

# **RISK MANAGEMENT EDUCATION WORKSHOP**

**Johnstown, New York • January 24, 2007**

**The 21 Century -- Multi-Media and Multi-Functional -- Approach to  
Risk Management: Using RFD-TV Television, Internet, Interactive  
CD-ROMs, and On-Site Workshops**

Brought to you by

AgriLogic, Inc; Farm Credit; New York Farm Bureau; New York Corn  
Growers Association; Hot Shots Video Productions & Ag Lifestyles;  
ABG, Inc.; The Practical Planner, LLC; USDA-Farm Service Agency;  
and with funding provided by the USDA-Risk Management Agency

**RMA Agreement Number: 06-IE-0833-0114-E**

- Handout of 10 Questions

- *The possibility that something unpleasant will happen in the future.*
- Risk Management:
  - The practice of managing our life and resources, in a manner that provides an acceptable level of risk. Risk management is everything you do to understand and deal proactively with risks.
- Three issues to consider
  - Frequency of Loss
  - Severity of Loss
  - Overall Dollar Impact

- **Production Risk** - Anything that hinders the quantity and quality of your production. (weather, pests, diseases, etc.)
- **Market Risk** - Market uncertainty for your product, price declines, gov't actions to limit imports/exports, input costs.
- **Financial Risk** - Having the ability to pay your cash obligations in a timely manner, to obtain capital and financing, and to protect or grow your equity.
- **Legal Risk** - The possibility of being sued, fined, or penalized for violating current or future laws, regulations, or contractual obligations.
- **People Risk** - Managing people and disruptions that come from any of the 3 Ds: death, divorce, or disability, which could limit or even eliminate the farming operation

● Risk Attitude: Your desire to seek risk

- Risk-Averse
- Risk-Seeking
- Risk-Neutral

● Risk Bearing Ability: Your financial ability to sustain a loss.

● Risk Tolerance Assessment

		Risk Tolerance		
		Low	Medium	High
Risk Attitude	Seeking			High
	Neutral		Medium	
	Averse	Low		
		Low	Medium	High
		Risk Bearing Ability		

- Risk Avoidance
- Risk Control
  - Prevention: Lowers frequency (irrigation)
  - Reduction: Lowers severity (spraying for a visible pest)
  - Diversification: Lowers both by spreading risk
- Risk Financing
  - Self Insurance/Retention
  - Transfer through Insurance & Hedging

## Overview:

- U.S.D.A. & Federal Crop Insurance Corporation (FCIC)
- Providing crop insurance since 1938.
- Provides reinsurance to private-sector insurance companies that sell and service the insurance policies

## Subsidy

- Premiums set to break-even on losses paid plus a reasonable reserve.

Coverage Level	CAT	50%	55%	60%	65%	70%	75%	80%	85%	90%
Premium Subsidy	1.00	0.67	0.64	0.64	0.59	0.59	0.55	NA*	NA*	NA
GRP/GRIP Sub.	1.00	NA	NA	NA	NA	0.64	0.64	0.59	0.59	0.55

\* 80% & 85% are available outside New York

- Actual Production History (APH) Plan & GYC
  - Covers individual's yield loss: 50% - 75% Cov. Levels
  - CAT: 50% Coverage Level & 55% Price Election
- Crop Revenue Coverage (CRC)
  - Covers individual's yield and price losses
- Indexed Income Protection (IIP)
  - Covers individual' lost revenue; uses county yields to index your production history to determine your Approved Yield
- Dollar Plan
  - Specialty Crops
  - Covers individual's lost revenue

- Group Risk Plan (GRP)
  - Covers county's yield loss: 70% - 90% Coverage Levels
  - CAT: 65% Cov. Level & 45% of Max Protection/Acre
- Group Risk Income Protection (GRIP)
  - Covers county's yield and price loss
- Adjusted Gross Revenue (AGR)
  - Cover's Individual's lost revenue from multiple commodities
  - Coverage based off Schedule F tax form
- Adjusted Gross Revenue - Lite (AGR-Lite)
  - Like AGR, but liability limited to \$1 million in revenue

