

2007 Corn, Wheat & Sunflower Risk Management & Marketing Opportunities

Daniel O'Brien
Extension Agricultural Economist
K-State Research & Extension

Crop Insurance Tools for Risk Management

- Multi-peril Crop Insurance (*MPCI*)
- Revenue Assurance (*RA*)
- Revenue Assurance – Harvest Price Option (*RA-HPO*)
- Crop Revenue Coverage (*CRC*)
- Group Risk Income Protection (*GRIP*)
 - GRIP – Harvest Revenue Option (*GRIP-HRO*)

Multi-peril Crop Insurance (MPCI)

- MPCI only protects against **crop yield losses**
- APH (Actual Production History) &/or “T” yields are used in the coverage calculation
 - Yield coverage: 5% increments from 50% to 85%
- **2007 MPCI Market Price Elections**
 - Corn: \$3.50 /bu
 - Wheat: \$3.90 /bu
 - Sunflowers: \$14.20 /cwt

MPCI Calculations

$$\begin{aligned} & \text{APH Proven Yield} \\ & \times \text{Coverage Level \%} \\ & = \text{Guaranteed Bushels / Acre} \\ & \\ & \times \text{Market Price Election} \\ & = \text{\$Coverage Level / Acre} \end{aligned}$$

Revenue Assurance – Harvest Price Option (RA-HPO)

- RA-HPO protects against revenue loss due to yield losses &/or price fluctuation
- Yield coverage: 65%-85% (5% increments)
- **2007 RA-HPO Market Price Elections**
 - No limit on either higher or lower Price moves from the Base\$ (early\$) to the final Harvest\$
 - Crop Revenue Coverage (CRC) has \$ limits

RA-HPO Price Elections

- **Wheat: \$4.52 /bu Base \$**
 - Base \$: KCBT JULY Ave: 8/15-9/14, 2006
 - Final Harvest \$: KCBT JULY, June 2007
 - CRC Maximum \$ Change: +/- \$2.00 /bu
- **Corn: \$3.96* /bu Base \$ Estimate**
 - Base \$: CBOT DEC Ave: February 2007
 - Final Harvest \$: CBOT DEC, November 2007
 - October 2007 for CRC
 - CRC Maximum \$ Change: +/- \$1.50 /bu

RA-HPO Calculations

APH Proven Yield X Coverage Level %

= Guaranteed Bushels / Acre

X **Higher of** (Early Base\$ OR Harvest\$)

= RA-HPO \$Coverage Level / Acre

Compared to Actual Production Value\$:

APV\$ = Actual Production X Harvest\$

Crop Revenue Coverage (CRC)

- CRC protects against revenue loss due to yield losses &/or price fluctuation
- Yield coverage: 50%-85% (5% increments)
- **2007 CRC Market Price Elections**
 - Nearly identical to RA-HPO
 - Crop Revenue Coverage (CRC) has limits on changes from Base \$ to Final \$
 - \$2.00 /bu for Wheat, \$1.50 /bu for Corn

Revenue Assurance (RA)

- RA protects **Minimum Revenue Guarantee**, but not against **rising harvest \$\$**
- **Corn/Wheat Yield Coverage**: 65%-85% (5% steps)
 - Sunflowers: 65%-75% (5% increments)
- **2007 RA-HPO Market Price Elections**
 - Wheat: \$4.52 /bu Base \$
 - Corn: \$3.96* /bu Base \$ Estimate
 - Sunflowers: \$15.00 /cwt Base \$ Estimate
 - February average of 2007 CBOT OCT Soyoil \$ divided by 2, plus 1

RA Calculations

APH Proven Yield X Coverage Level %

= Guaranteed Bushels / Acre

X Early Base\$

= RA Minimum Level Guarantee\$ / Acre

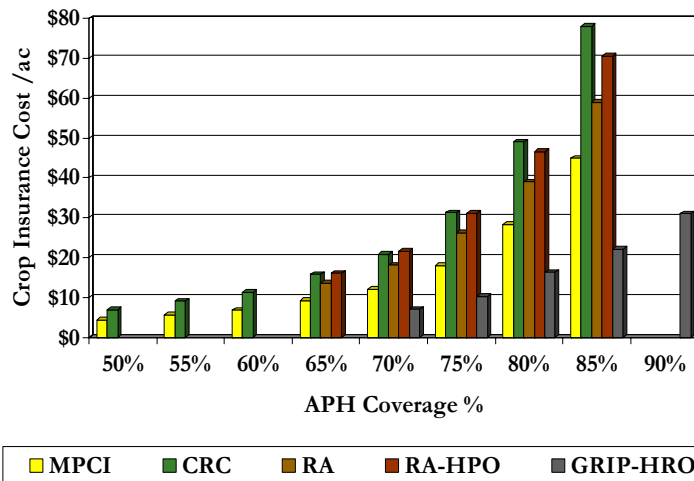
Compared to Actual Production Value\$:

