

Chooks and The Choko Tree



By Nev Sweeney

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0.0 Introduction

Chooks are the ideal animal for the suburbanite looking for a more sustainable, more self-sufficient lifestyle. They are easy to feed and look after, cheap and easy to get and produce lots of things. There can be surprising psychological benefits as well. Just sitting in the back yard on a summers evening in amongst the fruit trees with the veggie patch on one side and a few chooks pecking about the yard on the other can be very relaxing and a wonderfully satisfying experience.

What Chooks do for you -

1. Eggs - They will produce eggs, how many will depend on the breed, how old they are, the time of year, etc but they will produce eggs and, with luck, lots of them so if you are going to keep chooks make sure you keep a list of your favourite egg recipes.

Your eggs will also be free of any adulterants. Back in the day, I was at a paper conference in Melbourne and became friends with a gentleman from BASF (they make dyes among other things). In a conversation I had with him he explained that the commercial process of egg production is so rough on the chooks, the egg yolks come out white. His job was to go around to the egg producers and help them work out how much dye needed to be added to the chook feed to get the desired yolk colour. He even showed me the colour card they used. Shortly after that we got our own chooks.

2. Cultivate the soil – chooks love to scratch and to dig the soil, this can be a good thing if it is done in an authorised manner by keeping them in a chook tractor as we do, more on that later. It can be a neutral thing if the chooks stay in the run or area you have prepared for them, or it can be a bad thing if they cultivate in an ‘unauthorised manner’ ie they escape and buzz cut your veggie patch down to ground level in an amazingly short amount of time. Whatever you do, chooks will dig and scratch and you need to be aware of that and be prepared to use it or at least contain it to areas where they won’t do any damage.

3. Produce manure – Again this can be a blessing or a curse but if you grow your own veg it will be a blessing. If you use a chook tractor the chooks will, for the most part, distribute and dig it in by themselves, one of the attractions of the chook tractor idea, but if you use the standard chooks shed and run, you will need to collect and distribute it yourself, whether to you own plants or by passing it on to gardening friends.

4. Entertainment and companionship – as mentioned above, it is great to just sit and share your backyard with your chooks, or to watch their antics as they go about their day doing ‘chooky’ things. Also, while chooks may not be scintillating conversationalists, they are great listeners. They also add a sort of ‘aliveness’ to your place. Back in the day I was going to Europe with my family for Christmas but they had left three days before me, we were going to be gone for over a month so the chooks were being sat by some friends, and it was an interesting feeling to be in the backyard without the chooks. Amazingly enough it felt dead without their presence. Just sayin’.

5. Meat – you can produce your own meat if you have a mind to, whether by raising a breed or crossbred chook specifically designed as a meat chook or by raising a ‘dual purpose’ breed and then eating them at the end of their laying lives. I have despatched and prepared chooks for eating but I can’t say that I am particularly comfortable with it, but on the other hand you can give them a good life, with one bad day at the end. Either way it is personal choice.

6. Feathers – every year in autumn all of your chooks are going to change their feathers, it may quickly or slowly, but each bird will totally replace their entire covering of feathers. So do you want to fool around with quill pens, or perhaps stuff a pillow or comforter (depending on how many chooks you have)? In any case, feathers are a great slow release, high nitrogen fertiliser for use in the garden.

7. Carbon dioxide – OK, this one may seem a little bit ‘out there’, and while I have read about it I have not tried it myself. If you grow food, or anything else for that matter, in a greenhouse, by allowing your chooks to spend some time in there the CO₂ they respire can build up and encourage faster plant growth rates.

8. Ethical actions – If you have ever seen how chooks are factory farmed (for meat or eggs) you will be aware of just how nasty, brutal and short their lives are. Raising and keeping your own chooks ethically in your own back yard means they will have a better life and you will not be supporting a cruel system.

Keeping chooks is a wonderfully productive and fun enterprise. Check with your local council to see what sort of restrictions they have in place because it is important to know what is required for the legal license. It is more important, however, to maintain the social license ie not to crap off your neighbours. We have never had a problem but a few eggs here and there can smooth the way.

As a sample, these are the sorts of restriction you will likely to see put in place by your local council, but they could vary so you still need to check –

- No roosters (this is common in most urban and suburban council areas)
- Maximum 6 to 10 chooks
- You must manage odour, noise & pests, this will also assist with you maintaining the social license.
- The poultry shed must be paved and/or 15.2m from your dwelling
- The poultry yard must be enclosed & cleaned regularly

1.0 Chook Basics

1.1 Breeds



The trouble with many city or suburban locations there is not enough space to keep full size chooks and still remain within the council regs you should check with your local council about this. One possible way around it is to keep bantams which may be classed as caged birds and so the space rules may not apply. They are good layers but tend to go broody in summer, good if you want to

raise chicks bad for eggs as they stop laying. If you want to raise chicks you will also need to keep a cockerel, but due to their crowing this can make you unpopular with the neighbours and most suburban councils prohibit them being kept in backyards. Hens do not need a rooster to produce eggs, just to produce fertile eggs.

Bantam breeds mirror larger breeds but there are also breeds which have no large counterpart. In my experience (which I must admit is not vast in this area) the variation in laying capabilities seems to vary with individual birds rather than breeds. So you might go through a few birds to build up a flock of good layers. The carcass tends to be small but is well covered with meat for its size, so bantams can be used for egg and meat production.

