

## Machinery Ownership and Leasing

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### Purpose of module

- Develop an understanding of the costs associated with owning and operating machinery
- Trying to reduce decisions to numbers
  - Custom hire
  - Own vs. rent
  - Lease vs. purchase
  - Trading strategies
- ... targeting the decision tools:
  - “OwnSeries” (Excel spreadsheets)
    - *OwnBaler.xls*, *OwnCombine.xls*, *OwnSprayer.xls*, and *OwnTractor.xls*
  - *KSU-MachCost.xls*
  - *KSU-GPSguidance.xls*
  - *GuidanceSectionControlProfitCalculator.xls* and *.swf*

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### Module: Machinery Ownership and Leasing

Session: Understanding machinery costs

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### Machinery cost categories

- Repair and maintenance
- Labor
- Depreciation (market, not tax depreciation)
- Interest (opportunity interest)
- Fuel and lubrication
- Taxes, insurance, and shelter
- Custom hire

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### Why Producers Need to Know

- Selecting Profit-maximizing Crop Mix
  - must prorate to crops
- Dealing with Technological Change (no-till)
  - alternative systems use machinery less intensively
- Benchmarking
- Banking (tracking market value & deprec.)
- Minimizing Costs of Production
  - owning vs. leasing vs. custom hire
  - optimal trade decisions

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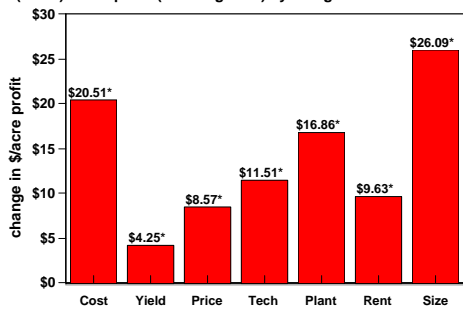
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(99-08) diff in profit (over avg farm) by being in best 1/3 of:



Machinery large part of costs & size, but other stuff matters too

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**Key drivers of profitability differences among producers...**

- Costs
- Technology adoption
- Farm size

...machinery investment and costs are directly related to these three factors.

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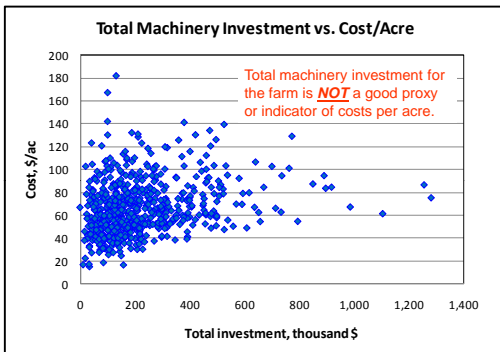
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**Machinery investment is not the same as machinery cost**



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/acre; costs do not include labor - total of 614 farms)

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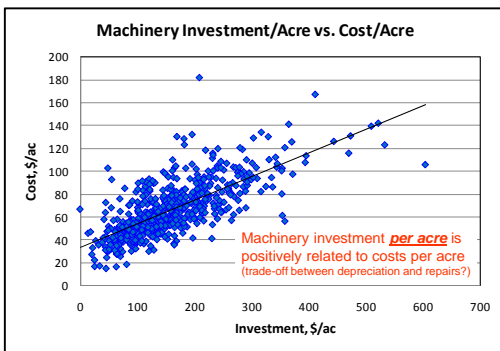
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**It is important to use assets efficiently...**



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/acre; costs do not include labor - total of 614 farms)

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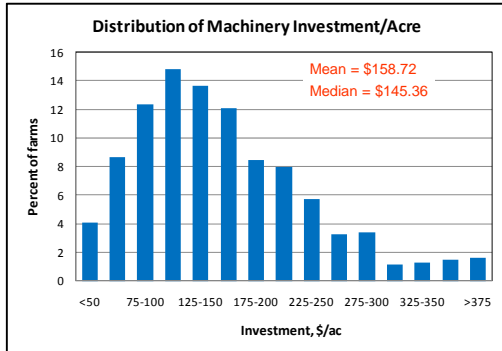
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**Machinery investment/acre varies across producers...**