APV\$ = Actual Production X Harvest\$

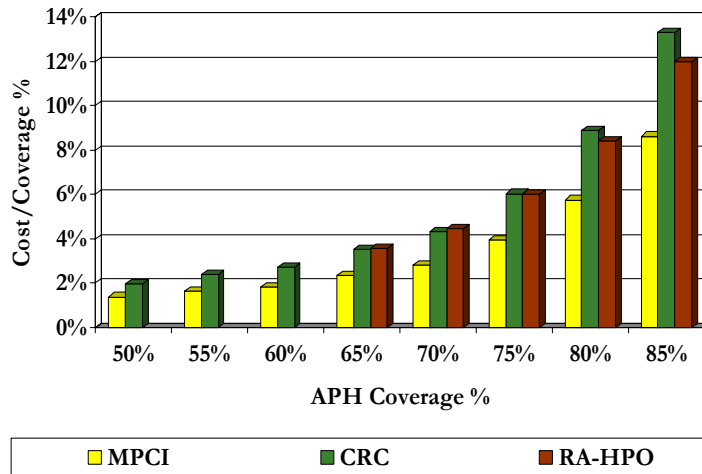
Group Risk Income Protection (GRIP & GRIP-HRO)

- GRIP insures against widespread loss of revenue for an insured crop **by County** rather than **by Individual**
- No APH needed
- Coverage levels: 70%-90% (5% steps)
- Unit structure is the County
- Must select Protection Level & Trigger Revenue
- Most often used to insure forage crops

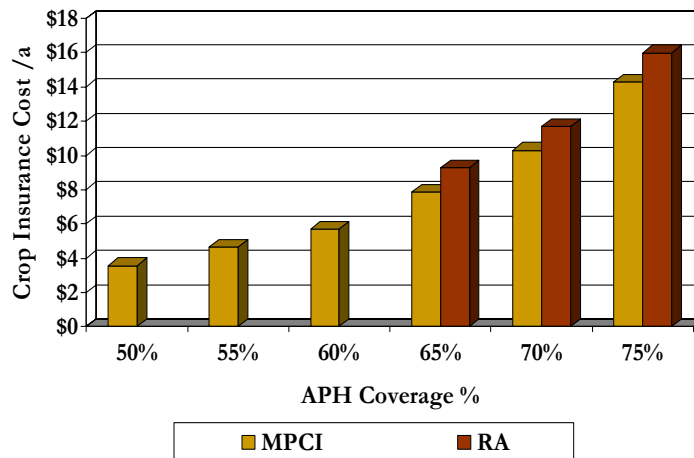
Irrigated Corn Crop Insurance Costs 2007 Sherman County, KS (general assumptions)



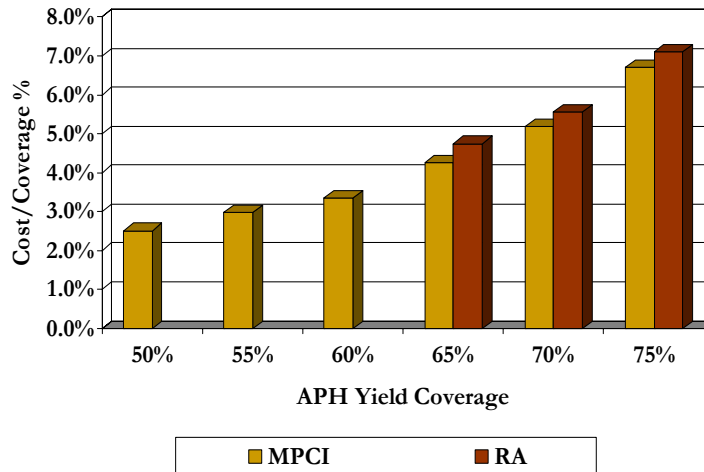
Irrigated Corn “Cost/Coverage” (%) 2007 Sherman County, KS (MPCI, CRC, RA-HPO)



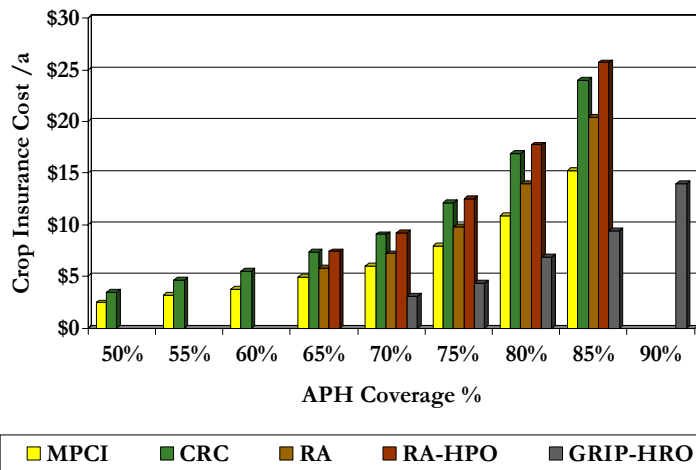
Irrigated Sunflower Insurance Costs 2007 Sherman County, KS (general assumptions)



