Preventing Fertilizer Runoff
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Mechanisms
• Two part strategy:
  • Runoff capture & filtration (runoff farming)
  • Start up of a financial chapter that will aid in the costs of installing this system
• Runoff farming lowers:
  • The amount of fertilizer used
  • Quantity of water that must be added to the field from an external source

Proposal
• Our solution is to accomplish two main objectives:
  ○ Reduce the amount of agricultural runoff;
  ○ Have no effect on the amount of corn being produced by farms.
• Runoff farming + filtration system = Our Solution

Assessing Water Quality
• Knowing the current status of the water will allow for further testing.
  • Drinking water in Massachusetts may contain no more than 10.0 mg/l of nitrate-nitrogen
  • Ground water quality ensured by the federal and state commonwealth’s standards.
  • Samples must show the quality of unaffected water and its passing through the contaminated area

Our Target Audience
• Farmers
• EPA(Environmental Protection Agency)
• Scholarly Journals, Environmental Magazines, Farmers Magazines
• The National Grange
• Agricultural Centers
• Fresh fruit market owners

Backward
• Agricultural runoff is a byproduct of increased yields from fertilizers and herbicides
• Quantity vs. Quality
• Produce high yields, using least amount of time
• Even higher demand for crops serving multiple purposes
• Example: Corn

• How do we reduce agricultural runoff, while maintaining high yields?

Example: The Chesapeake Bay

• Abundant Seafood production was significantly affected by runoff
• Current marine dead zone in the Chesapeake bay.
• Oxygen level of water depleted so neither aquatic life nor vegetation can exist.

Proposed Solution
• Motivation for farmers;
  • Using less of these resources will lower the farmers’ total expenses
  • Cap and Trade system;
    • applied to water pollution
    • offers additional income for farmers operating below their runoff limit
  • Financial aid in the form of tax credit
  • Low interest loans for installation of system

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Mechanism (How this is going to Work)

- Reduces the amount of nitrate-nitrogen
- Lowers the amount of corn being produced by farms
- Captures and filters runoff water
- Increases the amount of crops being served

Quantity vs. Quality
• Produce yields, using least amount of time
• Serve crops, serving multiple purposes
• Reduce the amount of agricultural runoff

Example: Corn
• Have no effect on the amount of corn being produced by farms.