Actual Revenue History Insurance for Tart Cherries in Michigan for 2014: What Have We Learned from the Roll-Out?

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Background:

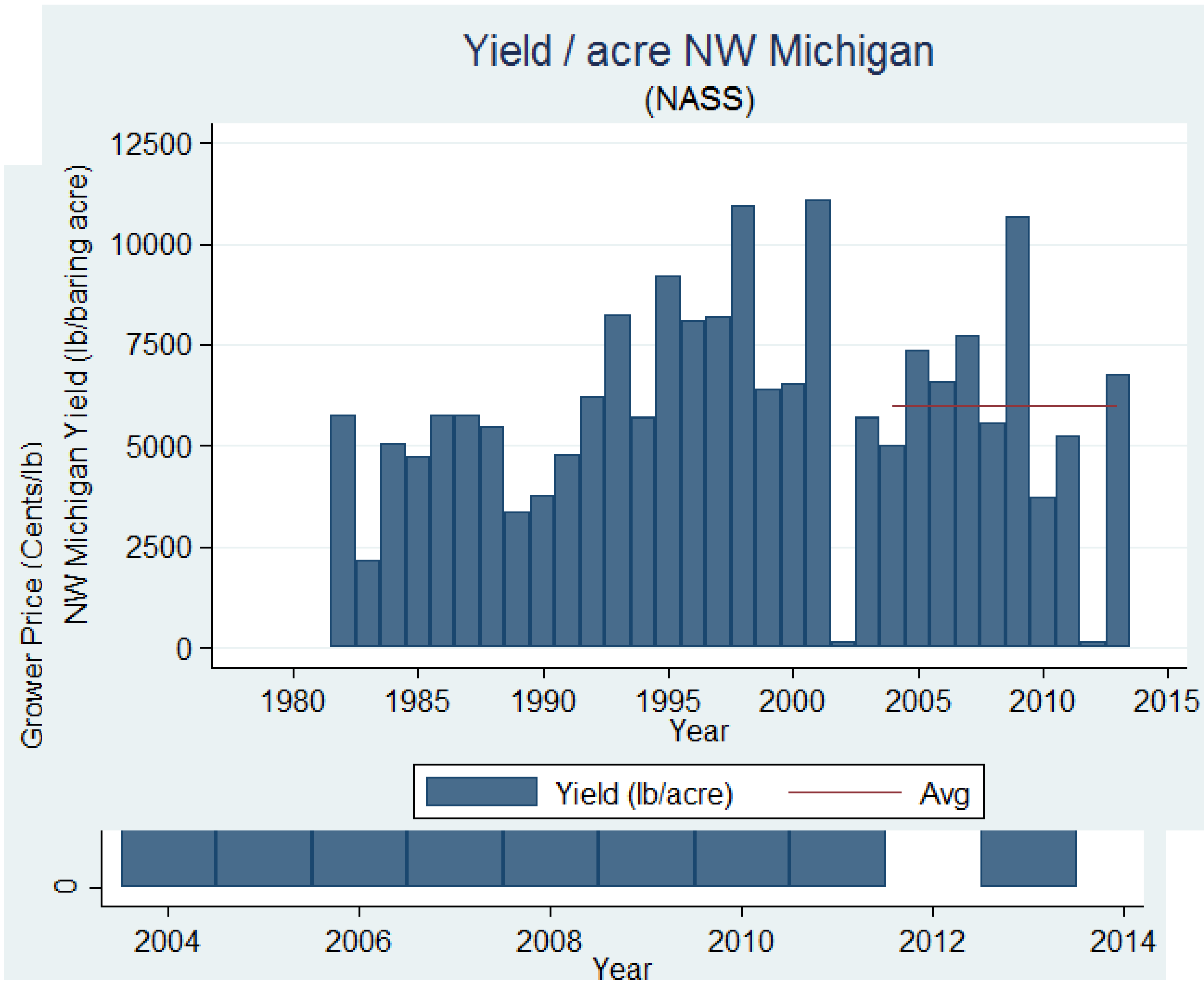
- Actual revenue history (ARH) crop insurance policy for sweet cherries in Michigan:
  - Initially available in Lelanau and Grand Traverse counties
  - Extended to Antrim, Benzie, Manistee, Mason, and Oceana for the 2014 crop year.
- ARH crop insurance program for tart cherries was released in September 2013 for the 2014 crop year. The sign-up deadline was Nov. 20, 2013.
  - Berrien, Van Buren, Kent, Newaygo, Muskegon, Oceana, Mason, Manistee, Benzie, Grand Traverse, Leelanau, Antrim, and Charlevoix counties in Michigan.

Objective of Session

- Brief review the features of the tart cherry revenue insurance program
- Participant discussion of issues that have been raised during the September 1 to November 20, 2013 roll-out period that will be relevant for moving forward for the 2015 crop <u>and</u> program features (or, lack thereof) that should be considered for revision.