# RMA Insurance Products - Review

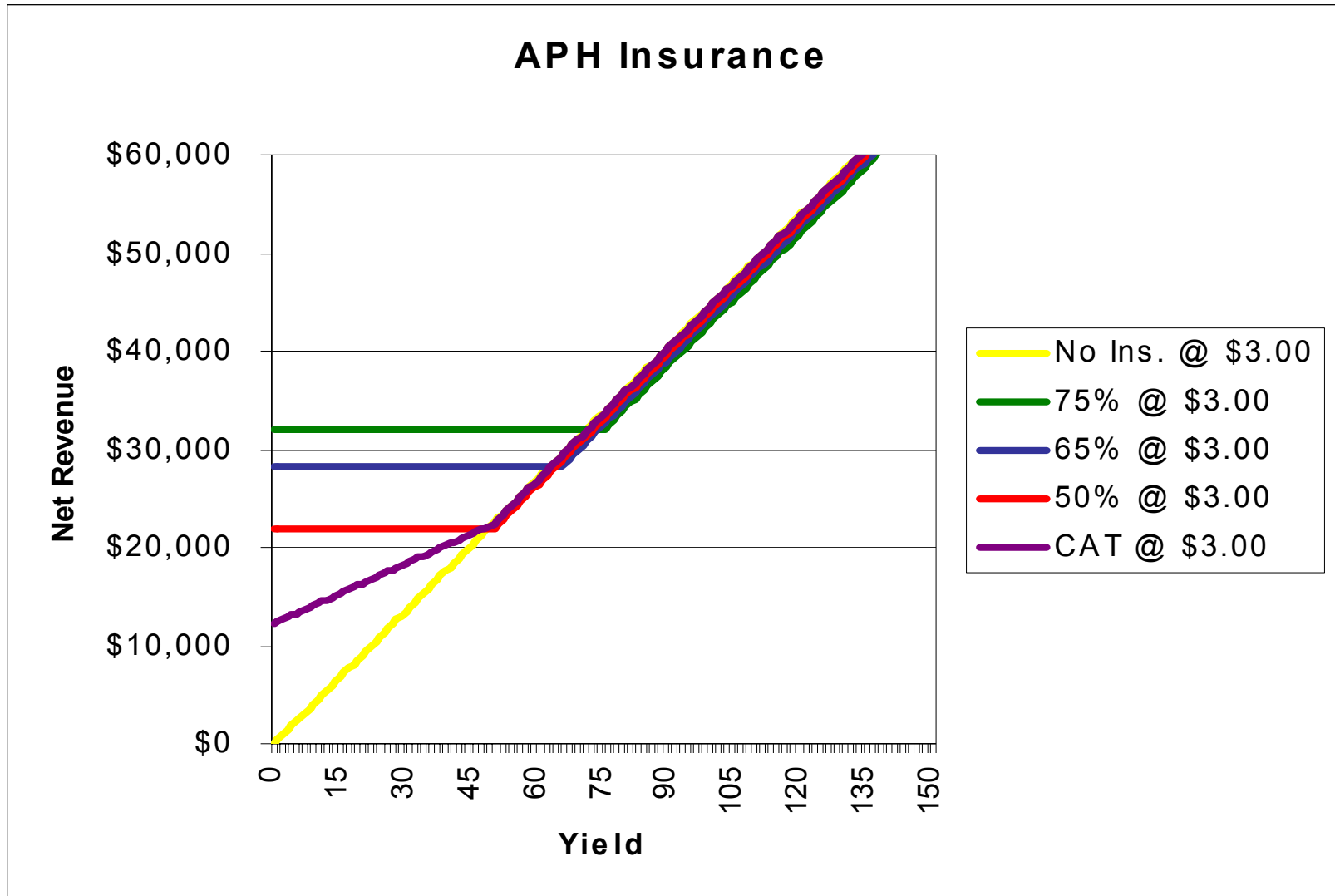
	Individual Plan	Group Plan
Yield Insurance	APH, GYC	GRP
Revenue Insurance	CRC, Dollar, IIP, AGR, AGR-Lite	GRIP

# Actual Production History Plan (APH)

- Assume you average 100 bu./acre, select the 75% coverage level, plant 150 acres, and the RMA price is \$3.00. Your insurance coverage is...
  - $100 \text{ bu./acre} \times 75\% \times 150 \text{ acres} \times \$3.00 = \$33,750$
- Loss Trigger:
  - $\text{Harvested Yield} < \text{APH} \times \text{Coverage Level}$
- You experience a drought and only harvest 7,500 bushels. Your indemnity payment is...
  - $(75 \text{ bu.} \times 150 \text{ acres} - 7,500 \text{ bu.}) \times \$3.00 = \$11,250$

All Examples Assumes 100%  
Share and 100% Price Election

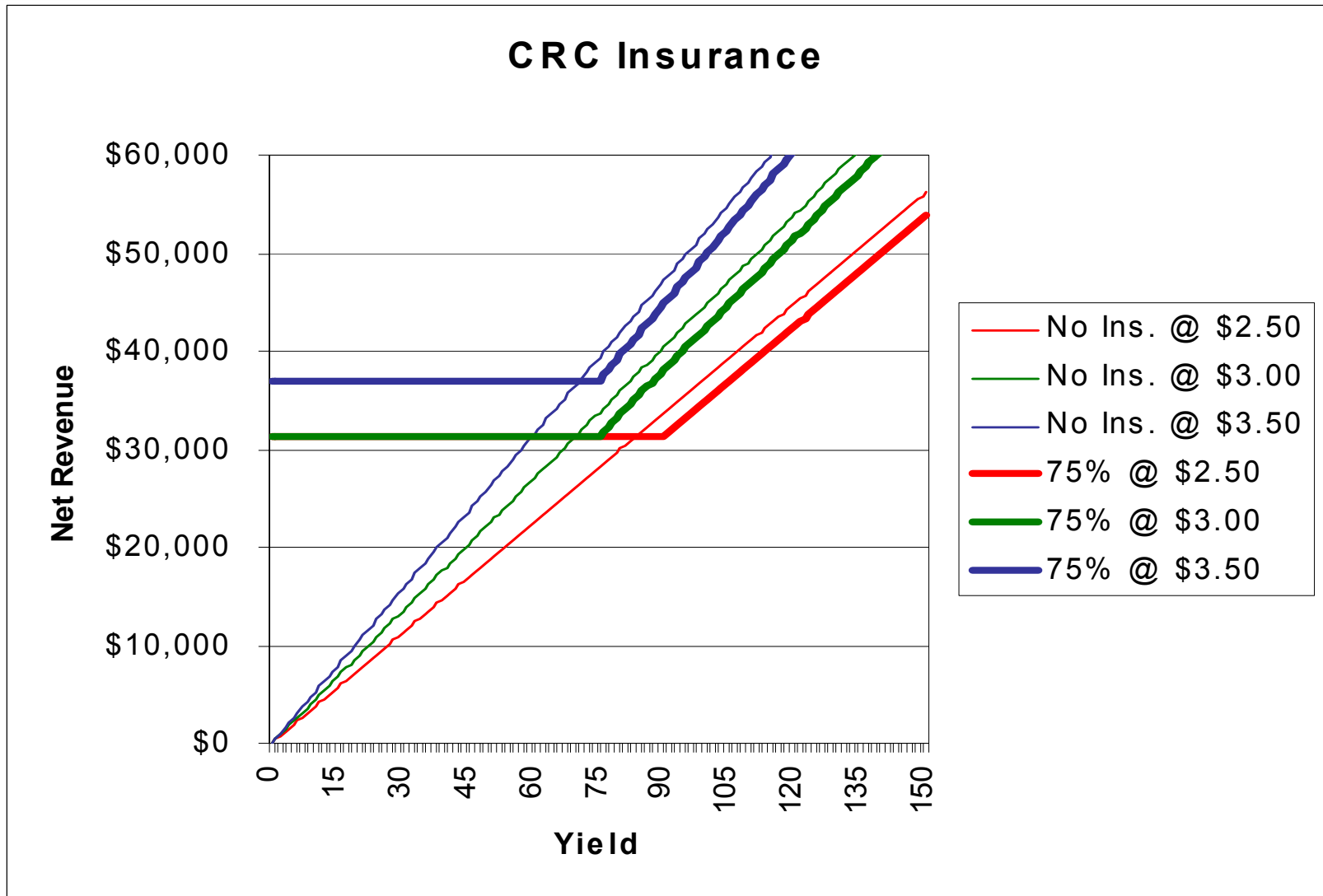
# Actual Production History Plan (APH)



