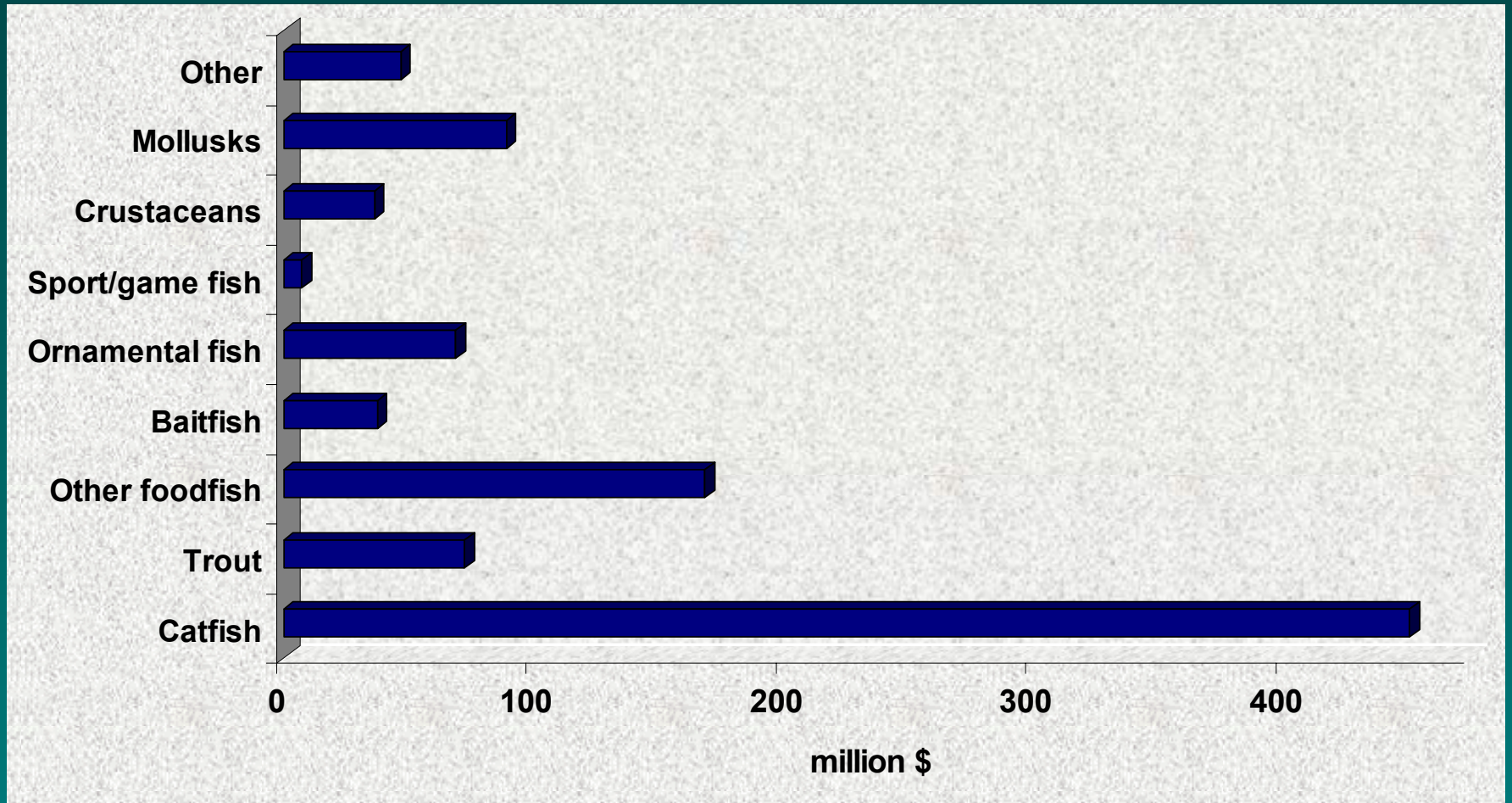


# Maximizing Catfish Production Efficiency

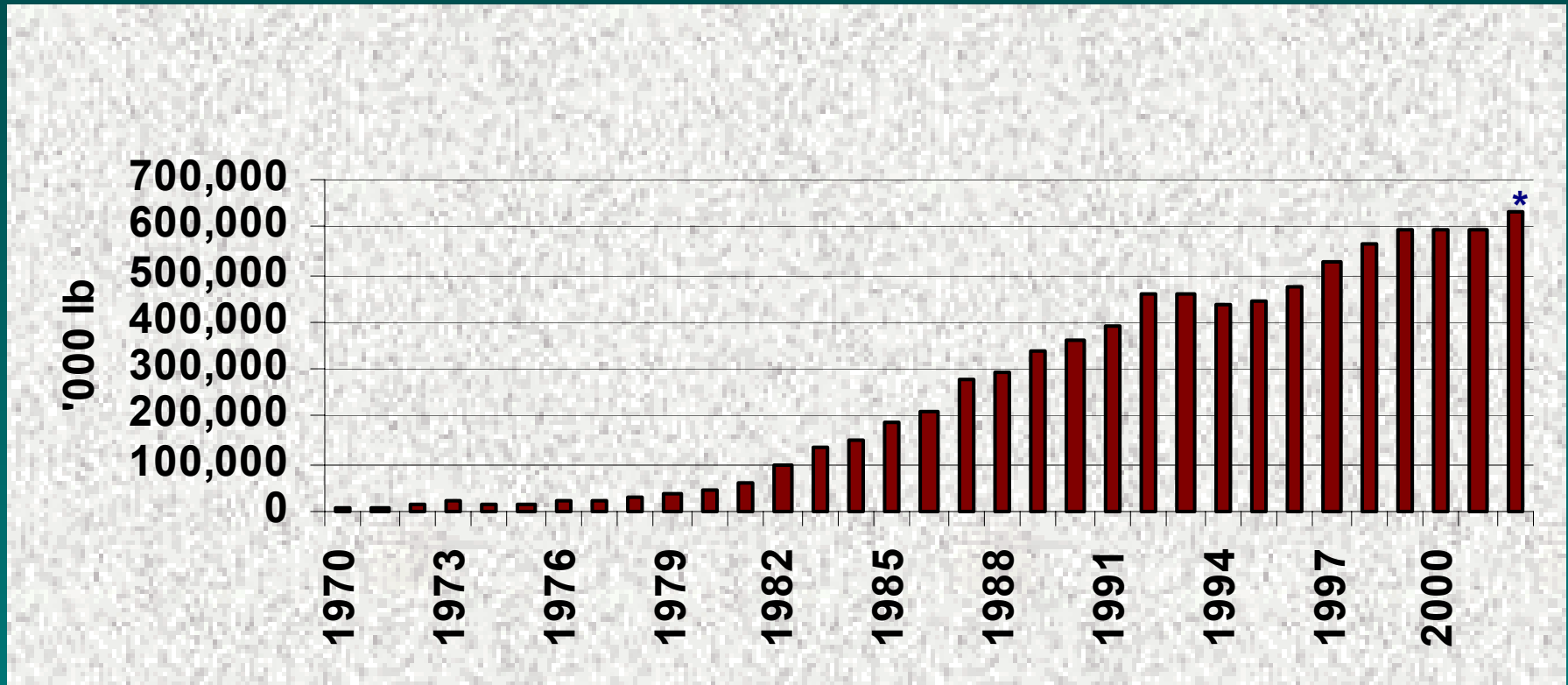


**Carole R. Engle & Aloyce Kaliba**  
**UAPB Aquaculture/Fisheries Center**

# Catfish is the largest segment of U.S. aquaculture



# Round Weight Processed in U.S. Catfish Industry



\* December values estimated at 8% over last year; November values were up 12%.

# ECONOMIC IMPACT

DIRECT



BASIC  
INDUSTRIES

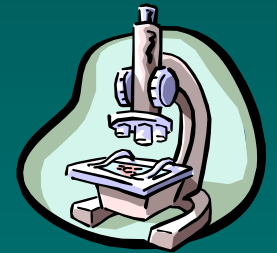
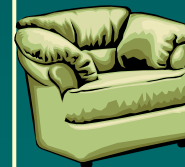
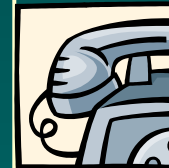


