Sustainable Farming : Mobile Coops and More

PLEASE NOTE:

Everything included in “Sustainable Farming : Mobile Coops and More” has been transposed directly from the website. That includes references to the PlayHaven Farm LLC and Green Building Project (PHF&GBP) website pages, external websites, links to documents, etc. Because of how quickly things change on the internet, there are NO links from this document.

I am raising my chickens sustainably. That means they will be raised on pasture and not kept in a building.

We have now built FOUR different coops for the chickens: [Updated August 2013]

1) a Chicken Ark. It is basically an A-frame with a wire ‘run’ attached to it and it is small enough that we can move it from place to place in the pasture. We are making the nesting box area insulated to withstand the summer heat and the winter cold. The bottom has no wire so the chickens will have full access to the ground, insects, etc. The Chicken Ark is surrounded by an electric poultry ‘net’ fence so that the hens can range during the day without fear from predators. Since we have constructed the EggMobile, the Chicken Ark will be used as a ‘hospital ward’ and/or for introducing a few new hens to the group; as in the new hens stay confined to the Ark for a few days while in the same fenced area so the current hens can get used to them before we add them into the flock.

2) a Chicken Tractor. The ‘broilers’ (which is what most people call the meat birds) live in a different pasture coop that is a large rectangular box that we will also move every day and that also has no wire between the broilers and the ground so they can scratch and get insects, etc. as well. This coop is plenty large enough so the broilers won’t need to range; BUT, we like our chickes to work for us, so the Chicken Tractor(s) are also inside a poultry fence and the broilers get to range during daylight hours. After a year of using this structure, we discovered it is more than we need for the chicken meat birds, so I designed the Cockerel Camper (see below) and we will use the Chicken Tractor for the transition between the brooder and going onto pasture... OR we could use it for a few turkeys.

3) an EggMobile. This is a large coop built on a flat-bottom trailer and can house up to 150 hens with it’s ‘roost ladders’ and 24 nest boxes. It is designed so that both the food and water can be placed inside depending upon inclement weather; but those items are primarily located outside. We have insulated it so it will be cool in the summer and warm in the winter. The hens can go underneath it for shade and protection from hawks. The tractor is used to move it and it does not move every day, but is moved when the hens are ready from fresh pasture. Yes, the birds poop at night while inside the coop, so clean out duty is needed daily. I collect the droppings in a basket and scatter them in areas that can use the potassium and fertilizing qualities. (I could be persuaded to sell some... hint hint.)

4) a Cockerel Camper. We discovered that the Chicken Tractor we built is much heavier and much taller than we actually needed for the meat birds. Since they are processed at 16 weeks old, they never get so big and heavy that they need what the Chicken Tractor provides. I designed the new structure so it is only 2 feet high with roosts a foot off the ground made from dowel rods which are smaller and lighter than those in the Chicken Tractor. It also accomodates water and feed inside on the

ground (if needed). It is easily moveable by one person which made the whole trial and error process worthwhile.

While providing the chickens with a lifestyle that is both 'chicken-like' and safe for them... we are also thinking about the fertility of the soil in our pastures. All that scratching, removing insects and pooping will improve the pastures without the problems associated with over use (because we move the chickens every day)... which are toxicity from the high potassium content in chicken poop, denuding the soil and irritability among the chickens (pecking).

Chicken Ark Construction (June 2012)

I did quite a bit of searching on the internet for free plans for a mobile coop... didn't find much in the way of plans; but DID find LOTS of pictures on www.thecitychicken.com. What I learned from my searches is that you can't really build a bad mobile coop so long as it is light enough to move, heavy enough to keep predators from lifting it or flipping it over, and strong enough to withstand weather, wind and predators. I like the term coined across the Atlantic Ocean for a mobile coop: Chicken Ark. And I really liked the look of the A-frame versions I saw. So I sat down and designed our Chicken Ark to be an A-frame with extensions on either side to fit nesting boxes and with liftable lids for easy access. The dimensions were decided upon using standard lumber in 8-foot lengths.

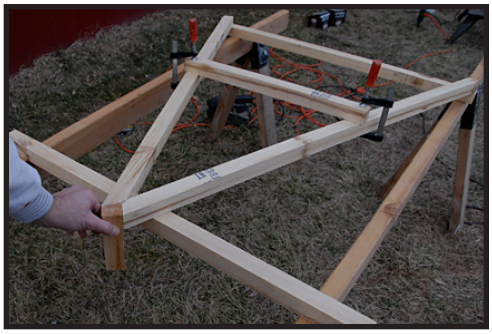
Below you can see the construction. I'll try to give you dimensions as we go... because I didn't really worry about that in the design stage.

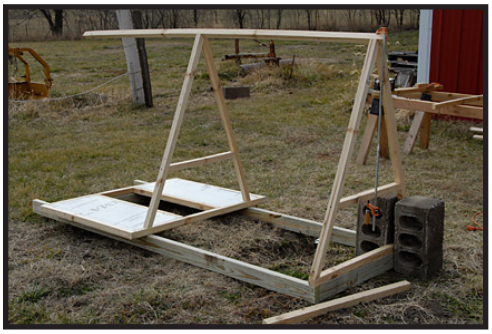
First, I decided to use pressure-treated 2x4s for the base. I cut one 8 ft. length into two 3 ft. pieces to make the width. Which means the insided diameter (i.d.) is 3 ft wide. (The left over pieces were used in the corners to strengthen the base.) The hubby and I decided it would be good to put the wheels about a foot out from the coop... so the length of the coop and run area outside diameter (o.d.) is 7 ft long. The rest of the wood is non-treated 2x2s. It was not easy to find straight 2x2s at the lumber yard. So we just did the best we could with what we got.

I knew from the get-go that we would be using foam insulation in the coop area. Since the o.d. of the 2x2s is really 1.5 inches, we used 1.5 inch foam boards to insulate. This also meant we needed a material on the inside of the coop (siding) so the chickens wouldn't be able to peck the insulation and/or eat it. I chose to use inexpensive interior siding material that is light and easy to cut. It's basically a high density compressed wood product. It was cut to size for each section and then screwed on before the foam was added.

This is the base of the coop. At 4 ft. wide, it hangs over about 4.5 inches on either side. It is 3 ft. long. We decided to leave the middle open to the ground because there is a roost "beam" going down the center from one end to the other and this allows poop to land in the grass where we want it to go. As you might be able to see from this picture, putting the base on top of the bottom frame leaves a gap under the coop. Since the hens will be mature, we are not concerned about the gap. Also, the run will be covered in hardware cloth and we will be moving this every day or two, so it's less likely that anything will be able to live under the coop.

Figuring the height was simply a matter of finding where two lengths intersected. We don't have a wood working area yet, so getting things level and square was a bit challenging using saw horses.





