

CATTLE PANEL GREENHOUSE PLANS



As seen on:

<https://www.youtube.com/@TheNorthBranchWI>

Built by:

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Material List:

There is an excel spreadsheet with the exact material amounts and current pricing.

Dimensions:

16' L x 10' W

Further considerations:

Cattle panels are 50" wide. Using 4 uncut cattle panels will produce a greenhouse 16' 8" long greenhouse. We chose to cut 8 inches off one cattle panel, we had 16' boards leftover from our pole barn build.

STEP BY STEP:

BUILDING THE BASE

Anchor Points:

IMPORTANT NOTE: The top cross bar needs to be same height on both sides so cattle panels can sit flush.

Dig 2' holes at corners of greenhouse. Put 4" x 4" x 4' post in hole. (FIG 1) (On level ground all these posts will be same height.) On unlevel ground, the second side wall needs to be leveled off the first one to ensure same height.



FIG. 1 ANCHOR POINTS

Once the anchor points are in the ground. Run a 2" x 4" from point to point. (FIG. 2). Checking for level and plumb (FIG. 3). Once anchor points are plumb, back-fill. We opted against concrete. But, everyone must make that decision for themselves.

IMPORTANT NOTE: When fastening top bar to anchor points, leave 1" gap at top for the cattle panel to sit in.



FIG. 2 TOP CROSS BAR



FIG 3. CHECKING ANCHOR POINTS FOR PLUMB

At this point, the top bar is secured and the anchor points are back-filled. Dig a 2' hole in 96" from back anchor point and add a middle anchor point. (FIG. 4). 96" from the back end will ensure that 2 cattle panels sit on top of an anchor point.



FIG 4. MIDDLE ANCHOR POST

Attach another 2" x 4" along the ground. (FIG. 5) Fastening to each anchor point. This will be used to attach metal or plastic later.



FIG 5. TOP AND BOTTOM CROSS BARS

On level ground, repeat this process. Measuring diagonally on the anchor points to ensure the greenhouse is square.

If ground is unlevel, run end-board until level to get the height of second side wall. (FIG 6). Then complete second side wall (FIG 7 & 8).



FIG 6. LEVELING END TO GET SIDEWALL HEIGHT

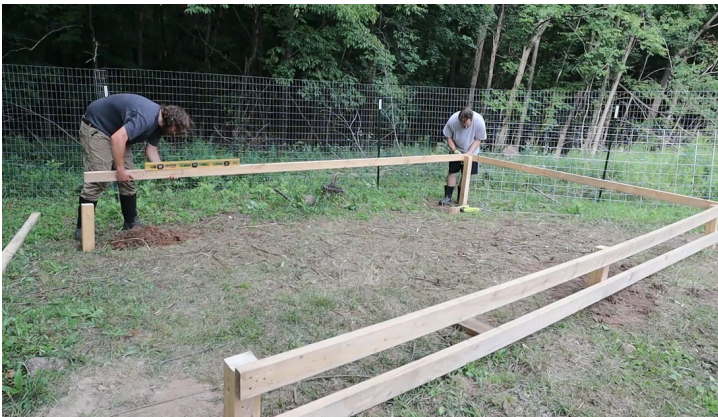


FIG 7. COMPLETING SECOND SIDE WALL



FIG 8. COMPLETING SECOND SIDE WALL

Attach top and bottom cross bars for the front and back walls. (FIG 9 & 10). We attached the bottom cross bars after putting on cattle panels. We think it would be better to do it at this time, but either way works.



FIG 9. ATTACHING TOP CROSS BAR ON FRONT WALL



FIG 10. TOP BARS ON BOTH FRONT AND BACK WALLS

Start at the back of the greenhouse. Lay tape measure out on top cross bar. Mark every 50 inches. (FIG. 11). Attach support at each mark, leaving 1 inch space at the top for the cattle panel. (FIG. 12).



