

THE PRODUCT

Our product is an enclosed storage farming system and greenhouse that can be regulated indoors or outdoors. There are three models we are designing. The technology in the first two models are the same. The first model is a full size greenhouse, whereas the second model is a lean-to greenhouse, meaning a half size greenhouse placed against a wall. The plants are held up by the support beams in bins. There will be a control panel to oversee all the features, such as the motion controls of the racks, the support beams that have evenly distributed grow lights that can be controlled for proper lighting for the plants, solar panels connected to the farm to power the grow lights, temperature control of the greenhouse, a fertilizer tank and distribution system, and the water tank system. We will have a partnership with the Waste Management of the Bay Area. They would provide us with compost soil to offer to our customers, and recycled materials to make our tanks and bins for farming.

The way our system works is on the racks, four support beams rotate around one center beam vertically, and they can be manually rotated by hand or by using controls on the control panel. The bins can be removed from the support beams because they hang a few inches from the support beams. The racks will be about 6 feet high, and roughly 2.5 feet wide. Along the support beams, there are grow lights and sprinkler heads

that provide adequate water and light to the plants. Above each support beam there is a small water tank that gives each bin a separate water supply. A filter feature in the main water tank allows the water to be cleaned into fresh water. A detachable hose is manually connect to fill up these separate water tanks on the racks from the main water tank. A fertilizer tank holds the fertilizer needed to grow, and a hose to distribute the fertilizer when needed. The lights and water are connected to the control panel, and can be changed using the control panel or by the small control on the support beams. Separate watering and lighting for each bin. To power the greenhouse, we will install solar panels onto the roof or an area that receives a lot of sunlight. Hanging from the ceiling, we will have circular heaters to warm the greenhouse, and in the side walls we have a fan with misting system to cool the greenhouse. All of this is controlled through our control panel which monitors the conditions of the greenhouse through it's computer. For the last model, it's a compact greenhouse in the shape of a tall cylinder. Inside, there are small compartments to remove from a spinning stand. Due to it's size and purpose, our third model doesn't have the heating or cooling features but still features a small water tank, a small fertilizer tank, and the control panel computer in a bottom compartment below the stand.