

## Chicken Tractors

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A challenge for new farmers is finding agricultural enterprises that match their available resources. Chicken tractors are a low cost way to explore the time commitment required by livestock enterprises without large initial capital outlays. Chicken tractors also provide a low labor method of developing garden beds for exploring vegetable and herb production without the need for expensive tillage equipment.

### What is a Chicken Tractor

Chicken tractors are lightweight mobile pens, which confine chickens to a small garden spot to prepare the soil for planting. Chicken tractors also provide a controlled method of poultry pasturage. The tractor provides the chickens with protection against predators and weather. It also keeps the chickens in one area where they can improve the soil, through scratching and feeding activities.



Fig. 1. Garden bed prepared with chicken tractor.

### Benefits of a Chicken Tractor

Key benefits of chicken tractors are reduced weed growth, garden pest control, fertilizer (manure), and food.

**Weeding:** Weeding occurs as the chickens peck and scratch the soil. This process removes most plant matter, and seeds; thereby, clearing the pen of current and future weeds. The soil stays relatively weed free for about 2-4 months.

**Pest Control:** The chickens will eat insects and their larvae that find their way into the pen. They also consume diseased plant residue.

**Fertilizer:** Chicken manure is a great fertilizer for your soil. This manure can supply the nitrogen needs of a small garden. Phosphorus, and potassium found in their feed, are also in their manure. The soil is ready for planting two weeks after moving the chickens to a new location. The 2 week waiting period is necessary so the excess nitrogen can bind with carbon in the soil, otherwise you will burn your new plants. This initial nitrogen burn also helps clear the plot of weeds.

**Food:** The hens will supply you with eggs. You can also raise broilers for meat instead of hens for eggs.

### Before Building a Chicken Tractor Ask Yourself

#### 1. How much area do you have available for chicken tractor use?

To figure out the square footage of the area you have multiply the length of the area by the width.

#### 2. How many chickens do you plan to raise?

One chicken clears about 3-4 square feet every 2 weeks.

**3. Determine how large of a tractor do you need.**

In determining a chicken tractor size 4 square feet per bird is needed. A rule of thumb is that the maximum size of your chicken tractor should be less than 1/8 the area you have available to rotate it over. But they can be much smaller; a family that would like 5-6 eggs a day only needs 8 hens. This would require a chicken tractor that is 32 square feet or 4' x 8'. A chicken tractor of this size would require an area of 256 sq. feet. (32 sq. ft. x 8 = 256 sq. ft.) for adequate rotation.

**4. How much are you willing to spend on the chicken tractor may constrain your size?**

A final constraint is how much you want to spend on the construction of your chicken tractor, feeding, and care of your flock of chickens.

**Different Types of Chicken Tractors**

There are many types of chicken tractors that you can build on your own. An internet search on chicken tractors will yield hundreds of styles. The Guam Cooperative Extension has built 3 types with locally available materials. These are a small wooden chicken tractor, a small PVC tractor, and a canopy and frame tractor.

The wooden chicken tractor is the cheapest to build. It is made of wood (2"x2"s), but it is the heaviest of the three.



Fig. 2. 4'x8' Wooden Chicken Tractor.

The PVC tractor is about the same size as the wooden tractor, it is lighter, and easier to assemble.



Fig. 3. 4' x 8' PVC Tractor.

The wooden chicken tractor and the PVC tractor are both 4' x 8' x 4' and made for backyard use for multiple small garden plots. PVC model has the added advantage of not rotting.

The third chicken tractor is basically a modified canopy and metal tubing frame (common on all our islands) with a base added and fencing around the sides. It covers the largest square footage which allows larger flock and the ability to clear more land.



Fig. 4. 10' x 12' Canopy and Wire Chicken Tractor – woven coconut fronds provide side shade.

**Five Important Components of the Chicken Tractor**

The five components of a chicken tractor include feeders, water containers, nesting boxes, and roosting perches, and side shade.