Ever wonder why this trangular structure is called an A-frame? Look at the picture to the left. See the "A"s? That's why. We had to add an additional piece under the A opposite the coop so it would be on the same plane. There will be an A-hinged door on the run so we can open it fully for the hens to free-range.

Starting to take shape. Outside walls on the coop in place and insullated. The angle of the lid over the nesting boxes was basically determined by where the cross piece of the A is and setting that end above it so as to miss the screws. In case I didn't mention it, the roost sits on the A crosspiece which is about 18 inches from the ground.

We had to leave the top "beam" off while working on the coop so we could manuever. This shows the pop hole to the coop and the insulation in the back wall of the coop. There will be a hinged hatch in the triangle above that back wall.

Siding on the back wall, front wall and insulation on the front wall, too. The foam insulation was a left over board from another project. The hubby was in charge of cutting the pieces to fit snugly. He sharpened the curved side of a drywall tool (can't remember the name of it) to cut it. It was a suggestion he found in an internet search. Works great! Just need to keep it really sharp. We did end up buying a second board (4x8) to have big enough pieces for the sides of the A-frame.

Now the coop is structurally done. There is a very narrow gap at the top of the A for natural ventilation. We eded up dividing the area of the A-frame sides (as you can see) so that we would have somewhere to screw the exterior siding to in the middle. The roost is in place and I will be sanding it so the top is rounded.

At left, this angle lets you see the hinged hatch in the coop back wall.

At right, the inside of the A-frame from the back. We added a hook so we can hang a warming light.

Here it is with the exterior siding. It is corrugated metal. We would not have used this material because it is so heavy (and expensive to buy)... but the previous owner of our house installed it in the basement: walls AND ceiling. I don't like it there, so we have LOTS of free panels to use around the farm. The lid of each nesting box is NOT insulated. The dark gray is a rubber material used to line shower floors. We slipped it under the panel above the lid and it sits on top of the lid under the hinges. It was recommended as a solution to keep water out and be flexible by a Home Depot staff member. We think it's a great idea.

We chose to use 1/2 inch hardware cloth over chicken wire or even welded garden wire for the run. The length of the run is 4 ft. so the 48 inch hardware cloth is one piece that goes from ground to ground over the peak. It is attached to the wood structure with "U" staples. It is VERY secure. (Fingers crossed.) The openings in the corrugated metal panels are filled with expansion foam to keep insects/spiders/wasps/etc. from making homes in those channels. The excess was removed after I took this picture. I opened the lids and the end of the run so you can see how they work.

All the openings are hinged and are securely closed using these hinged hook and eye pieces. We are hoping no critters figure them out. Oh yes, the wheels!. Almost forgot. We opted to put four (4) 4-inch wheels on the two (2) base pieces. There is one on either side of the wood with a bolt/nut with washers next to the wood on either side. It's probably overkill, but it's my Chicken Ark and that's what I wanted. In hindsight, the thing is probably over-designed and heavier than it needs to be for the size of it. We are using an upright dolly under the run end to move it. It actually moves pretty easily.

Chicken Tractor Construction (June 2012) (UPDATE: Sept 2015)

It only made sense to raise some chickens for meat since we were getting chicks for laying hens. I read "Chicken Tractor" by Andy Lee and Patricia Foreman cover to cover and decided to make a mobile pasture coop for the meat birds. I used their design and modified it somewhat. Mine is 5 ft. wide by 10 ft. wide (which is a bit wider than theirs).

A few things we had to figure out for ourselves, because as good as that book is, there were gaps in the information about constructing the Chicken Tractor and some typos that took some work figuring out.

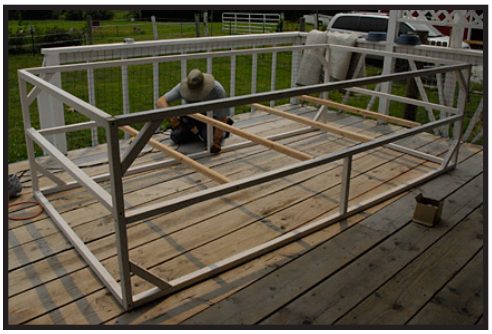
We made the tractor on the south porch because we needed to be sure it is square and that is the largest, levellest (is that a word? LOL) spot we have. We used untreated 10 ft. long 2x4s and 'ripped' them in half so we ended up with the equivalent of 2x2s. The 2x4s were much straighter lumber than buying the 2x2s. I pre-painted the wood this time. Should have painted the Chicken Ark wood as well. I also pre-cut all the wood so we could quickly construct the "box".

Here's the basic box: 10 ft long by 5 ft wide.

We built the long sides first and then attached those to the end wood. The design didn't call for corner pieces from the ends to the sides, but we added some before we put on the hardware cloth.

Just a couple of fun pics of the hubby. He opted to use both his electric drills so he could put the drill bit in one and the screw bit in the other. "Drill (No Screw, No Drill, No Screw), Partner!"

Everything is screwed together so it can easily be taken apart in case we need to replace something or store it or make it work for something else.



I also had sanded the roosts (so the top of each is rounded) ahead of time. They are not painted because they are always under cover and besides the chickens will be sitting on them. (They are easily replaced.)

We opted to add supports mid-way on the long sides (not called for in the original plans) since the expanse is so long and the roosts rely on that single, middle set of boards.

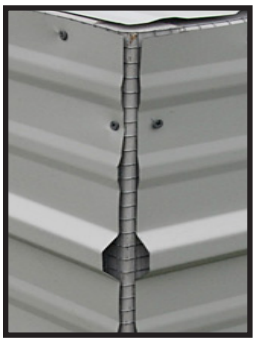
Once again, we opted to use hardware cloth (1/2 inch) instead of chicken wire or even welded garden wire around the sides.

This Chicken Tractor is 3 ft. high, so the 36 inch hardware cloth fit perfectly. We had a few pieces left over from another project, so we figured buying a 25 foot roll would be plenty. Since the sides are 10 feet and one end is 5 ft., we thought to use that roll all the way around except for the 'front'. It ended up being 4 inches short of 25 feet. Hmm, that's annoying. But, no worries, we had a 5 foot piece and just stopped the long roll at the mid-support on the side. Then used the 4 foot, 8 inches left from the roll to piece the front around the pop hole.

This photo show the hinged top pieces. The original plans call for one (1) 4 ft. fiberglass sheet (or equivalent), but since ours is 5 ft. and we have all those corrugated metal panels from the basement (see the Chicken Ark for my rant about those), the hubby used them instead.

We decided to put the top on in four (4) pieces and hinge them on the outsides so that they could overlap at the center. That was the hubby's idea - he is so smart! With a cement cap stone over each set, we doubt any predators can get in that way.