FIG 11. MARKING THE TOP CROSS BAR



FIG 12. CATTLE PANEL SUPPORTS

ADDING CATTLE PANELS

Put panel on support on one side and bend, putting the other side on the support. (FIG. 13 & 14) Secure using plumbers tape and galvanized 1" screws. (FIG. 15)



FIG 13. BENDING THE CATTLE PANELS



FIG 14. CATTLE PANEL ON SUPPORT

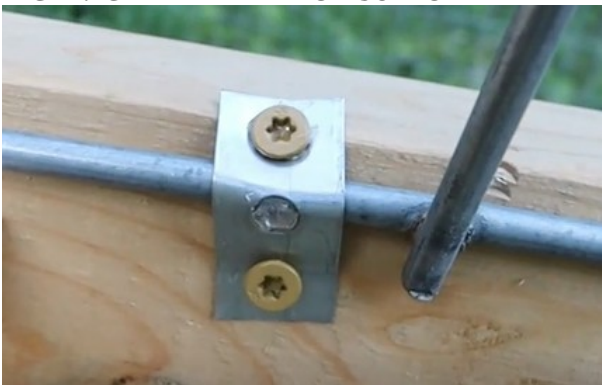


FIG 15. PLUMBERS TAPE SECURING PANEL

Repeat process for second and third panel. (FIGS. 16 & 18). Secure with plumbers tape. (FIG 15). Attach panels to each other using zip ties. (FIG. 17).



FIG 16. BENDING THE SECOND PANEL



FIG 17. ATTACHING PANELS TO EACH OTHER



FIG 18. GREENHOUSE WITH 3 PANELS

Cut the final panel to length. This will vary depending on what length you decided to build your greenhouse. We found using a sawz-all with a metal blade worked well. (FIG. 19). Once cut to size, bend in to place. (FIG 20).



FIG 19. CUTTING THE FINAL PANEL



FIG 20. GREENHOUSE WITH 4 PANELS

FRAMING END WALLS

Locate middle of the top cross bar of end wall. (FIG 21). Secure plumb bob to middle of cattle panel. (FIG 22). Move cattle panel so plumb bob on cattle panel lines up with mid point. (FIG 23). Locate where you want door frame, plumb one 2 x 4 (FIG 24). Secure to top and bottom cross bars. Cut excess off the top and secure to cattle panel (FIG 25).



FIG 21. MID-POINT OF END WALL



FIG 22. HANGING PLUMB BOB FROM CATTLE PANEL.



FIG 23. LINING UP CATTLE PANEL WITH MID POINT



FIG 24. PLUMBING DOOR FRAME



FIG 25. SECURING DOOR-FRAME TO CATTLE PANEL

Repeat process. (FIG 26.). Cut out the top and bottom cross bars between door frames. (FIG 27&28). After doorway is cut, it is time for the header. Since the center of the cattle panel is over the mid-point, the header can be level and sit up against two parts of the cattle panel (FIG 29). Once the header is up, cut off the excess.

IMPORTANT NOTE. USING A SAWZALL YOU CAN FOLLOW ALONG THE CATTLE PANEL TO CUT EXCESS OFF DOOR FRAME AND HEADER. BUT, MAKE SURE THE BLADE DOESN'T CUT INTO METAL.



FIG 26. REPEATING THE PROCESS



FIG 27. CUT OUT CROSS BARS



FIG 28. OPEN DOORWAY.



FIG 29. HEADER

Once the header is affixed it is time for braces. You can brace any way you see fit. We opted to use two different braces and alternate them on each end. We get a lot of snow so we always try to be mindful of that when bracing. What we called the angle braces seems to help against bending inward and the straight braces gives extra support to the header(FIG 32), which will later support the ridge-beam (FIG 35). We used “DIY Kregg Jigs” (FIG. 30) on the braces to secure them. We found that works better since the 2” x 4”s are butting up to each other. Once the braces are attached to the door frame we used plumbers tape to attach them to the panels (FIG 33). We screwed a 2 x 4 to the header inside the door frame for extra surface area for the ride beam support (FIG 37).



FIG 30 DIY KREGG JIG



FIG 31. SECURING BRACES TO DOOR FRAME



FIG 32. THE DIFFERENT BRACES SHOWN



FIG 33. PLUMBERS TAPE TO ATTACH BRACING TO CATTLE PANEL

RIDGE BEAM

The end walls are framed. Find the mid point of the header. Measure from the header to cattle panel. Cut a 2 z 4 to that size. Cut another 2 x 4 3.5" shorter. Fasten them together.