If the size of your yard allows for the keeping of full scale chooks (or you choose to ignore council regs. If they apply to your situation) the cheapest and easiest way to start out in poultry is to buy a few "spent layers" from an egg farm. These are crossbred chooks that have been specially designed to pump out eggs. They have already been laying for a year at the farm and as their egg production falls off in the second year it is considered better economics to restock the farm at this point (ie turn them into chicken nuggets) . For the backyarder who doesn't have such economic restraints this is not a problem and spent layers may continue to lay for a number of years afterward. They are relatively cheap, but it can be a bit of a lucky dip as to how many eggs you get out of each bird.

It is also nice to show the chooks that there is a world outside their battery cages. Spent layers will also have the end part of the top of their beak cut off (to stop the bored crapless birds pecking each other to death in their cages) and this can interfere with their foraging.

For all their sterling qualities crossbred chooks are egg layers not meat producers, this is especially so of spent layers. So if you want to eat your chooks as well as get eggs off them it would be better to go for one of the so-called "dual purpose" breeds such as Australorp, Rhode Island Red or the Light Sussex. These breeds can be used to produce eggs for a year or two and then eaten. My preference is the Rhode Island Red because along with everything else they are quite attractive birds. Having said that we have had both Australorp and Rhodies here for many years and like both breeds.

1.2 Housing



Housing can be as simple or as complicated as you like it. There are four main types:-

1. Movable bottomless house also referred to as an ark or chook tractor - this is moved frequently from one area of lawn or vegetable patch to another so they crop the grass, fertilize it then are moved on.

that I use in that the chooks have free access around the back yard, but the veggie patch is fenced off from them. They have a permanent "hen house" which they return to at night.

3. Permanent run - Where the chooks are confined to a house and non - movable run which tends to become denuded of grass rapidly. You need to provide them regularly with green feed to keep them healthy.

4. Deep litter: This is ideal for very small areas as the hens are kept inside in a deep litter house. The floor is covered with minimum 30cm of dry material eg straw or rice hulls which the chooks dig and turn over. This absorbs their excreta and at the end of its life (about 12 months) is a very rich compost.

We have a combination of chook tractor and deep litter systems in operation. We get in day old hen chicks (2 x Australorp and 2 x Rhode Island Reds) from a local supplier and put them in a brooder and raise them until they can go into the chook tractor. They spend 2-3 years in the chook tractor being rotated around the veggie beds and having the time of their lives. Once their egg laying starts to taper off you would think we would eat them, but instead they go into the "Retirement Village", a deep litter containing shed that has the floor covered with locally grown grass hay. They turn the hay over, eat the seeds and some of the foliage, manure it and turn it into mulch which is then used on the veggie beds so that while we get very few eggs from them, they are providing a useful service. I have also set up temporary runs in places such as under the mulberry tree in spring so they can clean up the fallen fruit.

Whichever method you choose the chickens should have a rainproof, wind proof yet airy place to sleep. For each chook in the "house" there should be 20cm of perch space

and one nest per 5 birds. If the birds are to remain inside there should also be 1.5 square metres of floor space per bird. Our chook tractor provides about 1 square metre of floor space per bird, but gets moved to a different area every two weeks.

The house can be fancy or basic, I built my original one from an old recycled plywood packing case with a shelf running along one side for a nesting area and a broomstick fixed up above and to one side of the shelf as a perch. It lasted a good 15 years. At the very least it should be easy to clean, I use straw on the floor and in the nests and change both 4 times per year, it makes excellent mulch or fertilizer. When the house is cleaned out it should be inspected for parasites and thoroughly gone over with derris dust if required. The perch can be painted in sump oil/turps mix to discourage parasites.

We do not have problems with rats but if you do the floor of any permanent houses should be concrete. Any movable runs should have wire netting floors to discourage predators. If you have a dog and he gets on well with the chooks (mine did) predators should not be a problem.

1.3 Feed & Water

To produce eggs chooks need water, access to cool clean water is a prime necessity for decent egg production especially in hot weather. Open containers will work but tend to get soiled easily so a commercial or homemade waterer is best. This can be made by fixing an upturned bottle in a tray and then suspending the whole contraption 50-75mm off the ground. The bottle is filled with water and then upturned into the tray. The mouth of the bottle should be so positioned as to allow the tray to fill but not overflow. This will keep the chooks supplied with water for days or weeks depending on the size of the bottle and size of the flock. If they free range over a large area you may require several waterers.

Here we will mainly consider the feed needs of adult birds, see the article on raising chicks for details on their needs.

Mash or Pellets

These are commercially available feeds, I find the mash difficult to use and store and much prefer the pellets. They contain nutrients to cover most of the birds needs and are easy to store and feed to the chooks. I made a feeder by cutting both ends from a dog food tin and then attaching a rusty "vacola" bottling set lid on the bottom with about 12mm overlap all the way round. Full of pellets this lasts our 4 chooks for a few days.

Grain

This is slow release chook food as it is digested only slowly. A few hand fulls of grain before bed-time lasts them all night. I use wheat, corn and sunflower seeds and got no complaints from the chooks. If you want to give them an extra lift the grain can be

sprouted before giving it to them, they love it. You and also grow some of your own grains, sunflowers work well, to increase the sustainability of your chook flock. Feeding unprocessed grain to your chooks can cause problems if you keep them in a chook tractor because some of the grain always escapes and you can wind up with wheat in your carrot patch or sunflowers growing in amongst your cabbages. This may not be a problem for you but if it is consider running the grain through a grain mill or blender to chop it up a bit first. Sprouted grain can also give chooks a bit of a vitamin lift in winter.

