

Robots Wanted!

Final Presentation Outline

Use the following checklist to organize and outline your final presentation.

1. **Description of the Problem:** Describe the life cycle of your crop from planting the seed until harvest. Include which processes are currently mechanized and which are performed by manual labor.
2. **Identify one step of production to mechanize:** Select one step of the food production process that you'd like to focus on alleviating manual labor. It may be initial planting, crop management tasks, or harvest. Describe in detail the step performed by humans, and what a machine or robot would need to replicate.
3. **Identify constraints/requirements:** Discuss in detail what task(s) the machine/robot needs to perform to be successful. Does it have to identify the size and color of fruit that is ready for harvest vs fruit that needs to stay on the vine? Can the tree or vine be broken or damaged if the machine/robot is too rough? Are fruits/vegetables easy to spot or could they be hidden under leaves or branches? Can the fruit/vegetable be bruised or damaged easily? Etc.
4. **Budget:** For successful implementation of a new technology, it needs to be affordable to the farmer. Annual operating expenses for the new machine should not be more than their previous business expenses for payroll. Present an outline of an appropriate budget.
5. **Timing:** Identify the month(s) of the year that a new machine would ideally be available for testing. For example, if the crop is only harvested once each year, the engineering firm will want to have the machine ready in the correct season.