We had to invent how to put in a pop hole: it is a piece of plywood with corrugated metal screwed to it and the metal slides in a groove routed out of the two uprights on either side. A bolt strategically placed allows us to leave the door down and bolted or up and bolted.



Now you can see the enclosed area of the Chicken Tractor. The panels are screwed in place OVER the wire. One end is covered and 1/3 of each side is covered to make a shelter out of the wind and rain. The Chicken Tractor is NOT insulated because the meat birds won't be in it over the winter.

The corrugated metal gaps over the wire can't be be protected from things wanting to live there, but we figure the chickens can probably eat anything that thinks that a good place to live.

Finally - here they are next to each other. The Chicken Ark sure looks small next to the Chicken Tractor. That's OK though because the hens also have a 164 ft. of electric poultry fence that the Chicken Ark will sit inside of so they can range during the day.

We'll have to wait and see if the Chicken Ark will be big enough for overwintering the hens.

Chances are we will look into one of the "hoop house" grants to use for overwintering small livestock.

UPDATE: 9-24-15

I decided to remove the metal panels from the sides of the Chicken Tractor this Spring and replace them with a heavy duty tarp. This has worked well because there is already hardware mesh all the way around. So the tarp keeps out the rain and wind as well as the metal but at a fraction of the weight.

This has made the Chicken Tractor light enough that I no longer need the furniture movers for the daily moves. For when the fences are moved, the hubby uses a 2-wheel dolly under one end and he lifts the other end of the Chicken Tractor to walk it into place.

EggMobile Construction (May 2013)

After the trial period of 2012, I decided that I like having hens that lay delicious, soy-free, wheat-free, corn-free eggs. This especially “came home to roost” (pardon the pun) when I had a list of people wanting the eggs before I had eggs to sell.

I decided to expand the egg operation and that meant building a NEW mobile coop that should accomodate up to 100 hens. Below is that construction... start to finish.

At first, I was looking for an old hay wagon (with 4 wheels)... but the price and availability of those was high and rare. I finally expanded my parameters and found this flat-bottom-boat trailer via craigslist. (I just love craigslist.) It cost $100 and this first photo shows it after we removed the plywood/carpet ‘bed’.

Here the hubby is removing extraneous bolts and other unnecessary weight.

The tilt feature is nice, but we don’t plan to use it. The winch was also removed so it can be used on the tractor or whatever.

As the hubby was removing stuff, I was using the paint stripper to get the metal ready for painting.

The hubby moved the third wheel (near the hitch) further forward to give us plenty of room for the base of the coop.

By the way, did I mention that the wheels didn’t hold air when we got it? The tires seem fine, so we purchased inner tubes and after about $50, all is well. (So make that $150 for the trailer, LOL.)

We needed a level surface to work on the base (8 ft by 12 ft) and the south porch fit the bill (especially considering all the snow we got). The bucket is minimizing the spray from the gutter leak.

Ready to shift to the trailer.

Dry-Fit.

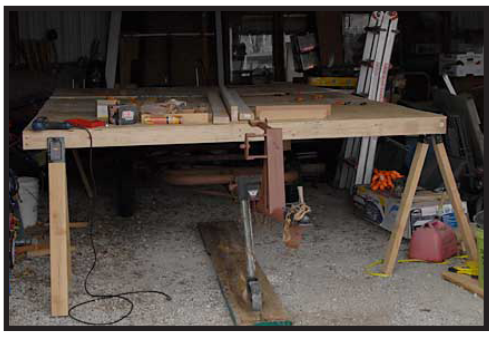
Continuing the dry-fit by putting the plywood in place to test for ‘square.’

A break in the cold let me paint the metal trailer using Rustoleum's for Rusty Metal paint.

New paint job.

Storing the parts and pieces in the garage between work sessions.

Smart hubby... using wood as a "track" to roll the trailer (et al) in and out to work on it. Not to mention elevating the base to roll it underneath.



Base in place with bracing started.

The base is 8 feet wide by 12 feet long (outside dimensions) so that we can use 4x8 plywood without having to cut it.

The bracing extending across the center areas is for screwing the plywood down so instead of placing the 2x4s on end, their wide side is aligned with the top of the outside brace.

We were pleased to find that the cross bracing of the base aligned beautifully with cross bracing on the trailer. So with some shim pieces, the base is bolted directly through the bracing on the trailer.

This thing is STURDY.

More pictures of bolts into the base/trailer.

See the hubby sitting at the corner with his feet OFF the ground.

The rest of the base bracing before the plywood is attached.

We temporarily used end bracing to keep these walls square. They are bolted through the base.

Each wall of the coop is divided to allow for access to the nest boxes (the lower open portion) and the insulated area which must be sturdy enough to support the roof.

Here you see both walls in place with the beginnings of insulation ... that is 2 inch closed cell foam board that was found in our attic so we did not purchase any of it. It would have been VERY expensive to do that. If we did not already have it, we would have found a different, cheaper way to insulate. Notice also the 3 wood pieces in the nest box opening area. They help carry the weight of the wall to the base... it's all about structural integrity. The outside nest box walls can be seen in this image as well.

Only the base and the lids to the nest boxes are not insulated. Since we have that free 2" foam board, we ripped 2x4s to 2x2s to minimize weight. We used the left over pieces as well, but there is enough extra to start on another Chicken Tractor.

Here you see that we worked into the night on many occasions (LOL). Actually, this photo is to show that we used 11/32nd sheet plywood to face each wall.

The side walls all done and ready for the endwalls. I have to apologize here, I somehow deleted an entire cache of photos from my camera thinking I had already uploaded them to the computer. So you don't get to see how we constructed the endwalls and doors. The endwalls are 1.5 inches wide so that the doors would not be so heavy. We used 1.5 inch styrofoam insulation (we had to purchase one 4x8 sheet to be sure we had enough).

We opted for a slanted roof to minimize water issues. There is a plywood ceiling inside the coop (partly it squares the roof and ties it to the walls) upon which we laid more 2" foam board. We had to cut an angle on the end of the foam board to match the slope of the roof.

The metal roof is the same material as used on the Chicken Ark. It came out of our basement where the previous owner had been using it for siding (don't ask me why). The piece you see (on the next photo) is placed temporarily to figure out how much we need to take out of the basement.

The roof will be put on starting from the ends and working to the top where this panel will act as a top cap. Then silicone caulk is used on all penetrations and overlaps to minimize water issues.

Doors... The doors on the tongue end could not meet in the center because there is stuff in the way, so we added a 2x6 and two 2x4s to the center to increase stability and a place for the doors to latch. Each door on this end has a pop-hole built into it.