Green Feed

If the birds free range they will not need much extra green feed but if kept on deep litter they will. Under any circumstances chooks enjoy fresh greens so outer leaves from the cabbage or lettuce are well received and I grow one or two silver beet plants in a corner of the vegie patch for them. They also appreciate lawn clipping and some green weeds such as wandering Jew; fat hen; dandelion or dock will really go down well (literally!).

Scraps

Chooks will devour most meat and vegetable scraps but do not give them cooked food that is likely to go "off". This will make them sick as readily as you or I. In our place there tends to be a three way tug of war between the worms, compost bin and the chooks for any scraps or peelings. The worms do tend to win, but the chooks put up a pretty good fight.

Shell Grit

To produce egg shells the birds need a constant addition of calcium to their diet. This can be shop-bought shell grit (gasp shudder!) or pick some up next time you are at the beach, make sure it is well washed to remove the salt. According to the books you should not feed chickens egg shells unless they are cooked first by heating up to remove any eggy taste otherwise it encourages them to eat their own eggs. In practice my hens do not get bored enough to try this little stunt and I have been feeding them untreated egg shells for years with no problems, so long as the eggshells are crushed up and not recognisable as eggshells.

Hard Grit

The birds require small stones which they swallow into their crops to grind up their food (chookie equivalent of teeth) so granite chips or equivalent should be available. Of course if the hens can free range or are in a chook tractor they will pick up small stones as they peck and scratch.

1.4 Products

Eggs

Being basically a city lad and conditioned by years of cartoons I thought a hen just sat there and laid eggs by the dozen. It was quite a shock to learn that they only lay once every 25 hours, so that every so often a hen will miss a day. They will also go broody and try to hatch their eggs, particularly in hot weather when they have a clutch of eggs to sit on (note to self: collect eggs every day), if they do go broody (sit on eggs and won't move, make "gluck gluck" noises and peck at you if you try to move them) put them in a cage that does not have any dark, quiet corners they can "nestify" but make sure they have easy access to food and water. After a few days they will return to normal.

Hens will go off the lay during winter and at peak times you will probably have too many eggs (eg in early spring) so they can be preserved using one of the following methods –

VASELINE - A coating of odourless Vaseline (not vicks) will seal the egg and increase its storage life.

LIME - Make up a slurry of 20 parts hot water and 4 parts lime (calcium hydroxide or builder's lime) and 1 part salt, allow to cool. Place the eggs in a jar or crock and cover with the solution.

WATER GLASS - (Sodium silicate solution) add sufficient water glass solution to water so that the eggs will just sink. The eggs can then be preserved in a jar or crock provided the eggs are wholly covered with solution. They may be preserved for up to 12 months in this way.

Or you could boil and pickle them!

Manure

If you keep chooks your vegie garden will love you for it! You should design your hen house so that it is easy to harvest this valuable high nitrogen resource. The uninitiated will think you are only cleaning out the chook pen but we know what an important job you are doing! Of course if you have a chook tractor the chooks will deposit directly onto the area to be fertilised, thus saving you considerable work.

Meat

Killing and dressing - bantams tend to become part of the family (could you eat your best friend?) so if you do intend to ingest them at any stage avoid the temptation to give them names and turn them into pets. Having decided that you can eat your best friend you should proceed in the following manner: To kill - you can either use the tried and true hatchet method. This requires two people one to hold the chook the other to use the hatchet, or use the neck dislocation method. This still requires the head to be cut off so the bird will bleed so I don't see the advantage. Be that as it may to dislocate

a chooks neck hold its head in your right hand and feet in your left. Hold the chook head down diagonally across your body and turn its head upwards so that the neck forms a vee with the body. Then stretch the neck very firmly downwards, but beware, too firmly and you decapitate the chook, a most un-aesthetic thing to occur when you are not prepared for it.

TO PLUCK - Now dump the corpse into a bucket filled with water at 66oC, Agitate to ensure the water gets to all parts of the chooks body. The chook need only remain submerged for a minute or two then hang the bird up and pluck. Retain the feathers if possible as they can be washed and put into pillows or composted to provide more a high nitrogen fertilizer. If buried uncomposted they can be used as a slow release fertiliser.

TO DRESS - Cut off the head and push your finger down into the chest cavity through the neck and run it around inside to sever the ligaments. Then cut around the vent (cloaca; anus) and tie it off or hold onto it. Move your hand into the abdomen and remove all the internal organs, be careful not to tear the gut. Retain the heart, lungs, gizzard and liver as these are edible. The kidneys may have remained in the body cavity, so inspect and remove them if this has occurred. The bird may now be tied up for boiling or roasting or cut up so the pieces can be cooked separately.

2.0 Our Chook Journey

2.1 The early years



We first got chooks back in the late 1980s, I had wanted to give them a go for a while but the catalyst was our youngest daughter having food issues, particularly with colours and flavours. This caused us to rethink our diet and since anything but cage eggs were difficult to come across in those days, we started looking into keeping our own. I had

been to a conference in Melbourne and met up with a guy from BASF, he showed me a colour card and explained one of his duties was to go and see egg producers. It seems that the cage system was so rough on the chooks, their egg yolks turned out white, so he sold them dye to put in their feed, the more dye, the deeper yellow the yolks were. The colour card helped you work out how much dye to put in to get the shade of yellow you wanted. We haven't bought caged eggs since.

