

## Greens on the Green Hills

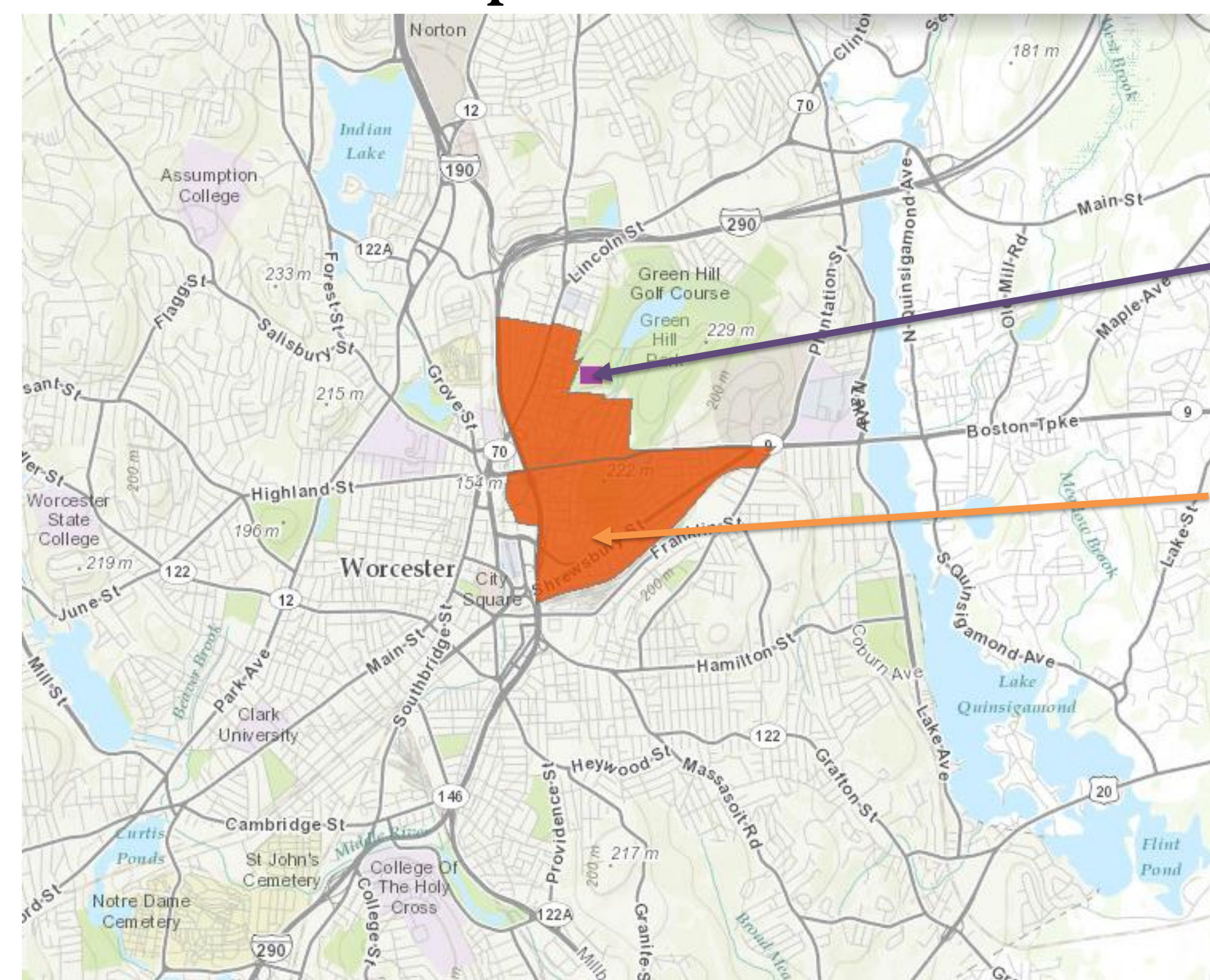
Yue Li (ECE), Anthony Ratte (ECE), Luis Fernandez (CH)  
Advisors: Professors Robert Traver and Kristin Wobbe (Department)

### Problem Statement

Worcester holds a food desert of 11,400 people, and 25% are malnourished because they cannot obtain fresh food

### Our Solution

Use a park near the area as a local farm



Farm location (Purple)

Food Desert (Orange)