All the doors have a hasp so they can be secured against predators.

The doors on the back end are ‘dutch’ style, with the right one overlapping the left one about an inch or so. That choice was made because we figure with the prevailing summer winds, this end will face west. They need to open fully so we can get the ladder-style roosts inside.

We added a 3-inch lip to the nest boxes to stop the hens from kicking eggs out. We intended to put closeable guards on the nests to keep the ladies out at night, but time was slipping by and we needed to get them moved in; so those were left off for the time being (and forever if we decide they are unnecessary).

About the paint... I decided to paint the plywood instead of putting the metal on all the exterior walls (like the Chicken Ark). Eventually, I will paint the name of the farm on the sides with some advertising.

This image shows the ladder roosts. Each ‘rung’ is rounded so the wood doesn’t cut into the hens feet. They are 4-feet wide with 5 rungs; except for the last one which is 2-feet wide. The one closest to us can come out to leave space for the feeder and waterer when necessary.

Here is a close up of the nest boxes... each with it’s own wooden nest egg.

A close up of one of the lids to the nest boxes (at left).

We put some money into this... used rubber liner for showers above the hinges. One piece extends the length of each wall by a couple of inches down the lid and we used silicone adhesive caulk to seal the high edge and penetrations to keep water from dripping into the nest boxes.

Before we put those strips on, we laid pieces so they cover the space between each lid... those gray pieces you see coming down to the edge of the lid start out under the long one.

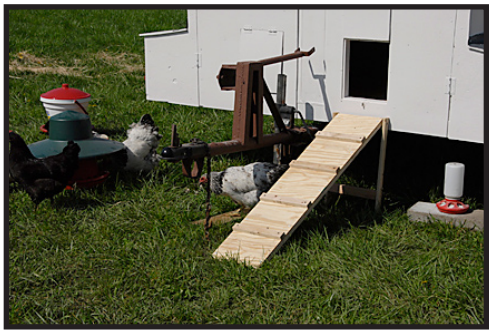
There are 3 nest boxes per lid. Can you see the piece of rubber on the right hand side of the photo hanging over the lid edge? This is the best we can do to keep the water out. (Better ideas are always welcome!) We thought about adding bungee cords to hold down the lids (for predator security) but did not need them.

We did not put anything under the metal roof material, so we used minimal expansion foam anywhere we thought an insect/wasp/critter might make it's way inside. That's the yellow stuff in the photo.

You can also see how the overhang protects the 'windows' that are covered with hardware cloth to keep out predators and pests.

That is 3 inches wide and the length of both 12 foot walls. It provides nice ventilation (think of pulling the hot air out in the summer) and the open pop-holes add to this.

Notice also that we put flashing over all the doors to help keep water out there as well.



Once we were finished we remembered that we needed to make 'steps' for the hens. We used leftover pieces of lumber and plywood to make this ramp. There is a wire 'hinge' at the top with an "H" frame to hold up that end.

The ladies like the tongue to sit on, although I haven't seen anyone go the the highest one yet.

After a couple of hours with only 1 pop-hole open, I decided to see what would happen if I left both open (even though we only built one ramp at this point). The ladies like having the option to hop/fly up to or out of the hole or use the ramp. Kind of reminds me of a restaurant kitchen and the directional doors. LOL It's also nice because it keeps one hen from blocking the way in or out.

The completed EggMobile (with one of the west end doors open). The large base provides lots of lovely shade and a place to hide from hawks. You can see the new waterer (white with red lid and base) that is easy to fill (what a nice change that is). We thought about switching to the nipple waterers set in 5-gal buckets, but wanted something that could be set inside when necessary. So we bit the bullet and spent the money on these lovely things. I LOVE IT! So easy to refill. UPDATE: These waterers only work well on level ground. Our land is NOT level, so I ended up buying different waterers that have a capped tap at the trough level and a screw-on top for filling. It's not perfect, but works well with a cement capstone under it for levelling and making it the best height for the chickens. The green 'hat-thing' protects the feeder from rain. It's a bit odd, but the ladies have finally figured it out.

So that does it for the EggMobile. If you want the plans, I am happy to share them. I think we ended up spending about $1,000 on this thing (cost of materials, labor not included). Which sounds like a lot, but when you consider that it should last at least 10 years, that's a nice little investment. The most expensive parts were the trailer, rubber liner and hardware... hinges, hasps, bungees, etc.

We would rather spend a bit of extra money upfront to protect our hens from predators, than to spend that money to replace killed chickens. You see, a chick is inexpensive to buy, but you have to feed and care for them for at least five (5) months before they start to lay eggs OR you have to pay the price of a full-grown replacement hen... not so inexpensive to replace a laying hen after all!

Cockerel Campers Construction (August 2013)

Experience is an excellent teacher. After learning from the experiences of others and combining that to what I learned the first year of our chicken adventure, I decided to redesign our “Chicken Tractor” for use with the cockerels. And, to make a distinction between the two (2) structures, another name was desired... thus was born the “Cockerel Camper”.

Basically, what I learned from last year was that

- cockerels don’t spend much time roosting because they are more chick-like than chicken-like, but they DO eventually roost.
- three feet tall is overkill for chickens.
- you can make your mobile coop TOO heavy.

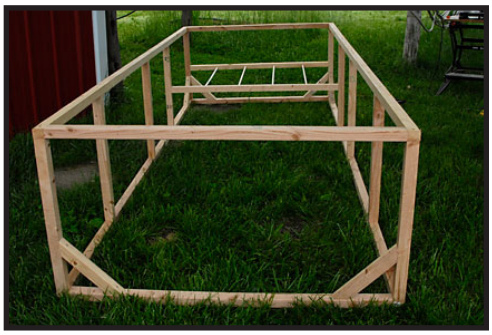
Therefore, the Cockerel Camper is (inside dimensions) 2-ft tall x 4-ft wide x 10-ft long. There are two (2) areas dedicated to roosting (3-ft long x the width) and two (2) areas open from bottom to top (one by the door and one half-way back to accommodate a feeder and waterer).

The deck of the trailer worked well as our base for constructing the two (2) Cockerel Campers we made this year.

First, I ripped all the lumber from 2x4 to 2x2.

Then I cut the lumber to size.

After that it was all about drilling and screwing the lumber together.



Construction of the frame was pretty quick. Here you see the frame with the back set of roosting dowels in place.

I used 1/2 dowel rods (4-ft long, cut to fit).

Form follows function... as little wood as possible! Less wood, less weight.

The entire frame (with the exception of the pop-hole door. It will be located in the end closest to the camera.

The completed Cockerel Camper.

I changed the area covered by the siding on the south side to 3/4 instead of 1/2 to give them more shade and still provide plenty of ventilation.