Our first chooks were bantams, about half a dozen of them, which I had bought because I was under the impression that while full sized chooks were livestock, bantams were regarded as 'caged birds' by officialdom and so acceptable in the back yard. This turned out to not be the case but it was what I believed at the time. I had been doing some work with a glasswool insulation manufacturer and they got their glass beads (which they melted to make the insulation) in 1200mm plywood cubes which they would dump. They kindly dropped 3 off at our place, one for the chooks and two for a cubby for the kids.



To make it habitable for chooks I cut a small door in the front of the chook cube (but still big enough for me to climb into), a chook pop hole in the side and put up a shelf as a laying platform and a length of broom handle as a roost. To make it more weather resistant I built a corrugated iron skillion roof and then built a

two metre by one metre run outside the shed part. The run was obviously too small and didn't last long, I ran some chook wire from the back fence, along past the chook shed and around onto the side fence, giving the chooks a run of around 25m² instead of 2m². Mind you, the guy we bought them off was over near Sutherland and had what looked like a hundred chooks in small cages lining the inside of a garden shed. I think the chooks were just glad to get out!

They were quite productive for us, but they did not live forever and when they started to pass we looked around for some replacements, full size this time. We got some spent layers from one of the local egg farms. Commercially, once the chooks have laid for a year they are replaced because production drops, and you can occasionally pick some up cheaply as we did. They had never seen what the outside world looked like and I remember placing them in the chook shed and watching as they stuck their heads out and looked very distrustfully at the grass, probably thinking 'what on earth is that green crap???'. Yet within a few hours they were out pecking and scratching with the others, exhibiting all that wonderful chookie behaviour. They were not only cheaper but we had the built-in satisfaction of rescuing them! The only real issue was that they were beak trimmed (all commercial layers are) and this did interfere with their ability to forage a bit.



I wound up fencing the veggie patch to keep them and out and then letting them out to free range in the afternoon, very relaxing for them and for us watching them. The chook fencing around the chook pen and around the veggies was only a metre tall so a chook could in theory fly over them, thus I had to trim one wing of any and all new chooks to

keep them in. The interesting thing was that once the wing had been trimmed they got used to the idea that they couldn't fly, even once the feathers grew back at then next moult and they didn't even try.

We kept that process going for over 10 years and while it worked well in terms of egg production it did have some significant downsides, one I didn't discover until we moved on to the process we use now. Those downsides were –

- Every couple of months or so I would have to climb inside the chooks shed and remove all the chook poop and distribute it around the veggie patches. This was NOT my favourite job!
- We were feeding half the local bird population. I didn't realise until we enclosed our chook operation and the usage of chook feed dropped by about half!

- While these wild birds loved the cage food, they also left my chooks a gift that keeps on giving in the form of mites. A short conversation with Mr Sulphur Powder and the mites mysteriously disappeared.

2.2 Evolution of a Chook Tractor

Chook Tractors

As I have mentioned elsewhere, I have never claimed to be the sharpest tool in the shed but I do know a good idea when I see one, and my world changed when I came across the concept of the chook tractor! I found out about chook tractors through Bill Mollison's permaculture work somewhere between 15 and 20 years ago and as soon as I saw it I knew I had to have one!

The advantages of a chook tractor were –

- It would allow me to make the best use of the chook poop by having the chooks directly apply said poop to each veggie patch in turn,
- Their scratching would shallow cultivate each patch, after which I would apply mulch and the worms would come up to the goodies on the soil surface and finish the job. No more rotary hoeing or double digging for me!
- The chooks were isolated from the wild birds thus solving the second and third issues referred to above.
- Due to their constantly being moved onto new ground, there was less likelihood of the chooks suffering from a build-up of pests or diseases.
- The chooks could make use of leftover vegetable and weed trash and harvest any residual snails, slugs and other bugs thereby reducing my workload and improving their nutrition.
- It looked great! By this time the old chook shed, Which was designed for a one way trip to Aust. full of glass beads, was now over 10 years old and looking pretty shabby so the chook tractor was a marked improvement.

Of course the chook tractor would also impact on how we grew our veggies. Originally I would just move the tractor around the several large beds (4m x 4m and 6m x 6m) we had at the time but I wound up dividing each veggie patch into beds 1200mm by 2000mm, which coincidentally is the footprint of the chook tractor! I have since increased half of the beds to 3000mm long, but that is another story.

Chook Tractor 1.0

I made this for the most part out of a deconstructed timber bed we were removing from the house and I built it to be able to take a direct hit from a thermonuclear weapon. It was solid! One half was covered, with the roosting and laying areas in that end as well as the door to the main part of the tractor and a separate door to the laying area. The other end was completely open, just covered by fairly strong chook wire.



It did the job well, but it was just too heavy! I wanted to ensure the chooks safety in case a marauding dog got in, but our backyard is well fenced and very secure so it never happened, I had made it extra heavy for no reason. Another problem was that the main door allowing access into the tractor was hinged at the bottom so that its natural position was down and if I didn't latch it properly and

it got loose it would flop down and let the chooks out. Of course when this did happen the chooks would spurn their current patch and make for the most recently planted bed and devour all of those fresh, tender little seedlings. It was rare, but happened enough that I knew the next design would have to be different. Eventually it collapsed due to rot and I took some of the original parts and re-did it!



