FITTING CHICKENS *into your backyard*

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PHOTOGRAPHY SARAH TUCK AND SUPPLIED

Your chickens need to fit into your backyard and lifestyle, which usually involves compromise. You're the boss, so the chickens will probably have to compromise more than you. Here's how a kind and empathetic boss would manage them.

LOCATION, LOCATION, LOCATION

One of the first decisions is where on your property these birds should live (assuming you have some choice; if not, just do your best). Try to see things from the point of view of their inner junglefowl and give them a bit of jungle edge if you can. They love to be under trees and shrubs for shade, protection from predators (real or imagined) and the fallen vegetation that gathers there.

SHADE

Hardy as chickens might be, extreme temperatures are tough on them. If you can place their coop and roaming area in a north-facing location with even a handful of trees and shrubs, sun will penetrate under the leaves during winter when its angle is low, and in summer the area will be fully shaded from the overhead sun. You'll notice that sunny patches of ground switch on a chicken's dust-bathing behaviour.

If a chicken is too hot, you'll see it holding its beak partly open and its wings slightly out from its body.

RAPTOR PROTECTION

You might think aerial predators are unimportant, but chickens often tilt their heads to look at aeroplanes, mistaking them for raptors, which have eaten so many of their ancestors. The behaviour isn't just a relic because hawks still take chickens in New Zealand. The endemic New Zealand falcon is sometimes said to take chickens, but this is very rare – they almost exclusively take small birds on the wing. It takes experience to tell the difference between a hawk and a falcon. Note that under the Wildlife Act (1953), falcons are absolutely protected. (I say this because chicken keepers have been known to kill falcons. I know you won't.)

Chickens are highly skilled at noticing birds of prey and darting under cover for safety, but that trick only works when there is nearby shelter they can hide under. The obvious solution is to provide some, preferably shrubs or trees. Note that hawks see pale-coloured chickens clearly, so white-feathered birds are more vulnerable, particularly in open areas.

LITTER

If you are a chicken, leaf litter is one of the most desirable things there is. If there are insects and other invertebrates living among it, all the better. The chicken's innate urge to forage in litter is an example of a behaviour that is rewarding for its own sake. It's like a person who chooses to shop at the farmers' market or grow vegetables; the process itself is enjoyable.

The litter can be any loose organic matter like straw, leaves, fine mulch or weeds. Leaves are particularly good because they tend to be pre-inoculated with greeblies. Chickens need to forage in litter. Experiments show that trained chickens deprived of litter choose to work hard in order to gain access to it, just as they do for food, water and a private nest box. Extensive foraging opportunities lower stress hormone levels and reduce behavioural and welfare problems. It truly matters to them.

The worst thing you can do to your birds (apart from keeping them in a tiny cage with a mesh floor) is to keep them in a space that is a dust desert in summer and a mud bath in winter, devoid of litter, creepy-crawlies and plant life. These birds quickly annihilate all life in the ground, and the smaller the area, the faster it is denuded. Chickens also like a bit of green grass, but it's not essential.

YOUR CHICKENS' PLAYGROUND

When my daughter was little, she called our chicken run the chickens' playground. She was describing all the ground they could access that wasn't their coop. Because this is the environment in which they spend most of their life, make it a good one for them. Exactly what it looks like will differ from property to property, but here are some ideas that can work, along with their pros and cons.

Wing-clipping can prevent flying (but not climbing) over fences, but not as well as you might hope. There are many online videos to show you how to perform this fast, painless procedure. You'll need sharp scissors or secateurs.

CHICKEN ALARM CALLS

Chickens are so alert to aerial predators that when they see one, they make a high-pitched alarm call that's loud, sharp and unlike any other chicken sound. I've even heard them make it when a noisy-winged tūī whisked past at low altitude.

They have a different call for ground-based predators – a distinctive machine-gun-like growl. Mine make it in response to my cat, although he's quite terrified of them. Their call tells me when he's coming before I can see him. He has never hurt them, but I often wonder how many of his feathery murders they have witnessed. Other chickens, hearing the call, respond by being vigilant and hiding.

They also use trees and shrubs very effectively to dodge ground-dwelling predators, as you will discover when you try to catch shyer chickens.

THE FREE-RANGE LIFE

No matter how well you design a coop and run, your chickens will want to range freely. 'Real' free-range chickens come and go from their coop as they like. They return to lay eggs (you hope), drink, and roam around the garden as they see fit.

They choose shady places when it's hot, eat some grass, and find numerous goodies such as snails, worms and insects. It's endearing to watch them foraging busily in such a setting, and foraging is what they'll do for much of the day.

