



# What Does It Take To Make Ag Businesses Profitable And Financially Feasible?

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Variable	Objective
Selling price	Maximize
Quantity of variable inputs	Minimize
Purchase price of variable inputs	Minimize
Total output	Maximize
Purchase price of fixed inputs	Minimize
Quantity of fixed inputs	Minimize
Interest rate on debt	Minimize
Quantity of debt	Minimize

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Profitability (Grower return) = Gross return – costs

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# Profits through Efficient Production Systems - “PEPS”

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- Can we grow \$1.50 corn and \$3.50 soybeans in Wisconsin?
- Sponsors:
  - ✓ UWEX Grain Crops
  - ✓ Department of Agronomy
  - ✓ Wisconsin Corn Growers Association
  - ✓ Wisconsin Soybean Association
  - ✓ USDA Soil Conservation Service
  - ✓ Numerous Agricultural Companies



## PEPS Objectives

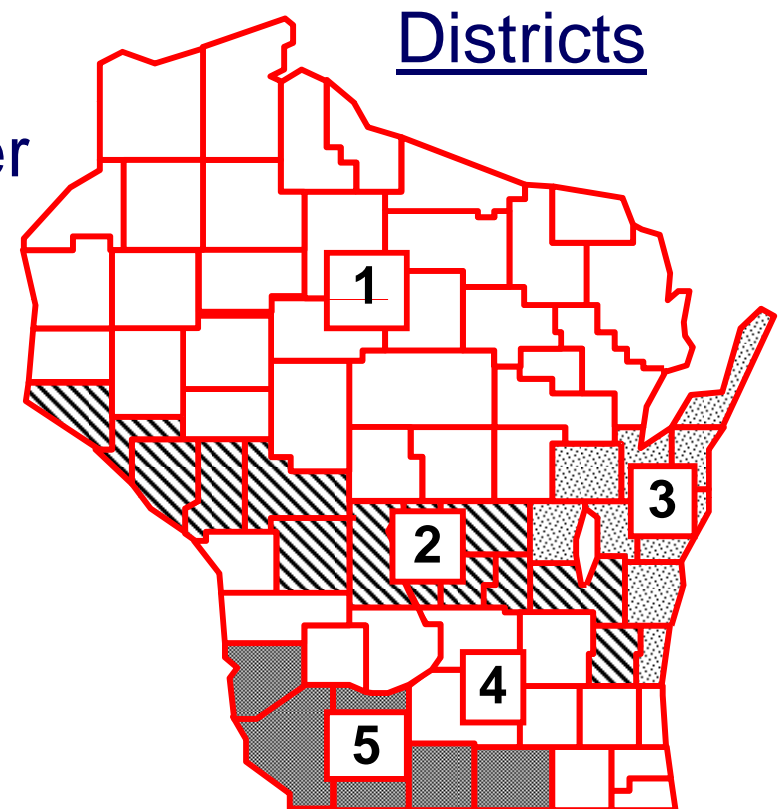
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- Cost analysis of grain enterprises
- Emphasize soil and water conservation, efficiency, profitability, and competitiveness vs. productivity alone
- Recognize the way efficient growers integrate practices into a system through:
  - ✓ PEPS Contest
  - ✓ PEPS Workshops



# PEPS Divisions and Districts

- Corn, Cash Crop: Corn following a legume or non-legume grain crop (i.e. corn, soybean, small grain, etc.) or non-legume forage or cover crops
  - ✓ No manure applied.
  - ✓ A charge for drying costs assessed.
- Corn, Livestock: Corn following forage legume or green-manure legumes (alfalfa, red clover, etc.); and/or manure applied on land.
  - ✓ Drying costs will not be assessed.
- Soybean