INDIRECT



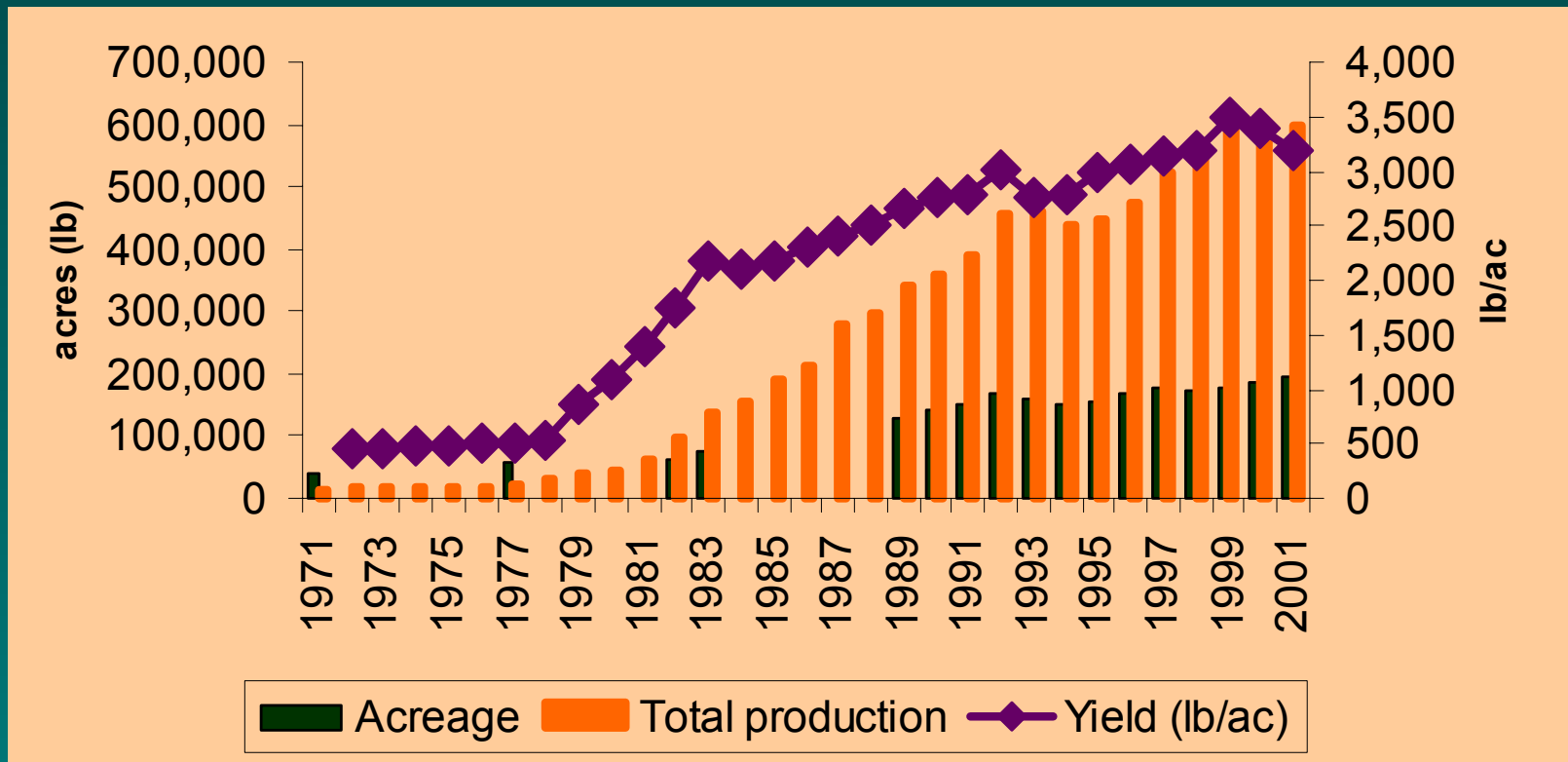
SUPPORT  
BUSINESSES

INDUCED

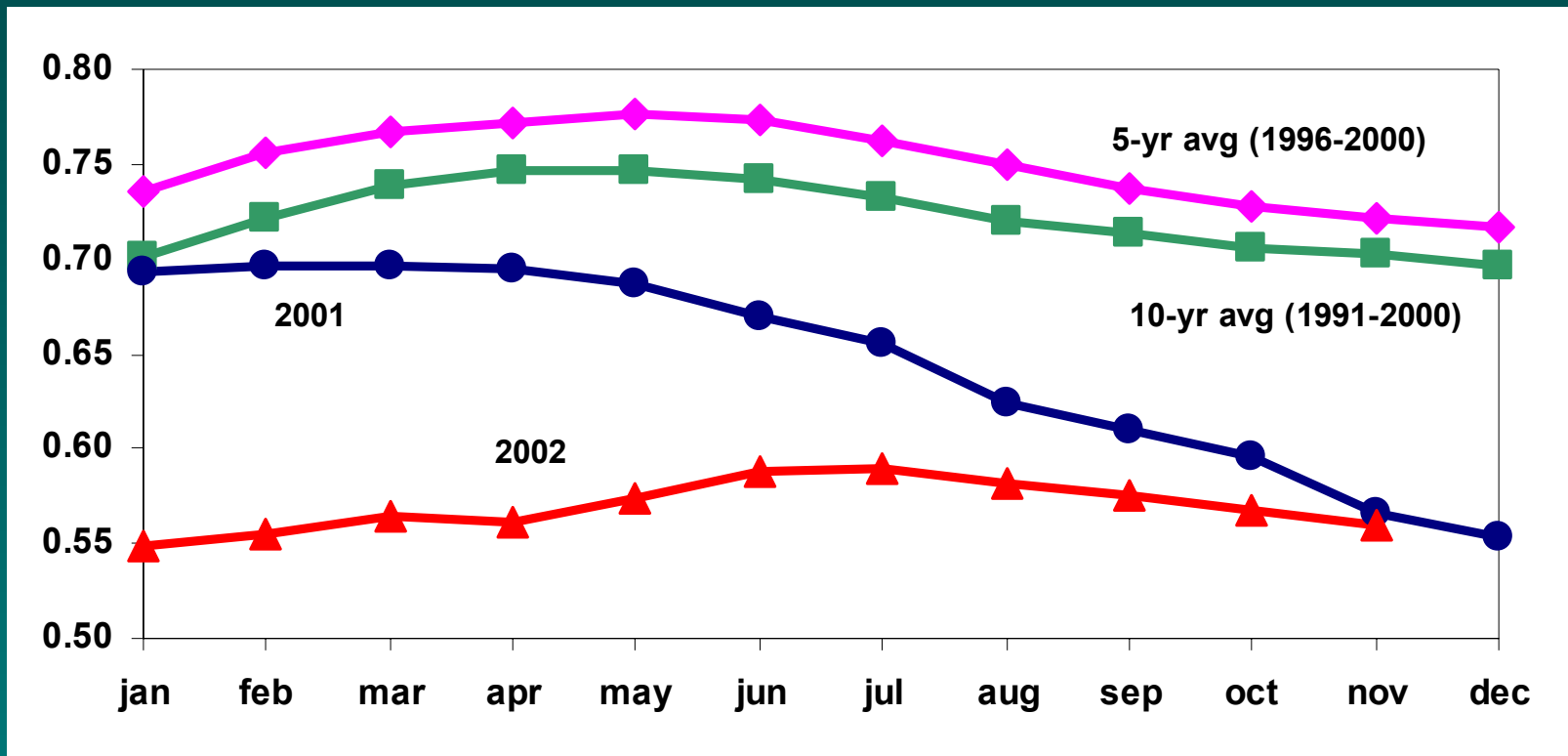




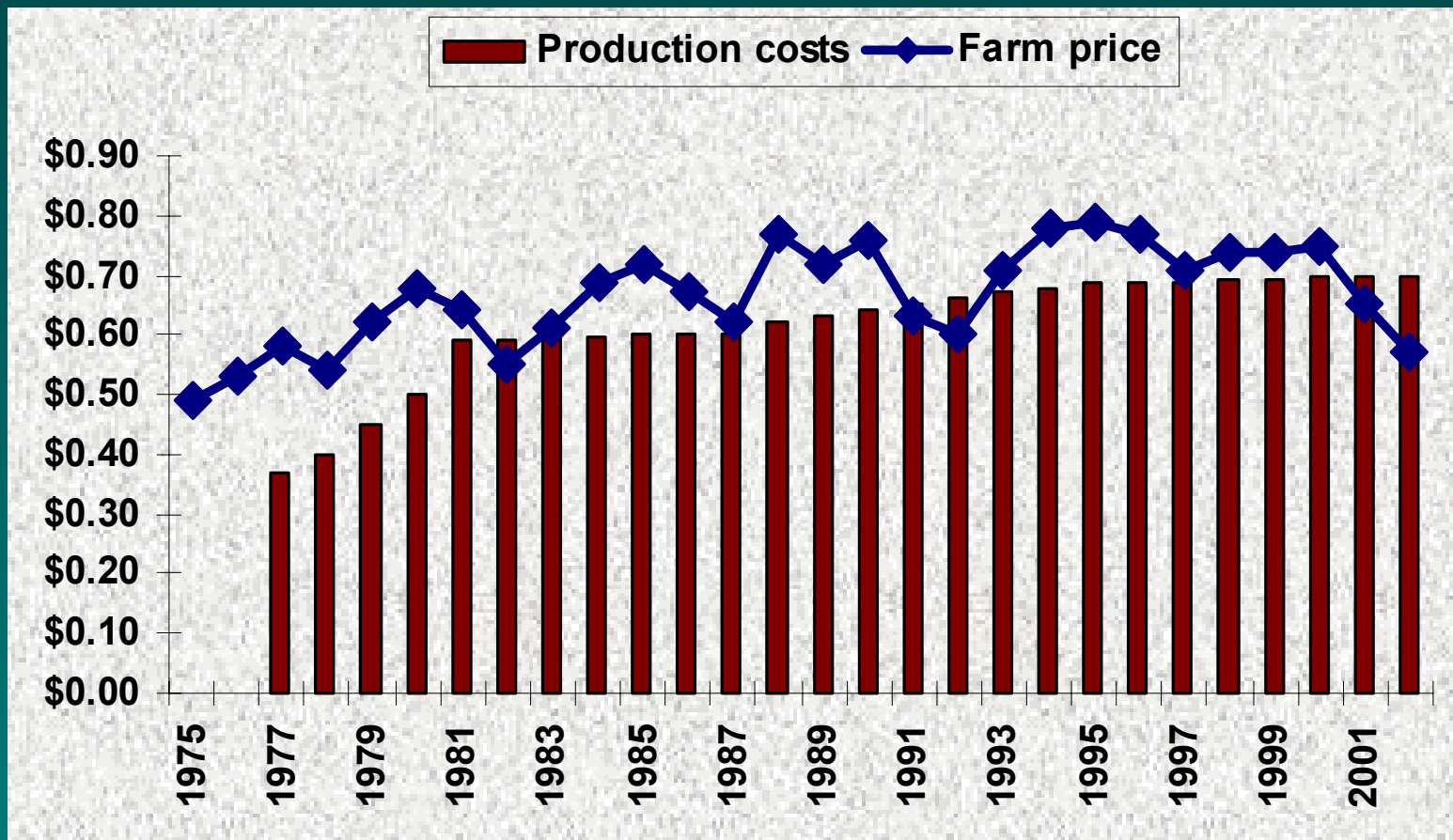
# Acreeage and Yield of U.S. Catfish



# Average Price