# Crop Revenue Coverage (CRC)

- Assume you average 100 bu./acre, select the 75% coverage level, plant 150 acres, and the CRC Base price is \$3.00. Your guaranteed revenue is...
  - $100 \text{ bu./acre} \times 75\% \times 150 \text{ acres} \times \$3.00 = \$33,750$
- Loss Trigger:
  - $\text{Harv Yield} \times \text{Harv Price} < \text{APH Yield} \times \text{Coverage Level} \times \text{Higher of (Harvest Price or Base Price)}$
- You harvest 7,500 bu. Harvest Prices @ \$3.00, \$2.50, & \$3.50. Your indemnity...
  - $(75 \text{ bu.} \times \$3.00 \times 150) - (7,500 \text{ bu.} \times \$3.00) = \$11,250$
  - $(75 \text{ bu.} \times \$3.00 \times 150) - (7,500 \text{ bu.} \times \$2.50) = \$15,000$
  - $(75 \text{ bu.} \times \$3.50 \times 150) - (7,500 \text{ bu.} \times \$3.50) = \$13,125$

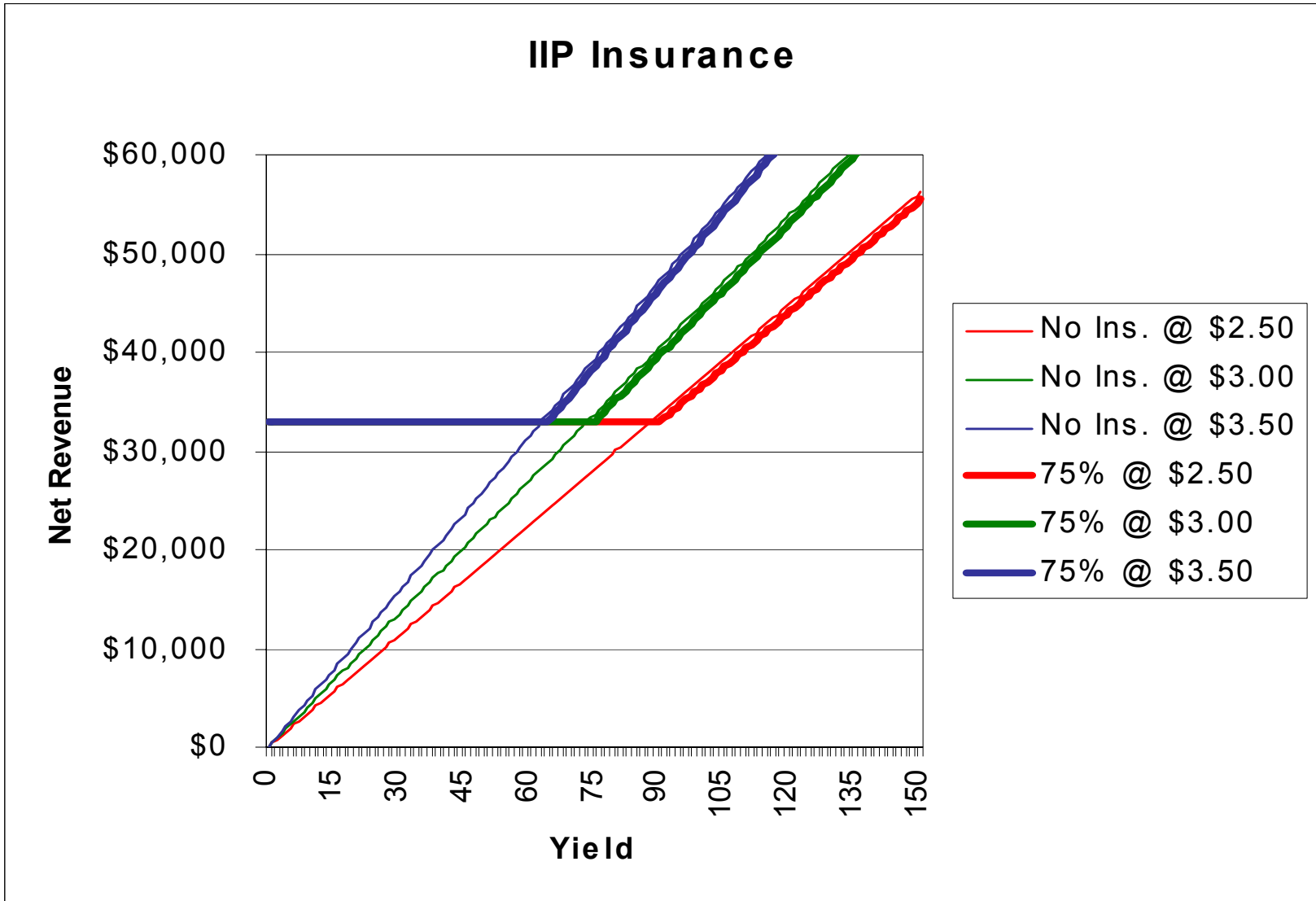
# Crop Revenue Coverage (CRC)