Unfortunately, this comes with numerous downsides that can be so great that some people get rid of their chickens as a result. Free-range chickens will forage in your vegetable patch – and your neighbour's if they can reach it. Some veggies will survive, but don't expect to have intact silverbeet, spinach, lettuce or berries. All seedlings are at risk of vanishing completely. I recently lost some baby winter brassica to curious beaks and strong feet, so I went back to the farmers' market the following week to buy replacements. When I told the sellers that I needed more because my chickens had escaped, their faces dropped and their shoulders drooped. We were briefly united in a small grief that is universal to all gardeners who keep chickens and get slack about fence integrity.

Tidiness, too, goes out the window. If you mulch your garden, the mulch becomes home to many invertebrates, so chickens will scratch it away to feast on what's underneath.

The other problem is the poo. Because concrete is nothing to chickens and complex vegetated areas are everything, they prefer to poo on your paths. And your deck. And, as they realise where food scraps come from, possibly your front door mat. People walk in these places, perhaps barefoot, and then into your house. Bold chickens begin to follow them in.

Interestingly, although I've seen the odd squashed chicken on the road, escape is not usually a problem associated with freedom. Once settled, chickens tend to stick close to home where they feel safe and close to each other. This fondness for home seems to include the neighbour's vegetable garden.

THE FENCED CHICKEN FOREST

After exploring the free-range option and sadly rejecting it, we penned in our birds. Around our coop is a pen of 12 square metres cordoned off with moveable fencing, and three chickens live in there. Because it's under a row of trees bordering a fence line, it makes efficient use of land. We would have hardly any extra lawn or garden on our property if we didn't keep chickens.

Humans often think fenced animals should be in grassy paddocks. There is even a free-range layer farm in New Zealand with a website that states: 'We're farming eggs just the way the hens like it. Our hens have the run of big open paddocks where they can spend their days roaming, foraging and socialising.' I know their hearts are in the right place, but they missed the memo: chickens are not creatures of open-range land. Although they certainly enjoy nibbling grass, a paddock or a backyard rendition of it is not an ideal habitat for them. Chickens want overhead vegetation with some open patches of ground. Trees and shrubs provide shade, and gaps between trees provide sunny spots for dust bathing.

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If you keep them exclusively on open grass, you can still give them a far better life than they would have on a commercial farm, but you'll find that unless your meadow is large, it will become smelly and poo-studded. A more jungle-like ecosystem means not only healthier birds, but fresher air.

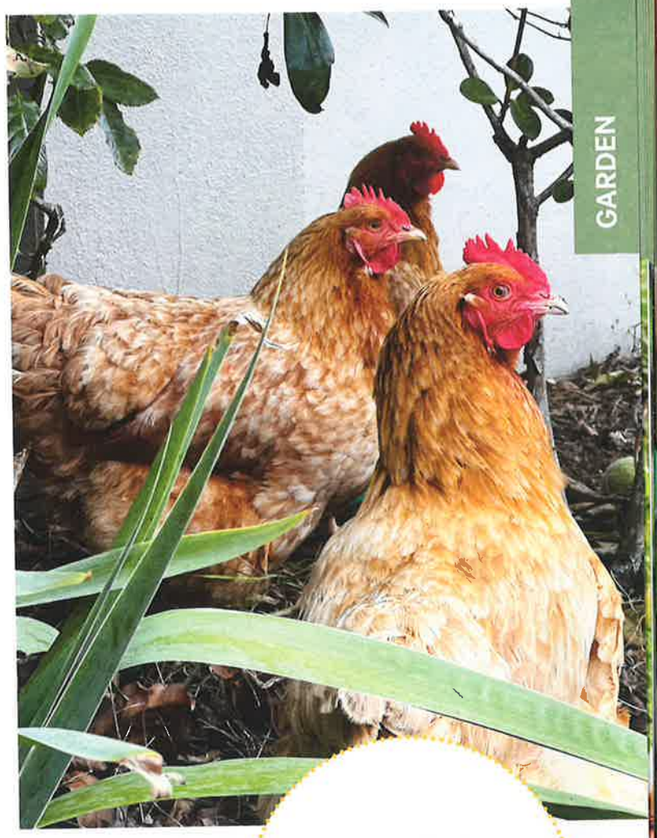
THE OCCASIONAL FREE RANGER

Could your chickens be let out to roam sometimes and be penned or cooped at others? Yes. If they are set free to wander while you're in the garden, they will have a wonderful time as you keep a careful eye on your precious vegetables. In my experience, though, this can frustrate them when their freedom is curtailed. Chickens that are allowed to roam and then can't get to their favourite spots often run up and down inside their fence line complaining loudly.

