

Construction of fake corn plants for scouting activity

- Almost all materials were purchased at Hobby Lobby
- Constructing the bases to hold the corn plants first can be helpful, as you can use these to prop up the PVC pipes while they are being painted/drying. Each base was a 1x4" wooden board with circular holes cut to fit the diameter of the PVC pipe corn stalks. The holes should be about 2 ft apart to give the corn plants and the participants adequate space for scouting. The total number of boards and the number of holes will depend on the number of plants per field and the total number of fields described. The boards may get green paint on them later, so don't paint them brown yet.
- I made a cardboard template of the desired shape and size of large, medium, and small leaves and used that to cut out the fabric into leaf shapes.
- Leaves were made with a stiff green fabric (I tried two colors of fabric but preferred the darker green in the photo) (large and medium leaves pictured below).
- A piece of thin, flexible wire was hot glue gunned to the center of each leaf to create a mid-rib for the large and medium leaves. Approximately 4 inches of wire extended past the base of the leaf (to be used later to secure the leaves to the stalk). The thin wire allowed the leaves to naturally droop, as the lower and middle canopy leaves on a corn plant would.
- Some of the medium sized and all of the smaller sized leaves had a stiff piece of thicker metal (I used the metal from old field flags in my lab) hot glue gunned to their midrib, which made these leaves stiff and not dropping. Again, this was to mimic the appearance of real corn plants, where the upper canopy leaves are more upright.
- I didn't like the appearance of the wire and the glue, so I used green spray paint along the midrib to cover the glue and wire. I actually liked how this turned out, giving the center of the leaf a darker green appearance than the edges of the leaf, which looked more natural (photo below, right).



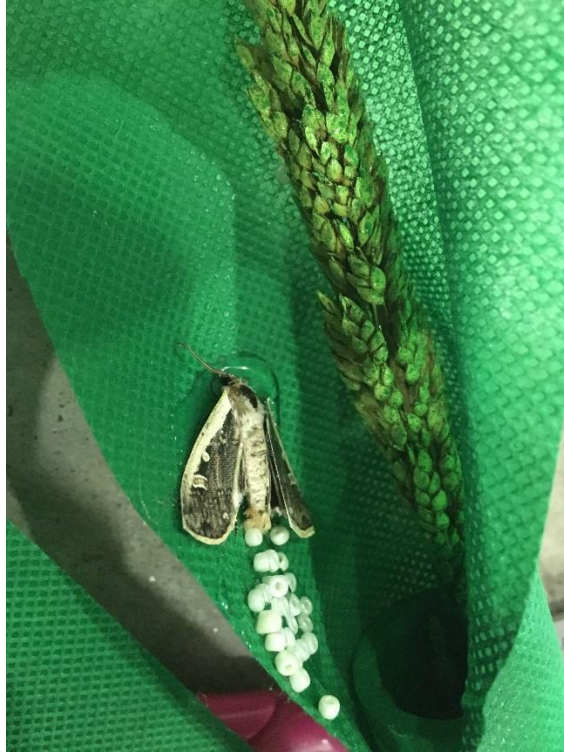
- The stalks of the corn plants were made from PVC pipe, approximately 1-1.5 inches in diameter and 5 ft tall (you could use taller or shorter depending on the height of the participants). Holes were drilled on alternating sides of the PVC pipe at intervals of approximately 4-6 inches. The

lowest hole was approximately 1 ft from the base of the PVC pipe. The highest hole should be very close (0.5 inches) from the top of the pipe.

- The entire PVC pipe should be spray painted green and allowed to dry prior to adding the leaves (I did not do this and I ended up with gaps of white PVC pipe showing).
- Leaves were affixed to the PVC pipes by inserting the excess wire at the base of the leaf into the drilled holes. To create the leaf “collar” found on corn plants, I used masking tape to wrap the leaf bases around the PVC pipe corn stalk.
- Moving from the bottom to the top of the corn plant, I first used the larger, thin-wired leaves, then medium thin-wired, then medium thick-wired, and finally the smallest leaves with thick wire.
- At the top of the plant, the highest leaf should point almost straight up and create a whorl shape while hiding the opening of the PVC pipe.
- A tassel (I used some dried plant materials from a “fall décor” collection at Hobby Lobby) should be affixed with hot glue and/or tape to the inside of the PVC pipe opening, so that it is emerging from the top whorl leaf.



- All of the masking tape used to secure the leaf collars, as well as the tassel (if it not already green) should be spray painted and allowed to dry.
- The insect pests and beneficials should be affixed to the plants with hot glue. We used:
 - Field 1: Pests are not high enough to be a problem, but adult moths are present. On one plant, have a moth laying eggs (see photo, eggs are small jewelry beads in white, tan, or purple to mimic the colors of western bean cutworm egg masses). On the remaining plants, glue on moths but no eggs.



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- Field 2: Eggmasses present, including ones being predated by *Coleomegilla maculata* (but below threshold if predated are not counted)- glue the lady beetle so that it looks like it is eating an egg mass, and leave only a few eggs remaining. On the other plants, glue ladybeetles near to the egg masses.



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- Field 3: Eggmasses present above threshold, but also secondary pests (spider mites) are present- on the underside of the lowest leaves, use yellow spray paint to create a stippling effect and then hot glue thin pieces of cotton balls to resemble spider mite webbing.
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- Field 4: Eggmasses present above threshold, but pollinators present- in addition to eggs, affix various pollinators to the leaves and/or tassels of the corn plants. You can use honey bees and/or bumble bees, etc.



- Paint the bases brown (for soil), or your desired color, and number each board with the field # and each corn plant with its matching field # (so it's easier to set them up correctly later).
- We very careful when moving and transporting the plants, it is easy to damage the insects, bend leaves, and break off tassels.
- Arrange them into “fields” for scouting activity!

