# Ten Year Outlook for Representative Crops, Livestock, and Dairy Farms in the U.S.

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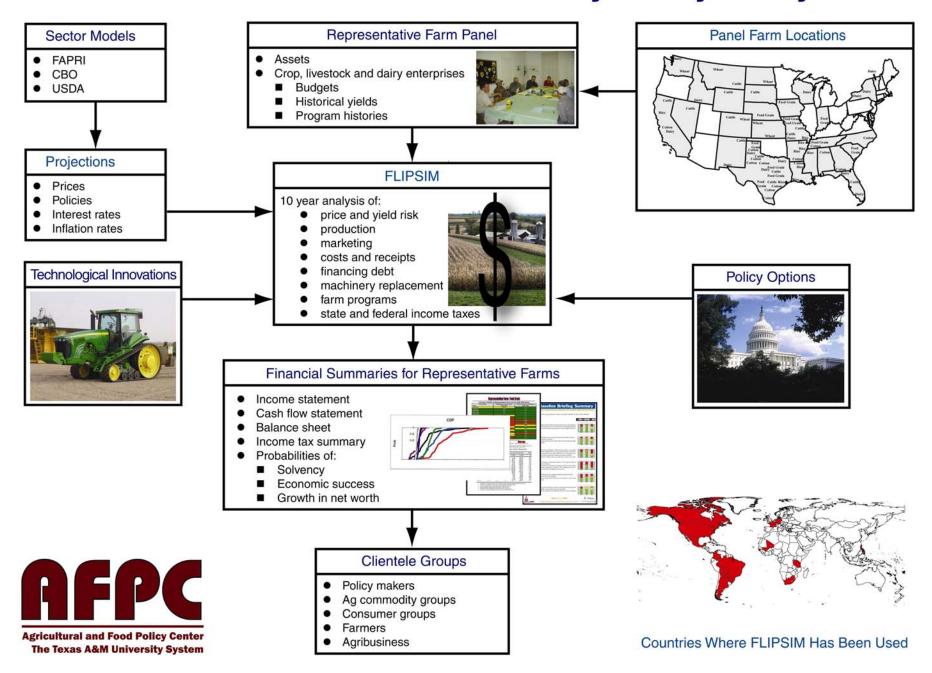
American Society of Farm Managers and Rural Appraisers American Society of Agricultural Consultants Austin, Texas October 7, 2005



### **Outline**

- Representative farm approach to policy analysis
- Assumptions for Baseline study
- Location of Farms
- Outlook for crop farms
- Outlook for dairy and beef
- Summary

#### The Farm Level Income and Policy Analysis System



## Assumptions

- ➤ Continuation of 2002 Farm Bill through 2009
- > Farmers updated base and yields
- Farms structured so payment limits are not binding.
- > FAPRI August 2005 Baseline provides
  - ✓ Average annual prices
  - ✓ Inflation rates for purchased inputs
  - ✓ Interest rates
  - ✓ Inflation rates for land
- >Historical yield and price risks used to incorporate risk.

