for three minutes I removed them from the steamer, then dunked them in cold water, which makes the next part easier.

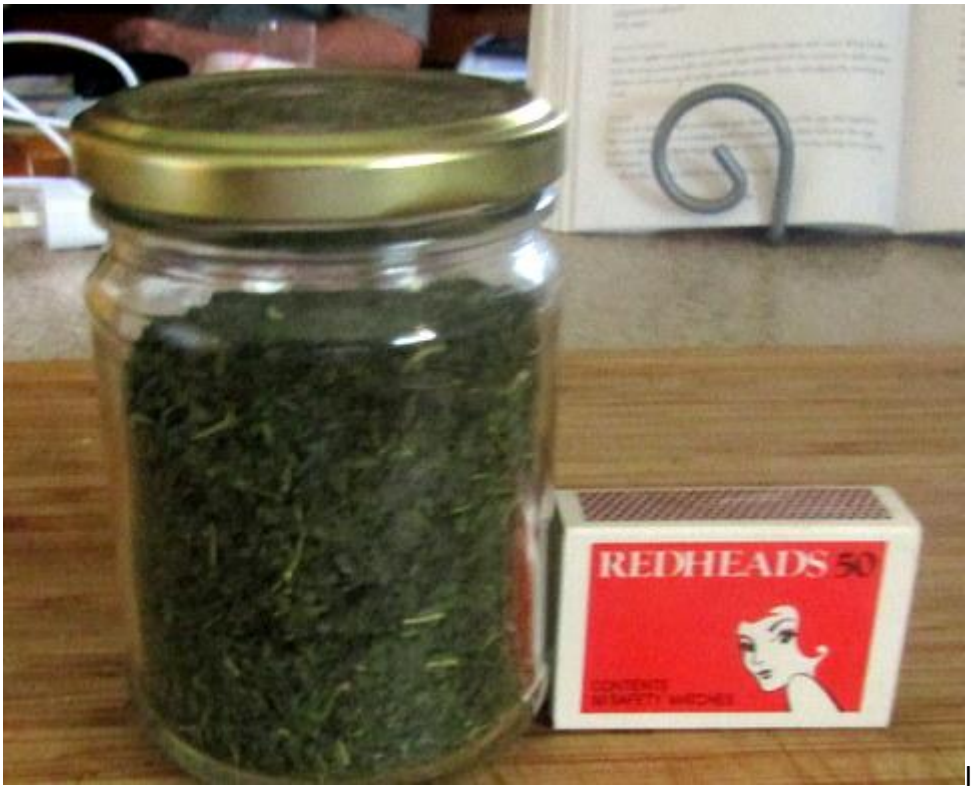
4. Arrange – place the steamed (and cooled) leaves onto the drying trays, neatly and in a single layer such that you fit the most leaves on each tray making sure there is no overlap and the leaves. Do not allow any part of the leaves to sit on the tray frame (if there is one) as this will slow down the drying process considerably. Then place the trays into the dehydrator. If using a solar dehydrator it is best to be able to get to this point as early as practicable in the morning.

5. Check – keep an eye on the leaves to ensure they are drying evenly, a quick look two or three times during the drying process, particularly towards the end is enough. Reposition the leaves if required. Our solar dehydrator sits in the backyard so it is just a case of heading out the back door and opening the drying box to inspect.

6. Process – once the leaves are dry to the point of being brittle, remove them from the drier. To break them up, rub the dried leaf pieces through a sieve, we use a small kitchen sieve which we had already. It doesn't need to be superfine at this stage. This can also assist

with removing any leaf stems or midribs not removed when the leaves were initially prepared, too.

7. Grind – The leaves are already reduced in particle size by the previous process and grinding will reduce them to a powder. I used our new coffee/spice grinder but you could try a blender or food processor if you have one, use a mortar and pestle if you are really keen, or even put it through a grain grinder if you have one of those. We found the coffee grinder worked very well!



8. Store – Store your leaf powder in a sealed container (eg repurposed glass jar) in a cool, dry dark place. It should maintain its nutritional content for up to a year. The above photo is of 45gms of leaf powder before grinding, it fills over half of a 120gm jar and is the end result of 36 silver beet leaves processed as described above.

OK, so now you have this stuff, what can you do with it?
The dried leaf powder can be used in lots of recipes and for me there are two main advantages –

1. Improved nutrition, depending on the plant(s) the leaves have been harvested from a wide range of vitamins and minerals can be added to existing dishes, and

2. The replacement of something which is difficult (or impossible) to home produce such as wheat flour with a percentage of material which can be home produced, making imported (into the home) staples like flour go further.

The books tell me that you can replace up to 20% of flour in a recipe with dried leaf powder without causing problems with flavour or texture. Read about our experience with Green Tortillas here (in preparation at the moment). Dried leaf powder can also be included in biscuits, cakes and homemade pasta. Making your own leaf powder enriched pasta can be a great way of getting the vegetable level in your kids diet up and who in their right mind would refuse to eat GREEN pasta!

Leaf powder can also be used to enrich cooked dishes like soups, stews. Casseroles and curries. More strongly flavoured leaf powders such as those made from brassicas would be more suited to curries and other strongly flavoured dishes.

11.3 Dehydrating Veg for Stock

Hot weather must be good for something!

Recently I was watching a video on YouTube about food storage and one of the things they recommended was storing dehydrated veg, which I had not really thought about. I went online to see what was out there and most of it was not available to pick up, only online and most not produced in Aus, most seems to be produced overseas then just packed here. I was looking to experiment with the carrot, celery, onion mix often referred to as Mirepoix, but dehydrated, and see what I could make with it.

After some thought it did occur to me that I had a **solar dehydrator** and had some produce, that I could use, although I would use store bought for initial mucking around, and that's what I did!

Carrot

After a bit of research, it turns out that carrot needs to be blanched, then placed directly into the dehydrator. I had a couple of large carrots, probably 200 to 300 grams worth, so I cut them up as uniformly as I could into 5-6mm cubes. From what I had read you could blanch them in boiling water for 2-3 minutes or steam blanch them for 3-4 minutes. I decided to steam blanch them for four minutes, then dump them into ice water to stop the blanching reaction so they didn't over cook. Once cooled I dried them using a tea towel and spread them out on the drying tray. The amount of carrot cubes I had fitted easily on one tray, and I put them out into the dehydrator. It was going to be a mid thirty degree day and

after 7 hours in the dehydrator, and rotating the tray once about half way through, they came out quite crispy!

Chopped

Steamed

Cooled

Spread out on the tray

Inserted!

Dehydrated!

Celery

The preparation of the celery was a bit different. I had read that they did not need to be blanched but in another source they said that if the celery was not blanched they would not have a nice green colour, but become an unappetising grey. I elected to blanch! I brought

some water to the boil, cut off the top leaves and bottom white root end of the celery and then cut the stalks into roughly thirds. I blanched the stalks in boiling water for a minute or so, then removed them and gave them the ice water treatment until they were cool, then dried them off with a tea towel. Once dried, I cut the celery stalks into thin slices across the grain about 2 to 3mm thick and arranged them in a single layer on two dehydrator trays. I placed the two celery trays into the dehydrator, one above and one below the carrot tray. By the end of the day they were somewhat crispy in places but some bits were still floppy, so I placed them back in the dehydrator the next day for a few hours to crisp up, which they did after about 3 hours.

Chopped

Boiled

Sliced

Inserted

Dehydrated!

There seemed to be a lot more when I started!

Onion

It seems that onion does not need to be blanched at all, so it was just a case of chopping the onions into as uniform pieces as I could manage, 4mm to 5mm square roughly. I spread the onion pieces out on the tray in a single layer and placed them into the dehydrator in the late morning. By the end of the day some pieces were still a bit soft in places. The next day I processed another onion, placed it onto a dehydrator tray, and then put both trays back into the dehydrator. The first tray was OK by late morning, with the second tray needing to be in the dehydrator for the rest of the day. One thing that I was not expecting was the pleasant 'cooked onion' aroma throughout the back yard while the onions were in the dehydrator.

Chopped

Inserted

Dehydrated!

During the drying process, I inserted my compost thermometer into the side of the dehydrator to get a handle on the sort of temperatures the air inside was reaching. Early in the day it was getting up to 45°C to 50°C but in the hotter afternoons it had no problem reaching temperatures of 60°C plus.

Once the veggies were dehydrated I brought them inside and allowed them to cool and once cool I placed them in sealable glass jars (to keep out moisture) for storage and labelled them with the contents and date. They will be stored in a cool, dark place (the linen press) and should last up to a year, perhaps longer.

It is summer here, so I am expecting to be able to dehydrate more of the carrots, celery and onions for me to experiment with making soup and other dishes when the weather cools off, during No-Buy July maybe!

11.4 Making Dehydrated and Powdered Herbs

I was looking around at some formulations for homemade stock powder (or bouillon powder if you want to sound fancy) so we could make our own to replace bought-in stock cubes. Most of them had several powdered herbs in them, herbs which we were growing in the garden at the time. I figure at least some home-produced ingredients were a good idea in any stuff we were making for ourselves, and I should dry and powder our own organic stuff rather than buy commercially prepared herbs. That is why I started producing our own dried herbs.

At the moment it is winter here. If the weather were warmer I would be using our solar drier and I am too impatient to just cut the herbs and hang them in a warm place to dry naturally, so I wanted to speed things up a bit. If you use your oven for cooking then you can use the residual heat after the food comes out to dry herbs. We have a Nectre bakers oven and I decided to use it to dry herbs, we have the fire going and it is heating the oven anyway, so why not?

We have some baking trays which have perforations to ensure that the heat circulates evenly and to help the bottom of the items being baked dry out and not go soggy, so I grabbed one of them. I placed a layer of rosemary cuttings on the tray, placed in the oven and left the door open so that the herb wouldn't overheat, driving off the essential oils as well as the water and thereby reducing the flavour of the dried herb. The heat seemed pretty gentle and there was no "rosemary" smell in the room so it did the job pretty well.

I checked how things were going every hour or so and then left the rosemary in overnight, because we let the fire die down anyway once we are heading for bed. The

next morning the rosemary was nice and crisp but still with its characteristic odour so the process worked.

With the rosemary dry I stripped the leaves off into a bowl and then put small amounts of leaves (say half a handful) into our mortar and pestle. I would grind the leaves for a while then pour them out of the mortar into a fine colander, which allowed the finer particle size stuff to fall through into a funnel and from there into a glass jar. Any leaves not fine enough to make it through the colander were replaced back into the mortar for more grinding. After 10 minutes or so of this all of the leaves had been processed and I had a third of a jar of fragrant rosemary powder.

My next trick will be to use my home dried herbs to make the aforementioned stock powder.

12.0 Beverages

12.1 Lemon Cordial

Someone once said that if life gives you lemons you should make lemonade, but we prefer to make lemon cordial!

Most of the cold beverages produced by the more self reliant person tends to hinge around alcohol – wine, beer, cider, elderflower champagne – you name it, booze is the way to go. Don't get me wrong I find the process of brewing and winemaking to be very interesting, but we don't drink the proceeds so unfortunately there is not much point in getting too wrapped up in it. So here is a home-grown beverage that is cheap, tasty and won't get you drunk!

You will need –

3 lemons
2 cups of sugar
1 dessert spoon of citric acid
600ml of boiling water

Method –

Using a vegetable peeler, remove the rind from the three lemons, avoiding as much of the white pith as possible, which can introduce bitterness to the cordial.