And think what a great use of space it is, especially if there are fruit trees. The birds will clean up pest insects and fertilise the trees. If they bear fruit that fall when ripe, you'll probably want to keep your chickens in a different area for a month or so before the harvest begins so the fruit isn't soiled with poo. Be aware that when chickens are penned into small areas with trees, they tend to dig around the roots, working together enthusiastically to create what can be surprisingly deep holes. This can kill trees. You can prevent this by protecting the roots with material such as old bricks or stones, short logs or some kind of mesh.

A chicken tractor like this should be easy to move frequently to provide fresh ground. This one is too crowded.

This old pool fencing has been made chicken-proof by weaving strips of weed through the rungs.



Fruit trees that particularly thrive with chickens are apple, feijoa and mulberry. Mulberries are like rich, sweet boysenberries that grow on a deciduous tree. Deciduous trees provide good leaf litter and let the sun through in winter, but evergreens like feijoas provide more winter shelter from rain and wind, so a combination is probably best.

Your chickens' pen will ideally be attached to their coop so they can return to it whenever they want to eat, drink, lay and seek shelter. But it doesn't have to be right next door – some people make tunnels of wire mesh to connect distant areas.

Remember how much chickens like fresh ground. If you can attach two pens to your coop, or divide one pen into two and alternate which one they can access, your birds can enjoy fresh ground every few weeks. This is better for them than one large but denuded patch of ground, and it's also better for the health of the soil.

Speaking of health, choose a dry spot. An area that gathers puddles when it rains and turns into a bog in winter is a recipe for ill health.

You might not have free rein when it comes to choosing your spot. To find out about your local council's bylaw on this topic, Google 'poultry [your local council]'.

PEN FENCING

Pen fencing matters. It needs to keep chickens in and, preferably, be moveable. You can buy readymade chicken fencing online, although it's hard to find a durable version. Heavy breed birds such as Orpingtons are easily contained by only a single height of garden mesh, which generally comes at a height of 90 centimetres. Lighter, more agile breeds such as brown shavers can easily jump-fly or climb a single height of plastic mesh (they can't, of course, fly properly). We've successfully imprisoned them with a 1.2-metre-high fence constructed by topping a full-height strip of plastic mesh with another strip cut in half. I've noticed that only a single height of stiff wire mesh keeps most but not all of them in; possibly it hurts their feet to climb it.

Animal Welfare Act requirement: To provide animals with opportunity to display normal patterns of behaviour.

Children will want to throw scraps over it. To trick stubborn escapees, you can make the fence seem higher than it really is by stringing a line or two of pantyhose, old leggings or rags horizontally to stakes extending above the fence.

The mesh can be supported by stakes of any sort, the free option being straight, slim branches you've pruned from a tree. It can be useful to pre-bore holes to set stakes into, but only some of the stakes need to be stuck in the ground. Weaving stakes in and out of the mesh offers extra upright support. If chickens are pushing underneath a mesh fence, a stake can be threaded along of the bottom of the fence to stiffen it. Anchoring the fence into the ground with tent or weed mat pegs also solves this problem. My favourite stakes are horse-height electric fence posts. They're light, easy to move, and made for pushing into hard ground.

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ENRICHING A SMALL SPACE

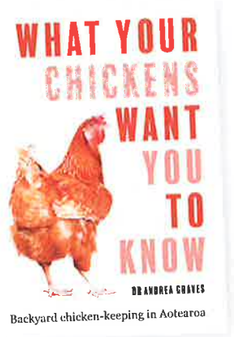
It's encouraging to know that a small space can work for chickens; for them, bigger isn't always better, but a complex environment that's rich in stuff to scratch through and jump on is. However, a small space is prone to being quickly scratched bare, compacted and full of faeces, which is an unhealthy situation. It's also unhealthy for the soil, which over time can become too alkaline, salty and skewed in its nutrient balance. A small space must therefore be carefully designed and tended, and I have some suggestions for how to do that.

Create a 'straw yard', in which frequent loads of vegetation like weeds, spent vegetables and appropriate food scraps (i.e. 'green material') are dumped into a fenced pen. It's important to also include 'brown' material like sawdust, wood waste and fallen leaves as part of the mix. This means the birds always have a deep layer of litter to peck and scratch at, and you have a place to put suitable waste.