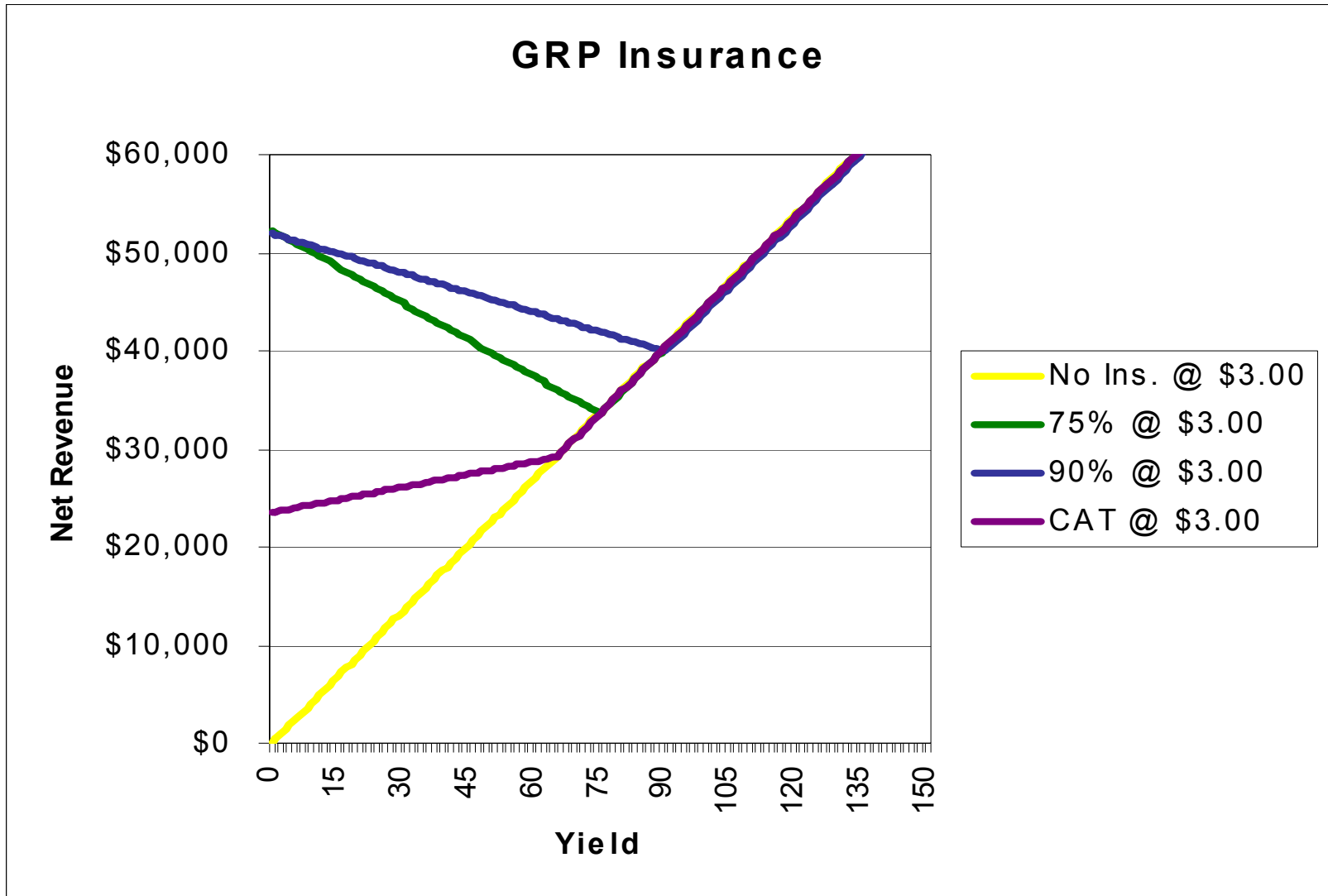
# Indexed Income Protection (IIP)

- Assume you average 3 bu./acre above the county, and the county expected yield is 97 bu./acre, select the 75% coverage level, plant 150 acres, and IIP Projected price is \$3.00. Your coverage is...
  - $100 \text{ bu./acre} \times 75\% \times 150 \text{ acres} \times \$3.00 = \$33,750$
- Loss Trigger:
  - $\text{Harv Yield} \times \text{Harv Price} < \text{APH Yield} \times \text{Coverage Level} \times \text{Projected Price}$
- You harvest 7,500 bu. Harvest Prices @ \$3.00, \$2.50, & \$3.50. Your indemnity...
  - $(75 \text{ bu.} \times \$3.00 \times 150) - (7,500 \text{ bu.} \times \$3.00) = \$11,250$
  - $(75 \text{ bu.} \times \$3.00 \times 150) - (7,500 \text{ bu.} \times \$2.50) = \$15,000$
  - $(75 \text{ bu.} \times \$3.00 \times 150) - (7,500 \text{ bu.} \times \$3.50) = \$ 7,500$