Paid to Catfish Producers (\$/lb)



# Catfish Prices and Production Costs



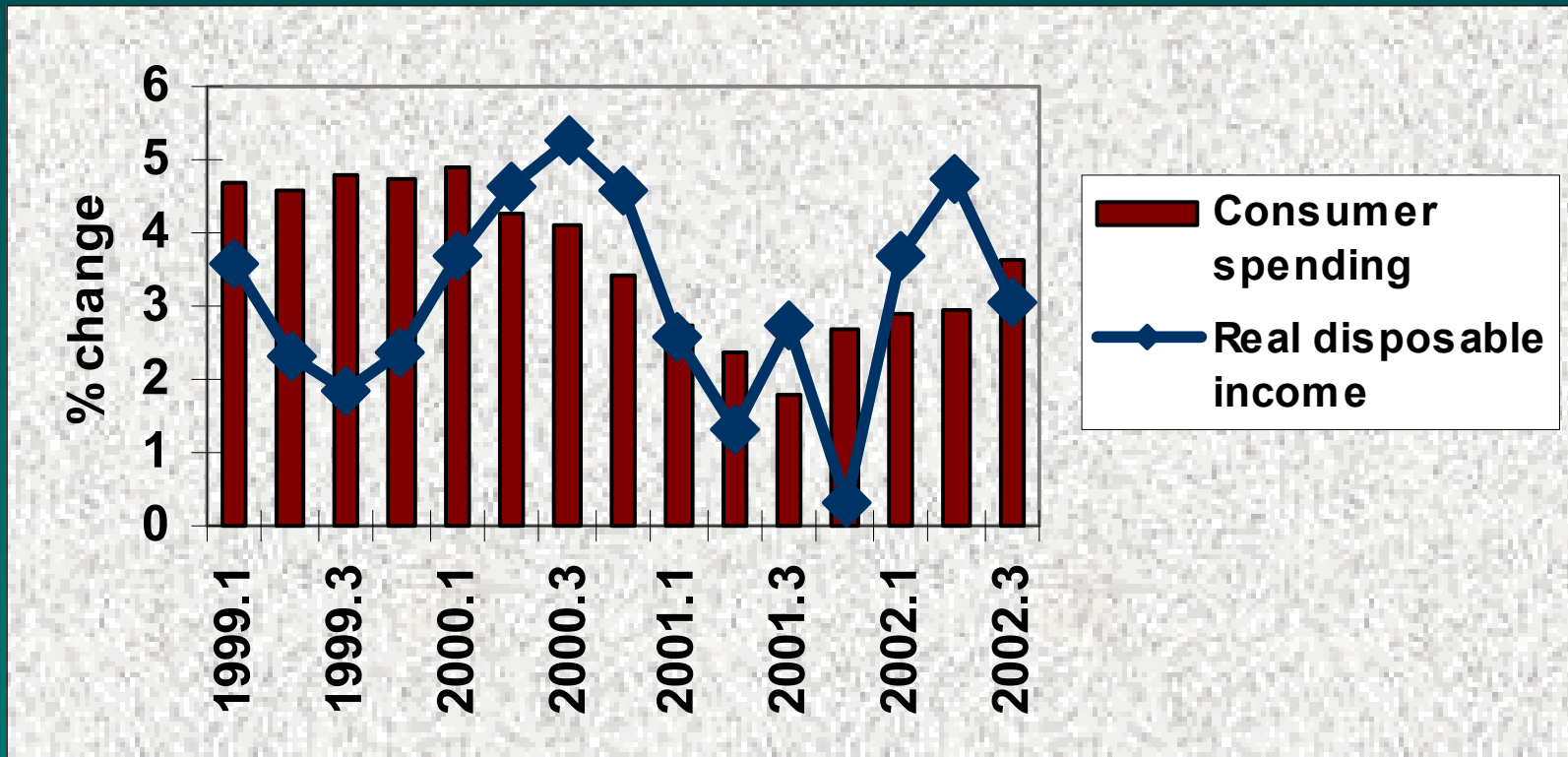
# Imports

- Imports were identified in the early development of the catfish industry (Greenfield 1970)