Irrig. Sunflower “Cost/Coverage %” 2007 Sherman County, KS (general assumptions)



Dryland Wheat Crop Insurance Costs 2007 Sherman County, KS (general assumptions)



Marketing Opportunities for 2007 Corn, Wheat & Sunflowers

- Forward Contract
- Hedge Futures
- Minimum Price Contract
- Put Option Price Floor
- Harvest Cash Sales

Forward Contracts - Futures Hedges

- **Forward Contracts**
 - Commit XXXX bushels of corn for harvest / postharvest delivery
 - Cash basis **is** predetermined
 - Compared to expected Harvest time Cash Basis???
 - Regional bids.....
- **Futures Hedges**
 - Sell Futures now, offset/buy back later
 - Cash basis **is not** predetermined
 - What is expected Harvest time Cash Basis???

Put Options Price Floors & Minimum Price Contracts

■ Put Option Price Floors

- Buy Put Option now; sell back, exercise or let expire later
- Cash basis is **NOT** determined

■ Minimum Price Contracts

- Commit XXXX bushels for Harvest or Postharvest Delivery
- \approx Forward Contract \$ less cost of Put Option
- Cash basis **IS** determined

Forward Contract 2007 Sunflowers (Harvest Delivery, 2/13/07)

■ Northern Sun Goodland (Oils): \$17.10 /cwt

- "Act of God" Contracts

■ Sigco/Sunopta Goodland (Confections):

- Large Seed \$22.00 / cwt
- Small Seed \$17.00 / cwt
- Assuming 70% large seed, 30% small seed
 - Weighted price of \$20.50 /cwt

Hedge DEC Corn Futures or Forward Contract (Harvest Delivery)

■ Hedge Futures (2/14/07)

- Sell 2007 DEC Corn: \$4.01
- Less Harvest Basis: - \$0.15 (?????)
- Less Broker Fees: - \$0.01
- Hedge Price (w. Basis risk) **\$3.85 / bu**

■ Forward Contract Bids (2/14/07)

- Goodland COOP: \$3.86 / bu
- Winona Feed & Grain: \$3.83 / bu
- M&M COOP Idalia, CO \$3.92 / bu

Put Option Price Floor for 2007 New Crop Corn

■ Buy \$4.00 Strike Price Put Option

- DEC Corn Put Strike Price: \$4.00
- Less Put Premium Cost: -\$0.41
- Less Harvest Basis: - \$0.15 (?????)
- Less Broker Fees: - \$0.02
- Put Option Price Floor **\$3.42 / bu**
 - (with Basis risk)

■ Contact Area Elevators for **Minimum Price Contract Bids** for new crop 2007 Corn

Hedge JULY Wheat Futures or Forward Contract (Harvest Delivery)

■ Hedge Futures (2/14/07)

- Sell 2007 JULY Wheat: \$4.90
- Less Harvest Basis: - \$0.50 (?????)
- Less Broker Fees: - \$0.01
- Hedge Price (w. Basis risk) **\$4.39 / bu**

■ Forward Contract Bids (2/14/07)

- Goodland COOP: \$4.42 / bu
- Winona Feed & Grain: \$4.48 / bu
- M&M COOP Idalia, CO \$4.48 / bu

Put Option Price Floor for 2007 New Crop Wheat

■ Buy \$5.00 Strike Price Put Options

- JULY Wheat Put Strike Price: \$5.00
- Less Put Premium Cost: -\$0.34
- Less Harvest Basis: - \$0.50 (?????)
- Less Broker Fees: - \$0.02
- Put Option Price Floor **\$4.14 / bu**
 - (with Basis risk)

■ Contact Area Elevators for **Minimum Price Contract Bids** for new crop 2007 Wheat

Other Options Based Tools....

■ Options “Fence”

- Buy Put option + Sell Call option
 - Means to lower the cost of a Put Option Price Floor
 - Sacrificing upward price move opportunities
- Setting futures price “ceiling” & “floor”
- Use in highly volatile markets???