The unsided area is covered in 1 inch hardware cloth. This is one detail that I did not figure correctly. Since the inside dimension is 2-ft., we had to buy 3-ft. hardware cloth so there would be material to attach to the wood using U-nails. I’m sure we’ll find a use for that really long extra 8 inches.

The top is hinged on the sides with 2-pieces that overlap in the middle... for a total of 4-pieces.

1x2 strips were used to add the pop-hole. The door slides up and down in a groove routed into the strips.

There is a cross piece of wood (as in an “H”) with a hole drilled through it that matches the hole in the door when it is closed. This allows for a long bolt to slide in, keeping the door locked down when closed and locked up when open (the door rests on the bolt).

Above is the setup for the meat birds. Each day the camper moves within the poultry net fence to a new spot so the boys sleep on fresh pasture and the previous nights manure is left to the sun and the insects (whom the chickens enjoy snacking on). The entire fence area is moved as the boys exhaust it’s resources.

Brooder/Hover (June 2014)

It occurred to me that I keep referring to my Brooder with it’s Hover and I have not provided ANY photos of it. I thought I had taken pictures earlier and during construction... but alas, can’t find them. So I went out today (June 2014) and took some so you can see it. It’s not as pretty as it was when newly constructed... but that’s what happens when you have lots of chicks pooping and raising dust. LOL

The beauty of this thing is in its functionality. It is supposed to accomodate up to 200 chicks. I think that is estimating a bit high, personally. I suppose if you don’t use walls around it and the chicks have the entire barn or floor or whatever, then, I can see that number.

It certainly does leave the chicks to regulate their own temperatures; and supposedly, they feather out more quickly because of that.

I leave them in this until they are five (5) weeks old, then they go to a Cockerell Camper (with a heat lamp) on pasture with chicken fence inside the electric poultry fence until they are big enough to NOT be able to go through the electric poultry fence.

Viola! Here it is. So simple.

The plans for the hover (the inverted box in the center are from a 1942 design. The PDF I found online is attached: ohiobrooder.pdf

The walls are simply 4x8 sheets of plywood (1/4”) cut the long way (at the lumber yard for free, by the way) in half. They are nailed into 2x2 linear board, 8 feet long (4 pieces, 2 feet each) to make the corners (and that also helps keep the chicks from killing each other in those corners, less chance of piling).

I added a cover this year because a cat had moved into the garage. Lucky thing too, because we ended up with three (3) turkey poults, who quickly figured out they could fly to perch on the top of the hover.

This is pretty simple, no plans for it. It is basically made like a room divider with hinges.

We ripped two (2) 2x3s in half for the hinged pieces (made sure they mated). The outside boards (closest to us here) are 2x3s on edge so they hang over the side of the plywood. The last 2x3 is both ripped and cut into three (3) equal parts to make the cross ends of each hinged section. (That's four (4) 2x3s total.)

We used L brackets to screw the corners together (since we used 8 foot lumber, to go over the 8 foot plywood, there was some gap even with the intended gaps for the hinges).

We put a small block on the center division under each end piece to stop the whole thing from sliding left to right. AND eye screws on the underside of the outside boards.

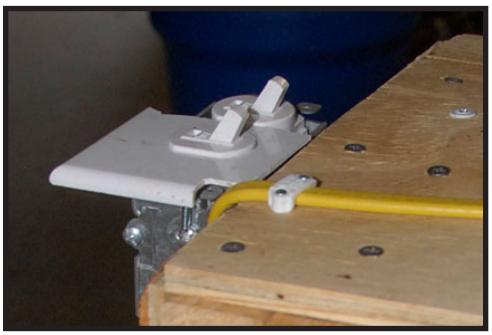
Here is the cover open on one side... either or both could be open at the same time. We hung baling twine (orange) from a rafter with a piece of wire to catch the eye screws.

And, of course, the chicken wire (which is actually plastic) is stapled to each division separately. One (1) 36 inch wide by 24 foot roll was perfect. Just a little trimming along the length with a carpet knife.

This works REALLY well. I like the blocks that keep it from sliding left to right because occasionally I needed to slide it front to back and didn't have to worry about it shifting and falling in on the hover.

The electric cord for the lights goes through a hole in the cover and we plug into a heavy-duty extension cord that hangs from the rafter (to keep it out of the way) and is plugged into it's own circuit independent of the building's lights.

Speaking of lights, you use two (2) porcelain receptacles (I've got heat lamps in both for the photos), the plans recommend you put an incandescent white bulb in one and the red heat lamp in the other. They are independently switched (see next photo) so you can control the temperature under the hover by turning on one, the other, or both.



We thought we needed a plate over the switches, but as you can see, it broke almost immediately. The chicks have no interest in the switch, but some do like to peck at the screws. LOL

HURRAY! I found the 'lost' photos!! Here is the brooder with hover when it was brand, spanking new.

We put a heat lamp on one side and an LED white lamp on the other so we could add 'daylight' under the hover.

The new chicks finding food on the paper and figuring out to go under the hover for warmth.

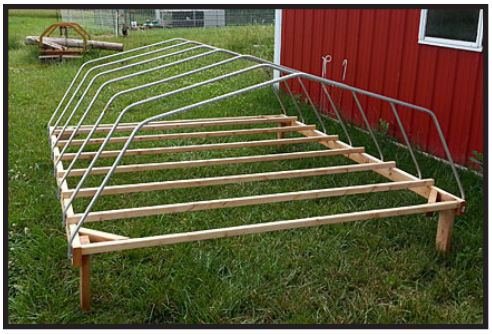
Another shot from their eye level.

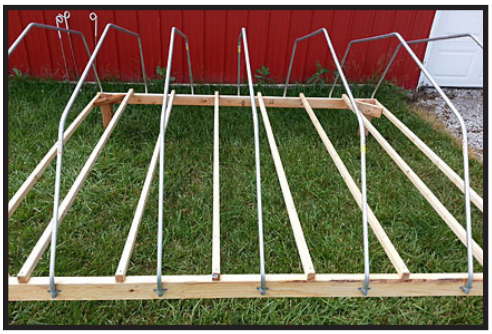
Shade/Cover Roost (July 2014)

Seems like there is always something to add... this year it is a structure for the hens in addition to the EggMobile. As you may be aware, I used the Cockerell Campers up on blocks in the hens winter area. That pasture is quite large and I wanted to be sure that no matter where in the pasture they were, they could get under cover in the event of a hawk or other airborne predator. The hens also were able to spread out and get less "cooped up".

Anyway, they got used to having that other place to go to and since I had to use the Cocerell Campers for their intended purpose come Spring... I decided to build a light-weight roost that would serve as cover from rain, sun and airborne predators.