### **Initial Debt Levels**

- > Representative farms borrow all of their operating capital.
- ➤ Real estate debt January 1, 2002 is:

```
✓20% Feed grains
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✓20% Wheat

√20% Cotton

√20% Rice

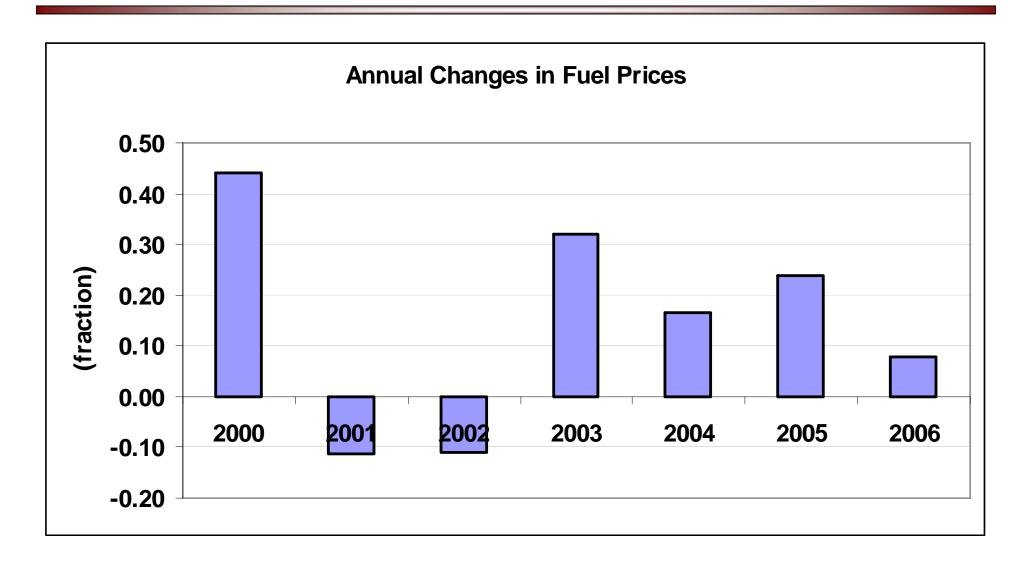
√30% Dairy

✓ 1% Beef cattle

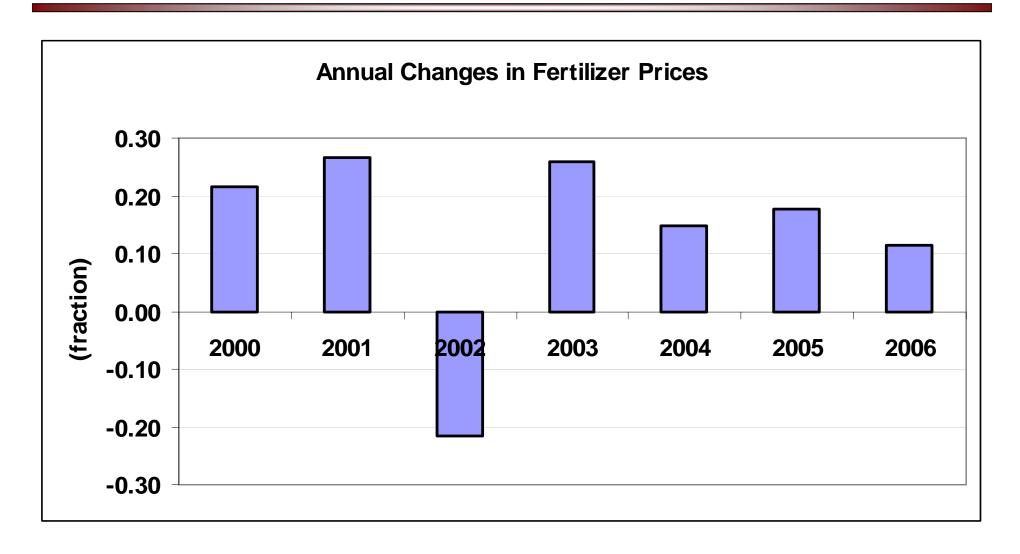
√35% Hogs

➤ Machinery and livestock debt is 20% for all farms.

## Fuel and Lube Price Changes



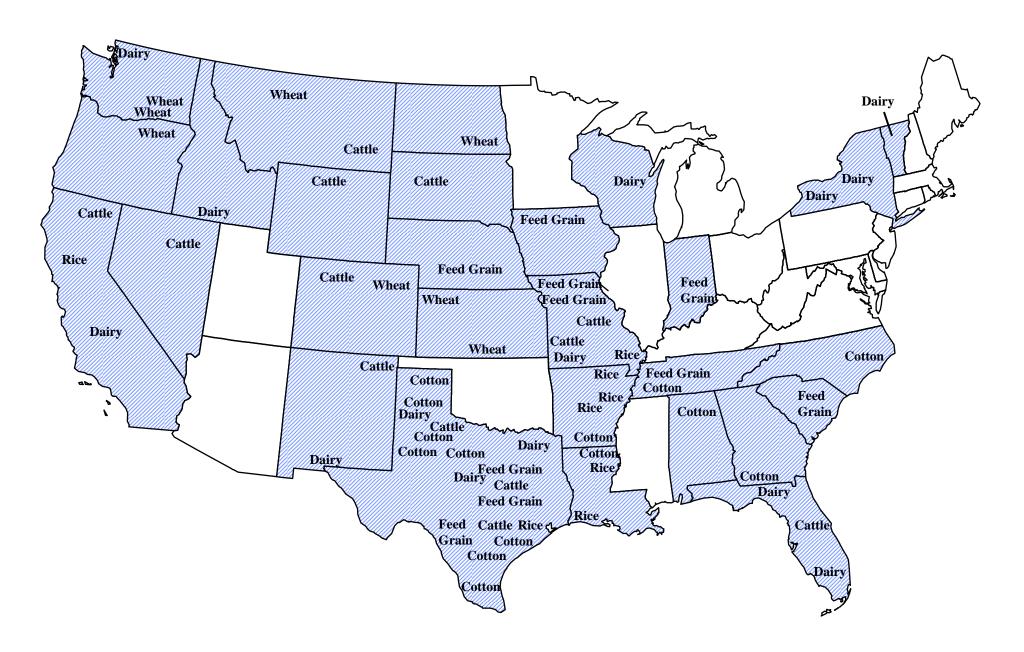
## Fertilizer Price Changes



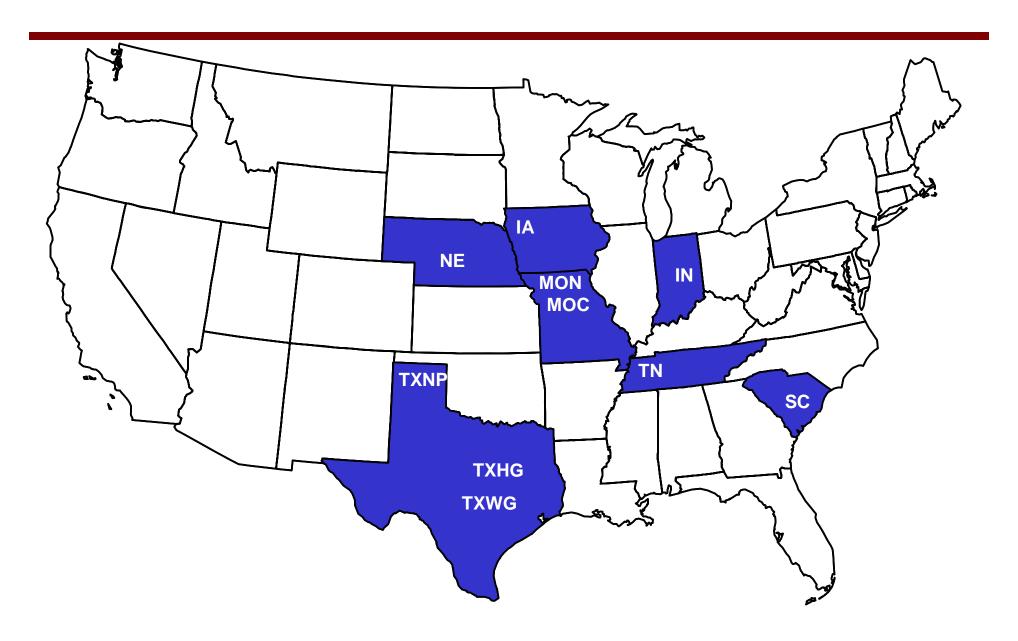
## Definition of Output Variables

- ➤ Probability of Cash Flow Deficits chance that ending year cash balance is negative after paying family living, taxes, machinery replacement, and principal payments.
- ➤ Probability of Losing Real Net Worth chance that net worth, adjusted for inflation, is less than net worth at the end of 2001.
- ➤ Net Cash Farm Income Fan Graph chart showing the range of NCFI over the 2005-2009 planning horizon given FAPRI Baseline and risk.
  - Sources of risk for farm level analysis include
    - Commodity price risk
    - Commodity production levels (yield, milk/cow)

#### **AFPC Representative Farms and Ranches**

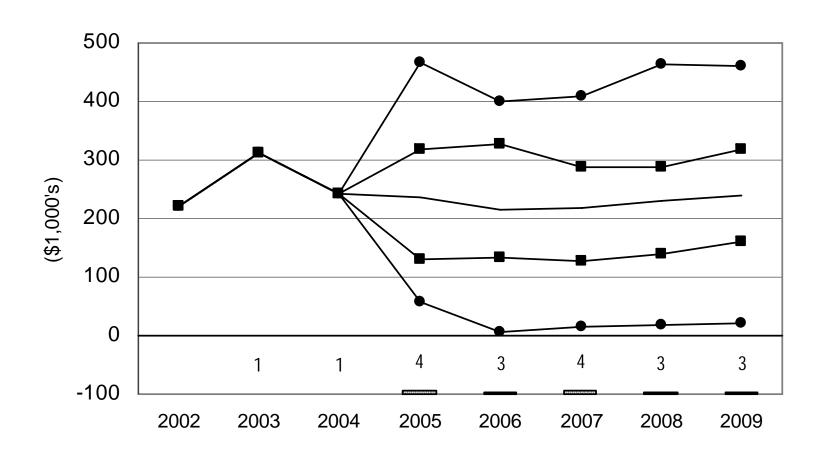