Crop Insurance + Grain Sales: Irrigated Corn & Dryland Wheat

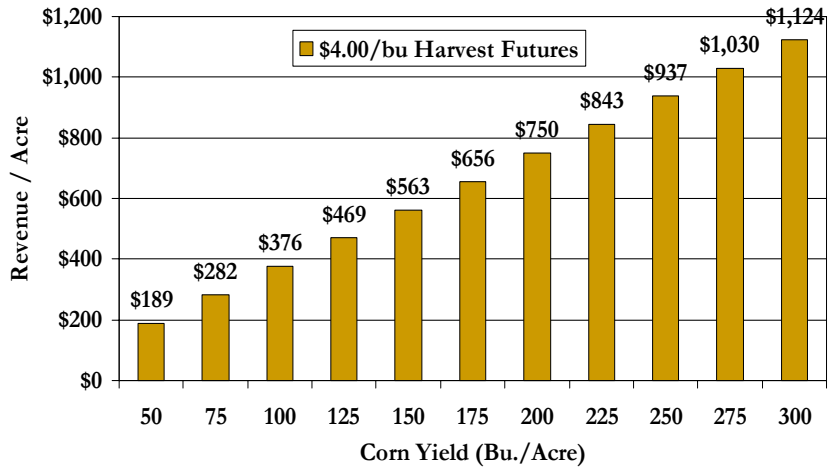
□ Crop Insurance Choices:

- MPCCI
- RA-HPO

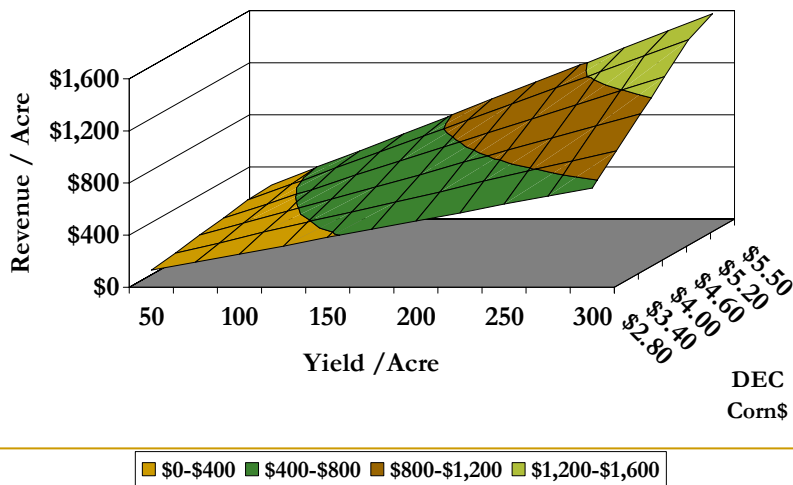
□ Grain Marketing Opportunities:

- Preharvest Hedges & Forward Contracts
- Put Option Price Floors
- Harvest Cash Sales

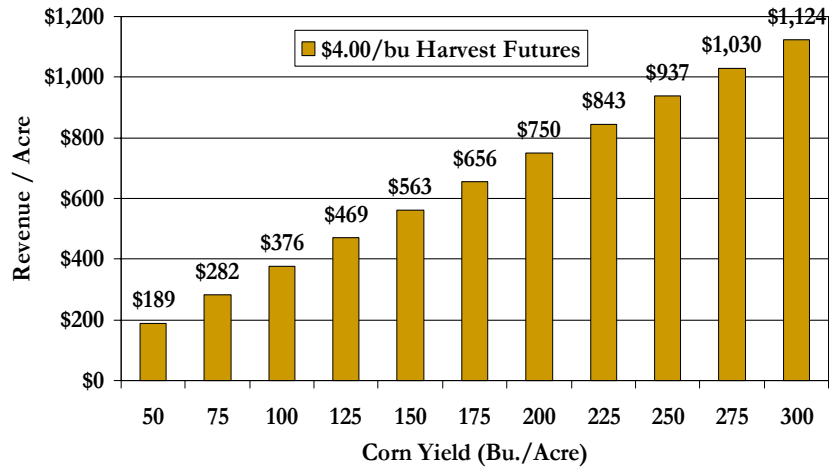
Irrigated Corn\$: NO Insurance Harvest Cash Sales @ \$4.00/bu DEC Corn



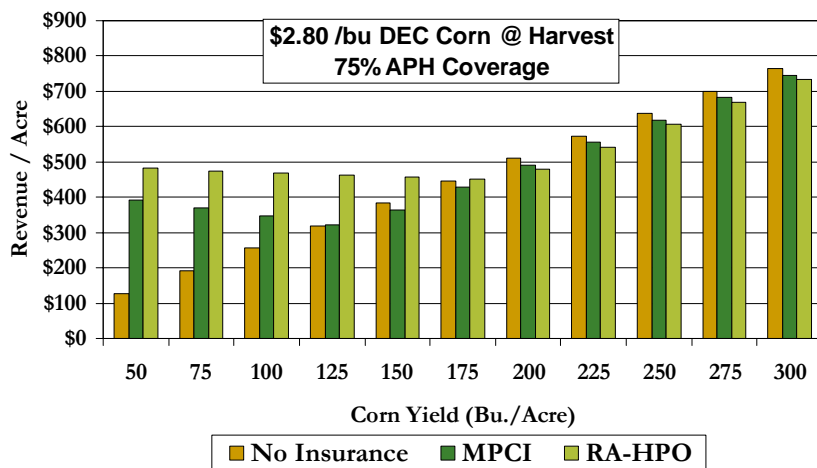
Irrigated Corn\$: NO Insurance Harvest Cash Sales