Halve and juice the lemons.

Place the rind, juice, sugar and citric acid into a heatproof bowl and add the boiling water and stir to dissolve the powders.

Leave the mix to cool so that the lemon essence is extracted from the rind.

Once cool, strain into a bottle, I find that a batch will fill a glass “Bickfords” Lemon juice cordial 750ml bottle nicely.

The cordial is ready to use as soon as it is cooled by putting a centimetre or two into the bottom of a glass and topping up with cold water. I have tried the same recipe with oranges instead of lemons, but it doesn’t seem to work as well.

12.2 Mulberry Cordial

At the right time of year we have mulberries aplenty from our big tree out the front so they can be used in pies, or on ice cream or preserved as jam, but I wondered how they would go as a cordial. This recipe is based on Sally Wise's in her book "a Year on the Farm", which has lots of great recipes in it. Anyway, I decided to give it a go and this is what I did –

1 kg Mulberries
1 litre of water
Sugar
2 level teaspoons of Tartaric Acid

I picked the mulberries over a couple of days into an empty ice cream container and kept it in the fridge in the meantime.

Once I had my kilogram, I put it into a 2 litre or so size pot and then put the litre of water in and brought it to the boil. I simmered it gently for 15 minutes. I then lined a strainer with a clean tea towel and placed the strainer over another pot and poured in the water and mulberry mix, squeezing the tea towel up a bit to get some more of the liquid out.
Once cooled the cooked mulberries went to the worms in the **worm bath**.

I then measured the mulberry liquid into the original pot (I got 5 cups) and then added as many cups of sugar as there were cups of mulberry juice. I then brought the whole shebang up to near the boiling point again and stirred in the tartaric acid. I then lightly simmered the mix for two minutes to make sure the sugar and tartaric acid were dissolved.

All that remained left to do was pour into sterilised bottles and seal. I use Bickford's lemon juice cordial when I am too busy (read: lazy) to make my own and it comes in glass bottles so we keep them to refill. Each bottle is 750mls and we got two full ones and one about a third full.

The brew wound up being fairly thick and is quite rich. I can't drink lots of it like I can the citrus based cordials. I usually make lemon cordial (see recipe above) but the recipe works equally well with limes, but not so nice with oranges for some reason, but I drink lots over the summer. The mulberry cordial is more of like the port you have after a meal than an all day, every day drink, for me it is anyway. It tastes *REALLY* good over ice cream too!

12.3 Lemonade

A couple of weeks ago we got the family together to make some home made drinks, of the non-alcoholic variety (yeah, I know!) and one of the things we made was old fashioned lemonade. This stuff is simple and quick to make so if your lemon tree is firing and the guest for you part are an hour away you might want to consider giving it a go!

To make a batch you will need –

6 cups of water
1 cup of sugar
1 cup of lemon juice

Take one cup of your water and heat it up a bit, dump in the sugar and stir to dissolve. Extract the juice from your lemons, how many you will need depends on the size and juiciness of your lemons. We used half a dozen and extracted the juice with one of those level action juicers. They use no power but give you some extra oomph to get all the juice out. As luck would have it we used lemonades rather than lemons and could have wound back the sugar a bit as a result, but the final product was still pretty good.

When your sugar solution is cool, mix in the lemon juice and dilute with the remaining 5 cups of water. For a quicker drink that is really nice stick some soda water in the fridge and use it as the final 5 cups to dilute the lemonade with. You now have fully functional lemonade which is ready to drink or can be bottled and put into the fridge. If you don't want to use soda water and have a SodaStream set up you could use that instead.

12.4 Water Kefir

I had heard about the standard milk-related kefir years ago, it makes a thick fermented milky drink that is very good for you, at least it is good for you if you can keep it down! It is not my thing but is very popular anyway. Just recently I came across water kefir through a friend and it is more my style.

It is a similar process using kefir “grains” which are in fact a SCOBY (Symbiotic Community of Bacteria and Yeast), and look like small translucent off white granules although they are, in fact unrelated to milk kefir granules. This is how I use them to make water kefir –

1. A friend gave me somewhere between 50g and 100g of granules which I placed in a 1 litre open mouthed glass jar.

2. I dissolved half a cup of sugar in one litre of tap water in a glass graduated jug then poured it off into the jar with the kefir grains.

3. I then left it to ferment for a few days and it did pick up a definite odour of fermentation. It was consuming the sugar as food as the primary fermentation.

4. After four days I poured the kefir water (minus grains) into a glass bottle with a wired on stopper. The bottle needs to be designed for a fermented product and I suspect that a lot of stoppered bottles available in the el-cheapo shops would not be able to stand up to the pressure and would blow apart.

5. Time for the flavouring agent! I use fruit, especially citrus fruit. I cut up a couple of lemons and remove the skin and pith, then squelch the fruity pulp into the bottle. I lie the bottle on its side for a couple of days to maximise contact of the fruit pulp with the kefir water, this is the secondary fermentation.

6. After a couple of days on its side, the bottle gets turned upright and placed in the ridge for a couple of days. Then it is ready to consume!

7. In the meantime the original jar with the grains gets refilled with the sugar solution and the process starts again.

It is a good idea to pop the top on the bottle once it has been in the fridge every day or two to check for carbonation. I tried one with some very sugary pineapple and it only took a day before it was super-carbonated and I lost a fair amount down the sink. Hint: Don’t do a test opening in the lounge room while sitting on the new couch.

You could try almost any kind of fruit or berry, or even fresh ginger as a flavouring agent. In the end you get a flavourful fizzy beverage without the health concerns of commercial soft drinks. This one is actually good for you!

13.0 Miscellaneous Products

13.1 Mayonnaise

Back in the day, when I was an industrial chemist I worked on developing emulsions for industrial applications. I would navigate the intricacies of disperse phase versus continuous phase, the hydrophilic/lipophilic balance (HLB) of surfactants and all sorts of other variables. Why is it then, forty years later, I found the thought of making my own mayonnaise to be so intimidating?

Perhaps it was because I would wind up consuming the results of my experiments or perhaps, I didn't want to waste good food if I stuffed it up. I'm still not sure, but here are the results of my mayo experiments.

No substitute for home grown eggs!

Why Mayo?

Part of the reason behind these experiments was to enable me to make mayo with what we had on hand any time I felt like it rather than having to buy the commercial stuff. Also, I was hoping to have a homemade product free of preservatives, antioxidants and stabilisers found in commercial mayo.

Another thing is that mayo is a ‘gateway’ product! What I mean is that once you can make mayo, there are many products that use mayonnaise as a base that can become part of your culinary repertoire. Products like tartare sauce, garlic aioli (actually garlic, mustard, BBQ and avocado aiolis) remoulade sauce, blue cheese dressing, caramelised onion dip, plus some stuff that seems popular in the US: ranch dressing. While I probably won’t make them all, I am definitely up for the tartare and aioli!

'Egg salad' made with home grown eggs and homemade mayo!

Also, let us not forget 'salads' by which I mean things like potato salad, egg salad, pasta salad and so on. Having homemade mayo means you can whip up one of these salads on short notice without having to make a trip to the shops. I love it!

The Process and the Raw Materials

I have read both that making mayo is easy and that it is finicky so I did some research. To form an emulsion you need put in energy, either physically or chemically or both. We don't own a food processor and there was no way I would exhaust myself by using a whisk, so I decided our stick blender would be my weapon of choice.

The oil we use is Aussie virgin olive oil, and I had read that it might be a bit 'full flavoured' for making mayonnaise, but I still wanted to use it, so I decided to start off with a 50:50 mix of our olive oil and a 'neutral flavoured' oil, in this case avocado oil. In terms of the rest of the raw materials –

or homegrown lemons!

Eggs – would be our own home grown. Some recipes only recommend using the yolk, but I wanted a recipe that used whole eggs. It also seems that they should be at room temperature for the magic to work.

Lemon juice – likewise, our own home grown

White wine vinegar – from the pantry (a bit old but still ok)

Dijon Mustard – I am not a mustard fan, but Linda likes it so we do have some Dijon.
Salt – standard pantry item.

Raw materials plus equipment

Experiment One

My first foray into mayonnaise-ing was based on a recipe from the website **'Inspired Taste' (Fail-Proof Homemade Mayonnaise Recipe (inspiredtaste.net)** and was listed as 'Fail-Proof'….. hah!

The recipe was –

- 1 large egg at room temperature
- 1 tablespoon Dijon mustard
- 1 tablespoon red or white wine vinegar
- 1/4 teaspoon kosher salt, or more to taste
- 1 cup (240ml) neutral flavoured oil, grapeseed, safflower or canola are best
- 1 teaspoon fresh lemon juice, optional

What I failed to consider was that the process for making the mayo is critical. I got hold of a glass jar, a 'Weck' jar with glass lid, although a vacola jar or any jar the right size would do. It is also critical for the business end of the of the stick blender to fit closely in the bottom of the jar. I then followed the procedure for what one would normally do with a food processor, place the egg in the jar, gave it a whiz for 20 seconds, added everything but the oil in the bottom of the jar, give it another whiz, then with the stick blender going, slowly run in the oil.

Unfortunately, in my case, the recipe may have been 'fail proof' but the process wasn't. The stuff mixed alright, but it did not get any thicker and did not emulsify properly. When I realised it was not working, I tried recommended fixes – add a bit of water, whiz longer, add more egg, add a bit more mustard – and nothing worked. I had broken a fail proof recipe! Regardless of what I did, it split after a few minutes, although before it got too bad I did give it a taste test.

Split!

I learned a couple of things from this experiment. One was that using the wrong type of kitchen equipment (stick blender instead of food processor) just doesn't work. That and the recipe I used had WAYYYY too much mustard for my taste.

Experiment Two

After recovering from the humiliation of wrecking a perfectly good mayo, I searched the net for a recipe that was designed to use a stick mixer, a whole egg and with much reduced mustard. What I found was a very interesting recipe from Lisa of Downshiftology, **Mayonnaise Recipe (Super Easy!) | Downshiftology** which seemed to tick all my boxes.

Her recipe was -

- 1 whole egg
- ½ tbsp lemon juice
- 1 tsp white wine vinegar
- ¼ tsp Dijon mustard
- ¼ tsp sea salt
- 1 cup avocado oil, or light-flavoured olive oil

And the process was somewhat different. She said to put the egg first, followed by everything else into the glass jar, with the oil going in last. She said then let things settle for a minute or two, then insert the stick blender down to the bottom of the glass jar, covering the egg. Run it on high for 10 to 15 seconds keeping it firmly on the bottom of the jar. This is critical apparently. Once the mayo starts to emulsify, you can then move it around to incorporate all of the ingredients. You just continue the process until all the ingredients are blended.

Everything in, allowing time to settle

So, I followed her recipe and process,……..and made mayonnaise!

There was still a slight film of oil on top, which I was able to incorporate when I transferred it to the container before putting it in the fridge. It has a somewhat more yellow look than I am used to, but I think that is due to the rich coloured yolk of our homegrown eggs. It also was still a bit mustardy but nowhere as pungent as my first attempt.

From what I have read, the mayo is OK in the fridge for a week, and by the end of the week it was mostly used up. I found the taste to be fairly mild so it was OK, but I could not help but wonder whether it would be possible to put together a mustard-free mayo, using a whole egg and the stick blender.

More research!

Experiment Three

This one I got from the 'Simplyjillicious' website **Homemade Mayo (Mustard Free, Paleo)** - (simplyjillicious.com) and was touted as being mustard free as well as gluten free, diary free and paleo. (rolls eyes).