## Representative Feedgrain Farms



#### Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Feed Grain and Oilseed Farm August 2005 Baseline

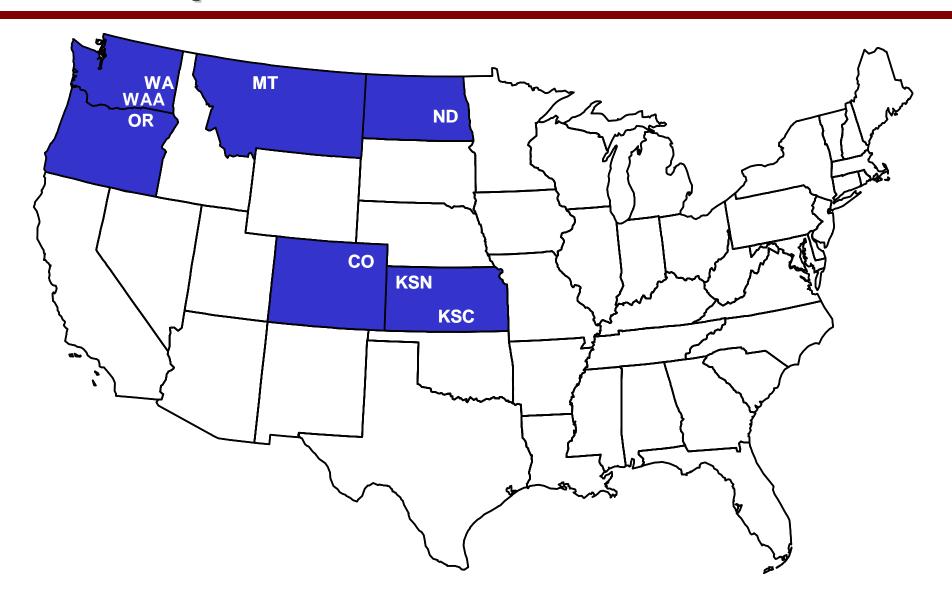
#### **IAG2750** Large Iowa Grain Farm



## **Economic Viability of Representative Feedgrain Farms**

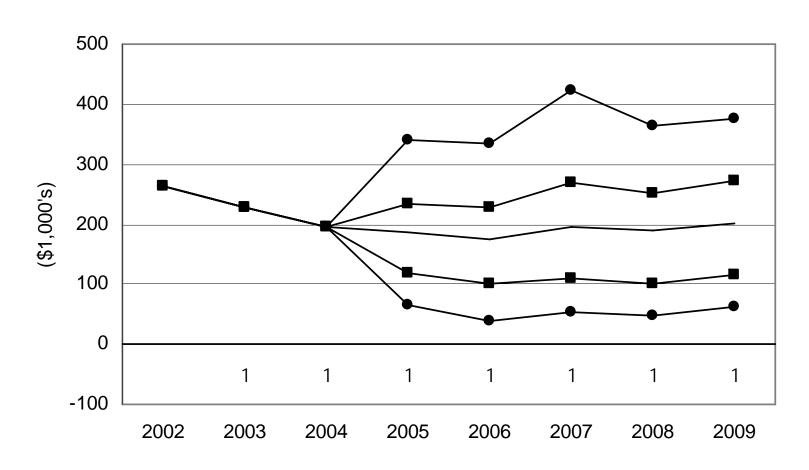
Farm Name	P(Negative Ending Cash)	P(Real Net Worth Declines)
8/1/9	2005-2009	2005-2009
IAG1350	28-52	1-38
IAG2750	4-3	1-3
IAG4200	1-20	1-11
NEG1960	1-1	1-1
NEG4300	1-10	1-3
MOCG1700	7-9	1-1
MOCG3630	1-1	1-1
MONG1850	35-56	1-11
ING1000	99-99	1-96
ING2200	99-99	1-71
TXPG3760	44-71	1-64
TXHG2000	99-99	1-96
TXWG1400	97-98	1-91
TXUG1200	62-94	1-92
TNG900	82-88	1-93
TNG2750	1-1	1-4
SCG1500	86-99	1-94
SCG3500	8-20	1-7

### Representative Wheat Farms



## Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Wheat Farm August 2005 Baseline

#### **KSCW4000 Large Central Kansas Wheat Farm**



## **Economic Viability of Representative**Wheat Farms

Farm Name	P(Negative Ending Cash)	P(Real Net Worth Declines)
9/1/3	2005-2009	2005-2009
WAW1725	1-1	1-9
WAW4675	1-2	1-8
WAAW3500	1-1	1-1
MTW4500	1-4	1-8
ORW4000	32-10	1-16
NDW2180	37-63	1-69
NDW6250	1-15	1-22
KSCW1385	37-82	1-57
KSCW4000	1-1	1-9
KSNW2800	86-99	1-76
KSNW4300	19-47	1-39
COW3000	1-1	1-1
COW5640	20-13	1-1

# Feed Grains and Wheat Farms Pressure on Liquidity

Continued pressure on cash flows for feed grain farms