- Imports from Vietnam now constitute the large majority of competition since 1995

A Vietnamese Basa  
(*Pangasius boucortii*)



# Sluggish economy/Sept. 11





# Catfish production is a complex business



# Catfish marketing is equally complex

- Buy stock?
- “Feed for fish?”
- Delivery rights?
- CBA?
- Supply chain alignment



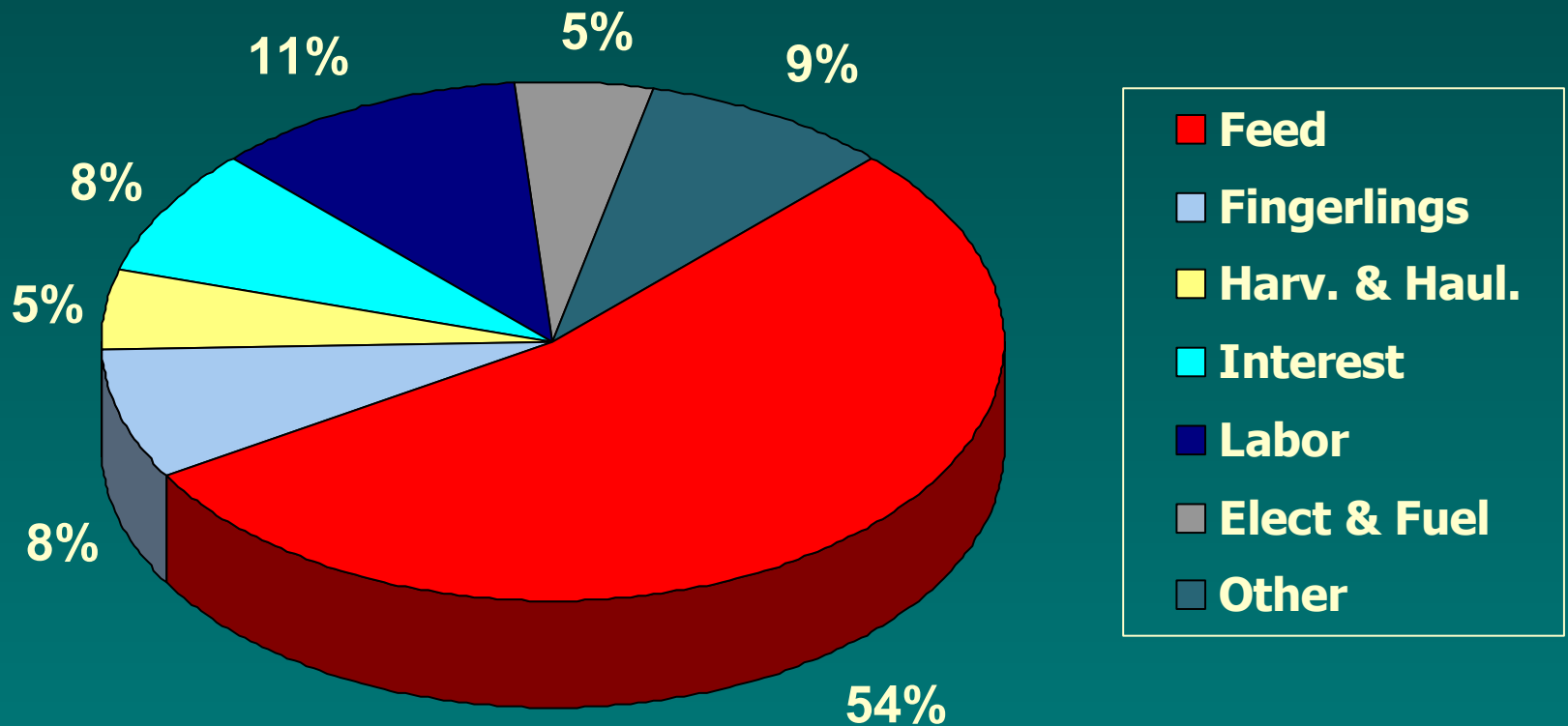
# Catfish farming is capital intensive = intensive financial requirements