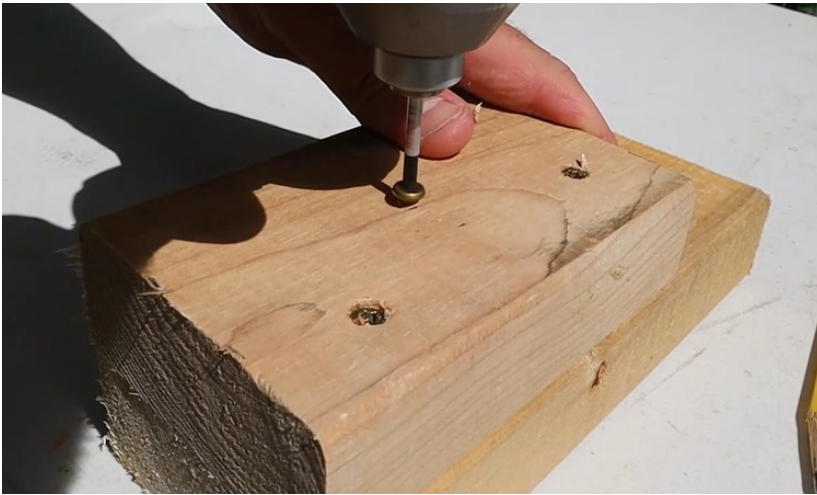


FIG 34. BUILDING RIDGE BEAM SUPPORT



FIG 35. RIDGE BEAM SUPPORTS ON EACH HEADER

Once supports are in place, raise a 2" x 4" x 16' between supports and fasten to support (FIG 38 & 36) We used a log in the center to support the span. (FIG 39.) If you don't have access to a log, a 4 x 4 would work. Dig a hole 2 feet down, measure from bottom of hole to the bottom of the ridge beam. Cut support 1 inch long. Wedge support in place. (FIG. 40).



FIG 36. CONNECT THE RIDGE BEAM TO EACH SUPPORT



FIG 37. EXTRA 2 x 4 TO SUPPORT THE RIDGE BEAM



FIG 38. RAISING THE RIDGE BEAM



FIG 39. RIDGE BEAM SUPPORT



FIG 40. WEDGING SUPPORT INTO PLACE

METAL WORK

IMPORTANT NOTE: THIS PART IS OPTIONAL. YOU COULD SECURE PLASTIC TO THE BOTTOM SIDE CROSS BAR IN LIEU OF METAL.

Snap a chalk line on top cross bar where you want top of metal to sit, to keep the metal straight. (FIG 41). On flat ground you can measure from that line to the ground and cut metal accordingly. On a hill you must measure as you go. Fasten metal along the bottom, on sides and ends, using metal screws. (FIG 42). Cap ends with gable caps.



FIG 41. DENOTING CHALK LINE



FIG 42. MORE METAL WORK

PLASTIC

Before putting plastic on structure, something must be put on the ends to protect the plastic. (FIG 43). We went with UV protected tape, because we had it on hand. Next time we switch out the plastic, we plan on using pipe insulators. The tape didn't hold up as well as we had hoped.



FIG 43. PROTECTING THE GREENHOUSE PLASTIC FROM THE PANEL ENDS



FIG 44. ROLLING OUT GREENHOUSE PLASTIC

Roll out plastic. (FIG 44). In our case, we measured 36 feet. 16 for the length of the greenhouse and 8 feet for each side, and an additional 2 feet on each end to be safe. Slide plastic over the cattle panels and position it evenly on the structure. (FIG. 45) Secure plastic to one side using furring strip, pinching plastic between the strip and cross bar. (FIG 46). Trim excess plastic. (FIG 47). Repeat process until furring strips secure plastic along all edges of the greenhouse.



FIG 45. SLIDE PLASTIC OVER TOP



FIG 46. SECURING PLASTIC USING FURRING STRIPS



FIG 47. TRIMMING EXCESS PLASTIC



FIG 48. Finished Plastic

DOORS

We framed doors using 2"x3"s and used furring strips and metal to secure the plastic to the 2"x3"s. I would recommend just using furring strips. Attach the doors with two hinges and put a handle on the other side and everything is good to go.



FIG 49 & 50. FINISHED BUILD