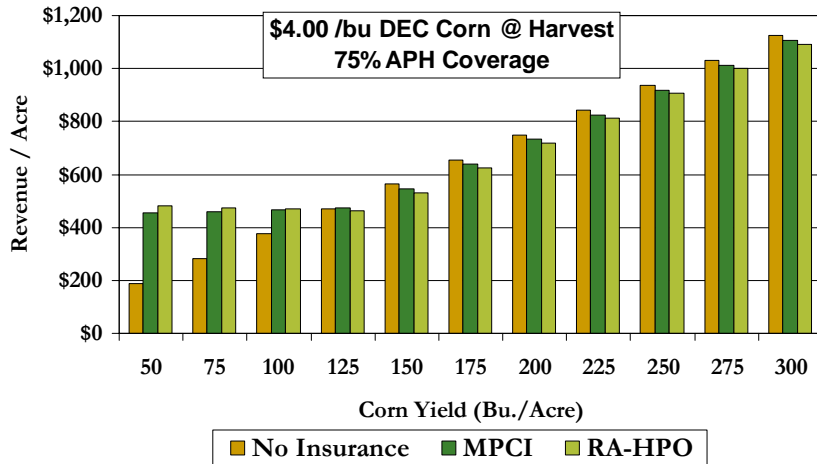
Irrigated Corn\$: NO Insurance Harvest Cash Sales @ \$4.00/bu DEC Corn



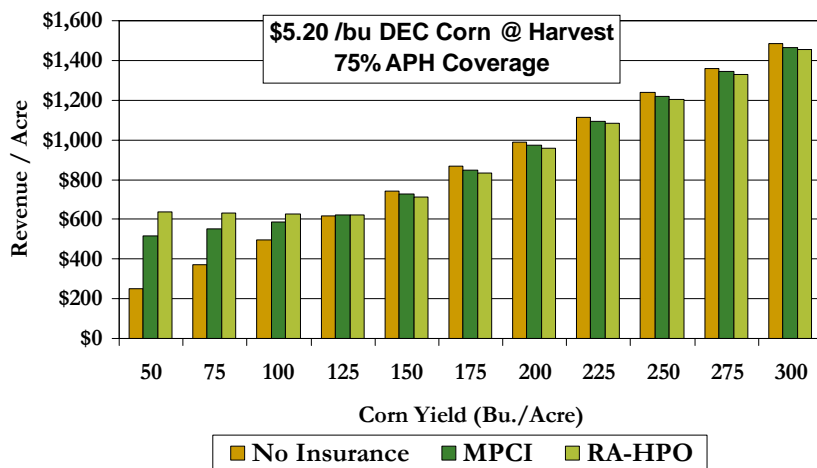
\$2.80 DEC Corn @ Harvest No Insurance vs MPC1, RA-HPO