## PEPS Contest

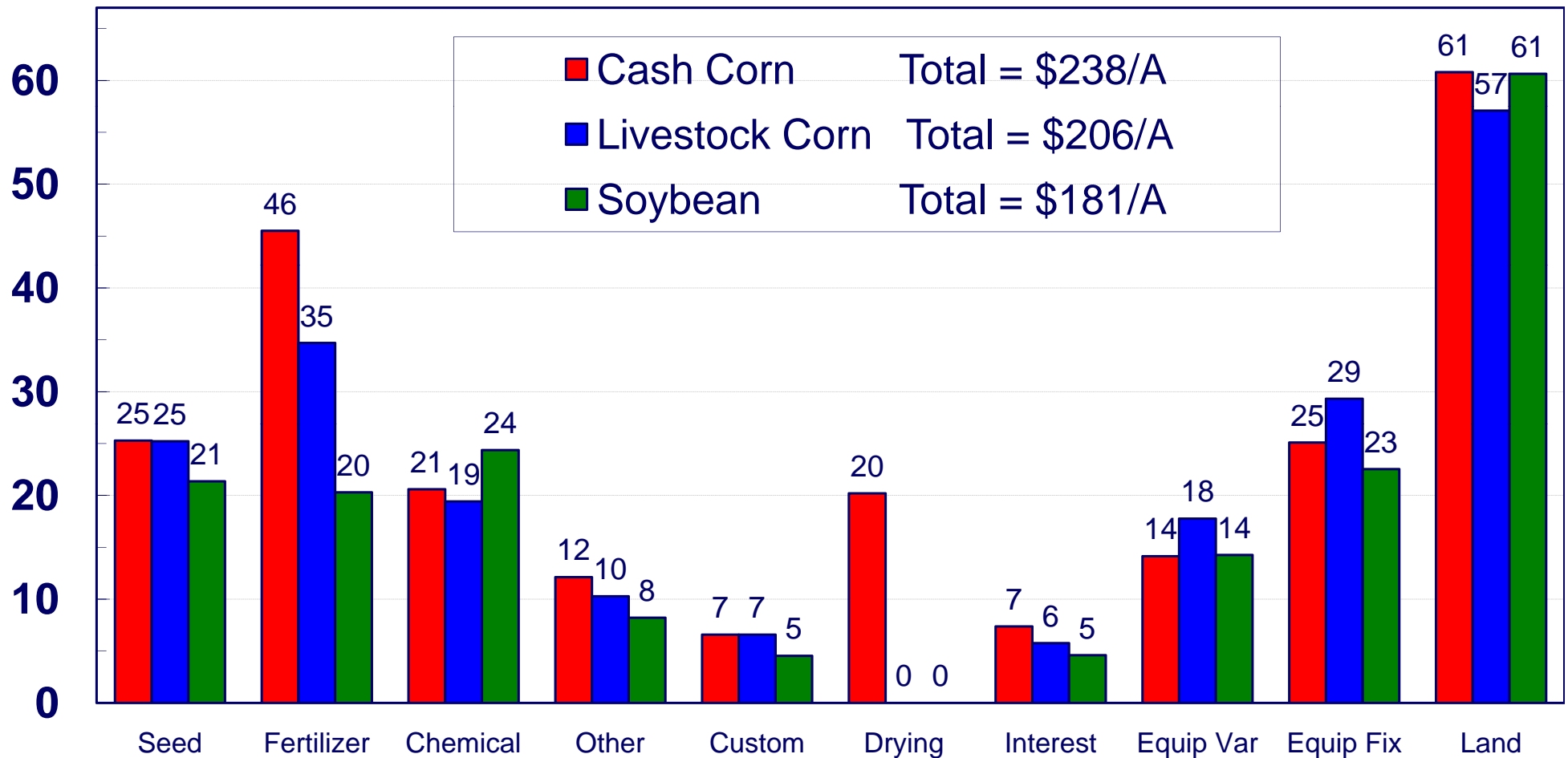
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- Verified yields and production costs
- Since 1997, placing based on profitability
  - ✓ Prior to 1997, placing based on lowest cost per bushel
- Soil loss within tolerable “T” level
  - ✓ USLE; USDA-NRCS
- Entry fee = \$25, no limit to number of entries
- Entry deadline = August 1
- Awards = \$100 to winner for each district/division
- Total fields evaluated = 2107