Chook Tractor 2.0

This one was also made of timber, but the nesting/roosting area was all in the top of the tractor, accessible through a flap that lifted up and was hinged at the top so that its natural position was down (with the result that there has been no unauthorised digging in the patch by chooks since!). To reduce weight I used smaller lighter, timber (DAR pine mostly) and lighter chook wire. Also to save weight and improve ventilation, the entire lower part of the tractor was surrounded by the chook wire. To improve the

aesthetics yet again, and help it last longer, the entire tractor received a coat of British racing green paint. I also installed a set of handles at each end to facilitate moving it.



As performance goes, it worked every bit as well as the previous one, almost, but was much lighter. As time went on however, some flaws in the design did show up, particularly in hot weather. One difficulty was that with the bottom area entirely surrounded by chook wire, there was very little relief from the western Sydney hot afternoon sun, almost no shade at all. This meant the chooks had to take refuge in the top

roosting section, whereupon the other issue became obvious. That lovely British racing green top area sucked in the heat and got much too hot as well. In the end I wound up tossing some shade cloth over the whole thing to try and cool it off.



Also, it only lasted a few years and, as usually happens with such things, collapsed at a very inopportune moment while I was at work. Thankfully Linda was able to shepherd the chooks back in and secure it until I got home.

Chook Tractor 3.0

While the basic design for this iteration of the chook tractor was similar to the one before it, I made a couple of important changes. The first of these was to extend the non-opening side of the roosting/laying area down to almost the bottom frame of the chook tractor, filling in the small gap left with a bit of wire. With this in place, depending on the orientation of the bed the tractor was on, could be faced north or west in hot weather to provide a cooler, more shaded environment for the chooks. The

second change was that the whole thing was painted a nice, reflective white – three coats! That should stop the bugger rotting and falling apart!



Alas, it was not to be and after 5 years of constant use, it also fell apart due to rot.

Chook Tractor 4.0

The design for chook tractor 4.0 is almost exactly the same as for 3.0, with one significant change. Rather than using DAR pine and paint the living daylight out of it, I use aluminium angle! While being light and strong the 25mm x 25mm x 3mm thick aluminium angle in contact with the soil is absolutely resistant to the rot that killed the

other three. I put it together three years ago and the wood covering bits could do with a bit of paint but the aluminium frame is in just as good a nick as when I built it!



2.3 The Retirement Village and other things

The Retirement Village

There comes a time in each chooks life where they get a bit old and tired to do the work in the chook tractor, and they stop laying eggs! So the question that needs to be answered is – ‘what are ya gonna do?’ You could eat them, but the fact is that after a lifetime of service we don’t. So we developed the retirement village.

The concept of the retirement village was developed some time after we implemented the chook tractor idea. I found a couple of well-ventilated aviary sheds that were redundant stock and were being sold off comparatively cheaply by the retailer I bought both with the idea that one would become our worm shed and the other the retirement village.



The Chook Retirement Village (left hand shed)

Both sheds are exactly the same. They are made of Colourbond steel of the 'stand up and screw together' type of construction 2.4 metres wide x 1.6 metres deep x 1. Metres high, with some panels being perforated with 10mm holes. The perforated panels are the left and right front panels (the right hand one of which is the door) and one panel on the left and right hand side of the front of the shed so that the left and right front corners are perforated. I installed the sheds on the northern boundary so that they would not take up valuable growing space.

I put down some 600mm x 600mm concrete pavers as the base and then constructed the sheds on top and after adding some hooks in the roof, tied up a feeder and a waterer and installed a diagonal perch so they could perch and see out through the perforations. I did find that the perforated wall which faced west let in too much of that western Sydney sun in summer, so covered it up on the inside with an old internal door we no longer needed.

The concrete floor is covered with straw (or locally grown grass hay when I can get it) which is sort of a deep litter system. This has a number of things going for it but the main one is chooks turn the straw over and consume any residual wheat grains and break the straw down a bit and I shovel out the straw and use it as mulch. The other advantage of this system is that there is no concentration of chook poop to deal with. It is mostly turned over and mixed with the straw, so it all gets shovelled out when I am applying the mulch.



They do occasionally provide eggs as well and I installed an old grass catcher in the corner of the shed for the chooks to lay in when they feel the need. This most often happens in early spring but we can get eggs at other times of the year. The retired chooks spend most of their time in the retirement village, but do get let out on occasion, generally in a wire pen to assist with bed clearing if required or to take advantage of fallen mulberries under our large mulberry tree in the front yard.

Feeding

Our backbone, go to feed for the chooks are free range layer pellets. I would like to grow and mix our own feed but it isn't practical for us. Having said that, we do produce all the green pick the chooks can

eat, either self-harvested in the tractor or harvested by me for the retirement shed chooks. They could be leftover harvest of silver beet or more likely grabbing some edible 'weeds' growing around the yard, and yes we will partake of them too.



We share our silver beet with the chooks!

When the chooks were in their sedentary coop and run we used to also feed them scratch mix, which is a mix of seeds and grain which you can toss around and they pick what they want up off the ground. It made a nice end of the day to see them pecking around for their supper. Unfortunately I continued the tradition when they moved into the tractor/retirement village system, but stopped pretty quickly when the practice resulted in a world class weed infestation in each bed in turn as the tractor moved off it. We don't use scratch mix anymore!



(L to R) chick crumbles, grower pellets, layer pellets. scratch mix

They do get treats. These may be in the form of food scraps, peelings,

stale bread or whatever, or pest caterpillars pulled off brassicas or other veggies. I don't think of such actions in terms of pest control, but rather harvesting chook treats! They also get chilled fruit, like grapes or watermelon on the hot summer afternoons to try and make things more comfortable for them.