There are no drawings of this structure. It is very basic:

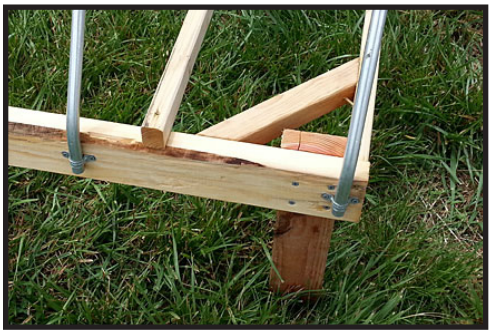




- 8 ft. 2X4s = 6 (+1 if you don't have scraps for the legs and corner bracing)
- Deck Screws
- 10 ft. 1/2-inch electric conduit tubing = 7
- U shaped connectors (can't remember what they are called) to attach the tubing to the wood)
- a pipe bender
- 10 ft. PVC tubing with caps on both ends
- 8x10 tarp with grommets on all sides
- washers for securing the tarp to the wood
- zip ties for securing the tarp to the tubing and also the PVC tubing to the conduit
- 4 chunks of concrete

The support 2X4s are full size, the roosts and ends are ripped in half, lengthwise. Two (2) of the ends are screwed in to the support 2X4s to create a square, with the support 2X4s vertical to leave lots of room to screw the tubing connectors and tarp/washers into. All of the ripped 2X4s are rounded on top to keep any edges from cutting into the chickens feet. They are placed on top of the side 2X4s for extra support and screwed in place.

This tubing has 5 bends. You can use any number of bends at whatever angles you prefer so as to create your desired roof shape, but they have to end up equaling 180 degrees.



A detail of the corner.

I used a length of PVC pipe (I know, I know, I hate that stuff... but I had a piece that was salvaged and better to use it this way than put it in the landfill.) as a ridge line for the tarp. This piece happens to be 10 feet long. Zip ties crisscrossed over the PVC tubing on several of the conduits to hold it in place (on TOP of the conduit).

The tarp fits great because I planned it that way... 8 ft lumber with 10 ft tubing. No matter how you bend the tubing, it will still be no more than 10 ft long. I picked a reversible tarp, blue and dark green. The blue does a good job of creating shade without much heat gain. If I want to, I can reverse the tarp for the winter so that the dark green side DOES create a warmer space beneath. Attach it using Zip ties through the grommets and around the end tubing.

Considering the thing is light weight and has a tarp (translation: balloon) over it, I opted to use 4 concrete blocks at the corners to help hold it down. I also angle this structure so the open ends are at the Northwest and Southeast because our prevailing winds in the summer are from the Southwest.

Can you see the hens in the shade under the roosts? They tend to use the roosts to preen more than to snooze. I suppose that is becasue the ground is nice and cool. Plus, the roosts are a foot off the ground which makes for a safe place to be.

Oh, the washers... they are big... about an inch across with a small center hole for the screw. So the screw goes through the hole of the washer which then is on the outside of the grommet of the tarp and the whole thing is screwed into the wood. This is helpful to keep the grommet from coming off the screw.

The umbrella? OK, that is actually a novelty hat. I like to put a cover over the waterer to reduce algae and heat gain. I was going to buy some extra feeder covers (those green “hat” things), but they want $30+ apiece for them. I like to think outside the box and went looking for a less costly alternative. The novelty umbrella-hat works well in little to no wind, but it comes off in high winds. Not a big deal to put it back on... haven’t lost one yet (of course, if I know a storm is coming, I remove it). And at $7 each, it’s great.

The hubby added wheels on one end after these photos were taken. It is much easier to move around now -- a one person job -- because all I have to do is lift the stationary end and roll it to where I want it.

Mobile Turkey Coop (July 2015)

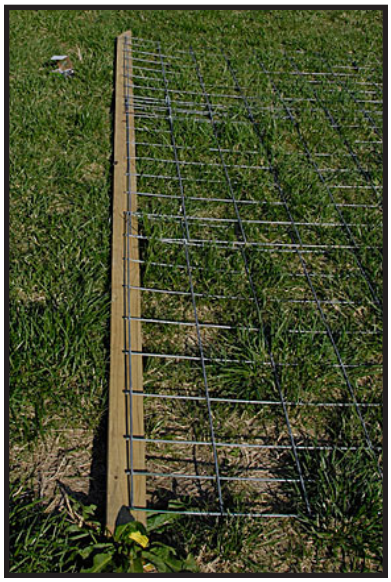
As you may already know, I was 'gifted' (from the hatchery) three (3) turkey poults in 2014 as a result of a problem with my order of meat birds. I kept the Heritage Breed turkey -- a Blue Slate Hen -- and processed the other two (2). "Blue" lived with the hens over the winter and I researched mobile turkey coops during that time because I like her so much that I decided to buy some Blue Slate turkey poults and start a flock.

I found that most of the small flock mobile turkey coops are basically small hoop houses on skids. As with the other structures I've designed, I picked and chose the features I liked from the various examples I found since there wasn't one that fit the bill (in my opinion).

I decided on the size of the turkey coop from the examples on the internet. Figuring on 15 to 20 turkeys, I wanted five (5) roosts that could hold five (5) adult turkeys each. That lead to the square footage needed and I ended up getting:

- Cattle panels: Three (3) -- 50" x 16 ft.
- Poultry netting: 1 roll -- 60" x 50 ft.
- Hardware mesh, 1/2": 4 rolls -- 24" x 10 ft.

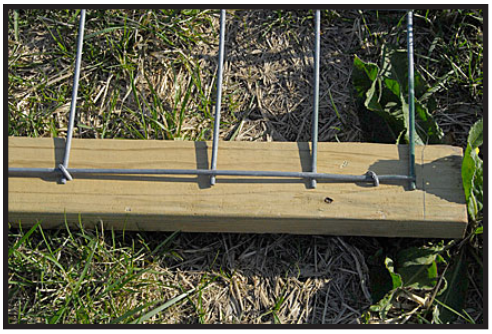
I already had some lumber. The lumber is 12 feet long and 'front' is notched to slide easily (on hindsite, I wish I had also done this on the 'back' since I do end up pulling from all directions).



The three (3) panels laid out. The set up is to have the long wire (16 ft.) on the outside of the bow and it is attached to the inside of the wood (so that the bow pushes out on the wood/is constrained by the wood). Since we angled the wood before we attached it, we had some manuevering to do to make sure that everything was in the correct placement for the goals to be met.