\$4.00 DEC Corn @ Harvest No Insurance vs MPC I, RA-HPO

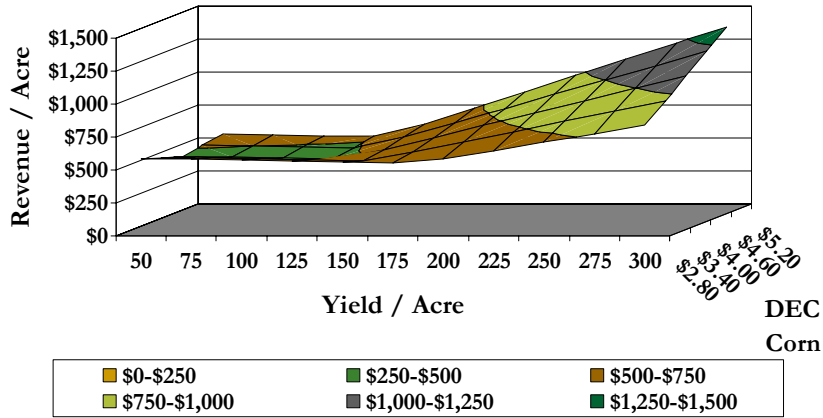


\$5.20 DEC Corn @ Harvest No Insurance vs MPC I, RA-HPO



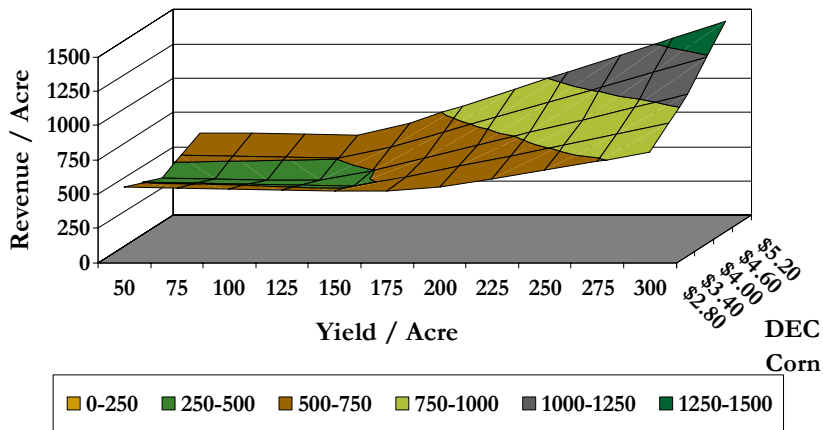
RA-HPO + 50% Preharvest Hedge

Sell 50% Expected Crop in DEC Futures

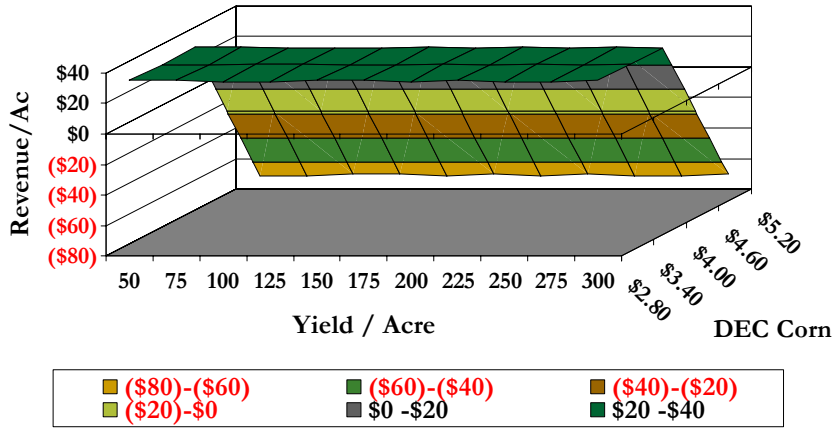


RA-HPO + 50% Put Option \$Floor

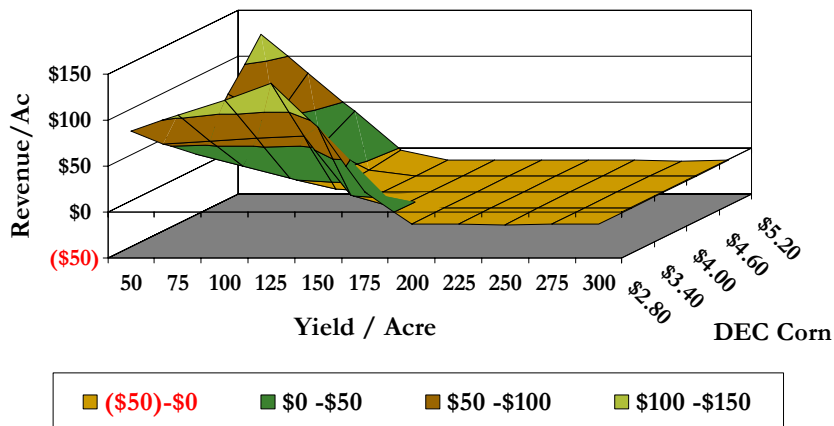
Cover 50% Expected Crop in DEC Puts



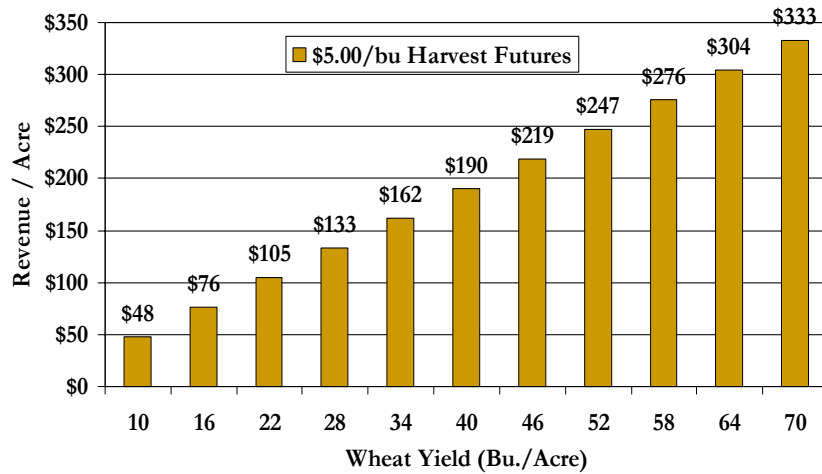
Preharvest Hedge vs Put Option RA-HPO Coverage, 50% of Crop Marketed