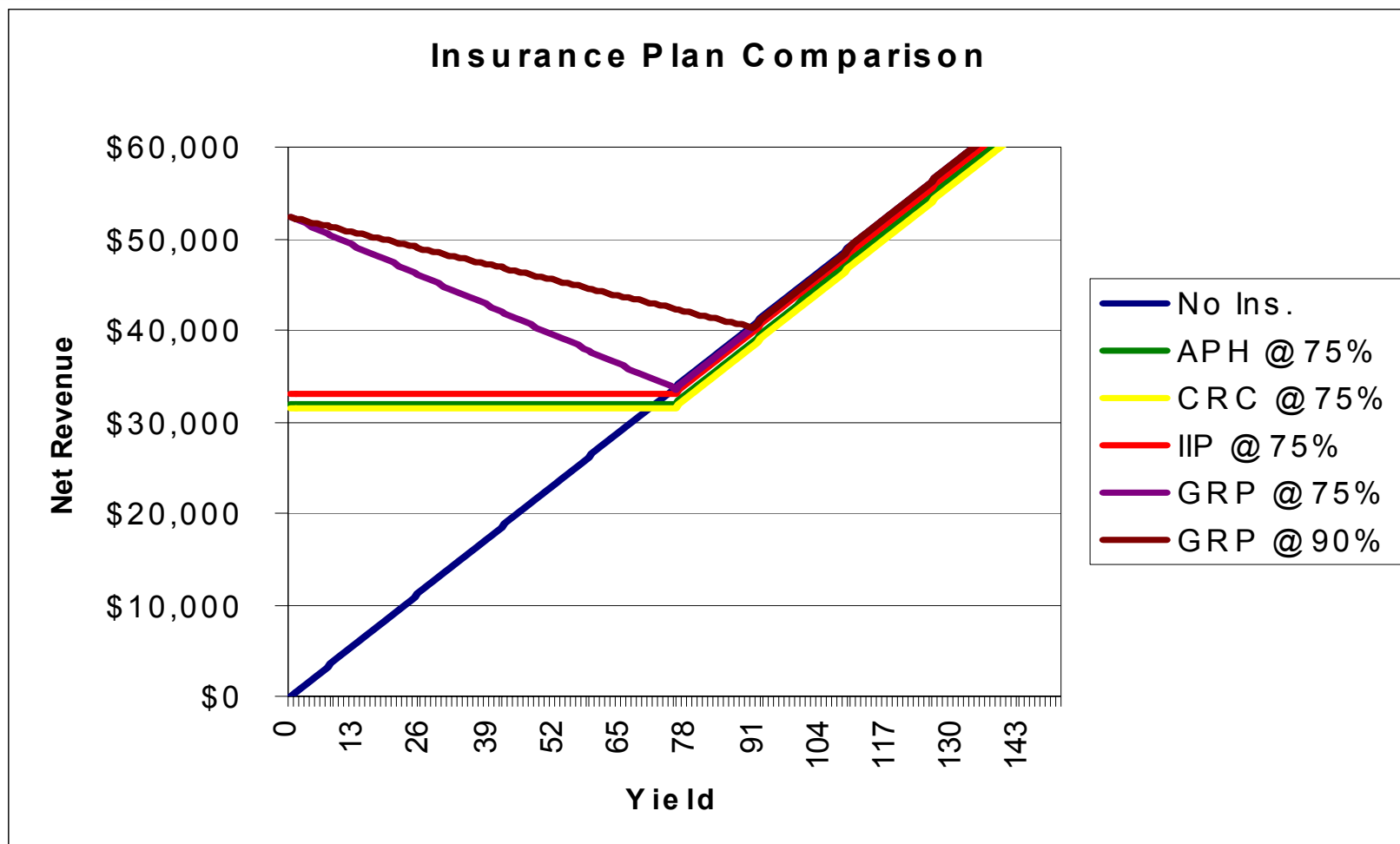
# Indexed Income Protection (IIP)



- Assume the county expected yield is 100 bu./acre, select the 75% coverage level and 100% of Max Protection/Acre, plant 150 acres, and Max Protection/Acre = \$350. Your insurance coverage is...
  - $\$350 \text{ Max Protection/Acre} \times 100\% \times 150 \text{ Acres} = \$52,500$
- Loss Trigger:
  - $\text{Payment Yield} < \text{County Expected Yield} \times \text{Cov. Level}$
- You harvest 10 bu., but it depends on the county
- Payment Yield is 50 bu/acre. Your indemnity payment is...
  - $(75 \text{ bu} - 50 \text{ bu}) / 75 \text{ bu} \times \$350 \times 100\% \times 150 \text{ acres} = \$17,500$