Before

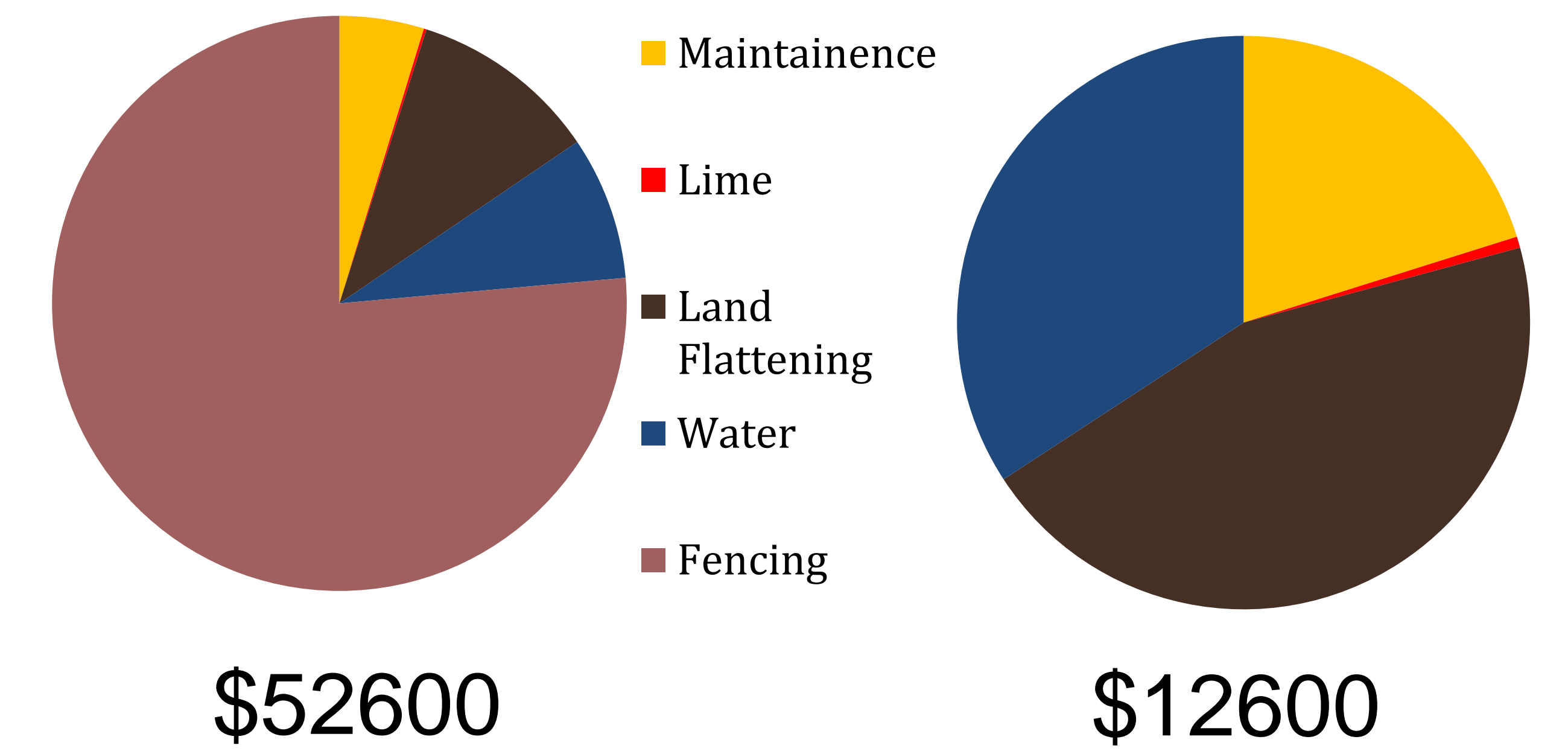
After



### Methods/Process

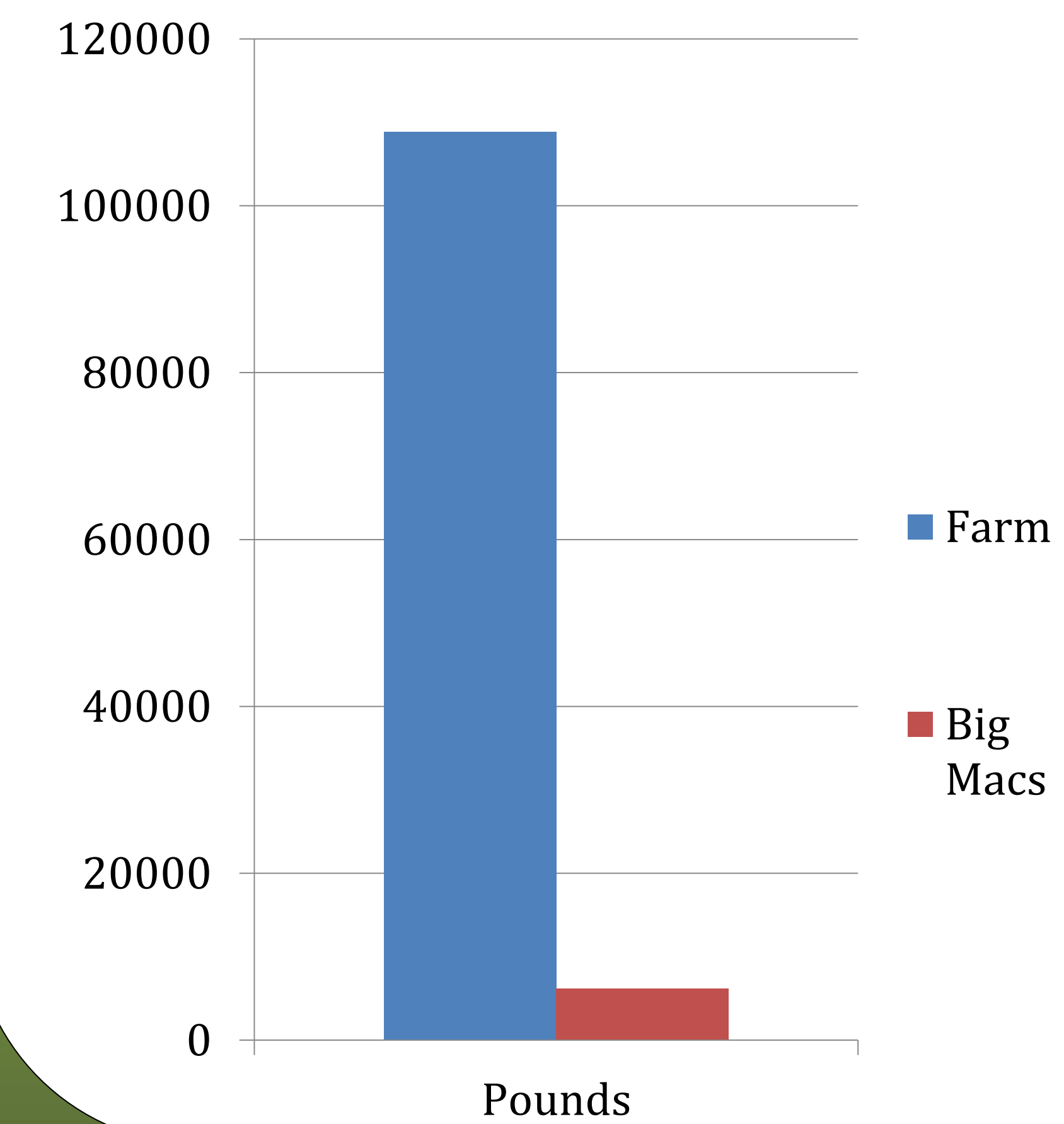
- 7 acres of southwestern Green Hill Park
- Setup includes:
  - Liming
  - Land Flattening
  - Irrigation
  - Fencing (Chain-linked)
- Staffed by work study students and park employees
- The farm will grow:
  - Broccoli
  - Blueberries
  - Squash
  - Radish
  - Cucumbers
  - Peas
  - Carrots
- Produce sold in stands at southern park entrance
- 7 acres yield a total of 108,880 lb

### Costs with and without Fencing



### Conclusions

Farmland vs. Big Mac Poundage



- 750% more food per dollar VS fast food
- ~\$4.70 needed per person in the area
- Will cause the area to meet USDA requirement

### Costs and Returns

Setup Cost: \$52,600 (including 1 yr. upkeep)  
Yearly Upkeep: \$5,400  
Yearly Income: \$17,250

The farm will become profitable after four years of operation.

### Project Goals/Objectives

- Improve nutrition
- Reduce obesity rates
- Reduce cost for consumers
- Create Temporary and Permanent jobs
- Promote Community food awareness

### References

"Cost of Chain Link Fencing." HomeWay.com. HomeWay, Jan. 2013. Web. 04 Dec. 2013.  
 "Emergency Communications." WorcesterMA. Town of Worcester, n.d. Web. 04 Dec. 2013.  
 "Farm Transitions: Valuing Sustainable Practices—Organic Costs." Land Stewardship Project. Land Stewardship Project, n.d. Web. 04 Dec. 2013.  