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/acre; costs do not include labor - total of 614 farms) 10

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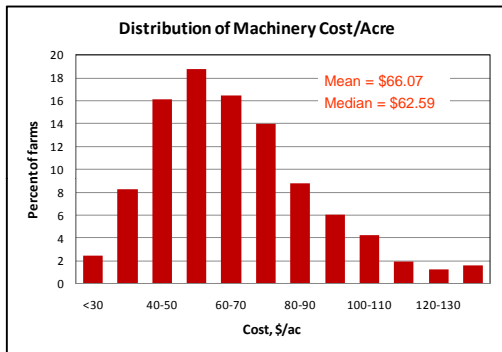
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**Hence, machinery cost varies across producers...**



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/acre; costs do not include labor - total of 614 farms) 11

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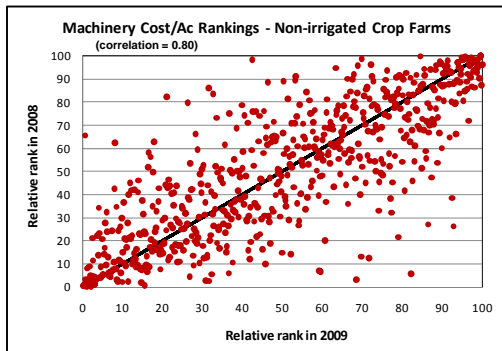
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**Machinery costs per acre are fairly persistent...**



Source: KFMA non-irrigated crop farms having continuous data from 2005-2009 (minimum of 160 acres and machinery cost/acre > \$10/acre - total of 614 farms) 12

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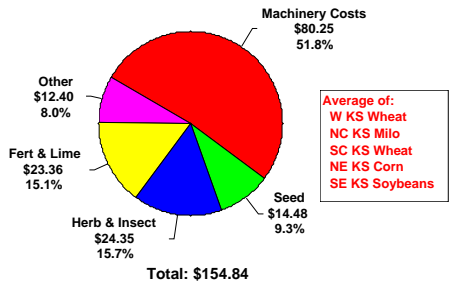
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**Non-Land Crop Production Costs Per Acre, Kansas, 2000**  
Farm Management Guides



Last year machinery costs were split out in Farm Management Guides was 2000 16

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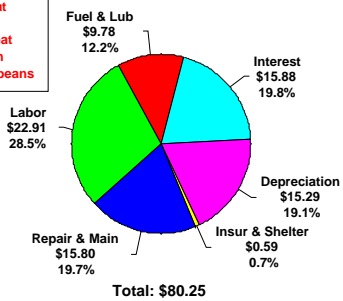
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**Machinery Costs Per Acre, Kansas, 2000**  
Farm Management Guides

Average of:  
W KS Wheat  
NC KS Milo  
SC KS Wheat  
NE KS Corn  
SE KS Soybeans



Last year machinery costs were split out in Farm Management Guides was 2000 17

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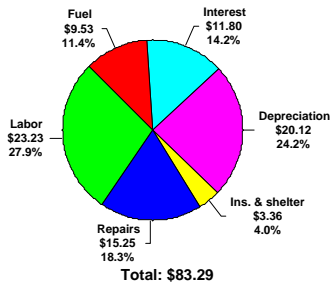
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**Machinery Costs Per Acre, Kansas, 2001**  
Source: 182 KFMA Members (Beaton)



Custom hire cost has been allocated to individual categories 18

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## Machinery cost categories

- Repair and maintenance
- Labor
- Depreciation (market, not tax depre
- Interest (opportunity interest)
- Fuel and lubrication
- Taxes insurance and shelter
- Custom hire
  - Leads to published and “accepted” custom rates
  - Proxy for how costs are changing over time?