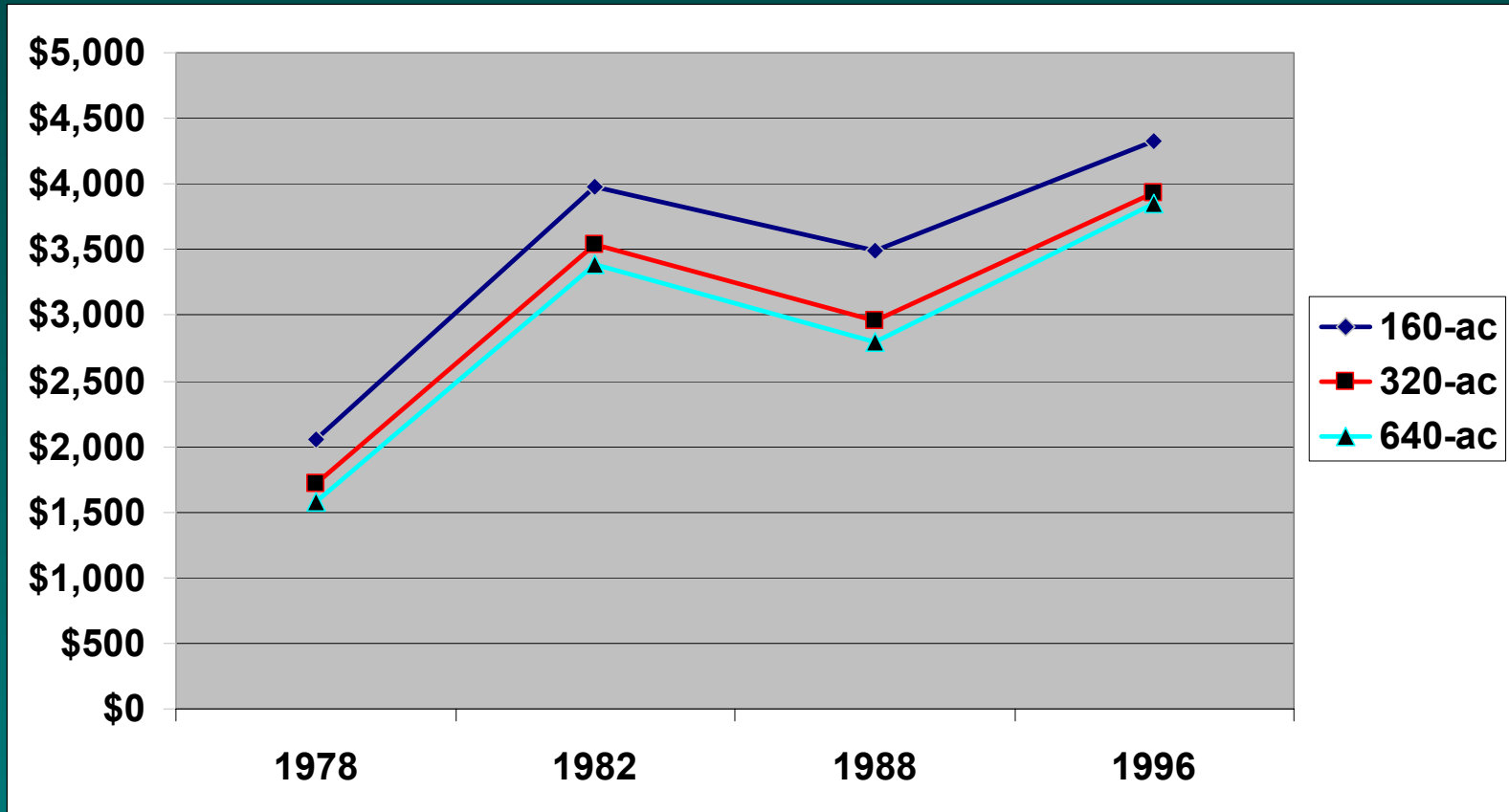
- Total investment = \$9,630-\$10,820/w.ha.
- 64-ha farm = \$600,000 investment
- 256-ha farm = \$2.2 million investment