# Average Division Production Costs For Farmers in PEPS (1987-99)

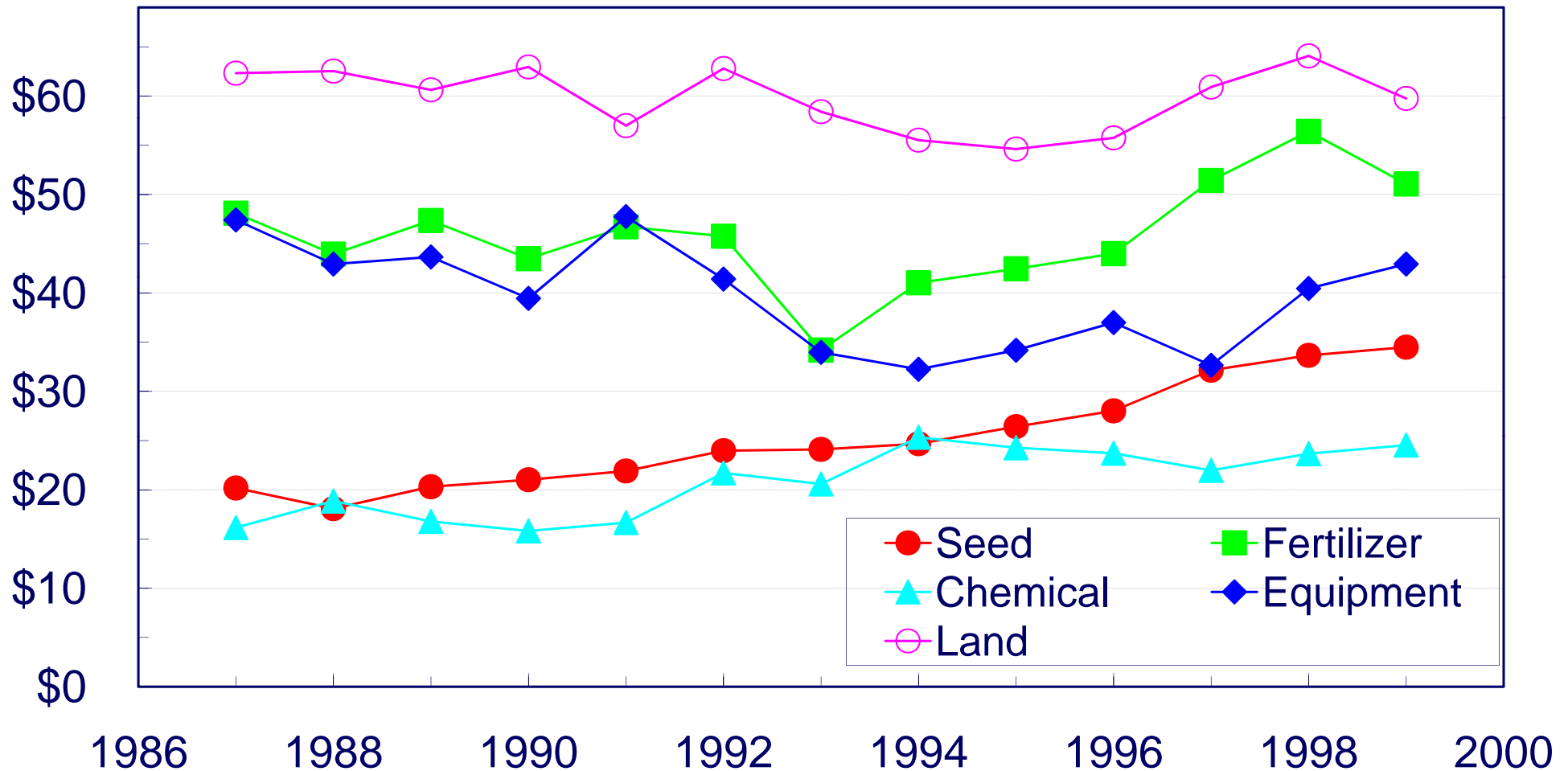
Cost (\$/A)





