B & R Farms Case Study

Soil Health: Basics, Practices, Benefits, & Barriers – Part 2

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Story via Multiple Slides: B & R Farms, PA

Case Study: B & R Farm

- **Schuylkill County, PA**
- **Farm size:** 424 acres
- **Study area:** 360 acres total (150 ac corn, 150 ac soybean, 60 ac hay)
- **Crops grown:** Corn, soybean, hay, strawberries, greenhouse flowers
- **Soil health practices:**
  - **2008 –** No-till on all 360 acres
  - **2018 –** Rye cover crop after 150-acre soybean crop
  - **2019 –** Rye cover crop after 150-acre corn crop
- **FRPP farm easement:** 1999 and 2012
- **Resource concern:** Keeping valuable topsoil on the field

ROI = 42%

Annual Change in Total Net Income = $7,055
Annual Change in Net Income Per Acre = $20

B & R Farm's Increase in Net Income

Increases in Net Income			
Increase in Income			
Item	**Per Acre**	**Acres**	**Total**
Yield Improvements due to No-till and Cover Crops	$44	300	$13,283
Total Increased Income			**$13,283**
Decrease in Cost			
Item	**Per Acre**	**Acres**	**Total**
Machinery Cost Savings due to No-Till	$32	308 [3]	$9,948
Cost Savings due to Interchangeable Equipment Parts			$500
Total Decreased Cost			**$10,448**
Annual Total Increased Net Income			**$23,731**
Total Acres in this Study Area			**360**
Annual Per Acre Increased Net Income			**$66**

- **Increased Yields**:
  - 10% increase in both corn and soybeans
- **Decreased Costs:**
  - Fewer planting passes
    - Hay 5→1
    - Soybeans 4→1
    - Corn 3→1
  - New drill allows for consolidation of parts with existing machinery

B & R Farm's Decreases in Net Income

- **No decreases in Income**
- **Increased Costs:**
  - Rye after corn is cheaper ($41/ac) compared to soybean ($67/ac) because the rye seed is broadcast vs drilled
  - ~50% saving in rye seed costs because they grown their own seeds
  - 16 hr/yr spent researching tillage and 4 hr/yr spent researching cover crops

Decreases in Net Income			
Decrease in Income			
Item	**Per Acre**	**Acres**	**Total**
None Identified			
Total Decreased Income			**$0**
Increase in Cost			
Item	**Per Acre**	**Acres**	**Total**
Cover Crop Cost	$54	300	$16,153
Cover Crops Learning Activities			$105
Residue and Tillage Mgt. Learning Activities			$419
Total Increased Cost			**$16,676**
Annual Total Decreased Net Income			**$16,676**
Total Acres in this Study Area			**360**
Annual Per Acre Decreased Net Income			**$46**

B & R Farm's Net Income Increases Exceeds the Decreases

Annual Total Increased Net Income	$23,731
Total Acres in this Study Area	360
Annual Per Acre Increased Net Income	$66

Annual Total Decreased Net Income	$16,676
Total Acres in this Study Area	360
Annual Per Acre Decreased Net Income	$46

Annual Change in Total Net Income	= $7,055
Annual Change in Net Income Per Acre	= $20
Return on Investment	= 42%

B & R Farm: Barriers to Adoption

- **Financial Barriers:**
  - Upfront cost for no-till drill
  - Received NRCS No-Till contract & PA Resource Enhancement & Protection Program (REAP) funding

- **Technological barriers:**
  - Adjusting to new drill
  - Reaching out to other farmers and experts

- **Social Barriers:**
  - Adjusting to a new way of farming (e.g., switching to fall hay after years of spring hay)

Take Home Messages for B & R Farms, PA

Highlights: B & R Farms Case Study

- By switching to no-till and adding a rye cover crop, the family was able to increase corn and soybean yields by a farmer estimated **10%**
- Adopting to no-till saves **$32 per acre** in reduced machinery and labor costs
- The increase in net income from no-till and cover crops outweighs the increased net costs, leading to an addition total net income of **$20 per acre**
- **Annual SH Benefits:** $23,731
- **Annual SH Costs:** $16,676
- **Annual SH Change in Total Net Income: $7,055 or $20/ac**

  All in (2020 dollars)

Contact Information

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Guest Farmer:
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B & R Farms