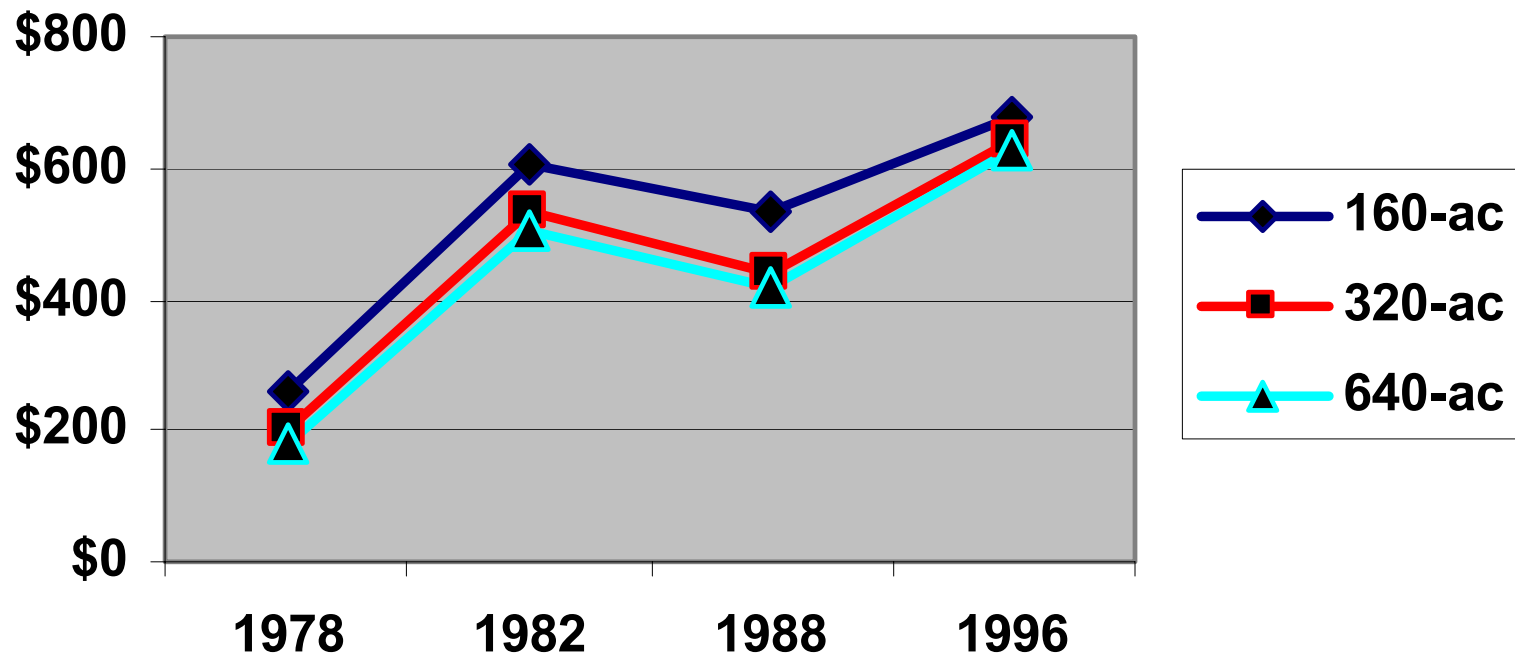
# Operating Expenses -- \$2,500/acre/yr



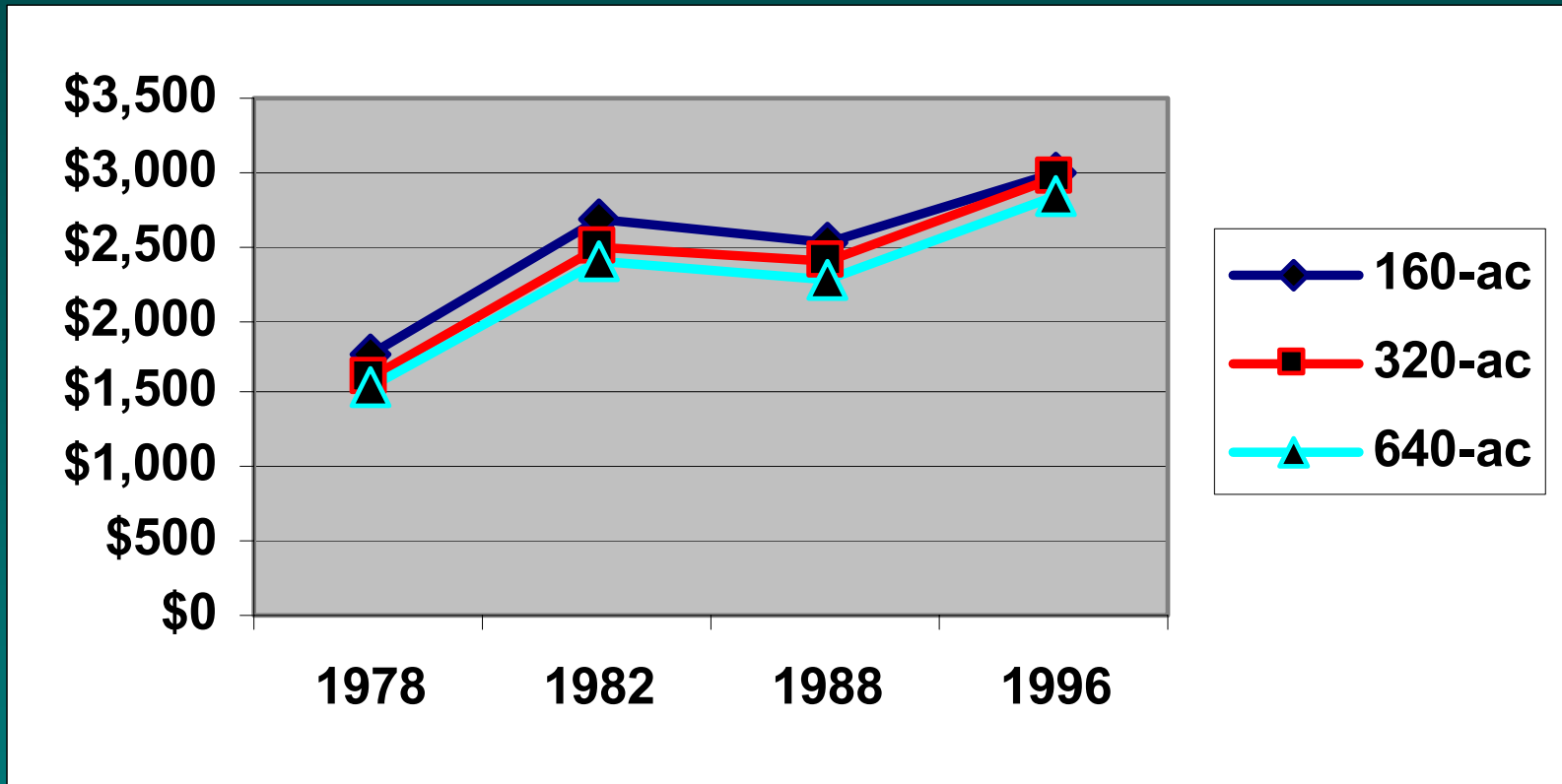
# Investment Cost/Acre



# Annual Ownership Costs



# Annual Operating Costs/Acre



# Bird predation is increasing



# Factors affecting production costs:

- Inflation
- New costs (birds, new diseases)
- Farm productivity
- Producing larger fish?
- Farm efficiencies



# Financial Leveraging Over Time

<b>1960s – 1970s</b>	<b>Owner financed</b>
<b>1980s – mid-1990s</b>	<b>50-65% owner equity required</b>
<b>Late 1990s</b>	<b>90:10 loans</b>

# Owner Equity

	35% debt	90% debt
<b>\$1.32/kg</b>		
Op. capital	\$486,022	\$585,134
New borrowing	\$164,727	\$220,735
<b>\$1.54/kg</b>		
Op. capital	\$386,562	\$547,982
New borrowing	\$66,721	\$185,553