The recipe was as follows –

- 1 cup oil (of course I used 50:50 avocado: olive oil)
- 1 egg
- 2 1/2 teaspoons fresh lemon juice
- 1/4 teaspoon salt or more to taste
- 1/4 teaspoon garlic powder
- 1/4 teaspoon onion powder
- A pinch of pepper

The onion powder was bought packaging free from a bulk store

Process

I used the same process for this mayo as the mayo in the second try, that is to say, I cracked the egg into the Weck jar first, added the lemon juice, salt and spices , then poured in the 50:50 oil, and left the mix to sit for a couple of minutes.

I placed the stick blender at the bottom of the jar and without moving the blender, turned it on high speed for 10 to 15 seconds.

After the initial 10 to 15 seconds I moved the blender all around and up and down until all the oil was mixed in thoroughly and the contents of the jar.

And sure enough, it made mayonnaise!

For obvious reasons, the mayo was not ‘mustardy’, it was fairly mild and quite pleasant. There was a taste wandering around in the background that I think was slightly ‘olivey’ (also for obvious reasons). I do think that this is a mild and pleasant mayo that suits my taste.

Conclusions

With the right gear and the right recipe you can make mayo quickly and easily

I found the low, and no mustard mayo to be quite palatable

13.2 Grated Coconut and Coconut Milk

We use coconut milk in curries mainly and I love the grated coconut top that you get on a homemade impossible pie but we avoid tinned products where we can so we decided to make our own grated coconut and coconut milk. Every part of the coconut is useful and it comes in its own recyclable packaging and with a bit of equipment (and a steady supply of coconuts) you can keep yourself in fresh coconut products indefinitely.

The Grater

Coconut graters come in various designs, hand held, hand and electric powered rotary and one built onto a stool so that you can sit on the stool and use both hands to press the coconut against the steel grater blade. The hand held one seemed too much work for me and a couple of the rotary ones I had seen did not look very robust to me so we bought a bench style one very reasonably priced from an Asian supermarket in Cabramatta. While I didn't see any on that trip, you used to be able to by the steel grater blade itself for a few dollars which you could then attach to your own stool or whatever.

The Coconut

If you have ready access to coconuts straight from the tree that is a wonderful thing! Unfortunately we are not tropical enough here in Sydney to have our own coconut palm, more is the pity, so I was reduced to buying one from the local fruit shop. You should be aware that the unripe “drinking” coconuts that they sell, especially around the Lunar New Year will not work for this process. Due to the fact that they are unripe, the layer of meat on the inside of the coconut is very thin and tends to squelch (technical term) rather than grate.

If you aren't sure you want to go through all the hassle of getting a grater and finding a supply of coconuts just yet, you can dip you toe in the water (so to speak) by buying some shredded coconut (organic of course!) and then following the directions from there.

Opening the Coconut

To use the grater most effectively and avoid unnecessary blood in the coconut milk, the process works best if the coconut is cut neatly into two halves.

First push a hole into the coconut or dig out one of the "eyes" and drain the coconut water inside the coconut, this makes a refreshing drink when cold if you like that sort of stuff, so hang onto it. To split the coconut get hold of a hammer with a sharp edge, a meat mallet is ideal, the belt the side of the coconut with the side of the mallet in a circle around the circumference. It takes a small amount practice to get the amount of force to hit the coconut with, it suffices to say that if you don't want coconut lumps start out light and work up.

At some stage of belting the coconut around its circumference a crack should appear and this will propagate around the whole thing as you continue to hit it. As a result, the coconut should collapse into two more or less equal halves. Job done!

Grating the Meat

Inside the coconut shell will be a lining of coconut meat about a centimetre thick and this is what we are going to grate. If you have the blade and stool arrangement, get yourself a bowl to grate the coconut meat into. The grater blade sits about 180mm off the deck so you need a bowl that is low enough to allow your hands room to drag the coconut over the blade but till still catch the grated meat. The one which I used was an oval 320mm by 220mm and was 60mm high, it seemed to work pretty well.

To start, wash your hands or get a spoon then sit down on the stool and get comfortable. While it was not the most comfortable stool I have ever sat on it only took about 10 minutes to grate the whole coconut. Although a bit of padding would not go astray if you wanted to do a few in succession. Once you are well seated, grasp the coconut by the outside husk in both hands then push the inside of the coconut down over the grater blade. The grated coconut will build up on the top of the blade and will need to be pushed off into the bowl regularly. One problem that may arise is flaky bits off the outside husk of the coconut rubbed off by your hands holding the coconut dropping into the bowl and contaminating some of the grated coconut. It would be worth giving the outside of the coconut a rub over to remove any loose stuff first.

At this point is it just a case of keeping going, grating off the coconut meat and scraping it into the bowl. Sooner or later you will start to hit the inside of the coconut husk, you be able to tell this by the change in “feel” of the grater and the dark brown bits appearing in the grated coconut meat. That is the hint to no go so deep, just keep it up until you get as much of the meat as you can.

Once the grating is completed you will have two half coconuts that will find uses as a fetching bikini top (Hawaiian style) for the lady of the house, to mimic horse hoof beats a la Monty Python or as small plant pots when inverted. You could also break them up and put them into the bottom of plant pots before you fill them with potting soil to help the drainage, the list of uses is endless!

Making Coconut Milk

This is the simple bit. Toss two cups of your grated coconut into a blended followed by three or four cups of hot water. Whiz the whole mess up for a couple of minutes and then pour it into cloth to filter it. I used a tea towel and it worked pretty well but split towards the end of the process so make sure you use a newer one than I did.

It works out easiest if you put the tea towel into a colander and then place that over a bowl to catch the coconut milk. Once the majority of the liquid has drained through, pick up the corners of the cloth and twist it around to squeeze out the remainder of the coconut milk. (it was at this point that mine split). There will still be some coconut milk in the meat so you can repeat the process for a couple more times or until the water runs clear.

This time I only carried out the one extraction and it gave me enough coconut milk to fool around with a couple of formulations (more about this later) and make a really nice vegetable curry, full of home grown veggies of course. The meat leftover once the milk has been extracted can be toasted in the oven or in a pan and then added into biscuits or cakes for texture and to give a bit of a coconut flavour. Although in its untoasted form it looks remarkably like snow and I'm sure could be used to simulate snow for a ginger bread house or whatever.

13.3 Arrowroot Starch

Not quite ten years ago, while doing my PDC (Permaculture Design Course) I had the opportunity to pick up some Queensland arrowroot (canna edulis) from a property we were visiting, so I took advantage of the opportunity and brought some home. I planted it where the outflow from my **productive water garden** was, to see how it would grow. It grew very well, and is still growing. It is a tropical plant so it dies down a bit over winter and then bounces back the following spring.

It grows almost too well in fact! I was doing some work around the place and had harvested some arrowroot for use, got distracted and placed it down in one of the raised wicking beds we use to grow our asparagus, then promptly forgot about it. A couple of weeks later they decided that they liked it there and sent down roots and made themselves at home. Cheeky devils!

I left them there and have been grabbing the odd rhizome for eating purposes. I must admit that so far I haven't been impressed! Baked, steamed or fried the really did not seem to do it for me. I certainly couldn't see using them as a potato substitute! But all is not lost, they have a starch that can be extracted and used as a thickener for sauces, soups and stews etc.

According to Wikipedia they contain 23% starch but I should imagine this would vary depending on the growing conditions.

It was time to have a go at extracting it for myself!

After reading around a bit it seems the process was a fairly simple one, but one large scale process talked about using sodium metabisulphite, which confused me a little because this step was not mentioned in any of the small-scale extraction processes. Oh well…..

I grabbed some arrowroot from the bed and cut off the stalks and once that was done the destalked but unpeeled rhizomes added up to 800 grams.

The first job after harvesting and washing the rhizomes is to peel the outside skin or scale off them, because according to the big boys this will result in the starch having a disagreeable flavour. So rather than stuff things up, I applied our trusty potato peeler and removed all the skin I could with this method and then used a sharp knife to cut away any of the peel the potato peeler couldn't handle.

Then an interesting thing occurred! As soon as the rhizomes were peeled, their pristine white surface immediately began to oxidise and discolour, taking on a reddish brown hue.

That explains the sodium metabisulphite, which is a reducing agent and protects against the oxidation of the rhizomes and their pulp, I guess resulting in a whiter looking starch.
The peeled but unpulped rhizomes weighed 700 grams.

Next trick is to pulp the rhizomes. Rather than using a food process (which we don't have) or a blender (which we do), I elected to use our manual grater, on the fine side. I was working on the idea that you would extract more starch if the particle size was smaller. This took a little while and some effort but resulted only mildly grated fingers and a load of quite disgusting looking mush. (yum yum!). Anyway.

To extract the starch from the mush, I added a bit of water and swirled it around in the large bowl I was using to contain the mush, then scooped a cup or two out and placed it into a double thickness cheesecloth 'cup' in my hands (for want of a better term) and then squeezed the water and starch out into another large bowl. I emptied the stuff left in the

cheesecloth into another container and then repeated the process until all of the grated mush was turned into squeezed out nuggets in another bowl.

I then replaced the squeezed out nuggets into the original bowl, added some water and swirled it all around to re-mushify (technical term) it, then re-squeezed it out again to extract any remaining starch. At this point the starch and water mix in the second bowl was an interesting reddish brown colour that the photo really does not do justice to.

I left the water in the bowl overnight to let the starch settle out to the bottom, then lunch time the next day I tipped the red water out and let the layer of starch in the bottom dry out. Once it looked dry at the surface, I shredded it up so that there was more surface area for the water to evaporate from, and left it sitting in the sun again.

The next morning it appeared to be dry enough, so I passed it through our finest kitchen sieve. The resulting powder was not as fine as the commercial stuff but seems to work OK. I could possibly have tried passing it through a layer of the cheesecloth or some other fine material mesh, which would have given me a finer powder. For those playing at home, out of the unpeeled 800gms of rhizomes I got a yield of 82gms of arrowroot flour. It is clear from this that I did not get the best yield possible and I will not be putting Arnott's out of business by competing against their arrowroot biscuits!

But, meh! Free home produced organic thickener for soups and stews etc? Winner!

Use

Evidently when using arrowroot, two teaspoons of arrowroot will substitute for one tablespoon of cornflour and one teaspoon of arrowroot will substitute for one tablespoon of wheat flour. As usual with these things, the arrowroot starch should be pre-dispersed in a small amount of cold water before adding it to the hot soup, stew or sauce to be thickened. Once thickening has taken place, the food should be removed from the heat because overheating of an arrowroot gel will cause the starch to break down and lose its viscosity.

13.4 Dandelion Honey

We like honey. Our liking for honey was certainly one of the motivators for my abortive attempt at keeping bees. That particular story can be read **here**. These days, any conversation around keeping European bees with Linda results in several mentions of the word ‘divorce’. Still, we like honey!

So my daughter invited us to go over to their place and go for a walk with her and the kids and pick some dandelion flowers. It seems that there are lots of things which dandelion flowers may be used for, and one of them is to make a bee-free dandelion honey.

Collecting the Flowers

We went for a walk near their place and found that there were lots of dandelion (taraxacum officinale) flowers, and of course other ‘weeds’ out there also with yellow flowers, for

example flatweed (Hypochoeris sp.) and sow thistle (sonchus sp.). While both of these weeds are edible, I don't know what impact they would have on the flavour of the honey. We also noticed some fireweed (senecio madagascariensis) another weed which has yellow flowers but is toxic and should be avoided.