Companionship

One of the unexpected benefits of the chooks has been companionship while working in the back yard. Some years ago the family and I went to Belgium for Christmas to meet

and spend some time with my son-in-law's parents, but I was going on frequent flier points so I left three days later. We were going for over a month so I had taken the chooks over to a friend's place to be looked after while we were away. I was amazed how 'dead' the backyard felt without the chooks being there, and the companionship they brought, just by their presence in the back yard!

Conclusion



Our journey with chooks has been interesting and certainly beneficial in all sorts of ways which I did not consider when we first got them. We have learned a lot too, sometimes through training (I did chooks as part of the Farm Tech certificate back in the late '80s), through

reading and through just plain experience. I now have the happy opportunity of running chook workshops for local councils, so I get to share some of what we have learned. I have also had the pleasure of seeing friends who resisted getting chooks, finally getting them and finding out what a joy they are. So my advice to you if you are considering chooks is go for it! (but do some homework first!)

3.0 Making Chooks from Scratch

OK, we are really talking about incubating fertile eggs to get replacement layers or perhaps (cue dramatic music) your own meat chooks so you need mummy chooks and daddy chooks or at least access to fertile eggs from someone else. In my case, one of the guys from our church has a rooster and so I was able to get some fertile eggs from him.

In the 'to do' list I noted that I was going to make an incubator and there are certainly designs on the net for DIY incubators but the problem that I had was getting hold of a sufficiently sensitive thermostat to hold the 37.6°C required to hatch chook eggs. The most commonly available ones are for reptiles and only go up to 30°C. Once you have the thermostat the rest is relatively simple unless you want to build in automatic turning, so I splashed out and bought a Hexabator (that actually is octagonal rather than hexagonal.....but anyway...). It is a simple unit with heating element, digital thermometer and fan that does the trick fairly well, it is also made of robust plastic rather than the more fragile polystyrene foam and the lid is clear so you can easily keep up with what the eggs are doing.

Eggs for Hatching

If you do have a set up that allows you access to fertile eggs make sure you get fresh ones ie less than seven days old, but realistically the fresher the better. My mate brought around two days production, about ten eggs then a day or two later another three so that all up I had 13 eggs.



Our Incubator

Make sure the eggs look normal, if they are odd sized, shaped or in any way dodgy looking such as having ridges in the shell or are cracked, don't use them for incubating. Also make sure they are clean direct from the nest, don't use dirty eggs for incubating. If there is a bit of dried material on the outside it can be wiped off with a dry cloth, cleaning dirty eggs with a wet cloth can spread bacteria and other disease

causing organisms.

Storing Fertile Eggs

While they are waiting to be incubated should be stored between 15°C and 17°C and on a 35° angle and turned twice a day to get the most number of eggs hatched. This can be done by storing the eggs in an egg carton tipped to one side by placing one end on a lump of wood etc, then several times a day turning the carton around so that the opposite end is elevated.

Incubating the Eggs

Even if your incubator has a good thermostat you can't go past a digital thermometer to make sure that you are maintaining the required temperature of 37.5°C/ 37.6°C, as a temperature too low or high can cause all sorts of problems such as overly large or small chick, hatching too early or delayed hatching.

Humidity is also important so you should keep the water pans in your incubator full. The water evaporates remarkably quickly and early on had evaporated before I noticed, which may have contributed to our low hatch rate. Our incubator has neutral coloured bottom where the water channels are and there is not much contrast so seeing whether they are full of water can be difficult. When I do it again I think I would put a bit of food dye in the water to make this easier. In any case, check the water levels at least once every day.

Another thing that must be done is to turn the eggs three times (or any uneven number) per day, every day to stop the chick sticking to the egg membrane. If you have a machine that does this automatically, good for you! If not it can prove helpful to mark off when you have turned the eggs on a sheet of paper so can tell at a glance how many times the eggs have been turned that day. Needless to say this is an investment in time required for the entire incubation period (although you don't need to turn the eggs the first 2 days in the incubator) and we had a night out booked for months when we realised it fell in the middle of the incubation period and had to get our daughter and son-in-law to come over and turn them for us.



The chooks are hatching!
Where the eggs are on their side, as was the case with our incubator, they should be turned a full 180° and to facilitate this I wrote the date we received the eggs in pencil on one side of the egg. In that way it was just a case of rolling the eggs so that the date was up or the date was down, and it was immediately obvious if all eggs were correctly turned. I have also read of marking an "X" on one side and a "O" on the other, but in the end it is

whatever works best for you.

It is possible to keep a check on the developing chick by shining a light up into the shell and seeing what size lump is in there, this is called candling. I must admit we did not do this; we just waited to see what we would get. The chicks should start coming out on day 21 and be all out on day 24 so it is important to note what day they go into the incubator. We got six chicks hatch out of the 13 eggs, but one had foot problems right from the start and only survived a couple of days so all up we got 5 chicks.

After They Hatch

We left them in the incubator for a little while to dry out once they had hatched and then transferred them to the brooder that we had made for previous batches of day-old chicks we had bought (see the article on how to make a brooder in the chook section of this site).

We have had chooks for many years but this is the first time we have hatched our own and it is a remarkable experience, so different to reproduction in mammals. If you have any interest at all in making your own chooks from scratch I highly recommend it, and I bet your kids would love it!



The results! (So cute!)

