Economic Analysis and Utilization of Row Crop Skipped Row Openings

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Recommended Citation
DuMez, Aaron; Gernetzke, Aaron; Krueger, Jason; and Schott, Kaleb, "Economic Analysis and Utilization of Row Crop Skipped Row Openings" (2017). TSM 415 Technology Capstone Posters. 16.
http://lib.dr.iastate.edu/tsm415/16

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Economic Analysis and Utilization of Row Crop Skipped Row Openings
Cedar Valley Innovation, LLC, Waterloo, Iowa

Problem Statement
• CVI LLC trials have shown that corn can be planted with periodic skipped rows without yield loss, and in some cases, yields can be increased.
• Companion and cover crops planted in skipped rows are one way in which these unplanted rows can be beneficial.
• If no yield loss is realized when skipping a row at pre-determined intervals, the skipped row crops can be used to help build the soil and provide additional nutrients in-season.
• Analysis will be done to make a recommendation on how to best utilize skipped rows in corn fields.

Objectives
• Generate alternative proposals for utilization of the open row space.
• Create a list of benefits, costs, and risks associated with each alternative proposed use of the open spaces.

Methods
• Analyze current companion/cover cropping methods and strategies.
• Compare weed management, fertility, and erosion control strategies for different forms of ground cover.
• Determine what companion or cover crops will most effectively fill open space.

Proposed Solutions
• Utilize the skipped row openings by planting companion crops.
• Utilize the skipped row openings by planting cover crops.

Major Outcomes
• Prepare a final report with supporting data, reasoning, and cost/benefit analysis that is understandable by a grower.
• Make a recommendation for specific configurations to be tested on the Cedar Valley Innovation plots in 2018.
• Make a recommendation for specific configurations for potential research plots conducted by Iowa State University in 2018.
• Create a list of guidelines for managing the recommended plots, especially with regard to chemical treatment, species selection, and termination strategy.

Scope
• Final product will not be an analysis of past yield information, but rather a recommendation for how to effectively use the unplanted space when a row is skipped.

Benefit to Client
• Whether or not to plant companion and/or cover crops on future Cedar Valley Innovation research plots.
• Whether or not planting companion and/or cover crops to utilize skipped row openings makes sense economically and environmentally.