As the chickens will scratch the contents down and distribute them evenly, the pile needs to be kept together by some sort of structure (probably the fence of the pen) so it doesn't become strewn out thinly. This collection of biomass will produce sufficient moisture, warmth and microbes to perform the magic of decomposition, then worms and invertebrates naturally accumulate, and this forms a feast for chickens. They will eat the goodies, and if the litter is deep enough, there will be enough survivors to maintain a population. The birds' scratching simultaneously aerates the heap. Compost forms underneath, fed by nitrogen-rich poo. You can harvest it to grow food in. Gardeners may recognise that a straw yard is actually a big compost bin.

The entire chicken run could be a straw yard, the appropriate size of which will be dictated by how much stuff you can supply it with. The more plant matter you can generate to throw in, the bigger the yard can be. It may be better to create two smaller straw yards and provide access to one for some months, and then let that one rest while the next one is in use. The less broken-down matter from the first can be forked over to the second one.

Alternatively, a compost pile in the pen, including in a fenced chicken forest, is always popular with chickens and will work better than a straw yard if you don't generate bounteous supplies of organic matter. Again, you'll need to keep the contents heaped together, probably by creating a low walled section within the pen – for example, a ring of logs, stones or blocks. I avoid old tyres because they contain toxic compounds. Ingredients can be added regularly – but not paper, hair, grass clippings or intact vines. Vines tend to form tangled masses that get in the way of a chicken's scratching and sorting but will be no problem if you clip them up small. Grass clippings are said to be unsuitable because they can block the digestive system, but some chicken keepers give them to their birds with no problems. Sometimes I dump them on the ground near the run to age for a couple of days so they become unpalatable by the time I shovel them into the run, but they can still provide lots of matter to search through and greeblies to discover. The compost area will be their favoured hang-out.



Backyard chicken-keeping in Aotearoa

This is an edited extract from What Your Chickens Want You to Know: Backyard chicken-keeping in Aotearoa *by Dr Andrea Graves, (Potton & Burton), $30.*

If a straw yard or compost pile gets too wet and/or compacted, it will cease to be aerated, and the tell-tale stench of anaerobic rotting will permeate the air (more likely in winter, especially if drainage is poor). If this occurs, turn the material to incorporate air and add straw, leaves or finely shredded woody material. You can minimise the chances of this by choosing a well-drained site.

Another way to effectively enlarge a small space is to add three dimensions by adding branches or perches. Chickens love sitting on something with a bit of height and complexity, but locate these items thoughtfully so they don't become launching pads for escape attempts.

Make sure, too, there's a space for dust bathing. As previously mentioned, chickens like to writhe around in dry, loose soil or sand, preferably in a sunny spot, and a winter bed of mud won't suffice. A chicken-sized veranda can help keep soil dry.

THE CHICKEN TRACTOR

This is a small portable coop that is moved regularly to a new patch of garden or lawn. Some people build them to be the same size as their garden beds so they can move them around as a way of continually giving chickens fresh ground while they cultivate garden soil, clean up weeds and pests, fertilise and mow the lawn.

One concern with chicken tractors is when they aren't moved often enough, perhaps because the garden beds are all full, they become small cages – although they can be moved onto lawn. Another issue is that tractors can lack shade on hot days unless they're thoughtfully designed and located. Some tractors have a fenced run attached and this can offer the best of both worlds. They could also be a holiday home for hens that otherwise live in a different system.

Chicken tractors need to be easy to move. The design for them usually includes wheels if the structure is heavy, or they are made of plastic. *Green Urban Living* by Janet Luke has a comprehensive description of how to build a dome-shaped plastic chicken tractor, as does Linda Woodrow's *The Permaculture Home Garden*.

Compiled by Cassie Birrer. Photography Sarah Tuck and supplied (page 67).

7 TIPS FOR KEEPING CHICKENS AT HOME

1. **Bugs are good for their diet**
Lots of bugs and insects found roaming around the backyard are beneficial to chickens. They provide essential vitamins and minerals, are an excellent source of protein, and contain essential amino acids. However, although part of a chicken's natural diet, insects can carry parasites and diseases. To avoid any risks, maintain a clean coop and never feed chickens insects that have fed on rotting meat.

2. **Chickens value their hygiene**
Another reason to maintain the chicken coop, is because they love to be clean! You've probably seen a chicken flapping about in the dust or preening themselves – it's something they spend a significant portion of their day doing. Chickens have a natural desire to keep themselves clean and healthy, something essential for their survival in the wild. Dust bathing helps to remove dirt and parasites from their feathers and also helps to regulate their body temperature.