# Input Production Costs For Cash Corn Farmers in PEPS (1987-99)

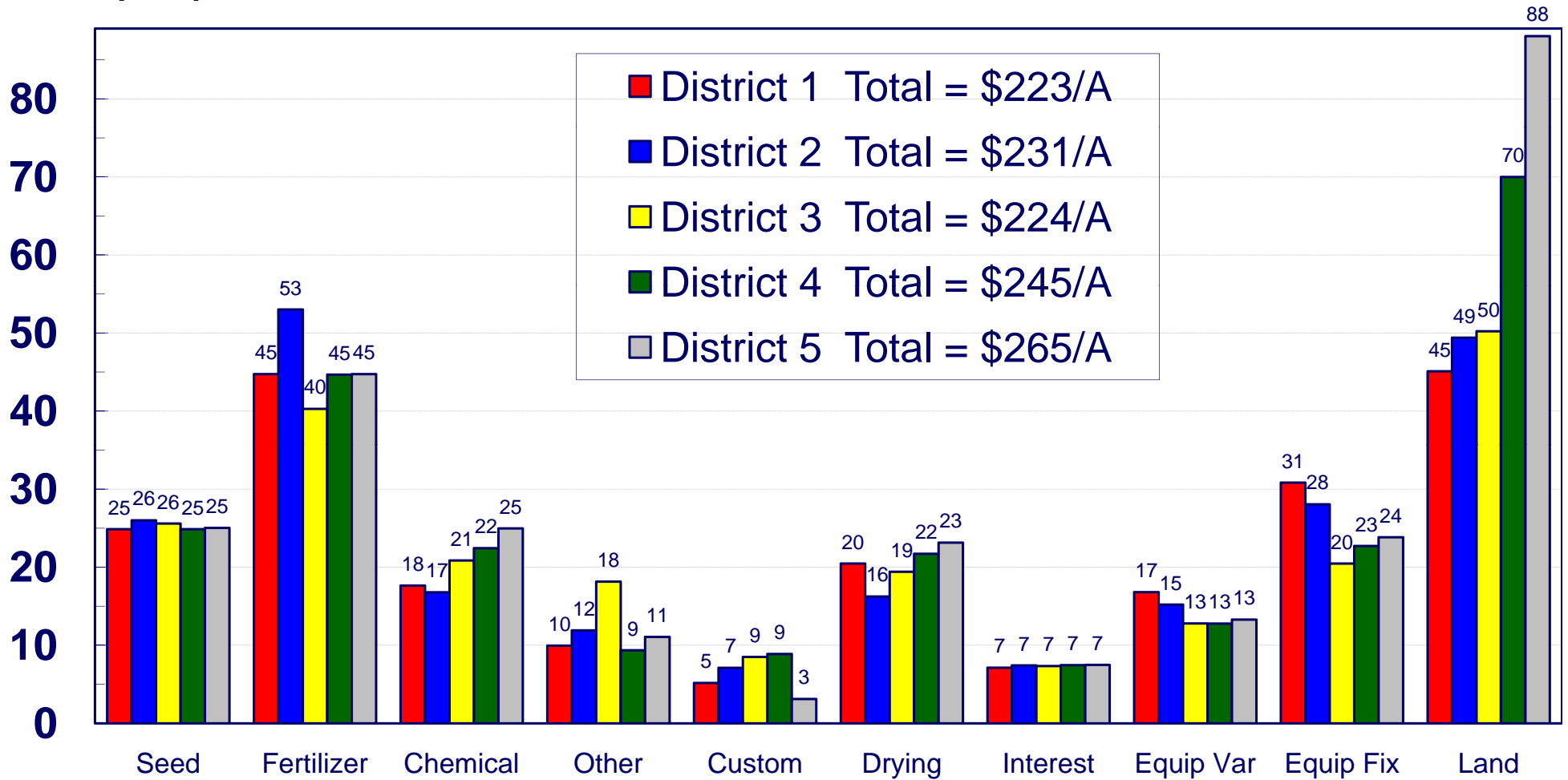
Cost (\$/A)





# District Cash Corn Production Costs For Farmers in PEPS (1987-99)

Cost (\$/A)