3.1 Making a chook brooder

I have kept chooks for many years, and for the past few years I have bought point of lay Rhode Island Reds from a local poultry farm to replace those that have gone to a better place. We have had some recent chookacides and we're down to one laying hen and one retiree, so replacements were due. Unfortunately, since the last set of replacements, that local poultry farm had closed down. This left me in a bit of a bind and after spending one Saturday afternoon trying to track down a producer of chooks I thought "bugger it! I'll raise my own!" As usual, decisions taken in haste mean lots of fun down the track.

We have a pet shop near us that keeps baby chicks as food for reptiles etc. so I figured that I could raise some of them up to laying size (and save them from being lizard poo). It has been almost 10 years since I brooded chooks (as part of the farm technology course) so I thought it was worth a try, but what on earth could I use as a brooder?

I remember reading somewhere (possibly on the internet) that someone had made a chook brooder out of one of those plastic boxes used to store clothes and other junk under beds or in wardrobes. So I went looking for one in the el cheapo shops that you find around nowadays (like the Warehouse etc.), to get the biggest one that I could find. This turned out to be 430mm high, by 450mm wide and 680mm long, which translates into roughly 120 litres. It was the last of the batch and had some bits off, so

from an original price of \$20, I talked them down to \$16 (can I haggle or what!) When I got it home it looked huge, but as it turned out, bigger is better!

To prepare it for accommodation, I cut a large ventilation hole in the top 570mm long by 235mm wide, basically by cutting out a raised panel in the top. My initial thought was to do this with a Stanley knife, but this was tough plastic and after a couple of close calls on finger amputations and 20 minutes of sweating and swearing, I grabbed the jig saw! After drilling a hole big enough to accept the blade, it took just a matter of minutes to complete the hole and remove the panel. I then covered the hole with fly screen to screen out flies, cats and other annoying insects, supporting the wire by screwing some battens made of 20mm scrap plywood cut 35mm wide and long enough to bridge the gap.



The next trick was to provide some heat so the little things wouldn't freeze to death as well as light for those all night chook parties. To achieve this I wired in a light using a recycled batten fitting and some old 3 core flex and plug so that the light was 250mm off the floor of the brooder. My original intention was to use a 40 watt bulb so as not to overheat the chicks but all we had was a 60 watt so I

used that, but when we first got them they clustered below it so in the end I had to upgrade to a 75 watt anyway. I have since seen a design where the lightbulb is encased in a terracotta plant pot so that while it keeps the space heated it does not subject the poor little chickees to a continuous 3rd degree (besides, I know where they were on the night of May the 5th). When it comes time to use the brooder again, I will be fitting a pot over the bulb!

Once the structural work was done, I used a couple of ceramic ramekins to hold the feed and a commercial plastic waterer (OK, I wussed out and bought one, but it was 20% off on the 'specials' table!), then put newspaper and pine wood shavings in the bottom. The newspaper/shavings absorb their droppings and give them firm footing, the plastic being very slippery.

Now it was time for the chooks!

Unfortunately, on closer enquiry, the day old chicks for sale at the pet shop were a meat breed.....bugger! This then caused a wasted weekend while I raced hither and yon looking for day old Rhode Island Red chicks, but all to no avail. After a quick search

on the internet, I found out that the chook producer had relocated, not closed down. DOH! However, I had gone this far so to save money and for the interest we picked up two day old Rhode Island Reds and two day old Australorps.

They were so tiny looking in that huge brooder, I thought that I could have made do with a smaller one, but boy, do they grow! According to the books, they need supplementary heat for the first five weeks, and they actually stayed in the brooder for six weeks, but by the end of that time I could actually hear them hatching plots to break out and they were getting pretty cramped.

While they were in the brooder, they were fed on commercial chick crumbles and I threw in some coarse sand when I changed their bedding, so that they could peck it and get into their crops to help grind up the food.



The chicks were raised during July and August in Sydney so the extra heat was needed to keep them warm even though they were in the lounge room for most of the time. The chicks are very cute but somewhat noisy. My son in law found that out one night when he was a bit crook and spent some time on the lounge. Towards the end of their time inside, they needed their litter changed every few days and my wife was

mumbling dark threats about what would happen if they didn't go outside soon.

At 6 weeks the chook tractor was finished and I could move them outside safely!

4.0 Making a simple chook feeder

When setting up your backyard chook run it is possible to spend lots of cash but, as you know, on this site we like to focus on the low cost DIY approach and this philosophy finds its expression in the form of a low cost, low tech chook feeder. This is not my idea, it is my take on an idea I found while tooling around on the net. I hope you find it of some use.

This feeder and its larger flock variant are cheap to build, even if you use all brand new components you should get out of it for less than \$10. It is constructed of 90mm storm water piping and fittings and can be thrown together with a minimum of hand/power tools most of which you probably have hanging around anyway. You will need –

Small feeder

- 1 x 1 to 1.5 metres of 90mm diameter PVC piping
- 1 x 90° elbow to fit 90mm diameter PVC Piping
- 2 x end caps to fit 90mm diameter PVC Piping

Large feeder

- 1 x 2 to 2.5 metres of 90mm diameter PVC piping
- 1 x Tee fitting to fit 90mm diameter PVC Piping
- 3 x end caps to fit 90mm diameter PVC Piping



The Parts

Tools

- 1 x electric drill (you could use hand powered one but it would take much longer)
- 1 x 3mm or 4mm twist drill (drill bit)
- 1 x 54mm (or thereabouts) hole saw
- 1 x tenon saw
- 1 x 300mm straight edge or ruler and/or tape measure

- A pencil or other marker
- Some sand paper

4.1 Making the Small Feeder

Cut the 500mm of the PVC pipe with the tenon saw and make two pencil marks 100mm in from each end.