Flatweed

Sow thistle

Fireweed

At this point I would also like to introduce the “General Rules for Harvesting Wild Herbs” (See Appendix 3) for if you are harvesting plants not on your property. it is worth a read before you set off into the unknown to harvest wild bounty!

We wandered out and over a period of about an hour or so were able to harvest two cups of dandelion flowers and my daughter did the heavy lifting on making the honey –

1. She added the two cups of dandelion heads, minus the stalks into one and a half cups of water, and then added three slices of lemon. She then heated the mixture to a simmer and simmered it for 15 minutes, let it cool and left the mixture to steep overnight.

2. The next morning she filtered out the flowers and lemon using a tea towel and then added a ratio of 1:1 sugar by weight to the filtrate in a saucepan.

3. She then boiled the sugar and dandelion extract up for a period 30 minutes or until the mixture achieves a thick, honey like consistency, bearing in mind that it will thicken up some as it cools.

So how did it taste? Well, my expectations were not high, I assumed the result would be a weird tasting sugar solution, but in reality it tasted like…….. honey! It had sweetness and viscosity from the sugar, but also floral notes from the dandelion flowers. If I had been given some in a blind taste testing I don't think I could have picked it from bee-style honey.

13.5 Two-Minute Noodles

14.0 Growing for the Pantry

This section is not a comprehensive guide to growing your own fruit, veg, herbs and sprouts, but more of a taster to give you some ideas around growing some bits and pieces for your pantry. We do have various other eBooks on these subjects available for free download and the links are included below –

Growing Veggies in Suburbia - https://www.underthechokotree.com/resources/18-free-e-books?download=193:growing-vegetables-in-suburbia
Growing Fruit in Suburbia - https://www.underthechokotree.com/resources/18-free-e-books?download=191:growing-fruit-in-suburbia
Growing Herbs & Spices in Suburbia - https://www.underthechokotree.com/resources/21-free-e-books-2?download=201:growing-herbs-and-spices-in-suburbia
Growing Sprouts and Microgreens - https://www.underthechokotree.com/resources/18-free-e-books?download=217:growing-sprouts-shoots-and-microgreens-2nd-ed
Don't have land? You can still grow food indoors (Zone Zero) - https://www.underthechokotree.com/resources/21-free-e-books-2?download=212:farming-zone-zero
Want to grow a backyard microfarm? https://www.underthechokotree.com/resources/21-free-e-books-2?download=210:starting-a-backyard-microfarm

14.1 Turmeric – Growing it, processing it!

My relationship with turmeric did not start well. Our household was pretty anglo when I was a kid, so I had had almost no exposure to herbs or spices at all, but I was given a chemistry set one birthday and, believe it or not, there was a test tube full of turmeric in it. It can evidently be used as an acid/base indicator in solution or so I hear, but anyway to me it stunk. Thus it became a component of several poorly designed 'stink bombs' and that was about it for turmeric in my childhood, until I matured and found the amazing tastiness of Indian food!

Turmeric is a tropical plant so I wasn't sure how it would cope with the variability of the western Sydney weather, but I had developed a technique which worked well for ginger, and being related, I figured it would be worthwhile trying out the same idea with turmeric. Like its cousin ginger, turmeric likes lots of water, but at the same time needs a well-drained fertile soil and heat. The question was, how could I provide that?

I found that the 'earth box', a self-watering container with a large water reservoir which I could make myself would do the trick. An article on how to build one can be downloaded **here**, and a YouTube video on constructing one can be found **here**.

The advantages of the earth box were many –

1. The large water reservoir meant that the soil could be kept damp without the need for constant watering.
2. With the water being supplied from below by capillary action there was no danger of the roots becoming waterlogged.
3. Being a container, the growing medium could be designed to suit the turmeric's' requirements and,
4. The container being black, it made excellent use of the sun's rays to keep the plant warm, even warming the soil on a sunny day in winter! Also, being a black container means they warm up and get going quicker in the spring than if the plant were in the ground, which stays colder for longer.

When it came time to set things up I was able to get hold of some turmeric rhizomes from the local supermarket, although these days a friend of mine operates an organic shop and I would obtain organic turmeric rhizomes from her. This was springtime, about 8 years ago and I wanted to give it a go.

I made four earth boxes and then filled them with good quality potting mix, enriched by about 25% with our own compost. One was for the turmeric, the other three were for galangal, ginger and spring onions. I then planted some turmeric rhizome bits I had bought and broken apart so that each piece had at least one bud, about 2 – 2.5cm deep in the turmeric earth box, and then mulched it with some straw from the chook pen.

My experience has been that they tend to grow fairly slowly, taking several years to expand to the point where I was confident that I could harvest some and leave the rest to grow. It has been only just this year that the turmeric is getting to the point where the earth box was almost full of rhizomes.

The books say the plants can grow up to a metre tall, and ours would reach that easily. They contribute to giving the backyard a wonderful, tropical feel and the turmeric flower is a real treat, so as well as being edible the plant is attractive too.

Another thing is that, so far, our turmeric has not been bothered by any pests or diseases, and so long as the water reservoir of the container is kept topped up, it just does its own thing really. This makes it an easy crop to grow.

Unfortunately, being tropical, they are not really fans of the western Sydney winter, especially when we get frost. They don't completely die back to the rhizome like ginger does but they do become pretty anaemic and scrappy looking during the worst of winter, but they do come back strongly when the warm weather returns.

Using the process I have described above, I would think you could grow turmeric almost anywhere in Australia, although the further south you go the longer it would take to get a harvest. Still, if you are not a curry fiend or have to feed a family of 20, and have access to a warm sunny spot, I think it would be possible to grow a family supply of turmeric without too much bother.

Processing Turmeric

(Please note that this process can also be used to produce ginger powder from your homegrown ginger, see the next article, but you don't need to boil it first)

I wanted to harvest some turmeric to process into the spice, but it was summer (when the solar food dehydrator works best). Unfortunately I found out by experience that the rhizomes are very small and straggly during the warmer parts of the year and the best harvest time is late autumn and into winter. Lesson learned!

So now (June 2021) it was pretty cold in the back yard so I went out and dug around in the self-watering earth box and found some nice rhizomes to play with and process, while still leaving plenty to grow. This is what I found –

Cleaning

The rhizomes have quite and uneven surface and seeing as I have never really been a fan of dirt curry, the first chore was to make sure they were squeaky clean. Initially I gave the rhizomes a good wash off with tank water outside, then took them inside and broke away any of the branched ones so that there was no dirt trapped in the areas between to branches. It was then a simple matter to remove any remaining dirt with a stiff veggie brush in the kitchen sink.

Boiling

The rhizomes need to be boiled before processing further. The boiling process gelatinises the starch in the rhizomes resulting in faster drying time and more even distribution of the rich colour which turmeric is known for throughout the rhizomes being dried. It also removes the 'raw' aroma and makes them soft and easier to work with.

To boil them up I placed them in a pot with plenty of cold water in it, 20mm – 30mm over the top of the turmeric. I then used our solar powered induction cooker to bring the pot to the boil, reduced it to a simmer for about half an hour. The end point of the process is being able to pass a skewer easily through one of the rhizomes and once I could do that I removed the pot from the heat and fished out the turmeric to cool on a rack.

Drying

As previously mentioned, I had it in my head to use our solar drier to dry the cooked turmeric, but being winter and the weather was lousy for dehydrating food, I elected to borrow an electric dehydrator from my daughter and use that. There was another issue also – from previous experience I know that the best I can get out of my solar offset drier is 60^{o}C, while the books I have read specify 70^{o}C as the best temperature. Is the extra 10^{o}C

significant? I have no idea! But I thought I should mention it anyway and the dehydrator I was using would go up to 70^{o}C, so that was it!

To prepare the rhizomes for drying once they have cooled it is just a case of slicing them up into 3mm or so thick rounds, across the rhizome. They should then be placed in one layer over the dehydrator tray and dried until nice and hard and brittle. I had read that this could take some time so I set up and let it go. I put it on just after lunch and was considering leaving the process go overnight but when I checked about 7:00pm they all looked pretty dry to me so I just removed the drying tray and let them cool for a couple of hours, before placing the dried bits in a sealable glass jar.

Grinding

While being a fun process, it has not given us the powdered spice we are looking for so the next trick is to grind them up. We have a spice/coffee grinder, but I am sure you could get away with using blender or some such. I tossed a small handful of the dried turmeric into the grinder and ran it for several bursts of a 10 to 15 seconds each. This resulted in a powder of variable particle size, so I sieved out the fine stuff using a kitchen sieve and

returned the bigger stuff for another round and so on. I think I need a finer sieve but generally the powder seemed to work well when incorporated into a veggie curry!

OK, the next bit is based on very little thought and not much evidence, but here goes anyway! It is a generally accepted fact that whole spices will retain their flavour and aroma longer than the ground variety, mostly due to the very fine particle size of ground spices allowing volatile compounds to escape. Based on the same theory, we are retaining the dried turmeric rhizomes in the glass jar and only grinding them as we need to for use.

14.2 Ginger

We like to cook Asian food of various sorts and nationalities and in the process we use quite a lot of ginger, so in the spirit of sustainability and reducing food-miles, I wanted to grow some. I have tried on several occasions both in containers and in the ground, but the result always seemed to be the same: one nice green shoot was produced and then the plant promptly died. In a fit of pique I decided to follow the old adage “if all else fails, read the instructions” and looked it up in my gardening books.

Ginger (Zingiber Officionale) is a tropical plant from the same family as turmeric (Curcuma Longa) and galangal (Alpinia Galanga) and my initial fear was that I could not provide the correct environment for it to grow in, however after some study I found that the most likely cause of my problems was lack of drainage. According to the books, ginger does best in a well-drained sandy soil with lots of organic matter because it is a heavy feeder. My problem had been the good old Sydney clay.

I decided to plant some in my main veggie patch where there was some clear space near the cucumbers that I had growing. Fresh ginger rhizomes start to send out white spikes in summer if not used quickly so I broke of four thumb-sized pieces which had at least one shoot each from our current supermarket-bought stock. I planted these into the cucumber bed about 25mm down and about 500mm away from each other. I planted them in November but in September the bed had been deeply dug and a considerable amount of horse, cow and chook poo added. A newspaper and lucerne hay mulch was then laid down

on top of the bed. At the stage when the ginger was planted the cucumbers were yielding well and planting the ginger had no effect on that.

The ginger initially sent up one green shoot for each plant that were 25 to 50 centimetres high. As the summer progressed more shoots were sent up to the point where the rhizomes appeared to be 20 to 25 centimetres long. The books specify regular feeding, but the initial preparation must have been enough because apart from regular watering every three days or so, no other management was required. Certainly none of the other pests or diseases that occasionally assail my veggies showed the slightest interest in the ginger.

Again, the books state that ginger should be harvested in the late summer for fresh use or left until the leaves have died off in the late autumn if harvested for drying. I left my harvesting until the leaves were dying off and found the ginger was still OK for fresh use. The harvest was four large, unblemished rhizomes and the one I used immediately had excellent flavour, after which I had about a kilo or more of fresh ginger to store somehow. I left the two roots outside in the shade for a week to harden off the skin a bit (that was the theory anyway) and then had to work out a way to preserve them.

