



# How to Build Wilson Forbes' Chicken Tractor

Compiled and written by Mark DuPont and Michael Stearns



Mid Klamath Watershed Council  
38150 Highway 96 / PO Box 409  
Orleans, CA 95556  
Phone: (530) 627-3202  
[www.mkwc.org](http://www.mkwc.org)

This work is supported by Agriculture and Food Research Initiative Food Security Grant # 2012-68004-20018 from the USDA National Institute of Food and Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.

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# Overview

A chicken tractor is a mobile coop on wheels which allows you to move your chickens around your garden/homestead as often as you like, benefitting the chickens with fresh pasture and the garden with chicken-powered tillage and fertilization.

To be functional a chicken tractor needs to:

1. Keep chickens *in*,
2. Keep predators *out*, but still give chickens access to ground to scratch,
3. Provide shelter, shade and food for the chickens,
4. Be easily moved by one person, and
5. Provide easy access for collecting eggs and cleaning the coop.

That's a lot to ask from one unit. Chicken tractors are a great concept, but can be a challenge to design and build. Many farms and homesteads have prototypes that turned out too heavy or awkward to move, and thus ended up as stationary chicken coops.

## Wilson's Chicken Tractor

After years of building, designing and tinkering, Wilson Forbes of Happy Camp, California came up with a chicken tractor that is light, predator-proof, and can easily be moved by one person. Wilson and his wife Helen are known locally as the Helen and Scott Nearing of the West Coast. They've lived on Elk Creek since 1965 in a home they built themselves, with an abundant garden and homestead that is beautiful, productive, and neat as a pin. Wilson dedicated himself to fabricating tools and infrastructure that help others to produce their own food. In addition to chicken tractors, he also fabricated raised garden beds out of cement that are easy to build and last many, many years.

In June of 2016, Wilson approached the Mid Klamath Watershed Council (MKWC) with a proposal: He matter-of-factly stated that at 94 years old, he wasn't sure how much longer he'd be around, and he wished to pass along the designs and templates he had created for his chicken tractor so that others in the community could learn to build their own. Over the next few months Wilson hosted us at his homestead, teaching us how to weld and showing us the designs, templates and processes involved in chicken tractor. We helped to finish a model that Wilson started, and which now serves as a model for fabricating more units. From March through June 2017 MKWC sponsored a series of workshops where participants constructed their own chicken tractors. This booklet is based on these experiences and includes instructions and photos from these sessions.

In September of 2016 Wilson passed away at the age of 94. Only months before, he was working circles around us in his shop as he showed us all his many projects and taught us all the details building a tractor entailed. As an active and dedicated member of the community for over 50 years, he is loved and missed deeply. We hope these efforts to pass on his knowledge will honor his service and ingenuity.

# Building the Chicken Tractor

**This publication and a companion set of plans are available as a free download on the MKWC website, [www.mkwc.org/programs/foodsheds/resources/](http://www.mkwc.org/programs/foodsheds/resources/). MKWC also has a set of templates available for loan, MKWC at (530) 627-3202, or ([mark@mkwc.org](mailto:mark@mkwc.org)).**

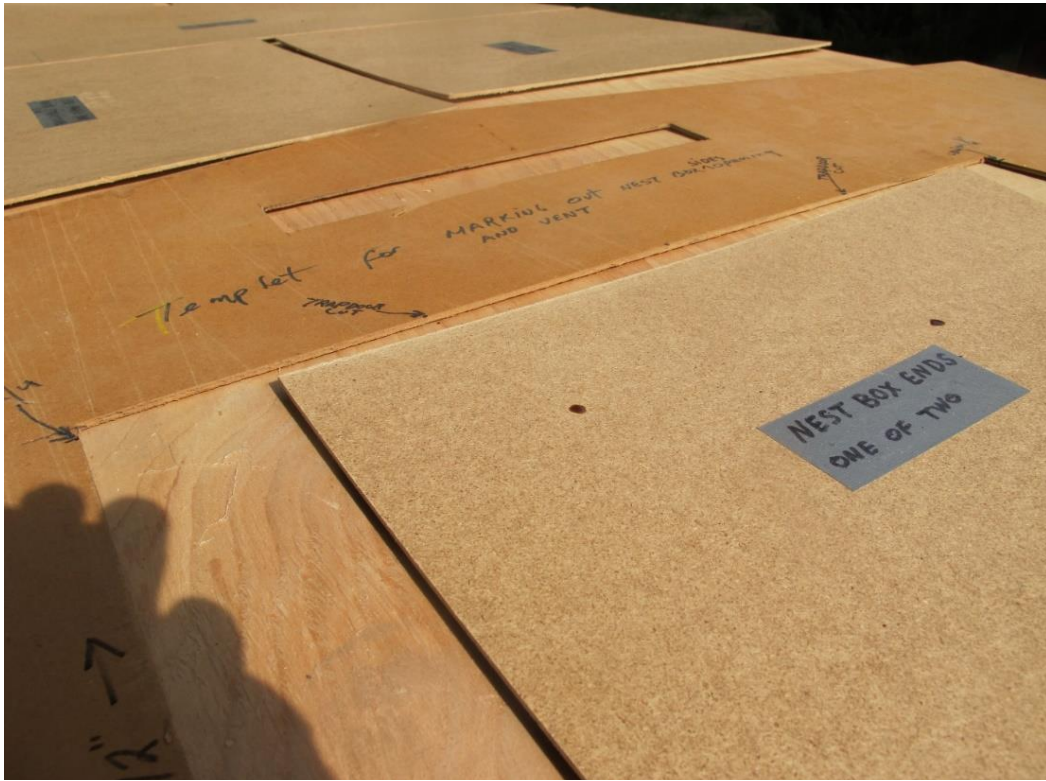
Building a chicken tractor requires basic carpentry and welding skills, and lots of patience for details. Wilson taught us that there are no secrets involved, just a willingness to learn from your mistakes, to do something over again if it's not right the first time, and to stick with it until the project is done. Even after he had been making these for several years, we watched Wilson make modifications as he worked; there are many welds involved, many angles, and many parts that need to fit together. Be prepared to tweak your design as you go.

