

Introduction

Over one-fourth of the cotton produced in the United States since 2002 has been produced in Texas, with most of that coming from the High Plains region. In the past, the Texas High Plains (THP) has been associated with low cost, low quality cotton harvested with cotton strippers, as compared to spindle pickers used throughout the Cotton Belt. The shift to varieties with higher yields and quality, combined with the new, more efficient irrigation technology, has led to a higher acreage of cotton in the THP that is considered suitable for picker harvest. This study conducted an economic analysis of picker and stripper harvest systems in a commercial, large-scale setting on the THP. Results from this project will help answer producer's questions concerning comparative costs and returns between picker and stripper systems.

Objectives

- Compare a stripper harvest and ginning system and a picker harvest and ginning system.
- Determine total costs associated with each harvest system.
- Determine total revenue generated by each harvest system.
- Compare total returns above harvest and ginning costs.

Materials and Methods

Design: RCBD with 4 replicates, each individual plot produced a module.

Plot Size: 3-4 acres/harvest method

Minimum tillage

Irrigation: SDI (sub-surface drip irrigation)

Picker harvester- John Deere 9986 basket picker

Stripper harvester- John Deere 7460 with field cleaner

Costs

Ginning-\$3.00 cwt

Cotton seed-\$175/ton

Picker harvesting-\$0.10/lint lb

Stripper harvesting-\$0.08/lint lb

Lint Value

2010 loan chart used for all locations

Acuff

Planted May 11, FiberMax 1880B2F

Harvested: Nov 2, 2008

Ginning was performed at Acuff McClung Co-op gin.

Ralls

Planted May 15 FiberMax 9180 B2F both years

Harvested: Nov 10, 2008, and Nov 16, 2009

Ginning was performed at Owens Co-op gin.

Results

Table 1: Yields and total revenue, Ralls, 2008.

| | Seed cotton yield | Lint yield | Seed yield | Revenue |
|-----------------|-------------------|------------|------------|---------|
| | lbs/A | lbs/A | lbs/A | \$/A |
| Picker System | 4879 b | 1774 b | 2573 b | 1219 a |
| Stripper System | 6153 a | 1896 a | 2884 a | 1282 a |

Table 2: Total returns above harvest and ginning costs, Ralls, 2008.

| | Revenue | Ginning Costs | Harvest Costs | Returns above harvest and ginning costs |
|-----------------|---------|---------------|---------------|---|
| | \$/A | \$/A | \$/A | \$/A |
| Picker System | 1219 a | 146 b | 177 a | 895 a |
| Stripper System | 1282 a | 185 a | 152 b | 947 a |

Table 3: Yields and total revenue, Acuff, 2008.

| | Seed cotton yield | Lint yield | Seed yield | Revenue |
|-----------------|-------------------|------------|------------|---------|
| | lbs/A | lbs/A | lbs/A | \$/A |
| Picker System | 4714 b | 1694 b | 2328 b | 1131 a |
| Stripper System | 5874 a | 1817 a | 2527 a | 1138 a |

Table 4: Total returns above harvest and ginning costs, Acuff, 2008.

| | Revenue | Ginning Costs | Harvest Costs | Returns above harvest and ginning costs |
|-----------------|---------|---------------|---------------|---|
| | \$/A | \$/A | \$/A | \$/A |
| Picker System | 1131 a | 141 b | 169 a | 820 a |
| Stripper System | 1138 a | 176 a | 145 b | 817 a |



Table 5: Yields and total revenue, Ralls, 2009.

| | Seed cotton yield | Lint yield | Seed yield | Revenue |
|-----------------|-------------------|------------|------------|---------|
| | lbs / A | lbs / A | lbs / A | \$/A |
| Picker system | 2971 b | 1040 b | 1493 b | 720 a |
| Stripper system | 4084 a | 1161 a | 1785 a | 748 a |

Table 6: Total returns above harvest and ginning costs, Ralls, 2009.

| | Revenue | Ginning Costs | Harvest Costs | Returns above harvest and ginning costs |
|-----------------|---------|---------------|---------------|---|
| | \$/A | \$/A | \$/A | \$/A |
| Picker system | 720 a | 89 b | 104 a | 526 a |
| Stripper system | 748 a | 122 a | 93 b | 532 a |



Summary

- Harvest costs were higher, but ginning costs were lower for the picker system compared to the stripper system.
- There was no significant difference between returns above harvest and ginning costs for all three tests.
- Other studies suggest that as yields increase and acres harvested per machine increase, the advantage moves toward the picker systems from stripper systems.

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