I wanted to use them as fresh ginger, as opposed to dried, pickled, candied or otherwise preserved ginger so I put some moist coarse river sand into a recycled broccoli box and put the box in the garage. This successfully kept the ginger in good condition throughout the winter. By late spring the remaining ginger had some serious sprouts and was a little dried out in parts although the flavour was still good. I was able to remove some of the sprouting rhizome and plant it into the veggie patch where they did quite well.

I suppose the moral of the story is to be prepared to give growing anything a go and, when all else fails – read the instructions!

Update

This all happened some years ago and since then I have had variable response, but I believe that I have now hit upon the winning formula for growing ginger. Make yourself a self-watering growing container – see the article in the **Container Growing** area of the site – and then plant some sprouted ginger into that. The continually moist, rich, friable soil works a treat but there is one more little trick. I think that even though it is tropical, ginger probably grows on the jungle floor and has the protection of taller vegetation, the Sydney sun certainly seems to burn the living daylights out of it. To get around this I made a loop of wire at each end of the self watering container and stretched some sarlon shade cloth over them to form a cover, breaking down the effect of the sun a bit. The effect of the shade and the water was a bumper crop of ginger, so give it a go!

Note: These days, to use ginger I just go out to the container where it is growing, dig a bit up and bring it inside, and wash it. It is then ready for use and I can do this any time of year.

14.3 Garlic

When growing garlic, there is an old aphorism which says “plant it on the shortest day of the year and harvest on the longest day” and while I have tried this, all I can say is that it didn’t work for me!

I have tried garlic growing a number of times over the years, usually as part of our normal rotation in the veggies beds, interplanted with other vegetables. The results have always been disappointing: small bulbs with only a very small number of cloves to each bulb. We do go through some garlic so I thought it was time to get serious, and make a few changes to the way I grow!

Source Material

Most of the stuff available in our local supermarkets etc. seems to be imported, and most often from China which concerned me a bit. Thankfully a friend of mine runs an organic shop fairly locally so I bought a couple of Australian produced organically grown bulbs off her which I could use as my starting stock.

Planting

I figured that maybe the other veggies interplanted with the garlic may be having a detrimental effect and the competition for light and/or nutrients stunting the garlic’s growth. Also, while the garlic did most of its growing during the cooler part of the year I thought that maybe I was planting too late and giving it an earlier start might be beneficial.

So I decided that I would plant the garlic cloves in one of the wicking beds in the back yard, between the southern and central veggie beds, it gets good sun all year ‘round and will be good for watering. Also it became free from the previous crop about mid-April, giving me a good two months start over my previous plantings.

The wicking bed is 1200mm x 1200mm and I set the planting up using four rows of four plants, equally spaced away from each other about 250mm apart and pushed each clove down to about 20mm -25mm below the soil surface.

Growing

While the cloves which I had planted started to sprout fairly readily as they usually do, they also grew quite quickly with the stems thickening up rapidly, whereas before the stems themselves were always quite thin and the resulting bulb small with only a few cloves. All I had to do was make sure the soil stayed moist (we had very little rain from the end of summer right through winter) and mulched with a thin layer of sugar cane mulch to make the most of the water we had.

Harvest and Storage

I was always a bit unsure on the timing of the harvest and usually just waited for the top to die back, as I did with onions, but it turns out that is not correct. The best time to harvest is when the leaves are dying back but the top 4 to 6 leaves are still green. In practice this equated to late October for us. I did scrape some soil away from the top of a couple of growing bulbs and while they were large enough, it confused me somewhat because the bulb seemed to be composed of one large clove; there were no ridges showing separate cloves. It seems this is normal and while the bulb is drying after harvest the separate cloves become more pronounced.

Harvesting the bulbs during dry weather is the best so that the skin is dry as a wet slimy skin can encourage fungal diseases and reduce storage life. To harvest I just pulled the bulbs and then rubbed any extra dirt off them and then placed them out of the sun (to avoid sunburn on the outer skin of the bulbs) in an airy space in the garage to dry out.

We will be storing the bulbs by hanging them up in bunches in the garage which will keep them dry and away from anything which might find them tasty (except me!).

If you are going to grow from your harvest next year, hard as it is to do, select the best bulbs and put them aside for replanting in the next season.

14.4 Red Kidney Beans

When we started towards a more vegetarian (well partially vegetarian) diet I decided I wanted to do more cooking with dried beans, and I really like red kidney beans. I prefer to use the dried rather than the canned variety and when I found out the secret of cooking with dried beans (make sure they are less than 12 months old) we went over to using them. Unfortunately it proved impossible to get locally grow ones and difficult to get organic outside the cans, so the obvious answer was to grow our own.

I did some research trying to find seeds which I could plant but was unable to and I suspect that (based on almost no evidence) there is no specific variety called “red kidney bean”. I think that any red bean may be pressed into service and then christened Red Kidney Bean as required. So I did the next best thing and bought some commercial red kidney beans from Woolies.

Now it seems to me that if I were growing dry beans commercially I would use a dwarf variety because they are much easier to grow and harvest on a commercial scale. Makes sense to me! Also a friend of mine had had a go at growing them and reported that his were dwarf. So I gave over one whole bed (1.2m2 x 2.0m2) to just grow the beans and see how many I could grow.

I planted them close together, about 50mm between seeds within the rows and about 100mm between the rows running across the bed. To do this required 56 grams of the commercial seed. The process was simple, just push the seeds in about 25mm and give them a good water. Within a week they were mostly up and I got a strike rate of over 90%. I planted them a couple of weeks before Christmas.

Unfortunately there was one hiccup, where a cat decided the fresh soil would make a good toilet, but after I replanted the seedlings and cleared away the offending material it was mostly OK. (Note to self: put a wire cover over newly cleared unmulched beds to prevent this happening again!)

With regular watering the seedlings came up strongly and were doing well. They shot up to the standard height for dwarf beans (excelleeeeent!) but then kept going! (uh-oh!) Yes, they were a climbing variety of red beans and my assumption yet again proved unfounded. There wasn't really much I could do at this stage because I had not set the bed up for climbers.

What I was able to do was set up some wire mesh screens which were stiff enough to be self-supporting around the plot so at least the outer plants had something to climb up. They went around the perimeter of the bed up to about 1.2 metres high. Some of the centre plants grew up, then fell over and headed for the wire mesh. The outer ones climbed up the mesh and continued on so I ran another layer of chook mesh around the top of the lower, stiff mesh and most of the bean plants seemed content with that.

As usual with such things they grew to maturity and were ready to harvest, that is to say most of the pods were pale and the skins were thin, like parchment. It took till about mid-

March for them to get to that stage. I went through and picked all of the really dry ones and a few of the semi dry pods. Any seeds not totally dry (they were larger, the skin not as red and they were softer) I just left out on a flat surface in the dining room and after a few days they were as dry as the rest.

When totalled up the yield was in excess of 560 grams or over 10 times the amount of seed planted. I think if the bed were set up better for climbing beans or if we could get a dwarf variety the yield would be even higher. Even so I am happy and will try this again, starting earlier next spring and try and get two crops in.

Another up-side is that the bed has now had an infusion of nitrogen from the beans (being nitrogen fixing legumes and all!) so that also should be factored into the equation. All-in-all this is something we will definitely do again.

14.5 Black Beans

Every year for the past few years I have grown a small patch of red kidney beans, they are climbing beans and I have to organise wire for the to climb up each year. This year (2018) when I went to get some for seed there were none left (I use the commercial beans from Woolies), so instead I picked up black beans, which we also eat quite often. My researched suggested that the black beans were dwarf beans, which would suit how I grow, but if this was correct would remain to be seen.

I sowed 100g of beans into one of our 1.2m x 3m veggie patches in the first week of October, which has 6 flower pot ollas installed for irrigation. The beans were sowed in rows 150mm to 200mm apart with the beans being sown 20 to 30mm between them in the rows. The bed got the usual treatment with the chook tractor but was left unplanted for a month or so afterward because it gets shade from the greenhouse and I wanted to make sure it got full sun. Due to the close planting of the seeds the bed was not mulched after sowing.

As luck would have it we got a good shower of rain after the seeds were sown and at least 90% of the seeds came up. They did pretty well and seemed to survive and grow well on the water provided by the ollas, topped up one to three times a week, depending on heat and rain.

The beans became quite a dense stand of foliage and grew to the usual height for dwarf beans, they really didn't seem to do much after that. They flowered and some did send up a few tendrils but not like the mass vegetation put out by the climbing beans. We got some downpours of rain which was good but they had all flowered and I was just waiting for the pods to dry out. Thankfully we got a week of high thirties/low forties temperatures and they dried out pretty well.

The harvest point is a bit of a judgement call, the pods and the beans inside need to be very dry, but not so dry that the pods shatter and you lose the seeds while harvesting. If anything, the black bean pods seem to hold onto their beans a bit more tenaciously than the red kidney bean pods do so it was less of an issue.

They were ready to harvest by the 31st of December, giving a growing season of about 2 months or a bit less meaning I could easily get at least two crops in during our growing season. This proved to be somewhat less than the red kidney beans which require a growing season of 3 months or so.

To harvest the beans, I started at the front and cut the plants off a bit above ground level, removed all the pods and put them in a dish, then laid the cut-off plants back on the soil as

mulch. This left the bean roots and their nitrogen containing nodules still in the ground, where they could rot down and fertilise the soil. It also meant that I could systematically harvest all pods from each plant. Yes, it was every bit as much fun as it sounds, especially as the temperature was around 40°C!

In his book “Farmers of Forty Centuries” (about ancient Chinese agriculture) F.H. King talks about the Chinese taking the bean plants once the beans had been harvest from them, drying them out and then burning them as fuel to cook their food. All I can say is they must have planted an awful lot more beans than I did!

With the beans pods nicely dry and gathered in before the next bout of rain, it was just a matter of stripping the beans out, pod by pod. This is an excellent thing to do while you are watching TV or a movie, and if you can sucker your family members into helping, so much the better. The pods with their beans removed I returned to the veggie patch to also rot down and act as a mulch.

After all of that work, how much worth of beans did we get? A full 500gms or a 5 to 1 yield over our original investment, and will equate to 1500gms or more of cooked beans. Not a bad effort for a little work!

14.6 Onions

For the past 15 years or so we have been growing a percentage of our own onions, the percentage being dependant on how well we have done that year, but usually upwards of 6 months' worth. This is the process we use –

Sowing

In April each year we get hold of onion seed, usually white onions and the variety we like is Gladalan white although we have played with creamgold (a long storing variety) and also a red onion as well. We sow the onions into a couple of polystyrene foam veggie boxes, the ones with the drainage holes in the bottom not broccoli boxes.

To prepare the boxes for sowing I fill them up with plant materials such as pulled weeds, grass clippings etc. then add a 50mm layer of seed raising mix on top. The layer of seed raising mix compresses the vegetable matter, down so that the whole lot fits into the box. The idea of the vegetable matter is that because the seedling onions will be sitting in the box for months, the breakdown of the vegetable matter will provide nutrients over time for the seedlings (called sets) to grow.

I sow the seed fairly closely together and as evenly as I can by hand (that is to say, not very evenly at all!) over the surface of the seed raising mix. I then cover the seed with a thin layer of cocopeat, again by hand so that hopefully it will be uneven in the same concentration as the onion seed. I then tamp the surface down with a board to ensure good seed/soil contact. I then finish off by giving the whole thing a drenching with the watering can. The box will then sit in the greenhouse for the winter.