Structure

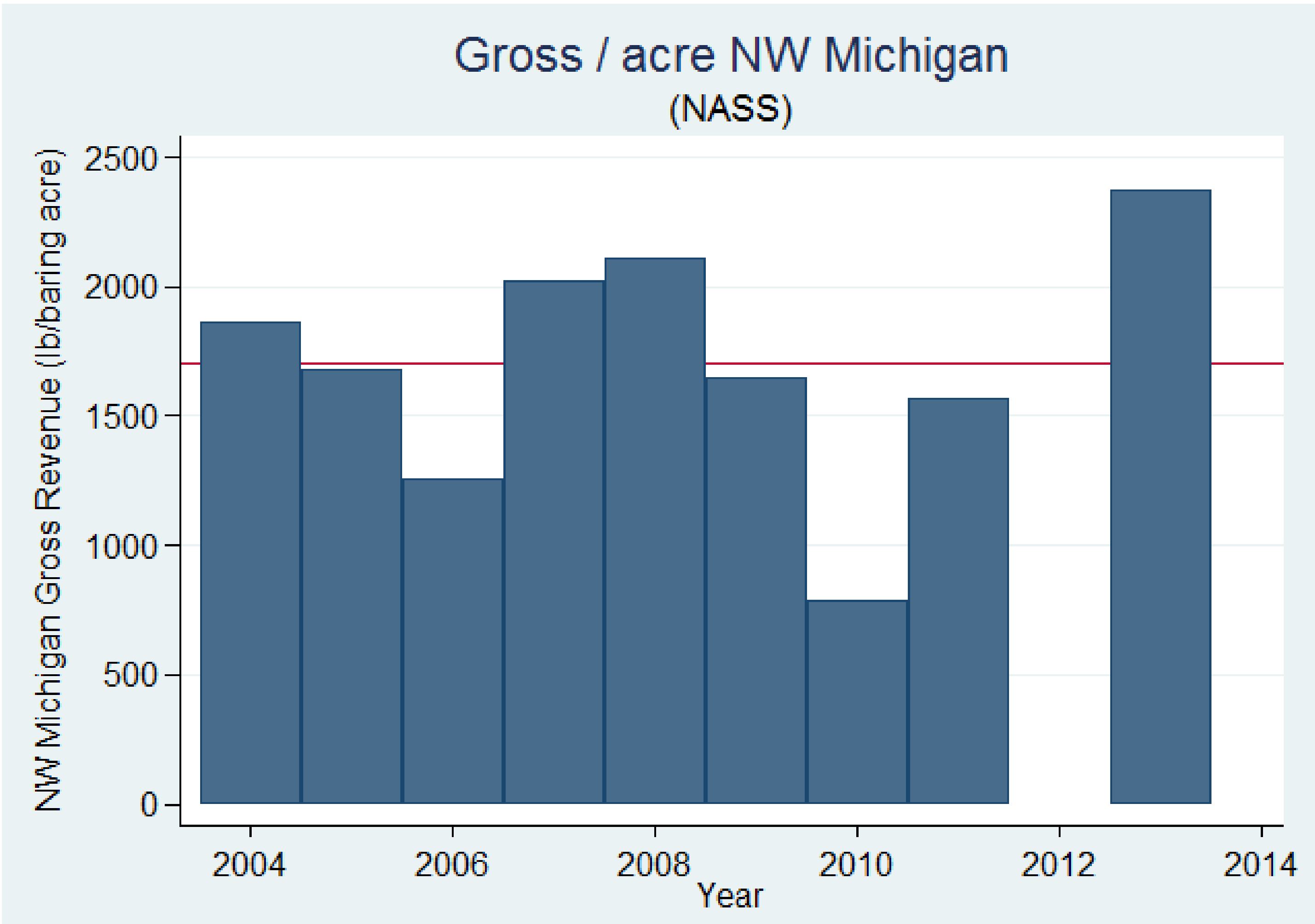
- The tart cherry policy follows the basic structure of the sweet cherry ARH policy with some modifications associated with the tart cherry Federal Market Order such as diversion credits.
- The harvest cost adjustment was eliminated.
- The ARH sweet and tart cherry policies are pilot insurance policies facilitated by the Risk Management Agency / USDA.



Yield / acre NW Michigan
(NASS)
NW Michigan Yield (lb/baring acre)
Grower Price (Cents/lb)
12500
10000
7500
5000
2500
0
1980
1985
1990
1995
2000
2005
2010
2015
Year
Yield (lb/acre)
Avg
0
2004
2006
2008
2010
2012
2014
Year

What is Tart Cherry ARH Crop Insurance?

- The basis for the ARH insurance guarantee is historical moving average gross revenue, not historical moving average yield.