Measure in half the diameter of the hole saw (in my case this was 27mm) and make another mark, then drill a pilot hole with the 3 or 4 mm drill bit to prevent the hole saw from wandering.

Place the drill part of the hole saw in the pilot hole and drill out a 54mm hole at each end of the pipe so that the outboard edge of each hole is 100mm away from the end of the pipe.



Pilot holes drilled and hole saw used



Using the straight edge, draw a line from the outside edge of one hole to the other, then repeat on the other side so that you have two lines along the length of the pipe with a 54mm hole at each end. Secure the pipe by having someone hold it or by lightly clamping it in a vice and use the tenon saw to cut down the two horizontal lines so that the pipe now has a 54mm wide slot, rounded at each end. This is the bit the chooks will eat from. It is a good idea to get hold of some sandpaper and take off any sharp edges around the cut to prevent any nasty surprises for the chooks.

The first cut is made
The whole thing can now be assembled by placing a pipe



into each end of the 90° elbow and securing either by glue or screws, and then placing the end caps on the open ends of the pipes. The end caps should be secured with a screw (drill a hole the size of the shank first) because the top one will need to be removed to add more feed and the bottom one will need to be removable for cleaning.

The finished article



Wire the whole assembly onto the side of your chook pen and away you go! The chooks give it their seal of approval

4.2 Making the Large Feeder

Follow the directions for the minimum feeder up to where you have cut the slot in the bottom pipe then take a second 500mm length of pipe and cut a slot in it using the same method as the first one.

Now, rather than attaching the 90° elbow, to the pipe that is to be the upright, attach the tee section at the bottom of the vertical pipe, and then insert the two sections of pipe with the slots in the two horizontal holes, secure with glue or screws and attach the end caps to each open end of the pipe and secure with a screw.

This one has two “pecking pipes” rather than the one of the simple feeder so you will want to have a longer vertical pipe to provide more feed. Unfortunately the feed does not appear to flow as freely into the pecking pipes from the vertical pipes so initially it might be an idea to keep an eye on it to make sure all is well.



The Finished Article

4.3 Making a High Capacity Chook Feeder and Waterer

A number of friends of ours have expressed a reluctance to keep chooks, mainly due to the commitment required, or at least their perception of the commitment. Chooks really do not need any more care and attention than a cat or dog and in some cases they need less. To make things easier, it is possible to set things up so they can make use of feeders and waters that provide the necessities of life over a longer time. The bonus is that they can be made at home quite cheaply.

Obviously whatever happens you need to keep an eye on your chooks but if you do go away for a few days there is no need to fret, and you can get a friend or neighbour to keep an eye on them. With the burden of providing food and water removed, you are more likely to get volunteers.

The feeder and waterer described below were put together by a friend of mine and have been in service for over 6 months.

Feeder

Making the feeder is easy, and recycled materials can be used with the addition of one bought fitting, although who knows, you may be able to find one second hand. The container can be almost anything which has a lid, in the case of my friend used a couple of small (20 litre or so) ‘wheelie bins’. They work well because they are light, have good capacity, are easy to move about and have a weatherproof lid.



To turn the bin into a feeder he cut a 95mm diameter hole in the side of the bin near the bottom. This could be done by drilling a series of holes around the perimeter, punching out the centre then using a file to smooth off the edges or by cutting the hole out with a jig saw. Once the hole was cut, he fitted in a *90mmf x 90° bend flanged tank overflow outlet* into it with the bend facing down and using self-

tapping screws through the flange into the bin to secure it. Job done!

When the bin is filled with pellets or grain the chooks feed out of it and more drops through from above keep the feeding area stocked as they consume it.



A 90mmf x 90° bend flanged tank overflow outlet - side view

Note: the 90mmf x 90° bend flanged tank overflow outlet is available from hardware stores for under \$5 (2014 prices)

The waterer

This one is almost as simple. A fitting is needed which can be obtained cheaply (a dollar or two each) on the internet and is called a *poultry watering nipple*, they generally come in red or yellow and I have been told the red ones are the best but the yellow ones seem to work OK too.



Inside the plastic sleeve is a stainless steel grommet through which a piece of steel which looks like a nail with a conical head passes followed by a small stainless steel weight. The chook pushes up on the 'nail' with her beak which unseats the conical bit and allows water to flow into the chooks beak.

The container, again, can be just about anything that will hold water. My friend used some 20litre water cooler bottles, these can be picked up second hand quite cheaply from recycling centres such as [Reverse Garbage](#), but anything which holds water and you can drill through will work.

The nipples must be vertical to work so you have to drill in the bottom of the container. An

11/32" diameter drill works for the yellow ones. Drill the hole and gently screw in the nipple, don't get too aggressive or you will strip the thread and it will leak. In any case, put a thin bead of silicon around where the nipple enters the container to prevent leakage.



Poultry Nipple Waterer assembled (above) and exploded (below)

Once the nipple is secured fill the container with water and check for leaks. You might need to pump the 'nail' up and down while the chooks are around so they will work out this is where to get the water from. An advantage for this type of waterer (apart from volume and cheapness) is

that the water source is enclosed so it won't get contaminated by the dust and crap that the chooks will scratch up as part of their daily activities. The water going in must

be clean, any particulate matter may cause the nipple to leak so keep an eye on them. Having a couple of waterers is probably not a bad idea, they are cheap enough to put together.

So now that your last objection to owning chooks has been laid to rest, get chooking!