Planting Out

The seeds will germinate and continue to grow in the polystyrene veggie boxes until early to mid-September, by which point they will be roughly 200mm tall. I remove the sets from the box by hand and shake off any adhering soil and vegetable matter. I then cut the tops down to about 150mm long, to reduce the amount of transpiration while the roots get a hold in the new soil. I transplant them in rows about 75 – 100mm apart with about 25mm – 30mm between each plant within the rows. They get a good water and then I water them regularly and weed between the plants as required to keep the competition's heads down! Due to the amount of onions we plant, I don't do any interplanting in that bed, it is onions only.

I usually plant them into a standard veggie bed and we have gotten some good results over the years, but last year I planted into one of the beds under the 50% shade cloth cover. It may have been a coincidence but all of the onions were very small that year. So this year I went back to a veggie bed without a cover. Also this year, for the first time, then bed I planted into was provided with **ollas** (unglazed terracotta pots buried and kept full of water for irrigation) and the result was the biggest load of onions we have ever had, over 15 kg worth!

Harvest

The onions are harvested after the green leaves have fallen over and the onions have dried out a bit. This is usually late November to early December, depending on the year. I pull them up and leave them in the open for a few days for the skins to dry out, then put them away somewhere dry and cool. With the large number of onions we got this year that looks like being in the garage somewhere. We just continue to eat the onions as required and they usually last us well into winter. We'll have to see how it goes this year.

14.7 Mung Bean Sprouts

Mung beans, the beans you make the bean sprouts from, seem to last quite a number of years in the pantry and still remain viable. If, like me, you find them to be palatable and think they would be great as part of homemade stir fry, it is worth having a pack or two (bought from an Asian grocery) in your pantry. I have found the following process for growing to work every time.

I like the beansprouts that you get in the Chinese restaurants. They are mung bean sprouts and over the years I have tried to replicate them at home so I can put them in my noodle and veggie stir fries or soup noodles or even salads. I have never been happy with the results using standard sprouting techniques, however. After some trial and research I have found a simple method of producing those long white crunchy sprouts just the way I like them. The trick is keeping them in the dark until they have gotten to the right stage.

First thing I needed was a container to raise them in, I have seen those wheeled storage containers used keep stuff in pressed into service as a sprouter but this was a much larger operation than I wanted. I looked through our plastic-ware cupboard but couldn't find what I wanted – a plastic lunchbox the kids has used years ago – unfortunately in the intervening years it had been tossed.

The next trick was to head for the salvation army second hand shop, where I was able to find what I wanted for a mere $2. For this princely sum I was able to get an opaque greenish

plastic lunchbox (with lid!) which had the following dimensions - 215mm long x 140mm wide x 110mm deep (although the dimensions are not critical). To be honest I had intentions of drilling holes in the bottom to aid drainage and holes around the top to aid in ventilation, but was in a hurry to try it out. The sprouter seems to work very well just as it was without the holes, although I may add them in in the future.

A word about mung beans – dried mung beans are available quite cheaply from Asian or Indian grocery shops. They are grown for eating so sprouting with them is OK (I'm still alive). Given the choice I buy Australian mung beans.

The Process

1. Pour some dried mung beans into your sprouting container, not so many as to cover the bottom of the container, leave some room for them to expand. About 70% - 75% coverage of the bottom seems to be about right. (a rule of thumb is 125ml of seeds per litre of sprouter volume, but if in doubt put less in rather than more.)
2. Pour them out of your sprouting container and into a glass jar (the why of the glass jar become obvious later!) and cover them in fresh cool water to twice the volume of the beans.
3. Soak the beans for at least 8 hours, overnight usually works out to be a convenient soaking time. Once the beans have been soaked, check them and see if they have all absorbed water and expanded. Occasionally I find some have not and are still small and hard. If this is the case, change the water and leave them for another 8hrs – 12 hrs. If they haven't expanded by then go on to stage 4 and pick them out once the sprouting is completed.
4. Once the beans are soaked, drain them well and place them into the sprouter. Place the lid on your sprouter but don't push it on so that it is secured, leave it up a bit for ventilation. Place the sprouter in an area which does not get direct sunlight, but where you will see it and not forget to rinse it out.
5. Speaking of not forgetting to rinse your sprouts out……. Don't forget to rinse them out morning and night with cool, clean water. The rinse water can go on your plants, don't waste it!

6. Do this for about 5 to 7 days depending on how long you like your sprouts, rinse and check them twice daily.
7. Once they have reached your preferred size, rinse them and drain as thoroughly as possible, then put them in a sealed container in the fridge where they will keep for about a week.

But wait, there's more!

Before you eat your sprouts you may wish to remove the green seed coat from them. The seed coat is not toxic or unpalatable but they have a 'plasticy' texture (or 'mouth feel') and make the sprouts look crappy and unfinished. Place the sprouts in a bowl large enough to fit them all and fill the bowl with water. Gently agitate the sprouts and most of the seed coats will float off or sink to the bottom where they can easily be removed. Some seed coats, however, will have the sprout growing through them and will need to be removed manually (which can be tedious if there are lots of sprouts).

Your sprouts are now ready to be consumed and can work well in such diverse dishes as Chinese omelettes, soups, stir fries, salads, spring rolls or in small amounts as a garnish on just about anything. They are cheap, nutritious and easy to grow with a minimum of gear as well as being versatile. So get sprouting!

15.0 Resources

15.1 DIY Pantry Books

From Scratch – Fiona Weir Walmsley – Hardie Grant Books (AUS) 2022 ISBN 978 1 74379 807 2 – This is an amazingly comprehensive book if you are looking for things to make for, and out of, your pantry! The book has over 200 recipes for pantry essentials divided up into fourteen different categories. From front to back they are: 'Pantry Lovers' eg curry powder, taco seasoning, condensed milk, egg pasta; 'A Bakery Item, Please' eg breadsticks, muffins, flatbread; 'A Deep Love of Condiments' eg harissa, beetroot relish, aioli, mayo; 'Broths (and Soups) of life' eg bone broths, veggie broth, cauliflower soup, pumpkin soup; 'Breakfasts of Champions' eg fried scones, pancakes, crumpets, muesli; 'Life is Sweet' eg various cakes and biscuits, slices, desserts and special treats; 'So Saucy' eg chilli sauce, ketchup, tartare sauce, BBQ sauce; 'Jams and Spreads' eg bacon jam, lemon curd, peanut butter; 'Snackaroonies' Potato and kale chips, vegetarian sausage rolls and muesli bars; 'Obviously Crackers' eg brown rice crackers, oatcakes, seaweed crackers; 'Dairy Beloved' eg butter, yoghurt, ricotta, ghee, mozzarella; 'Fermented Goodness' eg sauerkraut, kimchee, kefir; 'Drink Me' eg hot chocolate mix, coconut milk, lemon barley cordial; In For a Quick Dip eg basil pesto, hummus, salsa, olive dip. This book is a great reference, well worth having in your library if, like me, you enjoy making pantry staples from scratch! The book has lots of colour photos.

The New Home Larder – Judith Wills – Transworld Publishers (UK) 2009 ISBN 978 1 905 81131 1 – (Larder = pantry = store cupboard) As the blurb on the back of the book says about setting up a larder – "….You'll have everything you need to make delicious and nutritious meals without shopping for items everyday". The book has three parts, part one is 'Your Larder' which provides information on setting up your own home larder including why it is important, detail on setting it up and practicalities of operating a larder including cleaning and clearing, avoiding and treating larder pests and making the most of space. Section two, almost half the book, provides a series of recipes based on the stores in your larder including easy suppers, salads and side dishes, preserves and preserving, baked goods and festive occasions. Part three is entitled 'resources' and gives a detailed paragraph on all of the larder staples and where you can get them (UK Based). The book has lots of colour photos.

Attainable Sustainable Pantry – Kris Bordessa – National Geographic (US) 2025 ISBN 978 1 4262 2333 4 – This book is written in three parts. The first part is titled 'Break out of the box' and is composed of seven chapters, chapter one talks about how to put together your own whole food pantry, what should be in it, how to store it and for how long, chapter two is about breakfast, chapter three is baked goods, chapter four is about bread, chapter five is about condiments and how to make them, chapter six is about making snacks and chapter seven is about a few DIY staples. Part two is about preserving and after an introduction on where to get produce (Chapter eight) covers pickling (chapter nine), preserving in salt sugar and oil (Chapter ten), dehydration (chapter eleven) and fermentation (chapter twelve). The third part covers various aspects of modern canning in about 100 pages. After a canning introduction (chapter thirteen) the book covers fruit spreads (Chapter Fourteen), canning fruit (chapter fifteen), canning tomatoes (Chapter sixteen), salsas chutneys and relishes (Chapter seventeen) and pressure canning (Chapter eighteen). The book has over 120 recipes and lots and lots of colour photos.

The Homemade Pantry – Alana Chernila – Clarkson Potter Publishers (US) 2012 ISBN 978 0 307 88726 9 – The book starts with an introduction on the benefits of home made food, a list of tools to help out making food at home and how to use your freezer. The book is then divided up into chapters the author calls aisles (as in supermarket aisles). Aisle 1 – Dairy gives recipes and talks about how to make products like cheese, yoghurt, butter, and crème fraiche. Aisle 2 – Cereals and snacks – similar for granola, oatmeal, popcorn and car snacks, Aisle 3 – canned fruits, vegetables and beans, Aisle 4 – condiments, spices and spreads such as ketchup, mustard, salad dressings and spice mixes. Aisle 5 – soups, including stock, lentils soup and pureed soups, Aisle 6 – baking needs and mixes including pancakes and waffles, pie crust and pudding, Aisle 7 – frozen foods including veg, pizza and veggie burgers, Aisle 8 – Pasta and sauce Aisle 9 – breads and crackers including hamburgers buns, bread and tortillas. Aisle 10 is drinks including teas, sodas and hot chocolate and Aisle 11 is candy and sweet treats such as fruit rollups, marshmallows and chocolates. The book has lots of colour photos.

Larder – Orla McAndrew – Blasta Books (Eire) 2025 ISBN 9978 1 7384795 6 6 – This book is part of a series of at least eleven other books in the 'Blasta' Series. The books are small (A5

67 pages) providing quick and easy recipes for their chosen subject. This book provides 100 recipes covering 30 pantry staples, covering how you can make a quick feed combining the focal pantry staple with other pantry staples to make quick delicious recipes. Focus staples include pesto, hummus, eggs, rice, pasta, gnocchi, tinned fish and coconut milk. There combination pages with a number of recipes on a single idea such as 'supermarket sweep', 'build a bowl' and 'one sauce, many ways'. The book has many coloured line drawings.

The Pantry Gourmet – Jane Doerfer – Rodale Press (US) 1984 ISBN 0 87857 506 5 – At almost 300 pages long, this is quite a comprehensive book, to be fair though, it was written in the early '80s and still pays some homage to the food of the '70s. It may not be to everyone's taste! The blurb on the cover summarises things pretty well – "over 250 recipes for mustards, vinegars, relishes, pate's, cheeses, breads, preserves and meats to stock your pantry, freezer and refrigerator." The book starts with an introduction that also covers the ingredients used in the book and is followed by twelve chapters. The chapters cover, respectively – condiments; appetizers salads and soups; relishes and pickled vegetables; fruit preserves; meats sausages and pates; fish; cheeses; pastas, breads and pastries; sweets; snacks and beverages; cold sauce and salad dressing; basics. Illustrations are restricted to a small number of line drawings.