"How long does it take to build one?" is a common question. In the spring of 2017 several community members met for seven sessions as a group, five to six hours per session. Nine to ten people worked to make seven tractors, and there were many details that participants had to finish on their own, so you should allow 60 hours or more to construct a complete chicken tractor, depending on your skill level. If you do not have welding experience you'll need to get someone to show you how. Wilson just put the welder in our hands and told us to have at it, it's not complicated once someone shows you the basics. A beginner's welds are not going to be as strong as an experienced person's, but fortunately the chicken tractor does not take a lot of stress, and we found most people picked it up quickly. Allow time for scratching your head and puzzling over how this all fits together, and for the inevitable necessity to re-do something you've already done.

The chicken tractor has two basic components: the frame, which is made of 3/8" rebar and covered with chicken wire secured with hog rings; and the coop, which is constructed of 3/8" plywood, primed and painted. The wheels are mounted on the frame so that they are off the ground when the tractor is in place, but engage when the tractor is lifted slightly, allowing it to be moved easily. A lid on the nesting box of the coop provides easy access for egg collection. The door to the coop folds down and serves as a ramp. The coop is high enough off the ground to provide shade during the day, a critical feature in our climate. A side hatch and scraper facilitate cleaning the coop.

## Building the Chicken Coop

The coop is made of 3/8" exterior grade plywood (CDX). Wilson primed and painted the plywood before cutting it to save time. Wilson made a set of templates for all of the coop parts, which is available for community use through MKWC. The templates can be placed to make the best use of the plywood. We used a nail gun and glue to assemble the coop. Short wood screws (1/2 and 3/4") are used to secure hardware. The following photos show some of the details of coop construction.



*1. Careful positioning of templates facilitates the most efficient use of plywood.*



*2. Join panels with small nails or brads, and wood glue.*



*3. Add a perch inside the main room in the center along the long dimension. Note that the nesting box has a middle divider to create two sections.*



*4. Add hinges and latches to doors. Note that only one side of the roof is hinged.*



*5. Cover vent openings with window screen, to exclude flies and predators and allow for ventilation.*



6. A simple hoe-like tool may be constructed to clean out the coop through the clean out door.

- Attach coop to frame with u-shaped straps or plumbers' tape.
- Ensure there are no gaps larger than  $\frac{1}{4}$ " between the coop and frame, to keep predators out.
- A lightweight and waterproof roofing, such as corrugated tin or plastic, may be added. The plywood will last longer.

## Building the Frame

The chicken tractor frame is constructed entirely of welded  $\frac{3}{8}$ " rebar. Rebar can be cut with a hacksaw, but a rebar cutter or metal crosscut saw is much more practical given the number of pieces that need to be cut. We found the crosscut saw to be more accurate.

Learning to weld takes time and practice. If you have never done it before you'll need to have someone set you up with the proper tools and materials and demonstrate. We used an arc welder and a wire feed welder. Wilson fabricated two sets of templates for the frame – one is a set of rebar pieces cut to the proper size, the other is a plywood jig used to hold rebar pieces in place. We found it easier to just measure and cut the rebar rather than use the pre-cut rebar templates. The plywood jig is very useful for constructing the long side panels, but it is not necessarily self-explanatory. We found it necessary to have a finished chicken tractor on site as a model for reference, since we were constantly measuring and comparing as we built.



7. Wilson's template, used to weld the long side panels.

8. Corner clamps fabricated by Wilson to hold rebar in place for welding.

Begin by welding the two long side panels. The template Wilson created is shown here, the round, metal disc in the foreground is the template for the wheel dropouts. The small wooden guides hold rebar in place for welding, holes are situated under the welds. It takes some head scratching to figure this out, and is best to have a completed chicken tractor as a guide.

Weld the long, rectangular box first, *then* shift the frame down to utilize the wheel template. The template is not long enough to accommodate the entire panel. One of the side panels includes a door, see next photo for details.





## Door details:

Note use of hog rings to secure chicken wire to frame.

Slide pieces of galvanized pipe over frame **before welding**, then tack to door to serve as hinges.

Weld sliding bolt as a door lock, use steel, not brass.

Weld small squares of plate steel as door stops.



9. Weld side sections together with cross members. Add braces, ridge, rafters, and handle sections.



10. Bolt 11" wheels to wheel brackets. Position of wheels is critical: wheels should be off the ground when the tractor is in place, but engage when the tractor is lifted slightly, allowing it to be moved easily.

- Grind smooth any sharp edges or welds.
- Paint frame to prevent rusting. A sponge or washing mitt dipped in paint is an efficient way to paint round and irregular objects.
- Attach chicken wire to frame using hog rings. Hog rings (available at feed and hardware stores) are an open steel ring crimped closed with special pliers. They are inexpensive, easy to use, and leave no sharp edges.
- Rebar "handle" may be threaded to accept wooden or pipe handles if desired.

Remember:

- Keep the weight down. Using ½" plywood, ½" rebar, and adding further reinforcements will add weight. This chicken tractor as designed can be moved easily by one person.
- Waterers and feeders may be hung from the rafters inside the "yard."
- Wilson Forbes wanted his design to be passed along. Please share his idea with others.