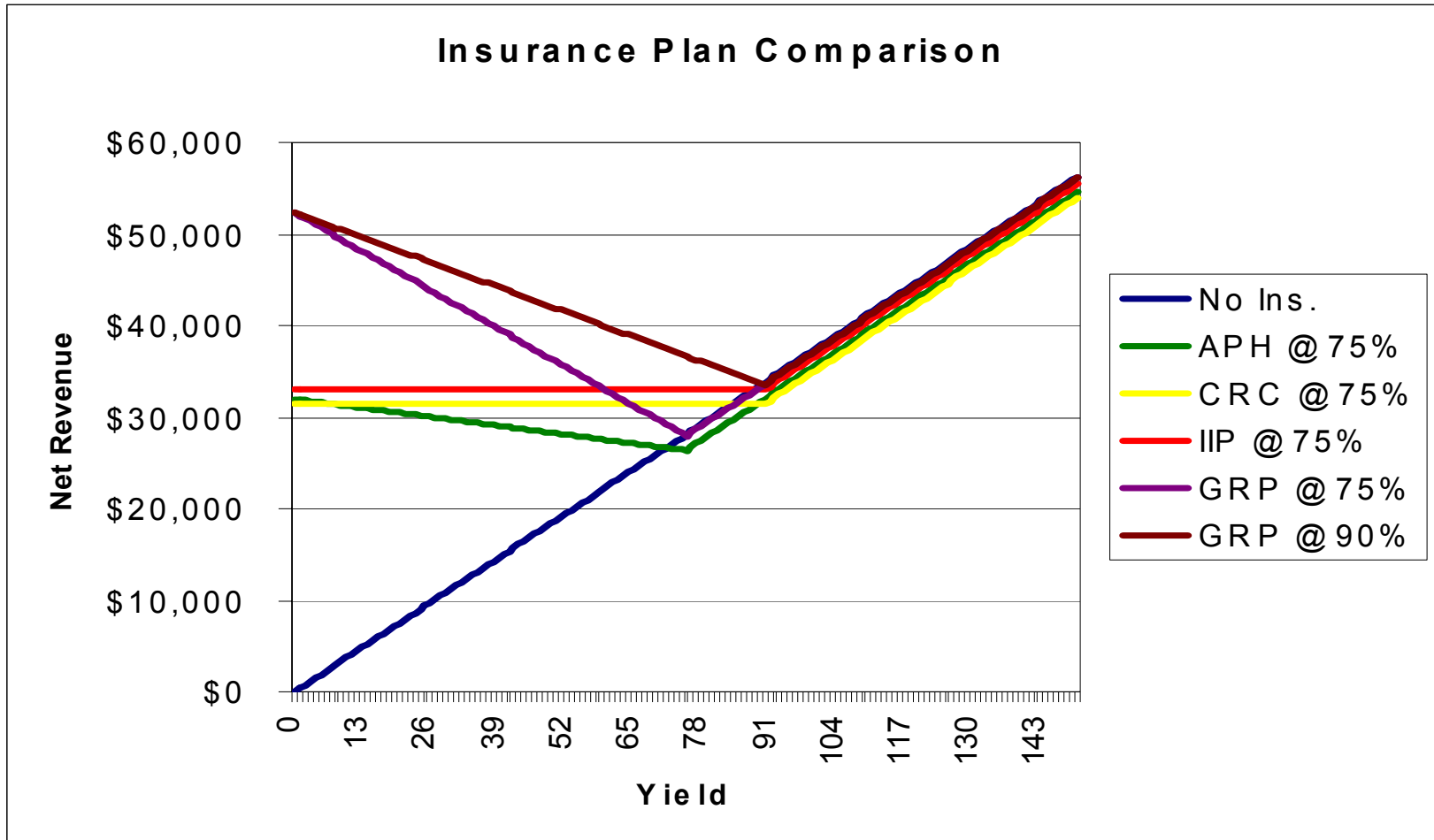


# Summary: Harvest Price = Price Elect



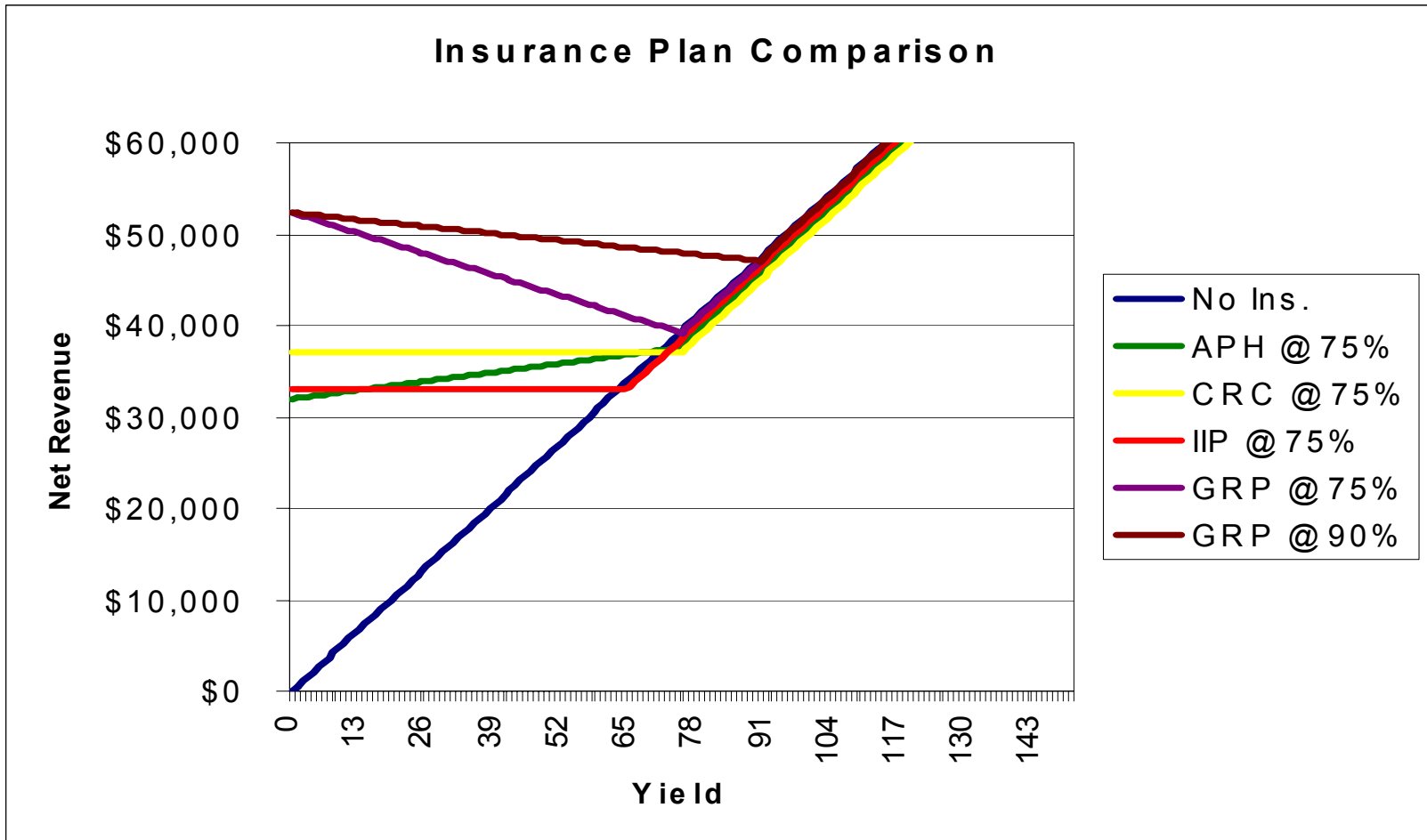
Assume: Growers actual price received = CRC & IIP Harvest Prices  
and grower's yield = GRP Payment Yield.

# Summary: Harvest Price = PE -\$0.50



Assume: Growers actual price received = CRC & IIP Harvest Prices  
and grower's yield = GRP Payment Yield.