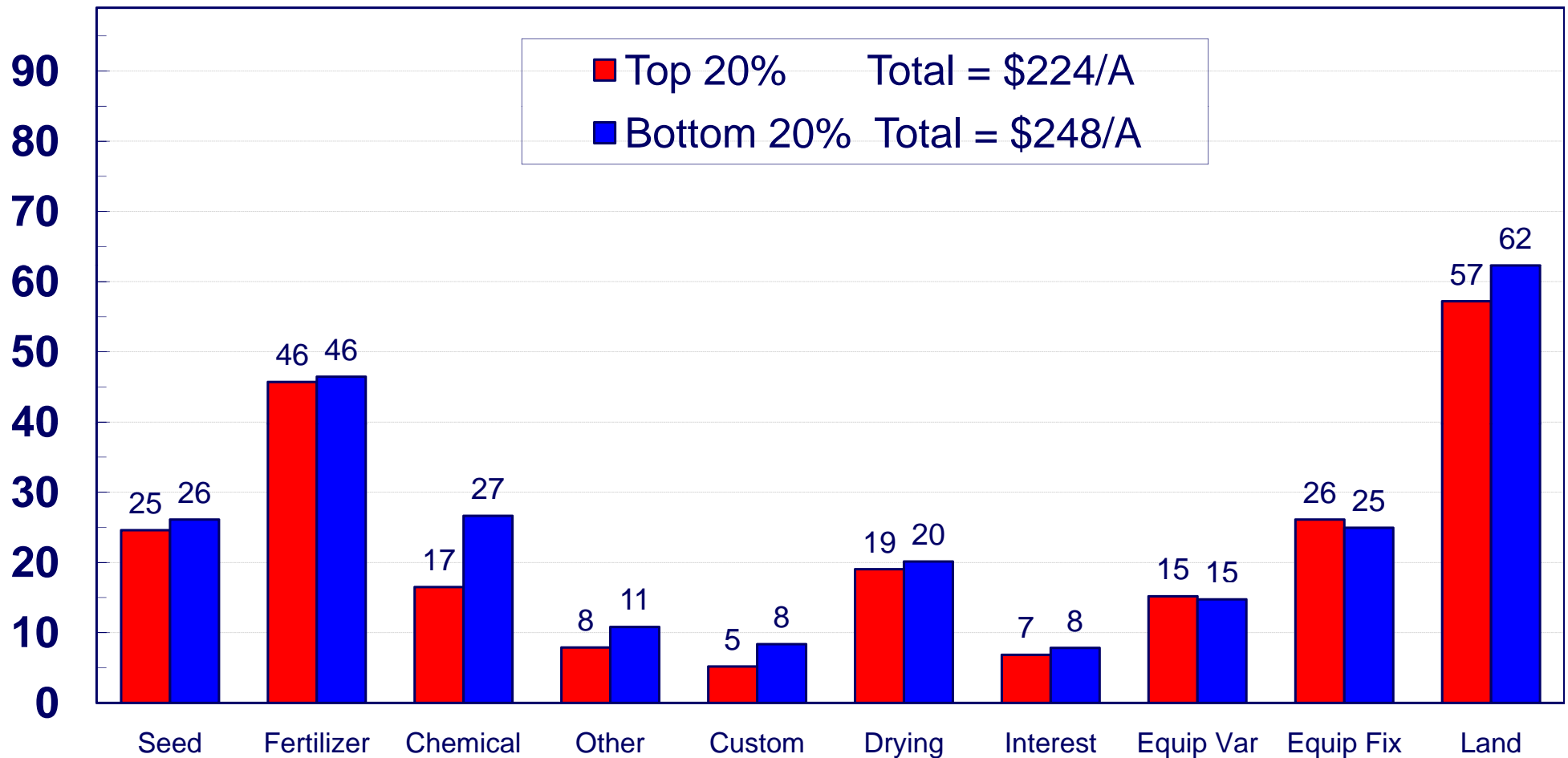






# Average Cash Corn Production Costs for Profit Groups in PEPS (1987-99)

Cost (\$/A)