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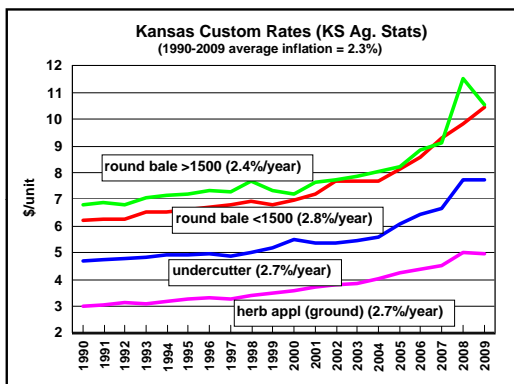
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2008 estimated (Sep08) from expected change in fuel price (up 18.2% from 2007)

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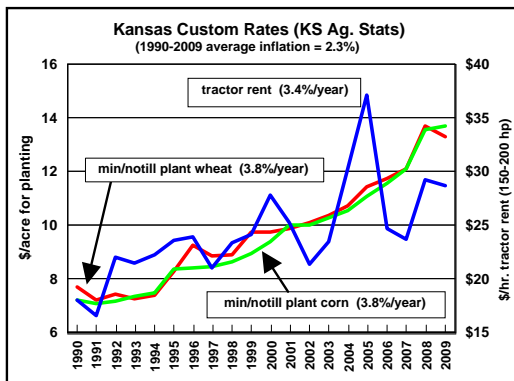
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2008 estimated (Sep08) from expected change in fuel price (up 18.2% from 2007)

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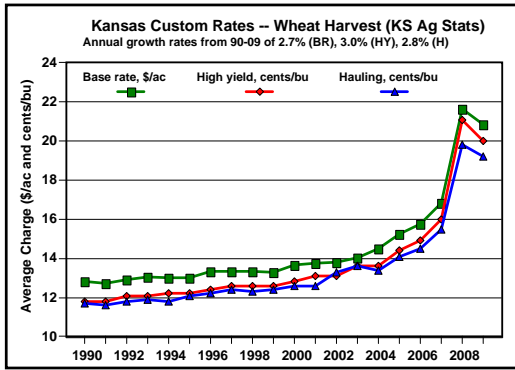
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Harvest rates some of the best reported custom rates in Kansas

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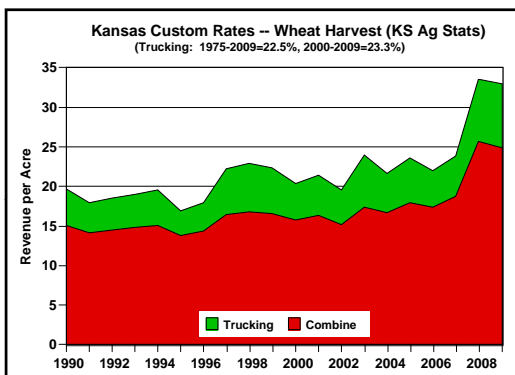
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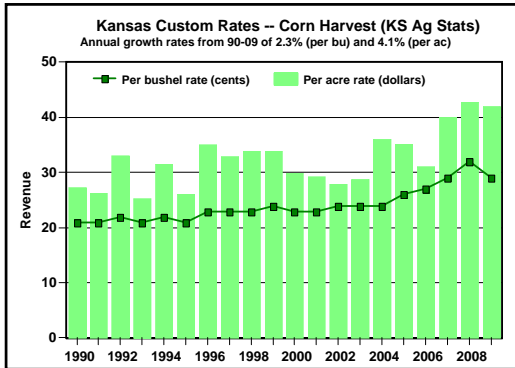
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Harvest rates some of the best reported custom rates in Kansas

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**End of Session:**

**Understanding machinery costs**



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