

HOW DOES OUR GARDEN GROW?



Our Do-it-Yourself Urban Farm is an example of how to grow a lot of food in a small space year-round. The DIY approach keeps the costs of construction low and make it possible to grow food with few resources. Using a variety of recycled materials typically discarded in urban areas, we have constructed a garden for the Wilkinsburg Community Ministry pantry using pallets, milk crates, some old tires, and as few construction materials as possible.

We started with a vacant lot in the first weekend in March, 2021. Volunteers cleared the lot of weeds and debris and laid a “level” (or more level) ground upon which to build. Owned by Wackem Custom Tackle, the lot has abundant sun, but is protected from the worst of the wind by the buildings to the side. These buildings also provide reflective heat to encourage growth.

A building once occupied this lot. It was demolished, and the materials were used to fill the basement. Then a layer of fill that included soil, stones and clay was spread on top. In other areas, we used cardboard, landscape fabric, and soil to level out the ground.

INSTANT RAISED BEDS

To quickly re-utilize the lot to grow food we used pallets, chicken wire and straw bales to make a “instant” raised bed. Straw bales, which are made from the stalks of cereal grain crops, provide a decomposable container for root development. The straw bales need to be “conditioned” to start the decomposition process. This requires solarizing the bales: heating them up to kill any remaining seeds that might sprout, and to start breaking down the straw into nutrients. We arranged the bales, soaked them. Once the bales were positioned and soaked, we started to condition them, using high nitrogen fertilizer on the top of the bales, and saturating the bales with water every day. As the straw bales warmed, we added a mixture of potting soil and ordinary compost of the top—about 3 inches. This takes about two weeks.



We’ve protected them from pests using chicken wire and small wire fencing. Once the beds were ready, we planted seedlings, although we could have planted the seeds directly. We also used plastic tarps to help keep the bales warm for our unseasonably variable spring season.



AEROPONIC GROWING TOWERS

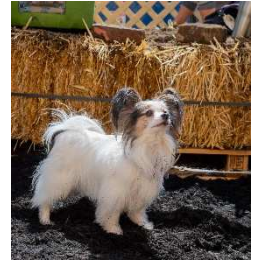
In urban areas, horizontal space is often a premium commodity, so our aeroponic growing towers use vertical space to grow plants. Each tower can grow 80 plants in a two square foot space. Using four growing towers, we can grow 320 plants every 45 days. Our growing towers are made using waste-stream materials, in this case milk crates.

The holes in the milk crates are plugged with rock wool. The rockwool contains seeds of the plants we want to grow, in this case, spinach. The milk crates are covered with landscape fabric to capture the water. A pump sends water to the 360-degree water nozzles, which spray the rock wool. The water has nutrients generated by the micro-ecosystem in our greenhouse. The nutrient-enriched water helps the seeds mature. A Crop King Tower has also been donated to help with year-round growth.



BEEHIVES AND HABITAT FOR POLLINATORS

Pollinators like birds, butterflies, bees and other insects are essential the food system. We haven't installed the beehive yet. The birds are already nesting in the brick decorative work on the Mercy building. Lady Athena supervises the activities of the birds nesting in the brickwork of the Generations III building.



PALLET GREENHOUSE

Our greenhouse will allow us to produce greens year-round. We use hydroponics methods to grow lettuce, collards and green peppers. We are utilizing a micro-ecosystem that includes gold fish, turtles and insects to produce nutrient-rich water. Old poly barrels cut in half provide the hydroponic growing basins.

The greenhouse is powered by the sun. We have solar panels to generate electricity and thermal solar panels to heat water to maintain greenhouse temperature above 60 degrees. In the winter we will insulate the greenhouse with cardboard and shredded paper panels to envelope the building. Rain barrels collect roof run off.



USE WHAT WE FIND!

A variety of discarded urban items provide containers for our garden. Old tires lined with landscaping fabric and filled with soil can provide the growing space for collards and green peppers; the air round in the tire heats up in the sun and encourages growth of the plants within. The green canvas bag beside the tire is a potato/onion grower, with a clear plastic window so gardeners can see what's happening "underground." This is especially important for children learning about gardening.



FROM WASTE GROUND TO PRODUCTION: 9 WEEKS!