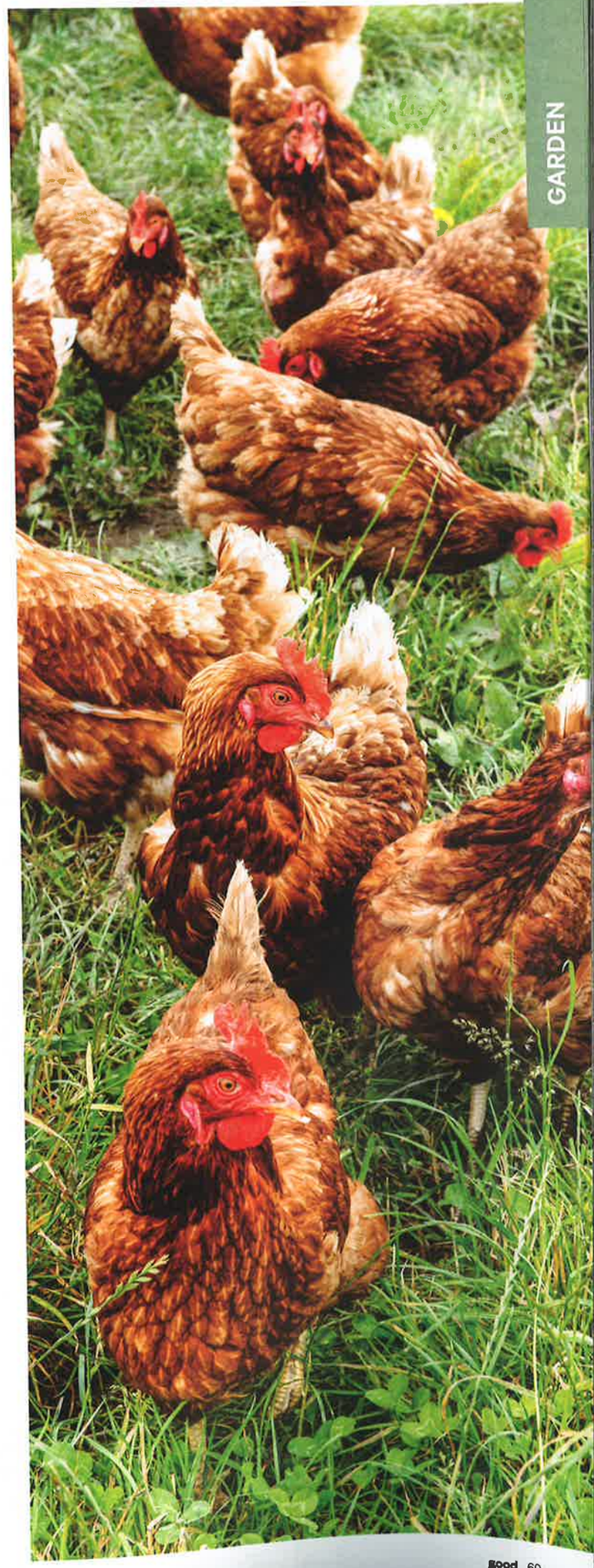
3. **Have enough chickens to get enough eggs**
A number of factors determine the number of eggs a chicken produces, such as a chicken's breed, age, diet and health. As a general guideline, though, you should have three chickens per two members of a household. Of course, the available space you have to fit chickens into your yard should also be considered.

4. **Follow the rules and be a good neighbour**
Also be sure to keep up-to-date with the latest council regulations for poultry – this can always be found online. It's also a good idea to let your neighbours know that you plan to get chickens. This will make life easier!

5. **Keeping chickens with children**
Keeping chickens can be a fun and educational activity for children, but it's important to make sure that everyone is safe. Children should always be supervised when interacting with chickens, and it's a good idea to teach them how to properly handle the animals. After any interaction, make sure everyone's hands are washed!

6. **Don't feed them all your food scraps**
Most fruits and vegetables are safe for chicken consumption, but be sure to remove any seeds, stones or peels that could pose a choking hazard. Dairy is safe in moderation, and any meat should be cooked with bones removed. Also be sure to not feed chickens any foods that are high in salt, sugar, or spices, plus foods that are toxic to them including rhubarb and rhubarb leaf, raw potato and peels, green tomatoes, caffeine and chocolate.

7. **Be mindful of the hierarchy**
Body language is used to establish dominance. Within a flock, there is a pecking order – each chicken knows its place in the social structure. Dominance is evident by which chicken is controlling food and nesting areas. Those at a lower rank may often be excluded from such resources. Keep an eye on those at the bottom of the pecking order to ensure they're getting enough food, shelter, and anything else they need to be happy and healthy.



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