 Food waste. (2013, November 26). In Wikipedia, The Free Encyclopedia. Retrieved 01:30, December 2, 2013  
 Hanson, Blaine. "Irrigation of Agricultural Crops in California." CA.gov. State of California, n.d. Web.  
 Moldrim, Arthur J., William P. Callaway, Christopher R. Garneau, and Stephen J. Conlin. "Food Security, Social Entrepreneurship, and Farmers' Markets in Worcester." Worcester Polytechnic Institute, 5 Mar. 2012. Web.  
 Permsuk, Tanawit, and Zhichao Liao. "Water Quality Control and Improvement Plan for." WPI.edu. Worcester Polytechnic Institute, 16 Mar. 2012. Web.  
 "Produce Price List." FoodCoop.com. Park Slope Food Coop, n.d. Web. 02 Dec. 2013.  
 "Regional Gardening Reports." Garden.org. National Gardening Association, n.d. Web. 19 Nov. 2013.  
 Smith, Ronald C., Ph.D. "Vegetable Maturity Dates, Yield and Storage." MSU.edu. North Dakota State University, June 2010. Web. 25 Nov. 2013.  
 Strange, Michelle Le, Michael D. Cahn, Steven T. Koike, and Richard F. Smith. "http://anrcatalog.ucdavis.edu/pdf/7211.pdf." Agriculture and National Resources. University of California, 2010. Web. 8 Dec. 2013.  
 "The Problem of Declining Response Rates." Pew Research Center for the People and the Press RSS. 19 Nov. 2013. Web.  
 "U.S. Blueberry Industry." USDA.gov. US Department of Agriculture, June 2013. Web. 01 Dec. 2013.

### Acknowledgements

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