```
- 8 of 18 Good
```

- 0 of 18 Marginal

- 10 of 18 Poor

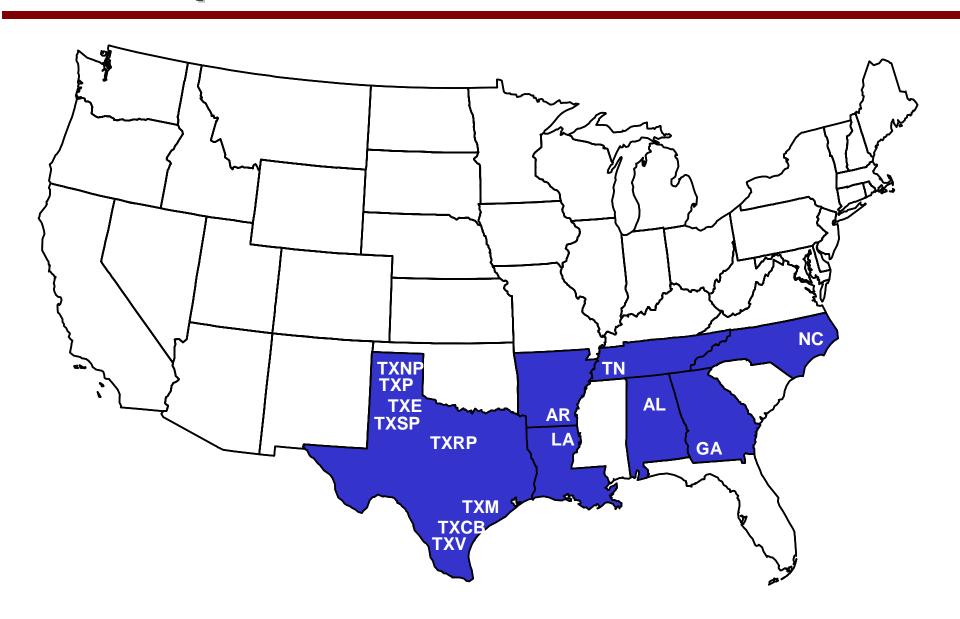
Continued pressure on cash flows for wheat farms