# Effect on Cash flow

Price	Cash flow?
\$1.32/kg	Only at 0% debt
\$1.43/kg	Up to 35% debt
\$1.54/kg	Up to 50% debt
>\$1.54/kg	Up to 90% debt

# High Levels of Debt Financing Require High Yields to Generate Cash Flow to Make Payments

<b>Debt level</b>	<b>Yield required to make payments (@\$1.54/kg)</b>
<b>0%</b>	<b>4,493 kg/ha</b>
<b>90%</b>	<b>8,220 kg/ha</b>

# Breakeven Prices

<b>Above total cost</b>	<b>\$0.692</b>
<b>Above variable cost</b>	<b>\$0.567</b>
<b>Above cash costs (no debt capital)</b>	<b>\$0.518</b>
<b>Above cash costs (100% debt op. capital)</b>	<b>\$0.561</b>
<b>Above cash costs (50% debt long-term, no land; 100% debt op. capital)</b>	<b>\$0.572</b>

**Catfish farming requires high levels of capital**



**Intensive management requires greater op. capital**

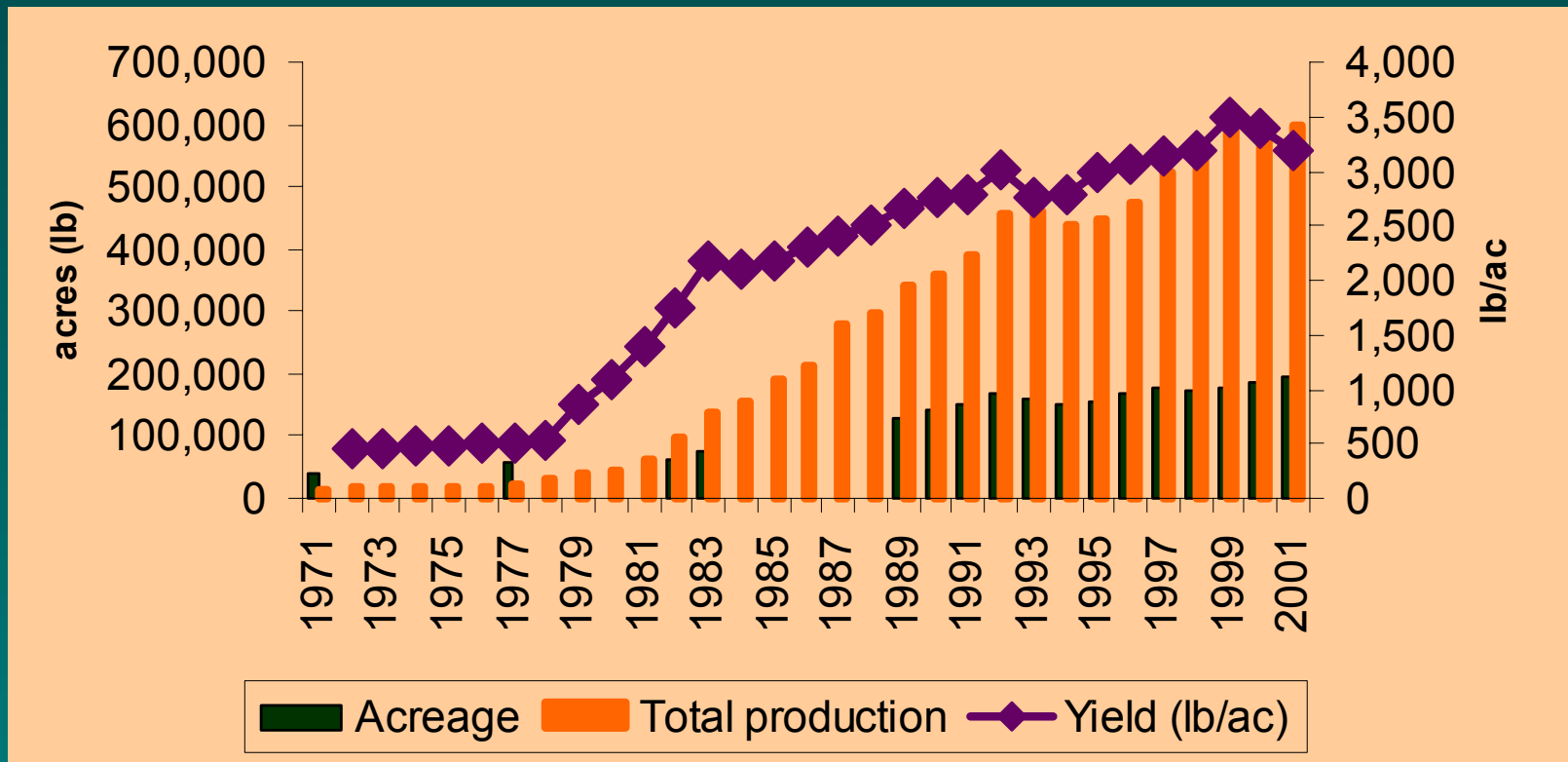
**= Financial risk**

**Typically borrowed**

**Debt servicing & cash flow demands require intensive management**



# Acreeage and Yield of U.S. Catfish



# In-Pond Catfish Grader

Improper sizing = \$100 million problem



# New Product Initiatives: Turning Nuggets into Gold

- New products may re-position the catfish industry into retail sales away from commodity-based sales.
- New products expensive to develop and market.
- Failure rate high.



# Alternative Marketing Strategies

- **Become low cost producer & compete on price**
- **Become most consumer responsive & compete on benefits delivered**
- **Protectionism or subsidy**

**Challenging times require intensive farm management analysis & planning on farm-by-farm basis to maximize efficiencies of use of both:**



**Land (yield) & Capital resources**