# Differences between Top 20% and Bottom 20% profit groups in PEPS (1987-1999)

	Cash Corn		Livestock Corn		Soybean	
	Top 20%	Bottom 20%	Top 20%	Bottom 20%	Top 20%	Bottom 20%
Acre Cost (\$/A)	\$224	\$248	\$190	\$203	\$173	\$189
Grain yield (bu/A)	182	144	177	130	63	45
Bushel cost (\$/bu)	\$1.25	\$1.79	\$1.09	\$1.61	\$2.77	\$4.31
Grain moisture (%)	21.0	22.8	22.9	24.5	12.7	13.0



## Ways To Increase Grower Return

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- Need land with capability of yielding 140 to 160 bu/a (5-yr. average) -- and rent it for less than \$90/acre.
- Don't follow corn with corn:
  - ✓ Reduce N costs with credits from previous legume (alfalfa, soybeans)
  - ✓ Don't need to use rootworm insecticide
  - ✓ "Rotation effect" increases yields 5-10%



## Ways To Increase Grower Return

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- Select hybrids with high yield potential, fast dry-down, and good standability and try to pay less than \$70/bag.
- Use tillage sparingly:
  - ✓ Try to leave 30% residue cover at planting
  - ✓ Question weather each pass is necessary
  - ✓ Combine trips (for example; herbicide, fertilizer application and tillage)



# Ways To Increase Grower Return

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- Soil test and only apply needed nutrients:
  - ✓ Use cheapest form of fertilizer per unit of N, P, or K and apply efficiently
  - ✓ Use manure and legume credits to reduce purchased fertilizer costs
  - ✓ Don't cut back on overall N supplied unless over applying
  - ✓ Don't use micronutrients unless soil tests recommended



## Ways To Increase Grower Return

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- Plant early -- between April 25 and May 5
- Plant 26- to 28,000 (lighter soils) or 28- to 32,000 (medium-heavy soils) kernels/acre
- Use 30-inch rows, rather than 36- to 38-inch rows
- Monitor insect (European corn borer, corn rootworm) levels and apply insecticides only when economic thresholds occur



# Ways To Increase Grower Return

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- Control weeds as “cheaply” as possible:
  - ✓ Know your weed problem
  - ✓ Consider band applications and/or timely rotary hoeing and cultivation
  - ✓ Cultivation may increase yields 5% beyond weed control benefits
  - ✓ Calibrate your sprayer
  - ✓ Don’t demand “perfect” weed control



# Ways To Increase Grower Return

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- Pray for good weather:
  - ✓ Spring dry enough for early planting, but wet enough to activate herbicides and promote good stands with uniform emergence
  - ✓ Summer with timely rain (1-inch per week), lots of sunshine, and temperatures in mid-80's (day) and low 60's (night)
  - ✓ Fall with sunny, dry weather to speed dry-down & allow harvest of “22% corn” by November 1





## Ways To Increase Grower Return

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- Harvest when kernel moistures are in the low to mid 20's if drying
- Substitute information for more expensive purchased inputs:
  - ✓ Hybrid performance data
  - ✓ Soil tests
  - ✓ Manure analysis
  - ✓ Pest scouting
  - ✓ Crop consultant??
  - ✓ On-farm trials??



## What role can dealers play in PEPS?

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- Promote among producers who would benefit (helping with forms, soil loss and yield checks)
- Does it pay to grow corn on my farm?
- Encourage National Corn Growers Association yield contestants to enter
- Provide input to PEPS committee from “real world”
- Financial sponsorship



## Summary

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- Contest average costs range from \$206 to \$238 dollars for corn and \$181 for soybeans.
- Real costs are higher than those of PEPS contest
  - ✓ Costs do not include overhead (20 – 25% more)
    - Contest only documents what can be verified.
  - ✓ “Best of the Best”
    - Corn or soybean grown on the “best” fields using the “best” management on the “best” farms.
  - ✓ Contestants manage fields to “win” the contest.
- Little difference in cost between top and bottom producers. Profitability due to yield differences and “invisible inputs.”