```
- 9 of 13 Good
```

- 1 of 13 Marginal

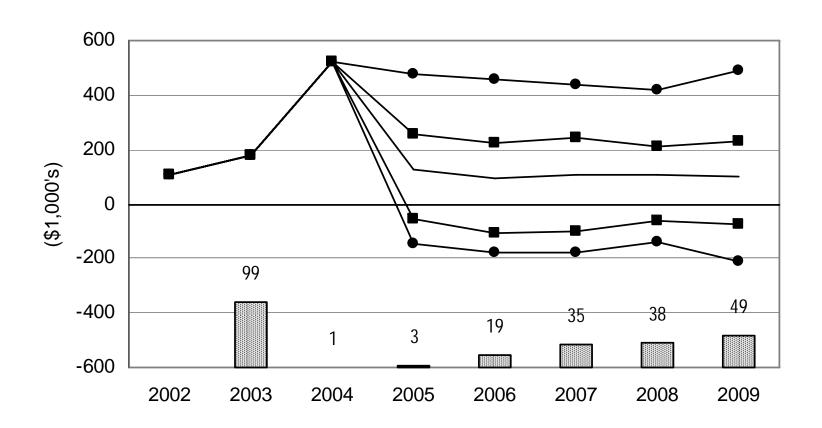
- 3 of 13 Poor

### **Representative Cotton Farms**



## Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cotton Farm August 2005 Baseline

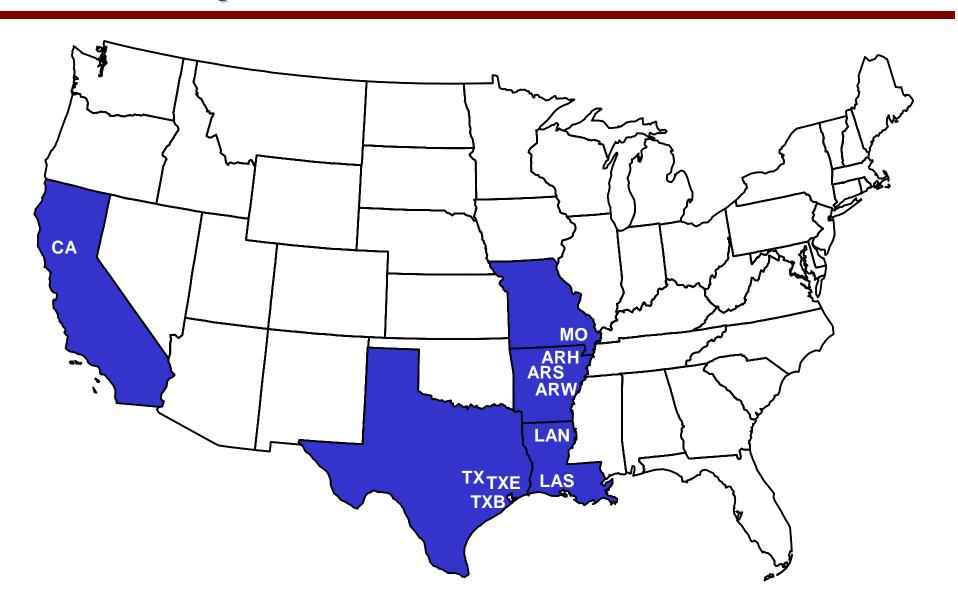
TXSP3745 Large Texas Southern Plains Cotton Farm



## **Economic Viability of Representative Cotton Farms**

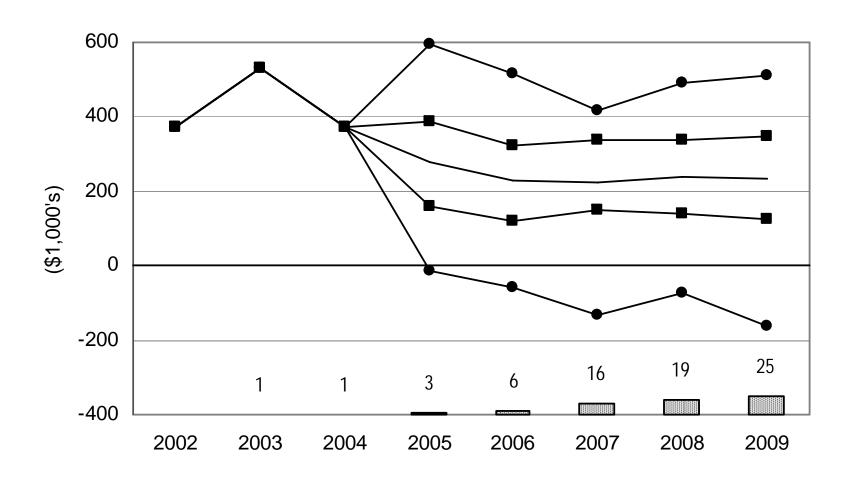
Farm Name	P(Negative Ending Cash)	P(Real Net Worth Declines)
1/4/13	2005-2009	2005-2009
TXNP3000	28-88	1-93
TXNP7000	48-78	1-57
TXSP2239	40-75	1-64
TXSP3745	3-49	1-62
TXPC2500	34-99	1-99
TXEC5000	84-99	1-99
TXRP2500	21-47	1-42
TXMC3500	41-47	1-48
TXCB1850	32-43	1-40
TXCB5500	58-99	1-99
TXVC4500	61-92	1-73
LAC2640	1-19	1-62
ARC6000	1-56	1-66
TNC1900	1-1	1-1
TNC4050	9-45	1-69
ALC3000	5-61	1-62
GAC1700	1-81	1-76
NCC1100	73-99	1-95

### Representative Rice Farms



## Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Rice Farm August 2005 Baseline

#### **ARSR3640 Arkansas Rice Farm**



## **Economic Viability of Representative**Rice Farms

Farm Name	P(Negative Ending Cash)	P(Real Net Worth Declines)
2/1/12	2005-2009	2005-2009
CAR550	99-99	1-99
CAR2365	99-99	1-99
CABR1100	99-99	1-99
CACR715	99-99	1-99
TXR1350	60-99	1-98
TXR2400	89-99	1-98
TXBR1800	15-76	1-90
TXER3200	11-99	1-99
LASR1200	99-99	1-99
LANR2500	16-99	1-99
MOER4500	4-13	1-4
MOWR4000	1-17	1-9
ARSR3640	3-25	1-37
ARWR1200	99-99	1-99
ARHR3000	32-99	1-99

# Cotton and Rice Farms Pressure on Liquidity

Significant pressure on cash flows for cotton farms

