# Ledgewood Farm Greenhouse Frames Additional Instructions

1. ELEVATED PAD: A key to insure success with your greenhouse/ high tunnel is to make sure it is well drained. The best way to accomplish this is to raise the pad of the greenhouse 8-12 inches above the perimeter. The easiest way to do this is to scrape some soil from each side to make a 6-12 inches deep saucer shaped swale and deposit that soil on top of the greenhouse pad. I recommend a minimum of 12 feet down both sides that is free of obstructions for drainage, snow removal, weed control, and ventilation. The shallow swale allows the water from rain running off the roof of the greenhouse to collect and either soak into the ground or be diverted away from the greenhouse. Snowmelt will also drain away. Any water infiltrating inside will chill the soil along the edges and make more humidity.
2. SETTING THE POSTS: The site for your greenhouse/high tunnel should be level across the width to allow for equal snow and water shedding, but it can slope up to about 8% over the length in a continuous plane. The posts must be installed perpendicular to the ground. If your site is flat they will be plumb. If the site is sloping the posts will be tilted at the same angle as the slope. The spacing template helps keep the posts perpendicular to the slope.
3. END WALLS: The end walls will be at the same slope as the ground posts so that the frame remains perpendicular and all of the purlin to bow connections will be 90 degrees. This makes it so the bolts will line up and drop through the holes. Once the corner braces are installed the frame will be secure and won’t change from perpendicular. This is the most stable way to maintain the greenhouse for many years. The poly cover will also install square and increase the likelihood that the roll up sides will work properly.
4. SECURING THE END WALLS: The end walls should be secured to the ground by inserting metal pipe (either galvanized or black iron) that is at least ¾ inch in diameter though the sill and at least 24” into the ground. I recommend one rod each side of the doors as a minimum. In high wind areas additional pipes may be needed to keep the end wall from blowing in and potentially failing. If an end wall fails the chances of the entire greenhouse being destroyed is much greater.
5. HIP BOARD: The hip board or double channel must be bolted to the greenhouse bows so that it doesn’t slip or fail as the hip ages. If you use single channel it must also be bolted to the hip board. I have seen cases over time if screws were used they come loose or break and the hip board or channel fails during heavy winds. As the hip board weathers the wood starts to rot or dry and the screws can pull out and the channel will separate from the hip board. I know TEK screws are fun to use but they really are an inferior choice compared to bolting into thin wall tubing. A lot of times there might only be one thread holding because of the thin wall of the tube, at most two threads.
6. INSTALLING POLY: When you install the poly covers it is very important to get them square and centered. DO NOT TRIM the poly along the edges of the greenhouse. The roll up side pipe attaches with the clips to the leading edges of the poly. If the poly isn’t square you will have to trim the poly to establish a parallel edge so it rolls evenly from the baseboard to the hip board. The most important step in clipping the poly to the roll up pipe is to use the leading edge, wrap the poly only about three quarters of the way around the pipe and clip it so one edge of the clip is on bare pipe and the rest holds the poly. This will make it so it is less likely that the poly will slip as you start rolling the pipe. Also, make sure to attach the poly to the pipe so there are several wraps of poly over the clips when the side is rolled down to the baseboard. If you don’t do this the clips will slip or freeze and break then the poly will not stay evenly attached to the roll up pipe. The clips are not structural and will fail if they aren’t wrapped by several layers of poly when the side is down. Trim the poly at the ends so there is about one foot extending beyond the end of the greenhouse on each side.
7. ROPE TO HOLD ROLL UPS: The ropes should be run as individual pieces from the hip board to the base board every eight feet. It is easier to keep them tight so the roll ups seal against the baseboard and so they don’t flap in the wind. If a rope breaks or comes untied all of the rest will still be secure. You will see a lot of growers using a zig zag pattern of a continuous rope the length of the greenhouse. The idea behind this is so you can easily tighten the entire side at once. When nylon rope was the only ultraviolet resistant rope and it continuously stretches this made some sense. I recommend a UV resistant polypropylene rope that doesn’t stretch once it is pulled tight so the individual ropes provide more security against a rope failure.