EXAMPLE OF PLC, PLC WITH SCO, AND ARC-CO

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Wheat in Northumberland County, VA.

What we need for our examples:

7 different yield measures
6 different price measures
2 different area measures

Yield Measures

- Actual Production History (APH) yields per harvested for the individual farm.
- County average yields per planted acre for the last five years.
- County t-yields for the last five years
- “Expected” county yield for SCO.
- “Program yield” for the individual farm.
- Current (hypothetical) yield for the individual farm.
- Current (hypothetical) yield for the county.

- (Not included: district yields/planted acre for years when county yields are not available.)

Actual Production History for our sample farm:

year	yield
2004/05	60
2005/06	60
2006/07	75
2007/08	65
2008/09	60
2009/10	75
2010/11	60
2011/12	60
2012/13	60
2013/14	75
Average APH	65

Different for each farm, but known at the time the example is computed.

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County yield History:

year	Actual yield	T-yield	70% of t-yield	Higher of Actual yield or 70% of t-yield
2009/10	47.9	63	44.1	47.9
2010/11	73.5	63	44.1	73.5
2011/12	67.5	63	44.1	67.5
2012/13	72.1	63	44.1	72.1
2013/14	74	69	48.3	74
Olympic average county yield				71.03

Different for each county, but known (except for 2013/14) at the time the example is computed. Actual yields Northumberland Co. VA, are from NASS website. The 2013/14 yield reflects the expected growth in national yield shown in the August WASDE report, also available at NASS website. T-yields are from RMA website.

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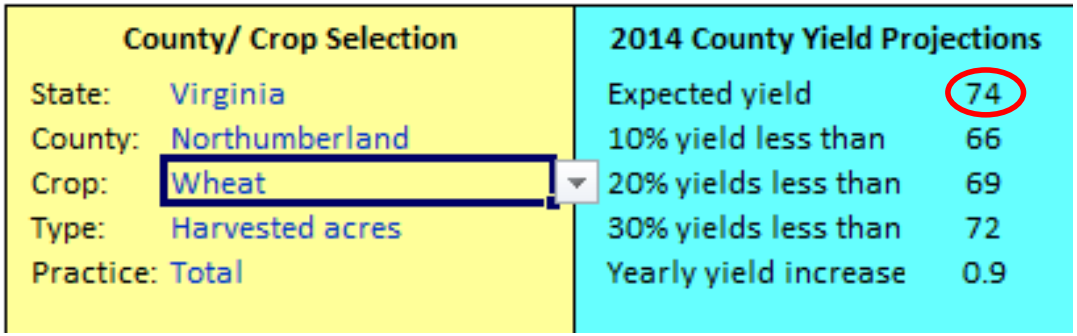
Other yields for our sample farm and county:

Program yields: PLC payments are based on program yields, which differ from farm to farm. They can be updated to a recent four year average of yields on the farm; so we are using the 2005-09 average from the actual yield history for our sample farm: Program yield = 61.25

"Expected" county yield for supplemental coverage insurance: this is based on a complicated formula using county yields back to 1972. The expected county yields can be found on the University of Illinois crop insurance calculator. "Expected" county yield = 74



County/ Crop Selection		2014 County Yield Projections	
State:	Virginia	Expected yield	74
County:	Northumberland	10% yield less than	66
Crop:	Wheat	20% yields less than	69
Type:	Harvested acres	30% yields less than	72
Practice:	Total	Yearly yield increase	0.9

Different for each farm and county, but known. (Program yield FAS, expected county yield RMA).

Current Yield for our sample farm and county:

This can take different values, for different hypothetical examples.

We will use “low” values of yield not because that is likely, but because it illustrates how the various parts of the safety net work.

When current yields are relatively high, program payments and insurance indemnities are likely to be zero.

Assumed farm yield = 55
Assumed county average yield = 65

Different for each farm and county, made up for purposes of our examples.

Price Measures

- Marketing year average price (MYA) for the last five years.
- PLC reference price.
- Average post-harvest months futures price during pre-planting month.
- Average post-harvest month's futures price during harvest month.
- MYA (hypothetical) for upcoming year.
- Actual selling price for the individual farm in the upcoming year.

- (Not included on this list: Loan rates, posted county price on date of LDP claim, should MYA fall below loan rate.).

Price History:

year	Actual national MYA price	PLC reference price	Higher of last two columns
2009/10	4.87	5.5	5.5
2010/11	5.38	5.5	5.5
2011/12	7.24	5.5	7.24
2012/13	7.77	5.5	7.77
2013/14	6.87	5.5	6.87
Olympic average price for county ARC			6.54

Back to list of prices. To PLC calculations. To ARC-CO calculations.

Different for each county, but known (except for 2013/14) at the time the example is computed. Actual yields Northumberland Co. VA, are from NASS website. The 2013/14 yield reflects the expected growth in national yield shown in the August WASDE report, also available at NASS website. T-yields are from RMA website.

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Other prices:

Average of September 2015 CBOT wheat futures price during the period August 15-September 15, 2014: $6.00

(This is a rough guess, but founded in actual futures prices.)

Back to prices head page.

Hypothetical prices for the “current” upcoming crop year.

Average of September 2015 CBOT wheat futures price during the period July 2015: $5.20

MYA price for the 2014/15 crop year: $5.00

Actual farmer selling price: $5.30

(These are made up, and deliberately low, prices to illustrate how the programs and insurance policies work.)

Area Measures

- Actual planted acres 200 acres
- Base acres 150 acres

(Not included on this list: Actual insured acres, should those differ from actual planted acres.)