```
- 2 of 18 Good
```

- 5 of 18 Marginal

- 11 of 18 Poor

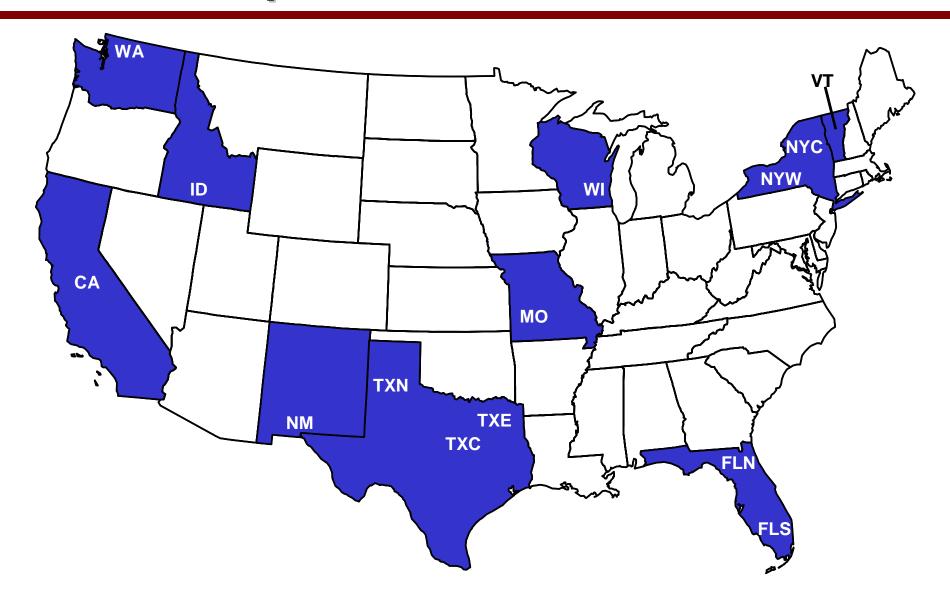
Significant pressure on cash flows for rice farms