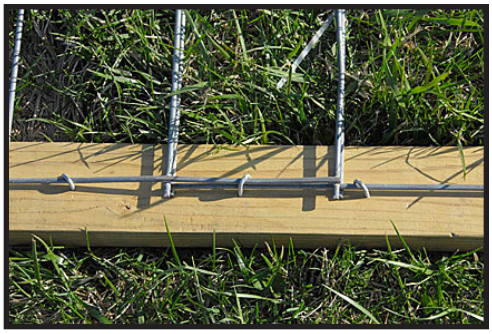
And the three panels attached to the wood. We overlapped the panels by a section. More accurately, since these panels have two narrow sections at the 'bottom' which translates to the side for our purposes. The first panel (closest to you) has the narrow sections toward the middle and the 2nd panel is turned so they align with the 1st panel. Then the 3rd panel is aligned to the 2nd panel leaving the narrow sections at the 'back'.

Once all attached to the wood with U-nails, we lifted one side and walked it over to create the bow/hoop house.



At left is a detail image of the ‘back’ edge with it’s narrow sections and U-nails.

The detail at right is the wider section between the 2nd and 3rd panels.



We added U-nails as we felt they were needed... not a specific pattern except to be sure to get some over the “X” to keep things from sliding.

Before we walked over the panels, we notched the bracing for the bottom. These are 2x4s leaving about an inch of wood to set on top of the side lumber. Both ends are notched.

The boards are 8 feet long.

Which makes the coop about 11 feet by 8 feet.

Tthe bracing pieces dry fitted to the hoop. We are very grateful for ratchet tie downs! We used them to secure everything together until we could screw them in place.

The blue line is our attempt to keep the hoop symmetrical... we mostly succeeded, LOL.

The hubby screwing in the bracing on the middle brace. The detail next show the system for doing this.

You may notice that directly in front of the hubby the panels are warped. This happened because we attached them laying flat and being the same length, when we made them into the arch the inside panel of the overlap had nowhere to go but in. More about the warped panel to follow.

The whole thing was placed on concrete blocks to make working easier.

Here is a detail of how we secured the bracing. The top screw is toe-nailed in to avoid hitting the primary screws on the side.

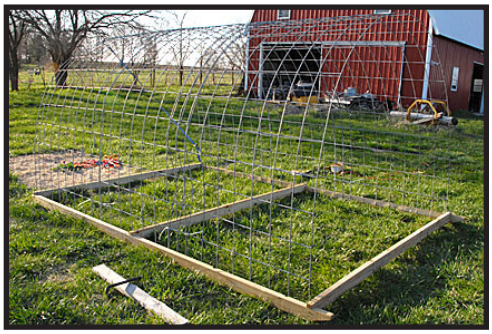
This bracing technique leaves an inch (or so) gap under the cross boards. This is on purpose so that any turkey waste can be slid over and not “glue” the wood to the ground, so to speak.

We figure whatever wants to crawl under in that small space is food for turkeys rather than the other way around. LOL

The warped panels. Leaves quite a hole. This will NOT do. Unfortunately, in order to overlap, there wasn't much we could have done to avoid it ahead of time. So we decided to "crimp" it and get rid of the gap.

Here is the hubby using a piece of board to hold the arch in place while using a crowbar to grab those inside wires and pull them to the outside.

It worked! At left you can see that instead of a big hole, there is now even wire except for the three sections that go outside of the structure.



On the right, this is the end of stage one: panels and bracing.

Proof that the thing is 6 feet at the peak.

By the way, I used cable ties at every place the panels overlapped at an "X". They are definitely secured to each other.

Next came the roosts. They not only allow a space to roost but also keep the hoop spread nicely.

They are 'ripped' 2x4s, in that one 2x4 makes two roost boards.

This is a detail of how they are secured. We drilled 2 holes through the board at different depths so they would not meet.

Then, before we added the hardware mesh and chicken wire, we set them in their correct positions and marked where to cut the excess off. This way they sit on the wire as extra support.

The outdoor cable ties are looped through the holes and the respective wire to keep them in place.

UPDATE (July 2015): When we move the turkey coop, the bow of the wire changes and that puts a great deal of stress on the cable ties because some of the roosts end up being unsupported by wire. We have had to drill larger holes on the ends where the little cable ties have broken and used heavy duty cable ties in their place. Not only are they stronger, they also help keep the wood on top of the wire.

The roosts are positioned 2 feet in from the front and are spaced 2 feet apart. There are five (5) in all and they are staggered in height... in an inverted "V". The top most one has about a foot and half of head clearance in the center. The bottom one is about a foot and a half from the bottom and the center one is about half way between the other two.

Once they were in place, we power sanded the edges to round the wood ... this is supposed to help stop the bruise on their breasts. At least it is nicer for their feet.

I was busy putting the wire on and didn't get any pictures of the process -- sorry. It's pretty much common sense though.

The 24 inch hardware mesh went on first at the bottom edge to keep poults safe from predators. It is cable tied to each juncture of the panels. Where I had to start the new roll, I overlapped from the last panel wire.

The chicken wire needed a bit more work because it is so tightly rolled up. I set the roll on the ground and unrolled the about the length I needed to go over the top and walked on it to straighten it a bit. Then I pulled it over the panel being careful not to snag the cable ties.

I cable tied a few points so that I could stretch the width as far as I could. The wire was supposed to be the same width as the panel, but didn't quite get there, so it was good that we had to overlap the panels.

After the first section of wire was stretched and in place, I cable tied it from the inside to the panel wires. I continued this process for the three lengths of chicken wire needed to cover the panels.

Here is an image of the header piece that we put on the front end of the coop we needed to be sure the bow would stay the same shape and also have something to secure the chicken wire above the door.

We figured out the length and then put a slot in the wood to slide it over the wire. A hole through the wood allowed for a cable tie to go through and secure it up snug to end panel wire.

The tarp is 12' x 16'. It would have completely covered the coop, so I changed the direction so the shorter side went over the hoop... leaving air spacing on both sides (more open on the north side). That worked REALLY well, because the excess hanging off the back I was able to use to cover the back AND the door.

Here is a detail of the cable tie through a grommet around a panel wire. (I have come to appreciate cable ties VERY MUCH.)

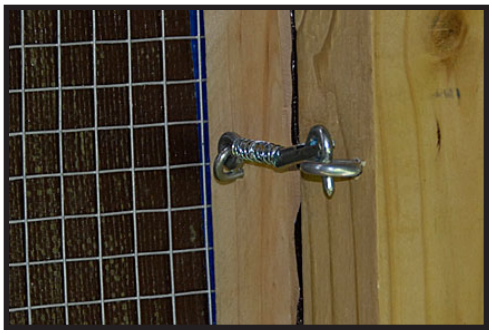
This is two (2) images spliced together to show you the back end bracing and the tarp secured to them.

There is a door frame where that black line is.