**1. Feeders:** Five gallon buckets with no lids make excellent feeders. Cut vertical slits on the side about 2"-3" wide by 6"-8" high so that the chickens' heads can reach in. The opening should be 3"-4" from the base of the bucket. You might want to run a rope through the handle to hang the feeder away from the ground so the chickens do not climb into it.



Fig. 5. Feeder.

**2. Water Containers:** Water containers can be made of plastic containers which are cut so the chickens get access to the water inside (following the same concept as the feeder, except the slit will be horizontal). Be sure to provide adequate water for several days.



Fig. 6. Water Containers.

**3. Nesting Boxes:** Nesting boxes can be made a number of ways. For example a bucket with a lid on (or without), with an entrance cut on the side, or they can be made out of wood nailed together to resemble a box with an entrance. You can use shredded paper, grass clippings, or wood chips inside the nesting box.

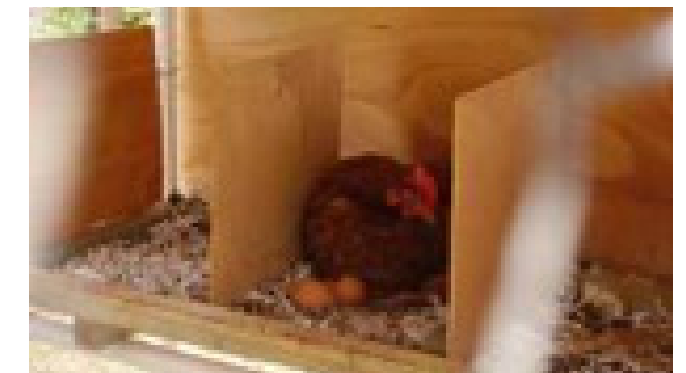


Fig. 7. Nesting Boxes.

**4. Roosting Perches:** These can be any bar of about an inch in diameter strong enough to support the weight of a couple of chickens. You can also use 2" x 2" length wood or metal water pipe. You can run these roosting perches through the side fencing and tie them to the sides of pen

**5. Side Shade:** Since the chickens are confined it is important to ensure that there is always shade available. During early morning and late afternoon you need to provide side shade. This can be provided by a cover of some sort (tarp can be used), preferably of a light color, on the east and west sides of the chicken tractor. An alternative that can be used is woven coconut fronds as a cover. This will provide the chickens with shade inside the chicken tractor all day long.



Fig. 8. Side Shade.

## **Cultural Practices**

When chicken tractors are used to prepare a planting area, mulching is important. When the chicken tractor is moved it is necessary to mulch the area with green waste. This serves two purposes: it minimizes the possibility of fresh manure or bacteria splashing onto vegetables planted in the area. The mulch also keeps the area weed free.

Mulch is undecomposed organic material applied to the surface of the soil for protection and improvement of the area covered. Mulch suppress weed growth, increases water retention, can reduce disease occurrence by eliminating the soil from splashing onto the leaves or fruit, and as it decomposes it provides a slow release of nutrients into the soil.

## **Dry Litter Management**

For those who do not want to move the pen, a dry litter pen is the way to go. A dry litter pen is a bottomless pen that is filled with dried grass, leaves, palm fronds, or other high carbon content materials. Fresh litter is added each week. Well-managed dry litter pens have no odor.

Adding carbon materials, such as dried leaves and grass, aids in the absorption of chicken manure. The chickens scratch the litter and it starts breaking down and mixes the manure. As dry litter is added every few days, the upper layer is clean with the litter and manure mixing below, keeping the chickens in a relatively clean environment. Leaching into the ground water is prevented by the absorption of waste and the prevention of rain water from carrying the waste out of the pen.

Every month or two the litter may be removed from the pen and composted. This compost is an excellent potting soil for container gardening.

## **Backyard Flocks**

Chicken tractors provide the ideal housing for a small flock in urban settings. Chickens raised in chicken tractors do not disturb your neighbor's plants. If chicken tractors are moved on a regular basis, concentrations of manure and the resulting odor are prevented. In the home setting, a backyard flock of six to eight hens can recycle kitchen scraps and provide eggs for the family.