```
- 2 of 16 Good
```

- 1 of 16 Marginal

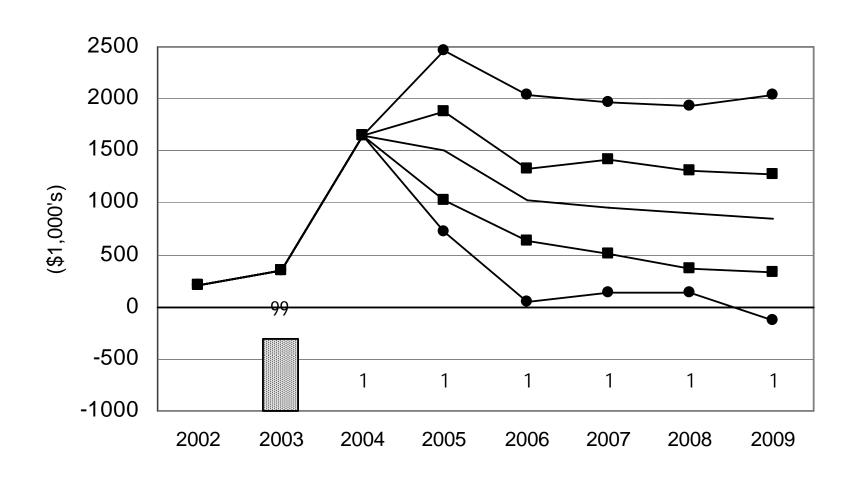
- 12 of 16 Poor

### **Representative Dairies**



## Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Dairy Farm August 2005 Baseline

#### **CAD1710** California Dairy Farm



### **Economic Viability of Representative Dairies**

Farm Name	P(Negative Ending Cash)	P(Real Net Worth Declines)
14/3/6	2005-2009	2005-2009
CAD1710	1-1	1-2
NMD2125	1-1	1-5
WAD250	25-42	1-16
WAD850	87-88	1-71
IDD1000	1-25	1-42
IDD3000	1-4	1-11
TXND2400	1-1	1-22
TXCD500	98-98	1-91
TXCD1300	1-1	1-9
TXED550	1-11	1-51
TXED1000	1-1	1-7
WID145	1-1	1-1
WID775	1-1	1-1
NYWD800	17-61	1-60
NYWD1200	2-49	1-52
NYCD110	1-1	1-1
NYCD500	1-2	1-5
VTD134	1-1	1-5
VTD350	57-68	1-64
MOD85	1-12	1-8
MOD400	1-3	1-8
FLND550	1-1	1-1
FLSD1500	56-88	1-87

# Dairy Farm Pressure on Liquidity

About fourth of farms have cash flow problems

- 15 of 23 Good

- 3 of 23 Marginal

- 5 of 23 Poor

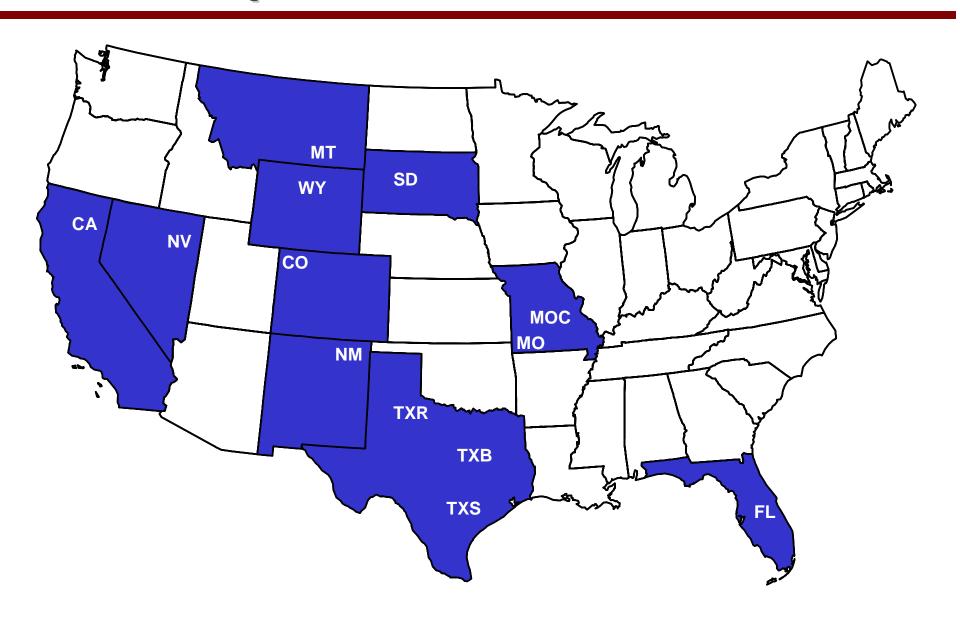
 Most farms able to overcome deficits to the extent can maintain real net worth

15 of 23 Good equity position

1 of 23 Marginal equity position

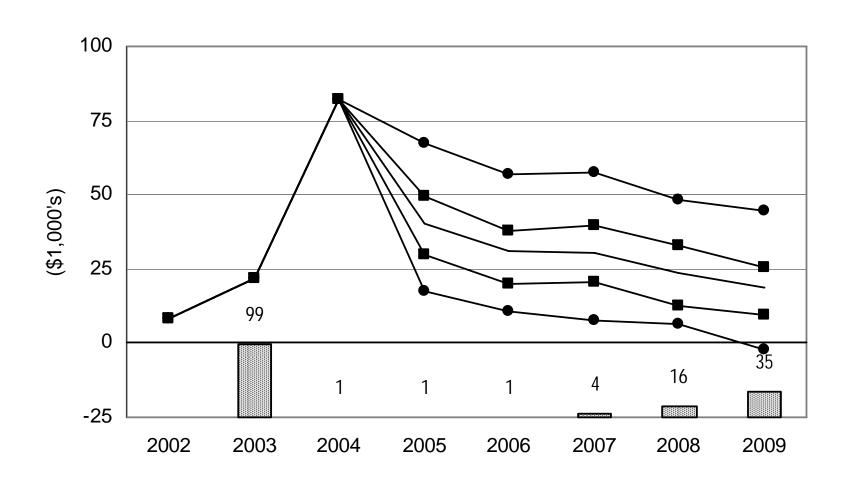
7 of 23Poor equity position

### Representative Ranches



#### Net Cash Farm Income and Probabilities of a Cash Flow Deficit: Cow/calf Ranch August 2005 Baseline

#### NMB240 New Mexico Cattle Ranch

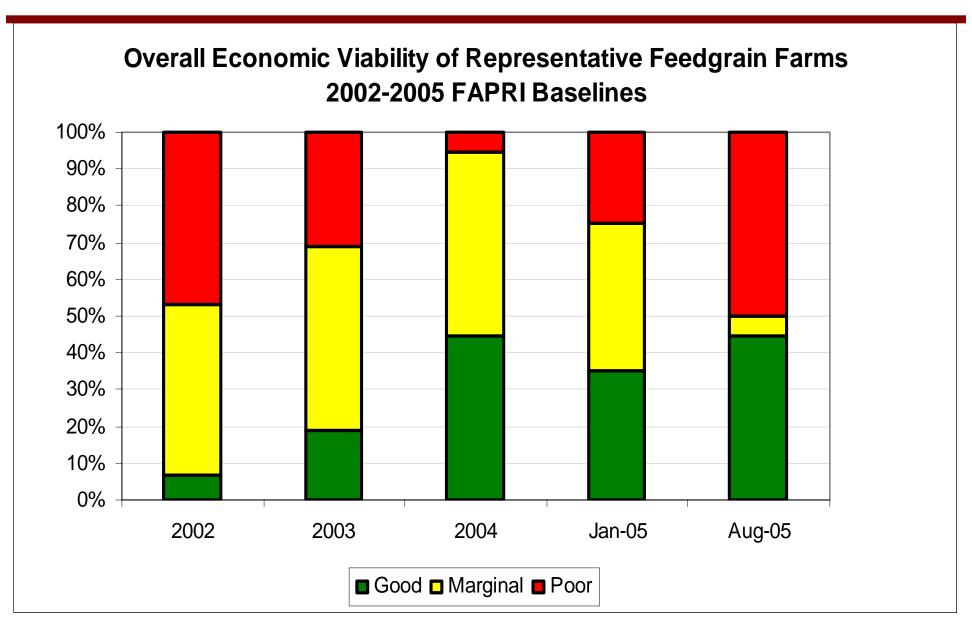


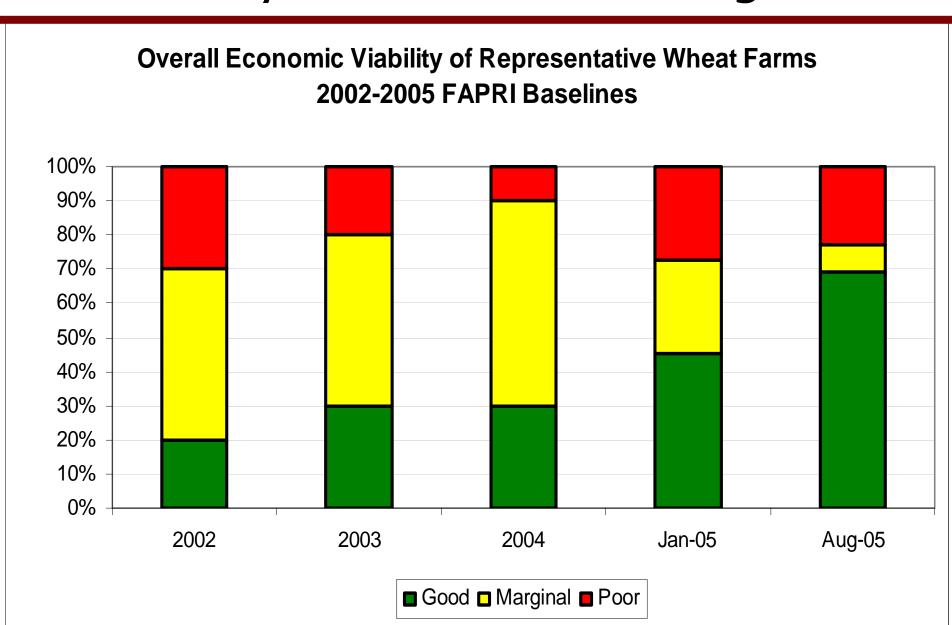
