High School Enterprise Project
Benjamin E. Mays High School

Ms. Nix and the Mays High School Engineering Team
When we started this project we wanted to fill a need in our community. We thought of what our community needs the most, which was nutritious food. Then we tried to incorporate the need for nutritious food with architecture. In our research we found that Professor Despommier has assessed the need for food production in urban areas and he developed the idea of vertical farming. In vertical farming, you use buildings and the roof top of other buildings, as farms. Then he thought of the most productive methods of producing food, and he stumbled upon aquaponics and hydroponics, and applied them to architecture.
Introduction

- **Aquaponics**: the simultaneous cultivation of marine life and crops, in a symbiotic relationship.

- **Hydroponics**: the cultivation of crops in water, enhanced with a nutrient solution.

- **Geoponics**: the traditional cultivation of crops in soil.
In our experiment we compared the productivity of aquaponics, hydroponics, and geoponics. We’ve set up systems of the three and are continuously comparing the productivity of each. Our current data and observations show that aquaponics is the most productive of the three methods.
Pros and Cons

- **Pros:** In aquaponics and hydroponics there are fewer insects and diseases, you control the input of your system, in the two systems food can be produced year-round, and they use only 18% of the water used in traditional growing. Crops can also be produced quicker and they produce higher quality crops than those grown in commercial farms.

- **Cons:** Aquaponic and Hydroponics systems use a large amount of electricity if they are not solar powered, like our indoor and outdoor systems. Developing the systems takes a lot of manual labor and ingenuity.
Our product is for people who don’t have access to fresh, nutritious food.

These systems come in a variety of sizes, shapes, and designs. They range in the prices from $150.00 or more, depending on the size of the system ordered.
Marketing

- Our marketing strategies include:
  1. Television Ads
  2. Flyers / Business Cards
  3. Tours of our systems.
  4. Vocal Advertising at different super markets, grocery stores, and home improvement stores.
Pictures
More Pictures