# Summary: Harvest Price = PE + \$0.50

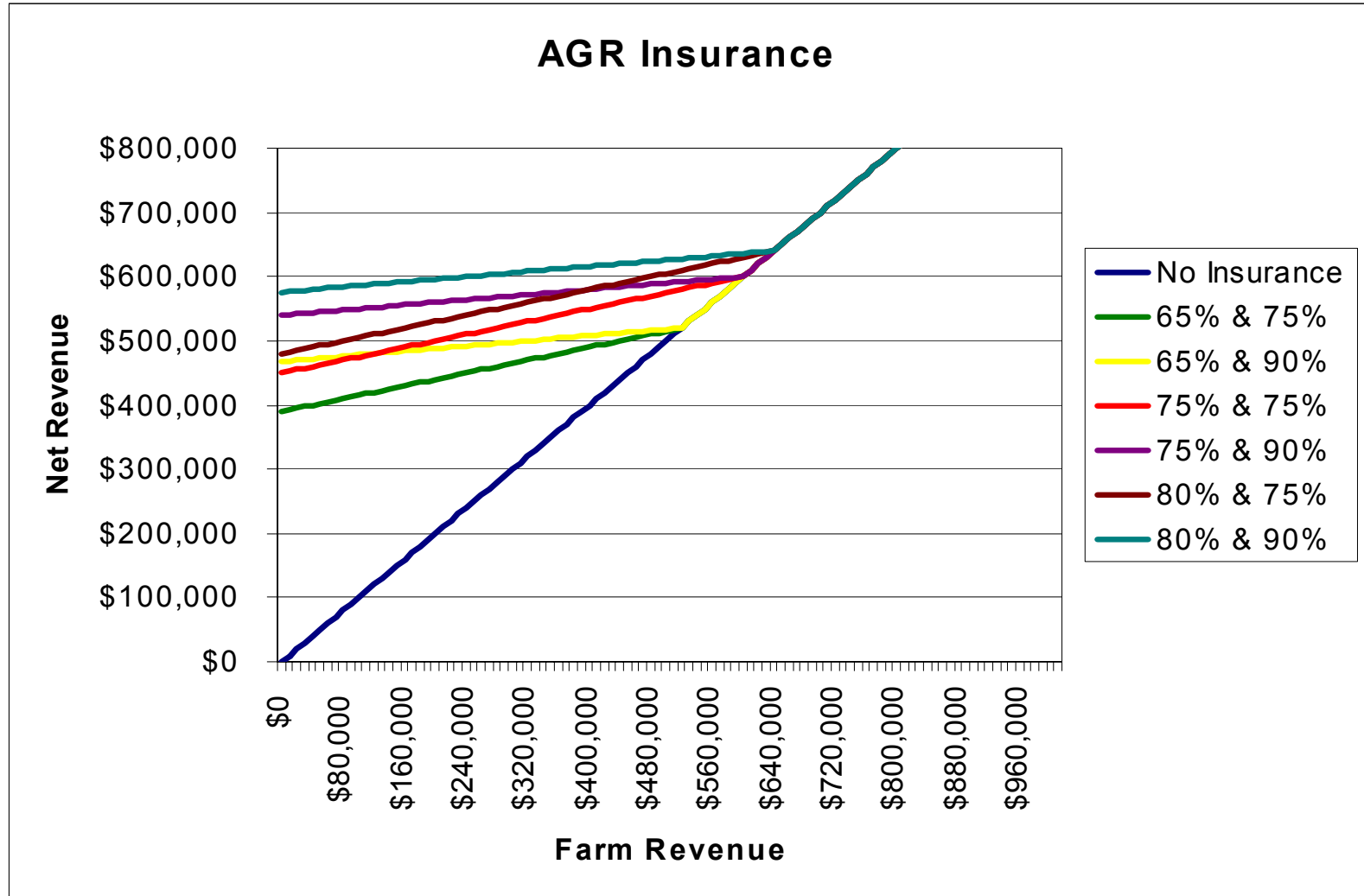


Assume: Growers actual price received = CRC & IIP Harvest Prices  
and grower's yield = GRP Payment Yield.

# Adjusted Gross Revenue (AGR)

- Assume you average \$800,000 in gross revenue, have 3 commodities, and select the 75% coverage level at the 90% payment rate. Your insurance coverage is...
  - $\$800,000 \times 75\% \times 90\% = \$540,000$
- Loss Trigger:
  - Annual Gross Revenue < AGR x Coverage Level
- You experience loss and only have \$200,000 adjusted gross farm revenue. Your indemnity payment is...
  - $(\$800,000 \times 75\% - \$200,000) \times 90\% = \$360,000$

# Adjusted Gross Revenue (AGR)



- **AgriLogic, Inc., nor any of its partners, including the Risk Management Agency, is not making any recommendations for any particular insurance plan or coverage amount. The following scenarios are hypothetical and are designed to enable a producer to better understand the available insurance coverages and some of the factors to consider when making risk management decisions. You, with the assistance of your insurance agent, financial institution, and/or your financial advisor must make formal risk management decisions including selection of the type of insurance product and/or coverage level that best fits your specific risk management needs.**

# Risk Tolerance: Coverage Levels?

		Coverage Level		
Risk Attitude	Seeking	Medium	Low	Lowest
	Neutral	High	Medium	Low
	Averse	Highest	High	Medium
		Low	Medium	High
		Risk Bearing Ability		

# APH & GRP: County Yield Correlate?

		APH vs. GRP & Coverage Level		
County Yield Correlation	High	GRP (High CL%)	GRP (Medium CL%)	GRP (Low CL%)
	Medium	APH or GRP (High CL%)	APH or GRP (Medium CL%)	APH or GRP (Low CL%)
	Low	APH (High CL%)	APH (Medium CL%)	APH (Low CL%)
		Low	Medium	High
		Risk Tolerance		

# APH & CRC: Price Variability?

		APH vs. CRC & Coverage Level		
Importance of Price Variability	High	CRC (High CL%)	CRC (Medium CL%)	CRC (Low CL%)
	Medium	APH or CRC (High CL%)	APH or CRC (Medium CL%)	APH or CRC (Low CL%)
	Low	APH (High CL%)	APH (Medium CL%)	APH (Low CL%)
		Low	Medium	High
		Risk Tolerance		