A Self-Sufficient Larder – Mike Foxwell – MacDonald Optima (UK) 1988 ISBN 978 0 356 14860 2 – This is another small book, but it is quite informative, covering a large number of subjects, recipes and details on how to do things. The introduction talks about how food production in the UK has gone from local to centralised and the issues with the numerous additives involved. There are eleven chapters in all, with a chapter covering bread; chutneys, sauces and ketchups; sausage and burgers; curing meat; jam making; soft cheese; pies, pates and terrines; brewing beer; winemaking; ice cream; organic herb growing. The book has a few line drawings.

Meals in a Jar – Julie Languille – Ulysses Press (US) 2013 ISBN 978 1 61243 163 5 – The idea behind this book is that you can put together homemade ready meals yourself and store them in your pantry. They will not have the preservatives and rubbish in commercial ready meals, but can contain home produced ingredients and they will also be cheaper. The book has ten chapters, the first one giving the what and why of homemade ready meals, chapter

two gives an introduction to canning and dehydrating foods at home and chapter three introduces the equipment, ingredients and supplies needed. Chapter four, breakfast in a bag, gives recipes granola, pancakes muesli etc, chapter five, soups on, gives recipes, instruction on how to put together and other necessities (eg a can of tomatoes) and how to set up the instruction on the label for 24 soups. Chapter six does the same of pastas and chapter seven covers 24 main courses such as chicken and veg (10 ways), pulled pork braised brisket and coq au vin. Chapter eight, ready-made meal side kits covers things like grits, polenta, mashed potatoes, tortillas and naan. Chapter nine covers snacks beverages and extras and Chapter ten covers the all-important dessert including cobbler mix, ten different cookie mixes and sugar and spice nuts. Apart from a diagram on each chapter title page, there are no illustrations.

The Spice and Herb Bible – Ian and Kate Hemphill – Robers Rose (CAN) 2014 (3rd ed.) ISBN 978 0 7788 0493 2 – This is a BIG book! It is almost A4 size and 800 pages long. If you have a hankering to put together your own spice mixes, this is the book for you! The book is divided into three parts, the first part – 'The World of Spices' covers the first 36 pages and talks about the spice trade, difference between a herb and a spice, culinary and medicinal herbs and spices, growing drying and storing your own herbs and using them fresh. The second part – 'Spice Notes' is a series of almost 100 monographs on herbs and spices including over 150 recipes. Each monograph covers names of the plant in other languages, background, the plant, processing, buying and storage, use and usually a recipe or two. Part three – 'The Art of combining Spices' gives a general introduction then recipes and details on making 66 spice blends, including how the blend is prepared and used. The book hs a large number of colour photos.

15.2 Books on Preserving (General)

Preserving the Italian Way – Pietro Demaio – Self Published (AUS) 2008 ISBN 978 0 646 49008 3 – I love this book! Written by a Melbourne based GP it really gives the low down on how to preserve foods the way the Italians do, and you have to love that. The book covers preserving in oil and vinegar as well as preserving olives, mushrooms, fish, salami and salted meats. There are also wonderful sections on cheese, wine and bread making. A great book for anyone's library.

Home Preserving Made Easy – Vera Gewanter and Dorothy Parker – The Viking Press (US) 1975 ISBN 0 670 00591 6 – For many years this was my only book devoted specifically to food preserving and if you can find it, it is well worth getting. There are sections on natural storage, pickling, drying, canning (bottling in Aus), freezing, jams etc, wine, cheese, butters and sauces. A really good book.

A Year in a Bottle – Sally Wise – ABC Books (AUS) 2008 ISBN 978 0 7333 2334 8 – A good Aussie book with lots of recipes that won't make you gag (some preserving books do....), that is to say the recipes are really good. The book covers Jams and jellies, chutneys, relishes and pickles, food drying, freezing fruit and vegetables and bottling fruit. Worthwhile!

Preserving - Oded Schwatz - Dorling Kindersly Ltd (UK) 1996 ISBN 0 7513 0345 3 – The book is broken up into three sections; a gallery of preserves; preserving equipment and techniques and the recipes. The book gives very clear instructions and has good photos covering preserving in vinegar, oil, making sauces and chutneys, drying fruit and vegetables, smoking, salt curing meat and fish, making fruit cheese and curd, preserving in alcohol and candying. This is a good book if you can get it.

Home Preserving – Renny Harrop (Ed.) – Cavendish House (UK) 1981 ISBN 0 85685 961 3 – A coffee table book short on range and short on recipes it covers jams, jellies and marmalades; chutneys, pickles, sauces and drying herbs. Not worth looking for really.....

Keeping the Harvest – Nancy Chioffi & Gretchen Mead – Storey Publishing (US) 1991 ISBN 0 88266 650 9 – No photos but lots of great information. The book covers planning, freezing, canning, jams and jellies, pickles and relishes, curing with brine, drying and storage. A good book.

The Preserving Book – Lynda Brown - Dorling Kindersly Ltd (UK) 2010 ISBN 978 1 4053 5628 2 – I have to give this one a good rap up, my old mate Andy Hamilton (Self Sufficientish) is a contributor! It is a good book though, with lots of information and good photos and printed on high quality paper. The book covers natural storage, drying, freezing, sweet preserves, savoury preserves, bottling, preserving in oil, salting and curing, smoking, brewing and winemaking. A comprehensive and worthwhile book.

Stocking Up – Carol Hupping Stoner (Ed.) – Rodale Press (US) 1977 ISBN 0 87857 167 1 – A huge book broken up into sections for fruit and vegetables, dairy products, meat and fish, and nuts seeds and grains. A whole stack of information on freezing canning and drying, relishes, chutneys and Jams as well as curing and smoking meat, making cheese, butter, yoghurt and ice cream. The book has a few B&W photos and some very good line drawings.

The Complete Book of Preserving – Marye Cameron-Smith – Marshall Cavendish (UK) 1982 ISBN 0 85685 174 4 – Regardless of the title the main thrust of this book is the bottling of jams, jellies chutneys and the like with some discussion curing, smoking and salting and a small amount on drying and freezing. Lots of colour photos!

Pickled, Potted and Canned – Sue Shephard – Headline Book Publishing (UK) 2000 ISBN 0 7472 2334 3 – This is not a "How to..." book like the rest of the books on this list, but is more a history of food preservation and as such is utterly fascinating, well researched and well written it is a delight to read. If you want to know how a lot of the food preservation techniques we take for granted today came about get hold of this book, it is a great read.

Preserved – Nick Sandler and Johnny Acton – Kyle Cathie Ltd (UK) 2004 ISBN 1 85626 532 3 – The book covers a broad range of techniques with a few recipes using each of the products. The large format and colour pictures give it a coffee table feel but there is also a lot of good information here. The book covers drying, salting, smoking, sausages, pickles, infused oils and vinegars, fermenting, preserving with sugar, alcohol, bottling and canning, air exclusion and freezing.

How to Store Your Garden Produce – Piers Warren – Green Books (UK) 2008 ISBN 978 1 900322 17 1 – This first part of this book discusses the techniques of preserving fruit and vegetables including clamping, freezing, drying, vacuum packing, salting, bottling, jams etc., fruit butters and cheeses and fermenting. The second part of the book covers each type of produce and how the basic techniques apply to it. A small book with some colour photos in the middle, and lots of good info.

15.3 Books on Preserving – Specific Techniques

Bottling (called "canning" in the US)

The Fresh Girl's Guide to Easy Canning and Preserving – Ana Micka – Voyageur Press (US) 2010 ISBN 978 0 7603 3846 9 – And no, before you ask I am NOT a fresh girl! A very helpful DVD comes with the book. Good for those starting out, I bought a copy for each of my daughters; it covers atmospheric and pressure canning.

Out of the Bottle – Sally Wise – ABC Books (AUS) 2010 ISBN 978 0 7333 2557 1 – A follow up to "A Year in a Bottle" this book provides a series of processes for bottling various types of produce and then goes on to recipes for using your preserved foods. We can recommend the curry paste and tomato chilli chutney recipes.

The Best-Ever Book of Preserves – Catherine Atkinson and Maggie Mayhew – Hermes House (UK) 2008 ISBN – 978 1 84661 308 5 – This is a massive book with over 140 recipes covering jams, jellies, pickles, relishes and chutneys and with over 220 photos. We picked it up at a remaindered book sale and have seen several very similar versions of the same book with different bindings. It was quite cheap and if bottling is your bag, worth the money.

The Complete Guide to Home Canning and Preserving – US Dept of Agriculture – Dover Books (US) 1999 ISBN 0 486 40931 7 – This the reprint of a series of USDA guides for home canning. No photos but a series of very clear line drawings that are better than photos. The guides cover the basic principles of home canning, the selection, preparation and canning of fruit, tomatoes, vegetables, poultry and red meat, fermented foods and picked vegetables and the canning of jams and jellies. Lots of detail and good information.

Perfect Preserves – Joan Wilson – Viking O'Neil (AUS) 1991 ISBN 0 670 90425 2 – This book contains over 300 recipes, including 7 recipes using chokoes! The book has no photos or drawings but lots of good information and recipes covering jams, conserves, jellies, marmalades, chutneys, relishes, vinegars, pickles, mustards and sauces. There is a good section on the basic process and even tips for microwave bottling.

The Book of Preserves – Pamela Clark (Ed.) – The Australian Women's' Weekly (AUS) 1990 ISBN 0 949892 70 X – This book has lots of good recipes and lots of colour pictures and covers relishes, jams and conserves, marmalades, jellies, chutneys, pickles, sauces, butters and spreads and liqueurs.

Jam It! – Gina Steer – Parragon Books (UK) 2009 ISBN 978 1 4075 7031 0 – A small book with lots of full page colour photos and only 1 recipe per page. The book covers jams and conserves, jellies, marmalades, curds and butters, chutneys pickles and relishes and preserves but only has a handful of recipes in each section.

Dehydrating (Drying)

Drying Fruit, Vegetables & Herbs – Doug Kneen – Victorian Dept. Of Agriculture (AUS) 1991 ISBN 1 86337 051 X – No photos but a few line drawings, this small book includes equipment required and the process for drying fruit vegetables and herbs as well as storage of dried product and some recipes for using the dried product.

Drying Food – Ricky M Gribling – Hyland House Publishing (AUS) 1997 ISBN 1 875657 61 4 – The book has some appetising photos as well as line drawings of the dehydrators. The book covers dehydrating soups, grains, proteins (e.g. Bacon, beef, cheese, yoghurt etc), fruit, vegetables and herbs and after a discussion on how to dry them, recipes for how to use the dried product are provided. Some difficult to get and unusual information is provided in this book, it is well worthwhile if you can get it. There was also a similar book on smoking brought out at the same time by the same publisher, but I don't have it.

Mary Bell's Complete Dehydrator Cookbook – Mary T. Bell (funny 'bout that) – William Morrow and company Inc. (US) 1994 ISBN 0 688 13024 0 – This comprehensive book is broken up into two sections, the first one giving the details on how to dry fruit, vegetables, herbs, meat and fish and the second section giving a series of recipes showing how to use the different types of dehydrated foods. No photos or line drawings.

Making and Using Dried Foods – Phyllis Hobson – Storey Publishing (US) 1994 ISBN 978 0 88266 615 0 – Not a big book but lots of info. There is a good section at the start about what to look for when buying a dehydrator followed by discussion on the pros and cons of pre-treating then details on drying individual fruits, vegetables and herbs as well as meats, dairy products and grains. This is a good book worth having.