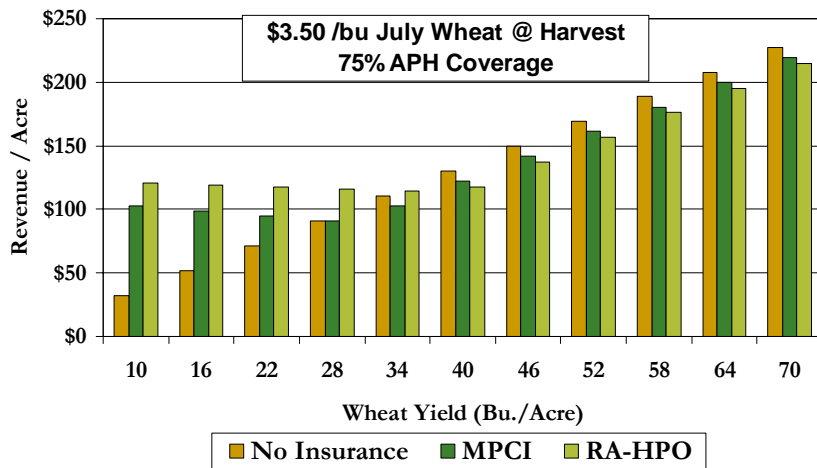
50% Hedge: RA-HPO vs MPCII RA-HPO Less MPCII Returns



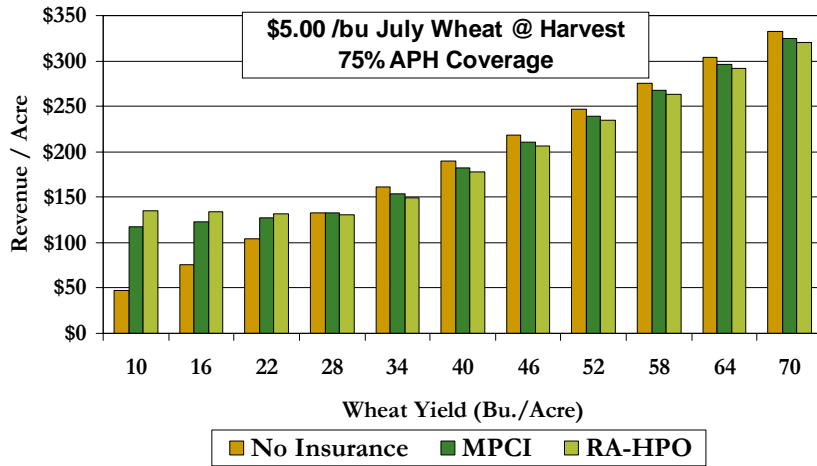
Dryland Wheat\$: NO Insurance Harvest Cash Sales @ \$5.00/bu JULY Wheat



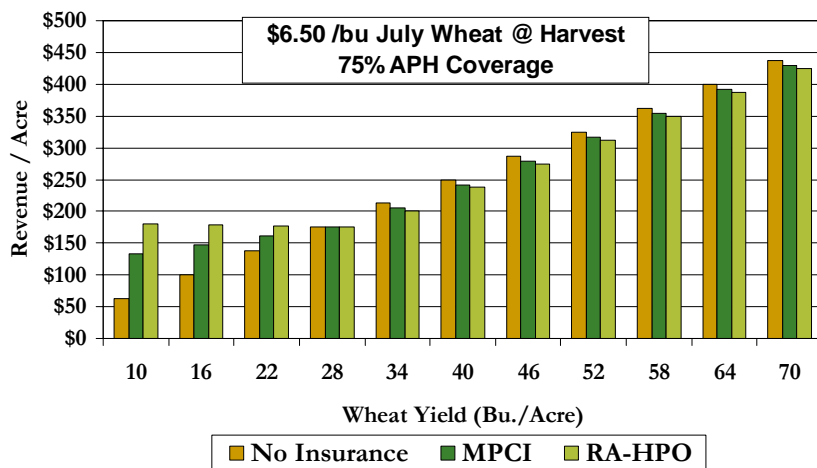
\$3.50 JULY Wheat @ Harvest No Insurance vs MPC I, RA-HPO