Review of all assumptions

- Things which are known to a considerable degree:
  - Olympic average County Yield Average 71.03
  - “expected” county yield for SCO 74
  - Olympic average County-ARC price: $6.54
  - Base revenue insurance price: $6.00
  - PLC reference price: $5.50
- Characteristics of our imaginary “sample” farm, things known from that farm’s past:
  - AYH average yield: 65
  - Program yield: 61.25
  - Base wheat acres: 150
  - Actual wheat acres: 200

Review of all assumptions

- Hypothetical future events
  - Assumed farm yield = 55
  - Assumed county average yield = 65
  - Assumed insurance harvest price = $5.20
  - MYA price for the 2014/15 crop year: $5.00
  - Actual farmer selling price: $5.30

Market Revenue under this scenario

Selling price: $5.30

Farm yield = 55

acres = 200

Market Revenue = 5.30 x 55 x 200 = 58,300

Insurance indemnity payments at 75% coverage

Futures market insurance price: 6.00

APH average yield: 65

Insured revenue per acre: 6.00 x 65 x .75 = 292.50

Futures market harvest price: 5.20

Farm yield: 55

"Actual" revenue per acre: 5.20 x 55 = 286.00

Covered acres: 200

Indemnity payment (292.50 – 286.00) x 200 = $1300

PLC payments under this scenario

Payment rate: 5.50 – 5.00 = .50

Program yield = 61.25

Base acres = 150

PLC payment = .50 x 61.25 x 150 x .85 = 3,904.69

SCO indemnity payments under this scenario

Futures market insurance price: 6.00
Expected average **county** yield: 74
SCO benchmark: 6.00 x 74 = 444
SCO trigger: 6.00 x 74 x .86 = 381.84

Futures market harvest price: 5.20
Actual **county** yield: 65
"Actual revenue" per acre: 5.20 x 65 = 338.00
Actual county revenue as % of SCO benchmark: .7613

Farm APH yield: 65
Futures market insurance price: 6.00
Farm expected revenue 6.00 x 65 = 390
Maximum SCO liability: (.86 - .75) x 390 = 42.9

SCO indemnity payments under this scenario, continued

Items 1 and 2 from last slide:

Actual county revenue as % of SCO benchmark: .7613

Maximum SCO liability: (.86 - .75) x 390 = 42.9

Shortfall compared to 86%: .86 - .7613 = .0987

Maximum percentage SCO coverage (with 75% revenue insurance): .86-.75 = .11

Shortfall as percentage of maximum: =.0987/.11 = .8976

SCO Indemnity per acre: .8976 x 42.9 = $38.51

SCO Indemnity on 200 acres: 38.51 x 200 = $7702

County ARC payments under this scenario.

Olympic average County Yield Average 71.03
Olympic average County-ARC price: $6.54
County benchmark: 71.03 x 6.54 = 464.54
County Revenue guarantee: 71.03 x 6.54 x .86 = 399.50

Actual county yield: 65
Current MYA price: 5.00
Actual county revenue: 325

ARC payment rate: lower of (399.50 – 325) or 10% of 464.54 = 46.45

Base acres: 150

ARC payment: 46.45 x 150 x .85 = 5922.38

Program alternatives under this scenario: Summary

	Market income	Insurance Indemnity	Program payment	SCO Indemnity	Total
County ARC + 75% rev. insur	58,300	1,300	5,922	0	65,522
PLC + rev. insurance	58,300	1,300	3,905	0	63,505
PLC + rev. ins. + SCO	58,300	1,300	3,905	7702	71,207

"Normal" or average corn income: 200 acres x 65 b/acre x $6.54/b = $85,020

86% of normal income: $73,117

Revenue insurance at 60% plus SCO
Revenue insurance at 85% no SCO

SCO premiums are more heavily subsidized.

	Market income	Insurance Indemnity	Program payment	SCO Indemnity	Total
PLC+75% rev. ins. + SCO	58,300	1,300	3,905	8,768	72,273
PLC+60% rev. ins. + SCO	58,300	0	3,905	8,995	71,200
PLC+85% rev. ins.	58,300	9,100	3,905	0	72,195

SCO premiums will be subsidized at 65%

CROP INSURANCE PREMIUM SUBSIDIES

Farm Level Policies

Coverage level %	CAT	50	55	60	65	70	75	80	85	90
Basic & Optional units	100	67	64	64	59	59	55	48	38	NA
Enterprise units		80	80	80	80	80	77	68	53	NA
Whole Farm units					80	80	80	71	56	NA

County Level Policies

Coverage level %						70	75	80	85	90
Area Yield Insurance (AYP)						59	59	55	55	51
Area Revenue Insurance (ARP)						59	55	55	49	44

Source:
http://www.ilfb.org/media/1979709/sco__crop_insurance_changes_webinar.pdf

What if county yields stay high while farm yields are low?

Individual farm yields are 40, but county yields are 75. Because county yields are high SCO payments are low. Because individual farm yields are low, revenue insurance indemnities are high.

	Market income	Insurance Indemnity	Program payment	SCO Indemnity	Total
PLC+75% rev. ins. + SCO	42,400	16,900	3,905	0	63,205
PLC+60% rev. ins. + SCO	42,400	5,200	3,905	0	51,505
PLC+85% rev. ins.	42,400	24,700	3,905	0	71,005

What if county yields are low while farm yields are high?

Individual farm yields are 60, but county yields are 55. Because county yields are low SCO payments are high. Because individual farm yields are high, revenue insurance indemnities are low.

	Market income	Insurance Indemnity	Program payment	SCO Indemnity	Total
PLC+75% rev. ins. + SCO	63,600	0	3,905	8,580	76,085
PLC+60% rev. ins. + SCO	63,600	0	3,905	16,837	84,342
PLC+85% rev. ins.	63,600	3,900	3,905	0	71,405

Help Us Plan

- Meetings, workshops, online material, publications.
- Let us know where you see a need that we might fill.
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