Did you wonder how I was able to use cable ties through the chicken wire to the panel wires? You should have wondered because the hubby had to make me a button hook. See, my fingers are too big to reach through the wire to snag the cable tie end and pull it through to insert back into itself.

He bent a wire so that I could put it through the wire to snag the cable tie and pull it through. It looks like an old fashioned button hook or the tool we used to tighten our laces on our ice skates.

I bought screen door hardware and added a second hook and eye for the inside in case I want to be in with the birds and not have the door opening when I don't want it to.



Below is a detail of how the front panel (translation: really big door) is attached to the end bracing. We used oversized U-nails so that there is room for the metal to roll as we open or close the door.

You can see that the hardware cloth is not secured to the that bottom wire and that is because it made it difficult for the door to open. Another time when if something is little enough to get through those spots, they are food for turkeys.

Here is one of four bolts that act as "pull points" for moving the turkey coop.

There is one at each corner so we can attach the cable and pull from any direction.

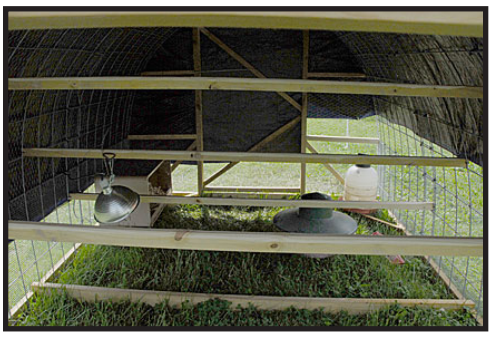
Here is the cable attached to the front. I leave it there all the time... it's pretty weather proof.

When we first put the poults in, we had to have food and water inside the coop. Here is the set up for that. Using the feeder and waterer that they will have in pasture gets them used to where to find these things. I was using the red chick feeders for grit. I have since abandoned those feeders entirely. They are a real pain to get open. Now I just use a terra cotta saucer. It works OK, they kick out the grit, but a few pebbles in the pasture are a benefit.

I figured we would need a nest in the coop for when Blue is broody. She was broody in the EggMobile while we were building this thing. She would push herself into a 12x12 inch nest just like the hens. It was a very tight fit. FYI, she did lay a few eggs in the turkey coop nest, but then decided she would rather lay them in the fence line under the trees by the bee hives. Darn it!

This is an old piece of furniture that we converted by putting a piece of plywood on the back and a board across the front to hold in some wood shavings. I painted the exterior and we put rolling wheels on it so it would roll with the coop. Then we discovered it would sit on top of the corner bracing (oh, did I mention we added corner bracing? LOL). So the hubby bolted it to the back and bracing and it is permanently in that corner.

When everything was done, we added a heat lamp since it was still too cold outside for the poults. This is a temporary thing.



From the front, interior. You see four of the five roosts in this shot. You can also se the back door and how it is basically a rectangle with a triangle support. It is made from 2x4 ripped in half. As are the back end bracings. This not only holds the door in place but adds support for the hoop.

The finished turkey coop... door closed. We use double end snaps (because the single end type didn't open far enough to go over both panel wires) at strategic points to keep anything from being able to pull the door open enough to get through. The snap up by the wood header attaches to an eye bolt and the panel wire.

As you can see, the coop is not symmetrical. But function is more important than aesthetics in this case.

I opted to NOT cut the panels sticking up past the hoop. No reason other than I don't dare that they stick up.

The finished coop... door open. It really does make getting the turkeys into the coop easy (well, easier, LOL). The panel on the ground even bears my weight. None of the turkeys (or even the chickens) care about walking on it -- no problemo.

The finished coop, at an angle.

The finished coop, from the back.

The finished coop, from the other side.

The air flow is great at the bottom, not so much up on the roosts, but the turkeys only want them when they are sleeping or preening, so it's not a big deal.

It's been a few months since we built the turkey coop and so there I have some additional comments about it.

Blue liked the nest once it was installed in the coop for about a week. She laid several eggs in it and then laid a few in the middle of the coop before deciding to go out of the poultry fenced area completely to lay eggs. I have decided that she does not like the pullets hanging out in the turkey coop during the day and wanted true privacy.

Unfortunately, it is impossible to keep the chickens out of the turkey coop... unless we were to put it completely outside of the poultry fencing; which I had originally thought I would do. The problem with keeping the turkeys separate from the chickens is the need for additional feeders and waterers.

Therefore, it has been less costly to lose a few turkey eggs than to purchase several more feeders et al. Those eggs were not fertilized anyway and we have been eating those that we have been able to find the same day.

I am working on a 'fix' for the nest that will let the turkey hens have privacy without having to leave the chickens. More on that when I get it worked out and implemented. UPDATE: I never did.

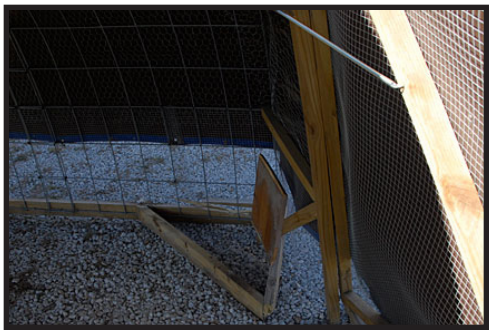
A New Life for the Turkey Mobile (December 2015)

As you may already know, I decided to get out of poultry and so took the hens and turkeys to be processed at the end of October.

I went on a vacation with my husband for the first time in four (4) years a couple of weeks later. During that time there was a micro-burst storm at the farm. We came home to find that everything was fine except for the Turkey Mobile. It was about 100 feet from where we left it, turned around and heavily damaged. I assume the wind picked it up like an parachute and tumbled it around a few times.







I had hoped to sell the thing, but that wasn't going to possible any longer. It was pretty depressing to come home to this, I can tell you that for nothing. However, I'm happy that it didn't happen with the turkeys in it.

I'm pretty certain I know why this particular storm was able to pick it up and the previous ones did not. When I divided out the turkeys because the hens were moving into the Egg Mobile, I turned the Turkey Mobile so that the really big door was to the south. As it had always been to the east before, the winds hit the tarp on the west and south and flowed over, which helped to push the structure against the ground (with a small amount flowing through at ground level). With it facing south, those same winds were funneled more to the inside than against the outside making a parachute effect out of the structure and very easy to lift.

I was just lucky we didn't have those winds while the turkeys were still inside. Please learn from my mistake... pay attention to the direction of the prevailing winds on your farm and design/position your mobile coops so that there is little risk of them becoming airborne.

The hubby and I repaired the damaged wood and removed the tarp, the great big door/header, and the endwall. Then we moved it into the gardens area of the farm. It will be a support for peas and other vining plants. Surprisingly, the asymmetrical bow works perfectly on the slight slope.