\$5.00 JULY Wheat @ Harvest No Insurance vs MPCl, RA-HPO

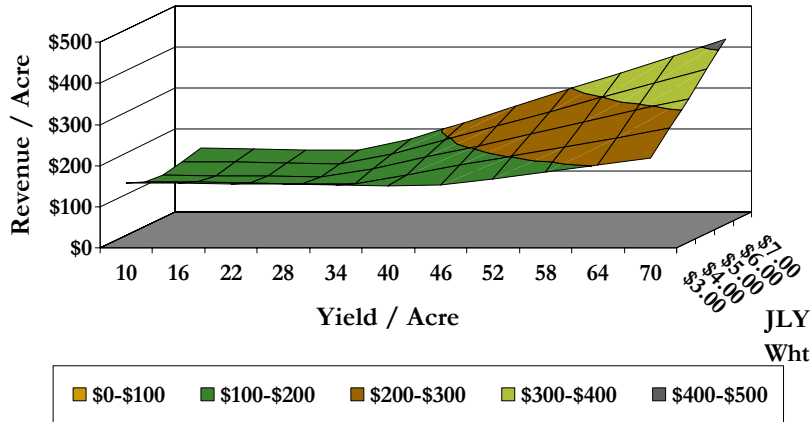


\$6.50 JULY Wheat @ Harvest No Insurance vs MPCl, RA-HPO



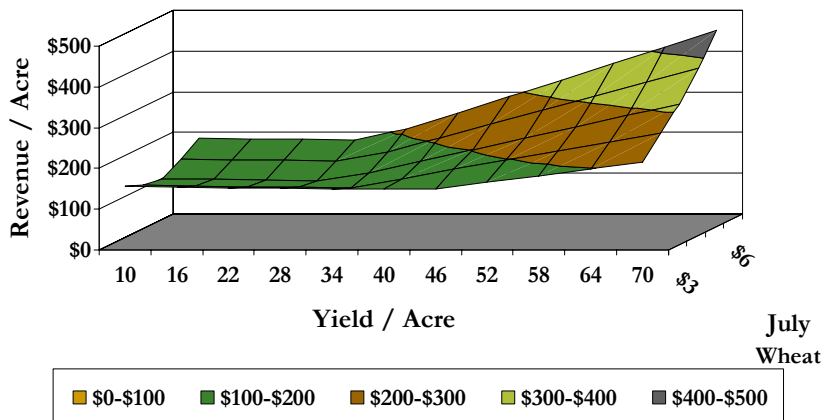
RA-HPO + 50% Preharvest Hedge

Sell 50% Exp'd Crop in JULY KCBT Wheat

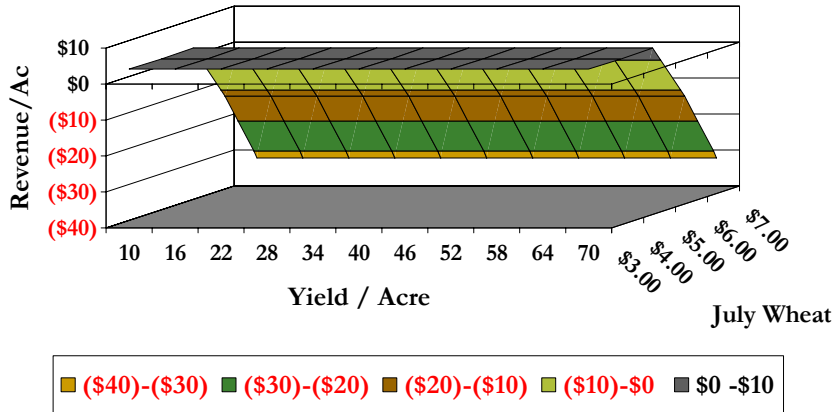


RA-HPO + 50% Put Option \$Floor

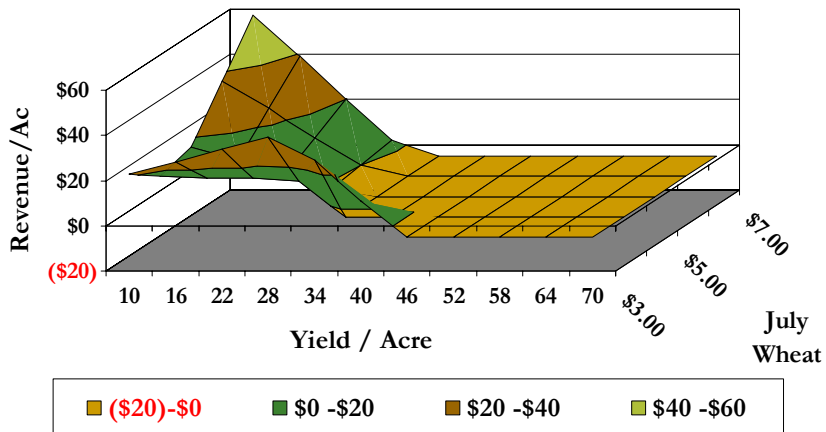
Cover 50% Expected Crop in JULY Puts



Preharvest Hedge vs Put Option RA-HPO Coverage, 50% of Crop Marketed



50% Hedge: RA-HPO vs MPCI RA-HPO Less MPCI Returns for Wheat



Final Thoughts & Observations....

- **Use of RA-HPO** (vs CRC, MPCI, RA, etc.)
- **Market Uncertainty & Potential Price Volatility for 2007 Crops**
 - With these of historically high grain market prices, Grain Marketing Plans will likely be more oriented toward **protecting pricing opportunities** & managing price risk than “maxing out price.”
 - Grain prices are high enough at this time that the traditional grain price risk management tools (marketing loans / government program mechanisms) are **nearly “irrelevant.”**

Comments or Questions?

- Email: dobrien@ksu.edu
- KSU Ag Economics Website:
<http://www.agmanager.info>
- Northwest Research Extension Center Website:
<http://www.oznet.ksu.edu/nwao/>