Dehydrating Food: A Beginner's Guide – Jay and Shirley Bills – Skyhorse Publishing (US) 2010 ISBN 978 1 60239 945 7 – Flashy book with lots of colour photos but lacks the depth of information of other books. It also contains extensive quotes from an old and presumably out of print book on food drying. The book does contain 164 recipes for using dehydrated food products and cover dehydrating fruit, vegetables, meat and herbs.

Pickling

Creative Pickling at home – Barbera Ciletti – Lark Books (US) 2000 ISBN 1 57990 307 X – The book starts off with a discussion of vinegar then provides a list of pickle recipes to make and finishes of with a series of recipes showing how to cook with pickled ingredients. This is a good book with lots of detail and a considerable number of colour photos and has a good discussion of the basics of pickling and the equipment required. If pickles are your thing, this is the book for you.

Quick Pickles – Chris Schlesinger, George Willoughby and Dan George – Chronicle Books (US) 2001 ISBN 0 8118 3015 2 – These are quick easy recipes but tend to only keep for a number of weeks and require refrigeration so it is more for the taste that these are made rather than long term preserving. The book covers fresh fruit and vegetable pickles, fermented pickles, oil pickles and pantry pickles, which tend to have a longer shelf life.

15.4 Home Dairy Product Making

Making Cheeses – Susan Ogilvy – Book club Associates (UK) 1976 ISBN 978 0517526356 – It has been around a while but this is a good, basic how-to book for home cheesemaking. Not vast amounts of detail but a good coverage of the basic process, equipment needed, processes for soft and semi-hard cheeses as well as some homemade cheese recipes. There is also a small section at the back covering yogurt, cream and butter making at home. There are no photos but some line drawings, particularly of the equipment.

Making Your Own Cheese & Yogurt – Max Alth – Funk & Wagnalls (???) (US) 1973 ISBN 0 308 10081 6 – This book goes into the history of making dairy products in some details and is written more as a narrative than a straight series of instructions. The author gives details on the different types of milk, using a culture and using rennet, pressing the cheese and equipment required. Yogurt and Keffir are also covered. An interesting book but if you want to cut to the chase and get making probably not the book for you. No photographs but a few line drawings.

Butter and Cheesemaking – V. Cheke and A. Sheppard – Alpha Books (UK & US) 1985 ISBN 0 9066070 14 4 – A reasonable start-out book for home dairy product making including some background on milk and cheesemaking the process in general terms taints in milk and how to test for them, making soft and semi hard cheese, cream, butter, yogurt and junket. No photos but some line drawings.

Cheese and Cheesemaking - Glynn Christian – Macdonald Guidelines (UK) 1977 ISBN 356 06018 7 – This is a verrrry basic book providing information about who makes cheese, history of cheesemaking and types of cheese; then basic instructions on cheesemaking, buying and storing cheese, serving and cooking with it and then provides a guide to some of the European cheeses. The book has some colour photos, black and white photos and line drawings but not a huge amount of information in any one section.

The Art of Home Cheesemaking – Anne Nilsson – Woodbridge Press Publishing company (US) 1979 ISBN 0 912800 56 9 – This book gives a good grounding in the ingredients, tools (including a homemade cheese press) and takes you through making fresh cheese, hard cheese and soft cheese. The author also goes through making whey cheese, goat cheese and sheep cheese. There is one set of colour photos and the text is interspersed with some black and white photos.

Home Dairy – Ashley English – Lark Crafts (US) 2011 ISBN 978 1 60059 627 8 – This more recent book covers the history , ingredients and equipment, including equipment for making butter, ice cream and yogurt as well as cheese. It goes on to cover the home production of butter and ghee, cultured dairy like buttermilk, yogurt and keffir; cheese and ice cream followed by (of all things) dairy based body care recipes. Not as information dense as some

books but good simple instructions and lots of colour photos. Also include DIY instructions for making a cheese press and traditional “mother” cheese culture.

The Home Creamery – Kathy Farrell-Kingsley – Storey Publishing (US) 2008 ISBN 978 1 60342 031 0 – There is a cursory coverage of ingredients and equipment, a bit more detailed coverage of cultured dairy products including sour cream, crème fraiche and quark and a section on soft, unripened cheeses. There is nothing on semi-hard or hard cheese and half the book is taken up with recipes of what you can do with the dairy products once you have made them. The book is not particularly information dense, has no photos and only a few line drawings.

Home Cheesemaking – Ricki Carroll – Storey Publishing (US) 2002 ISBN 1 58017 464 7 – The book has a good coverage of ingredients and equipment required for cheesemaking and an excellent review of cheesemaking technique with lots of line drawings. What then follows is a series of 75 recipes for home made hard and soft cheeses with some stuff about cultured dairy products thrown in. The book finishes off with a small selection of recipes showing how to use the cheese. There are no photos, but good line drawings where they are needed.

Cheesemaking Made Easy – Ricki & Robert Carroll – Storey books (US) 1982 – ISBN 0 88266 267 8 – This is the previous edition of “Home cheesemaking” covered above. It is a smaller volume with 60 or so cheese recipes and a relatively greater coverage of ingredients, equipment and processes. With lots of black and white phots and detailed line drawings it is an ideal book to start out with.

Making Your Own Cheese – Paul Peacock – Spring hill House (UK) 2010 – ISBN 978 1 905862 48 1 – there is a good section on cheesemaking, for want of a better term, theory called “how cheese is made”, the section on ingredients is good but the section equipment is fairly poorly illustrated with a few low quality line drawings. This is followed by a section on the home production of almost 50 cheeses with detailed step by step instructions, but no illustrations. There are no photos and only a small number of line drawings.

15.5 Beverages

The Complete Book of Herbal Teas – Marietta Marshall Marcin – William Collins & Sons (UK) 1983 ISBN 0 00 411255 5 – This one is a pretty comprehensive little book with chapters on the history of tea, cultivating herbs, drying freezing and storing them, planning your garden, how to brew herbal teas and creating tea blends. There is also a large section (over half of the book) devoted to a compendium of 70 herbs. Each entry gives the history, a description of the plant, how to cultivate it, the parts used for tea and the methods of brewing for that individual herb. No photographs, but there is a line drawing for each herb in the compendium and a few other scattered about the book.

Drinks from the Wilds – Steven A. Krause – Stackpole Books (US) 1996 ISBN 0 8117 2733 5 – The book covers the history of using wild plants for food drink and flavouring and Identifying and harvesting wild plants. The following sections cover how the plants are used including wild fruit drinks, beers, cold drinks, coffee substitutes and teas. At the last are chapters on saps, syrups and gums; vinegars, oils and chocolate substitutes and finally on herbal seasoning. Each entry gives a discussion on the plant, as line drawing and how it is used to make a drink. This is an American book so some plants are limited to North America, but others have worldwide distribution. The only illustrations are line drawings of the plants.

Homemade Soda – Andrew Schloss – Storey Publishing (US) 2011 ISBN 978 1 60342 796 8 – This book contains 200 recipes for making fruit soft drinks, sparkling waters, root beers and cola brews, herbal and healing waters, sparkling teas and coffees, shrubs and switchels (whatever the hell they are!) and cream sodas and floats. There are three types of production processes described – mixing homemade juices and syrups with soda water, using a soda syphon to carbonate homemade essences and brewing from scratch, in this case root beers and colas. This is American so some of the suggestions may seem somewhat nauseating initially but there are lots of good ideas. The book contains the odd line drawing and colour photo.

The Green Smoothie Garden – Tracy Russell (Ed.) – Adams Media (US) 2014 ISBN 978 1 4405 6837 4 – While I find them revolting myself, this is a hot topic at the moment. This book is about growing your own ingredients to make your green smoothies, but you gotta start somewhere and the book does have over 60 recipes for green smoothies. Part 1 covers

from garden to smoothie and is basically how to grow the plants, making the best of your space, tools needed, pests and diseases etc. Part 2 covers the requirements for individual vegetables and is divided up into leaf vegetables; brassicas and roots; peppers herbs and others. Part 3 is a whole stack of recipes for the vegetables you've grown divided up into the same three sections as part 2. Almost no illustrations.

Homegrown Tea – Cassie Liversidge – St Martin's Griffin (US) 2014 ISBN 978 1 250 03941 5 – The book covers teas and tissanes, with a short introduction about standard black tea. The book is then divided up into a number of entries under the parts of the plant used to make the tea: leaves, seed, fruit, flowers and roots. Each entry covers a different plant and has a general introduction about the plant, what medicinal benefits it has, how to grow it, how to harvest it and how to make the tea. There is also a list at the end of each entry of which other plants can be blended with it to give different flavours. It is a glossy book with lots of colour photos.

A Garden of Miracles – Jill Davies – Frederick Muller (UK) 1985 ISBN 0 584 11108 8 – This book has an introduction on why you might want to consume herbal drinks, followed by a list of herbs you may wish to cultivate (and of course, consume!). This is followed by a section on how to grow them in large and small spaces and how to brew the teas once grown. There is then an extensive table giving the herb, parts of the plant used, the colour of the material once it is dried, what the resulting tea tastes like and what it smells like. The final two chapters contain a series of recipes, the first is herbs for health, beauty and body maintenance, and the second and final chapter is on recipes for herbal drinks. The book has almost no illustrations.

Appendix 1 – Pantry Audit Form

Item	Packaging type	Pack size & Number	Usage	Alternative Options

Usage
1 daily/weekly
2 monthly or less
3 dead stock

Appendix 2 – Grocery Data Form

2.1 Groceries

Date	Item	Size	Number	Total cost

2.2 Fruit and Vegetables

Date	Item	Supplier	Amount	Cost per Kg	Total Cost

3. Meat

Date	Item	Supplier	Amount	Cost per Kg	Total Cost

Appendix 3 - General Rules for Harvesting Wild Herbs

If you want to forage wild herbs to add to your larder, that is a great thing, but to make sure that you do it in a manner that does not introduce unnecessary risk or difficulties there are a few simple rules you should follow –

1. Before you harvest and consume a wild herb, ensure that you have absolutely identified it. This should not be difficult but there are cases where it is possible to mistake a toxic relative for the target plant so it is better to be sure than sorry.
2. Be careful when harvesting wild herbs from parks and roadsides due to council's use of herbicides, pesticides and chemical fertilisers. It is also possible for roadside weeds to accumulate toxins produced from automobiles, less of an issue now that we no longer use leaded petrol but toxin absorption is still potentially a source of concern.
3. Don't take the entire plant. If you are going to use the leaves than harvest some leaves rather than uprooting the entire plant so that a supply is left for others to use or for yourself at a later time. Obviously if there is a field of the stuff growing, this is less problematic than if there are just a couple of specimens.
4. If, after being in contact with wild herbs, you start to show symptoms of irritation or allergy like hives, redness and/or itchiness do not consume the herb or handle it anymore and get checked out by a doctor.
5. Don't trespass! If there are wild herbs you wish to harvest growing on land which is obviously privately owned ask first. This prevents acute cases of lead "poisoning".
6. Wherever you gather your wild herbs from always wash them before processing them or consuming them in any form, at the very least it will get rid of any dust and dog pee.
7. While many wild herbs are safe to consume, some may be unpalatable and not worth your time and effort to harvest, clean and cook so when starting out with a new herb, start small.
8. Always gather only healthy plants that don't show any signs of disease or pest infestation.

Keep the above in mind when you go wandering but don't let it put you off gathering and using wild herbs to supplement your diet. Wild herbs have no food miles associated with their production, cost nothing and quite often provide high quality nutrition so go for it! Just make sure you do your homework first.