# APH & AGR (Lite): No. of Crops?

		APH vs. AGR & Coverage Level		
Number of Commodities	High	AGR (Lite) (High CL%)	AGR (Lite) (Medium CL%)	AGR (Lite) (Low CL%)
	Medium	APH or AGR (Lite) (High CL%)	APH or AGR (Lite) (Medium CL%)	APH or AGR (Lite) (Low CL%)
	Low	APH (High CL%)	APH (Medium CL%)	APH (Low CL%)
		Low	Medium	High
		Risk Tolerance		

Especially the Number of Uninsurable Crops

# Comparison – 2006 Seneca Corn

2006 Corn Seneca County Grain-NI					
	APH	CRC	IIP	GRP	GRP
APH/ GRP County	133.0	133.0	133.0	118.1	118.1
Coverage Level	75%	75%	75%	75%	90%
Yield Guarantee	99.8	99.8	99.8	88.6	106.3
Price Elect/Base/Max	\$2.00	\$2.59	\$2.59	\$354	\$354
Acres	100	100	100	100	100
Prod to Count	7,300	7,300	7,300	7,300	7,300
Payment Yield	NA	NA	NA	73	73
Grower Harvest Price	\$3.30	\$3.30	\$3.30	\$3.30	\$3.30
Ins. Harvest Price	\$2.00	\$3.03	\$3.59	NA	NA
Crop Revenue	\$24,090	\$24,090	\$24,090	\$24,090	\$24,090
Indemnity	\$5,360	\$8,120	\$0	\$6,238	\$11,099
Premium	\$792	\$1,482	\$635	\$127	\$430
Net Revenue	\$28,658	\$30,729	\$23,455	\$30,201	\$34,759

- Maximum Protection/Acre = \$538.08
- Expected County Yield = 121.6 bu/acre
- NASS County Yields
  - 1999 = 94 bu/acre
  - 2000 = 95 bu/acre
  - 2002 = 84 bu/acre

Assume 2007 NASS County Yield is 84 bu/acre & 100 Acres

Coverage Level	Loss Trigger	Premium	Coverage	Payment Factor	Indemnity
90%	109.4	\$638	\$53,808	23.22	\$12,492
85%	103.4	\$361	\$53,808	18.76	\$10,094
80%	97.3	\$233	\$53,808	13.67	\$7,356

## ■ GRP Advantages

- If your yields correlate with the county
- Low premium rates
- No need to report your yields

## ■ GRP Disadvantages

- No individual coverage. You could yield 10 bu or 150 bu, indemnity is dependant on county yield
- Limited collateral value
- Indemnity not paid until NASS reports county yields in March or April.
- No replant or prevented planting payments

# Other Risk Management Strategies

## ■ Production Risk

- FSA

- NAP
- Disasters
- Emergency Loans

- Crop-Hail Insurance

- New Technologies (seeds, sprays, precision farming, etc)

## ■ Production & Market Risk

- Diversification: fields, crops, types, non-farm income

## ■ Record Keeping!!!

- Obtaining Capital & Financing (Interest rates)
  - Mitigate by lowering debt-to-asset ratio; have collateral, crop insurance and marketing plan; shop for better borrowing terms and conditions; establish relationships with lenders.
- Meeting Cash-Flow Needs (short-term)
  - Mitigate by having liquidity, reducing expenses, lines of credit, insurance for crops, machinery, equipment, etc.
- Protecting & Growing Equity (long-term)
  - Mitigate by having insurance for major events: crops, property, liability, health, disability, and life
  - During good years, build-up liquid reserves, invest (possibly in non-farm assets), pay down debt.

- Concern: Risk of being sued. Mitigate by...
- Structural Entity of Operation
  - Sole Proprietor (all risk all reward)
  - Partnership (shared risk and reward)
  - LLC (1 or multiple owners with limited liability)
  - Corporations (Sub S or C having 1+ owners with limited liability)
- Contractual Agreements
  - Non-performance: Get it in writing & use trustworthy parties
- Tort Liability – Neglect or Harm to Person/Property
  - Review general liability insurance for coverage and exclusions
- Statutory Laws – lots of them for farming
  - Labor & Environmental: Have insurance and maintain accurate documentation

- Concern: losing key owners/partners/employees
  - Managing People
  - Death
  - Divorce
  - Disability
- Mitigate by having...
  - Life insurance and disability insurance to offset lost income, hire new employees, and meet cash-flow needs
  - Health insurance and long-term care to offset any new expenses
  - Cross-functional training of employees and owners
  - Written succession and estate plans

- *Is the process of planning for the final disposition of your life's work.*
- **Benefits of Estate Planning**
  - Peace of mind for you and your family.
  - The guardianship and care of dependent children.
  - A reduction in estate tax liability.
  - Distribution of assets according to your wishes.
  - An assurance that your business will continue with the least amount of disruption
- **Mitigate by having...**
  - A Will, use Trusts (Revocable Living Trust, Marital Trust, Charitable Trusts, etc) and Gifting

- S - Specific - Goals need to be clearly defined and written...no room for ambiguity here. For example, 10% return on capital, break-even this year, etc.
- M - Measurable - Acceptable standards of measurement need to be consistently used for each goal, e.g. bushels, dollars, hours.
- A - Attainable - It may be exciting to reach for the stars, but accomplishing realistic goals is rewarding. Are you shooting for the highest yield ever or a reasonable average?
- R - Related - Goals should be written so that they are related to each other and do not compromise your basic values and beliefs. Related goals include moving the operation toward higher returns this year and long-term equity/ownership.
- T - Tractable - Goals should be established with progressive steps and checked or monitored over time.

- Identify and analyze your risks and risk tolerances
- Establish your goals
- Evaluate the alternatives available
- Implement the action plan with your best alternatives
- Monitor the progress and results
- Update the plan as needed

- Education Manual
- RFD-TV
- Interactive CD-ROM
- Online
  - [www.rma.usda.gov](http://www.rma.usda.gov)
  - [www.agrilogic.com/education](http://www.agrilogic.com/education)
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- Handout of 10 Questions

- Quality Adjustment
- Price Elections
- Premium Rates