## **Economic Viability of Representative**Ranches

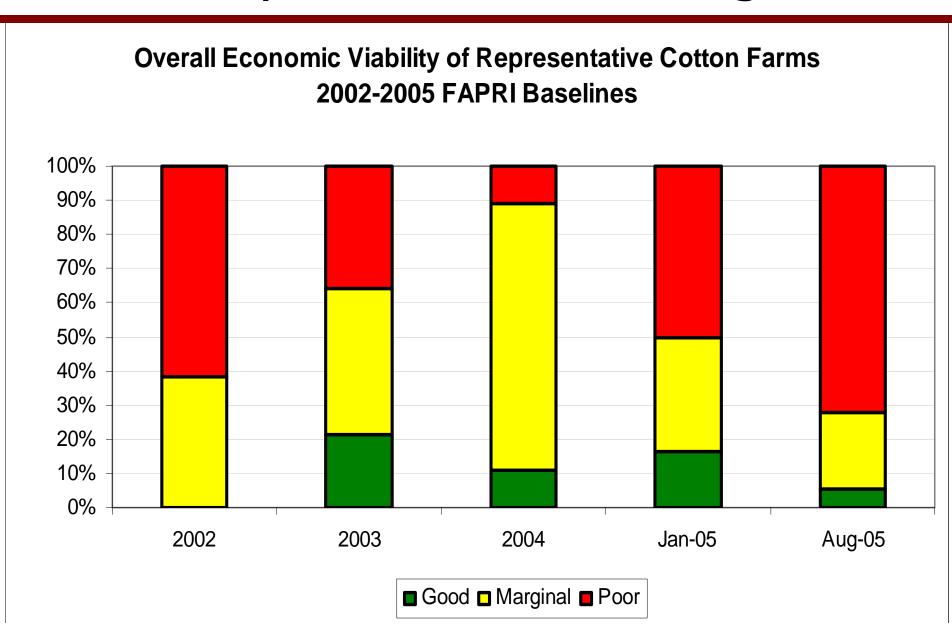
Farm Name	P(Negative Ending Cash)	P(Real Net Worth Declines)
6/5/2	2005-2009	2005-2009
CAB500	29-99	1-6
NVB700	1-5	1-54
MTB500	1-1	1-4
WYB500	49-99	1-85
COB250	1-1	1-1
NMB240	1-35	1-5
SDB450	1-1	1-18
MOB150	2-17	1-8
MOCB350	1-3	1-27
TXRB500	1-1	1-10
TXBB150	2-68	1-94
TXSB250	1-1	1-1
FLB1155	1-41	1-16

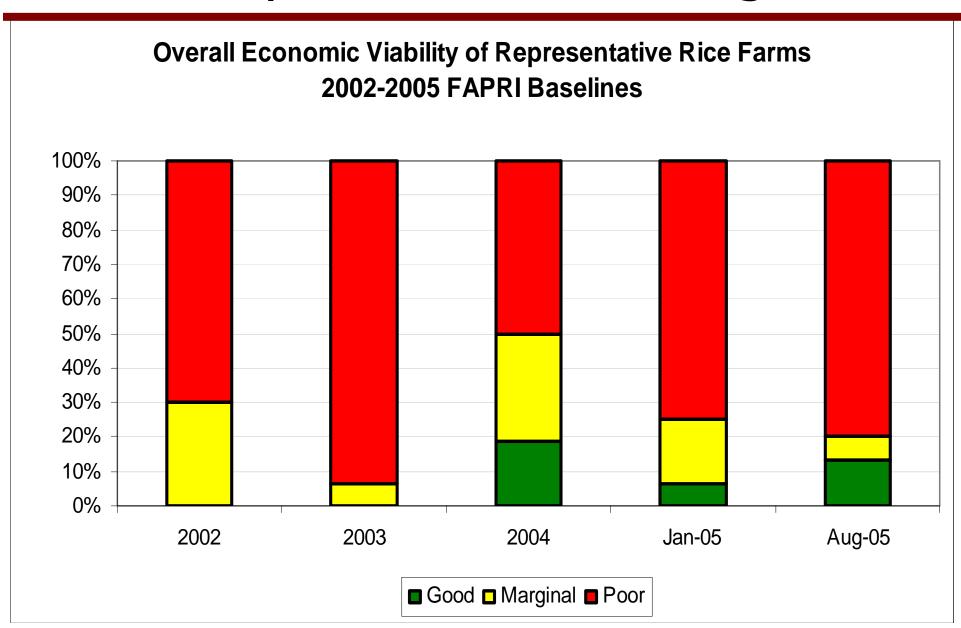
## Comparison of Farms Over Time

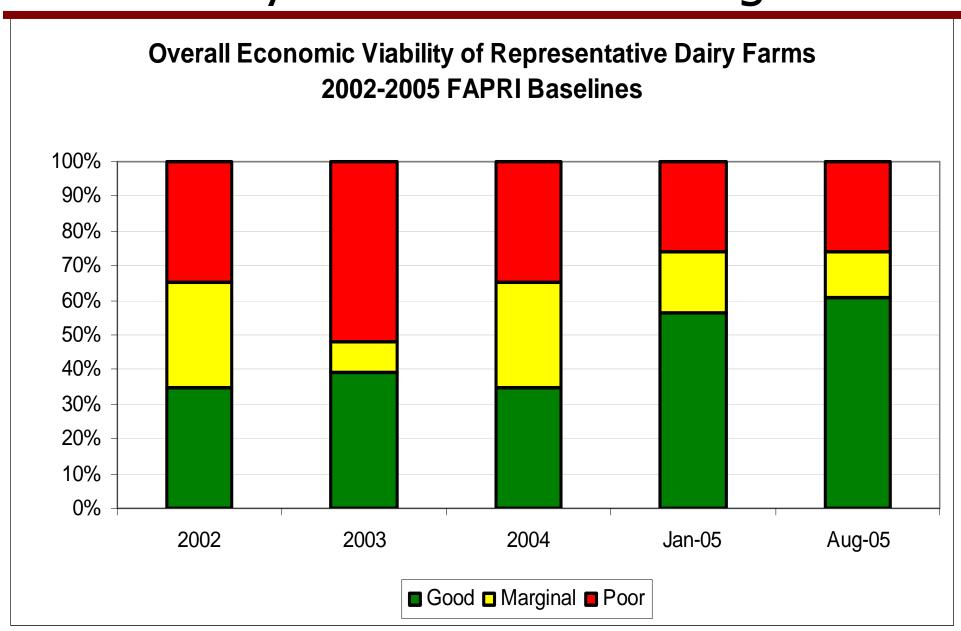
- Comparison of Baseline analyses
  - January Baseline is an annual analysis for Congress
  - Five year Baseline for representative farms
  - Baselines for 2002, 2003, 2004, Jan 2005 and present Aug 2005
- Side by side comparison of representative farms shows changes in economic well being of farmers

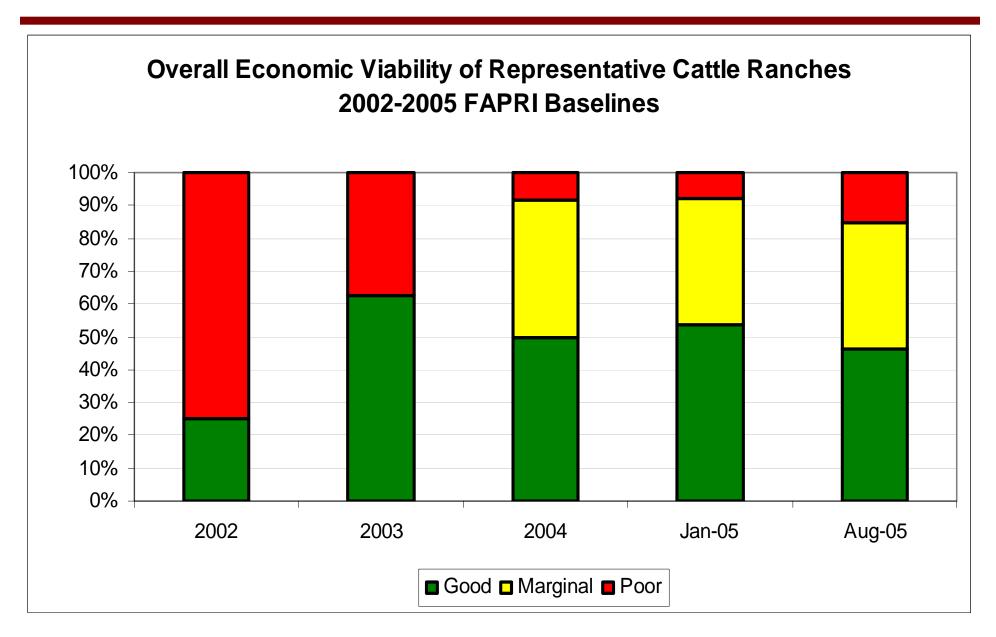












## Real Pressure on Crop Farms

Cash flow position over 2005 - 2009

```
- 5 of 64 Good
```

- 10 of 64 Marginal

49 of 64Poor (primarily rice)

• Equity position over 2005 - 2009

```
– 21 of 64 Good equity position
```

6 of 64 Marginal equity position

37 of 64 Poor equity position (primarily rice)

Overall economic viability 2005 - 2009

```
    20 of 64 Good
```

7 of 64 Marginal

– 37 of 64 Poor (primarily rice)

### Summary

- Cashflow problems for crop producers
- Cost/Price Squeeze driven by higher energy prices
- Report behind this analysis available as AFPC Representative Farm August 2005 Baseline study available on the web

www.afpc.tamu.edu