Gross / acre NW Michigan
(NASS)
NW Michigan Gross Revenue (lb/baring acre)
2500
2000
1500
1000
500
0
2004
2006
2008
2010
2012
2014
Year

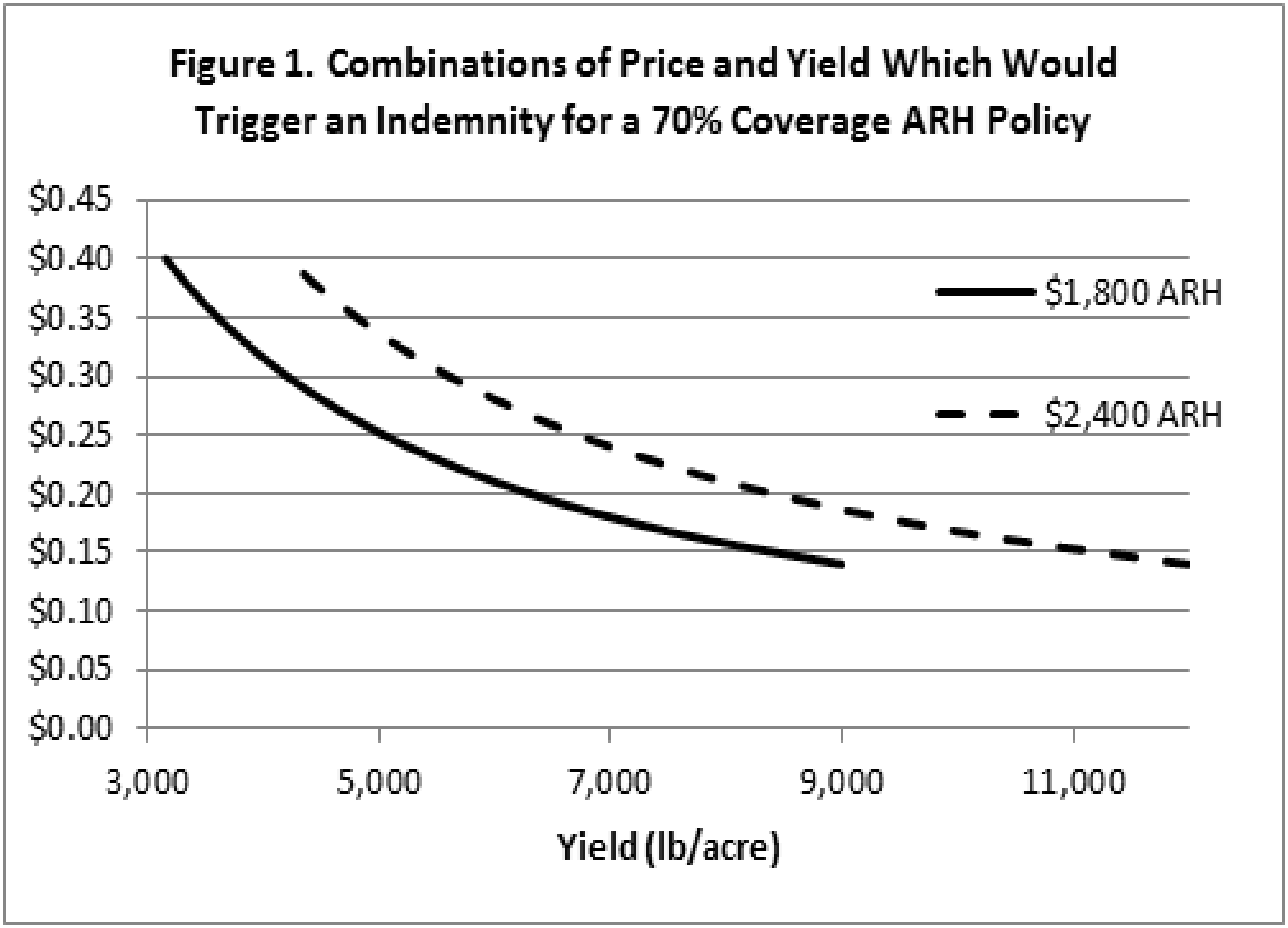


Figure 1. Combinations of Price and Yield Which Would Trigger an Indemnity for a 70% Coverage ARH Policy
$0.45
$0.40
$0.35
$0.30
$0.25
$0.20
$0.15
$0.10
$0.05
$0.00
3,000
5,000
7,000
9,000
11,000
Yield (lb/acre)
$1,800 ARH
$2,400 ARH

What is the basis for calculation of protection ?

- Historical gross revenue is on an "accrual" basis, not cash accounting basis.
- The gross revenue is associated with the <u>crop year</u>, not the calendar year.
- Matching revenues with the year in which production took place.
- Matching is a challenge because of the time (number of years) required to complete pricing of production.

What is the basis for calculation of protection ?

- How many years go into the ARH average?
  - At least four contiguous years
  - Up to 10 contiguous years

What happens if I don't have four consecutive years of historical information?

- The grower can substitute a calculation based upon the <u>transitional revenue</u> for the county/region
- Transitional revenue is based on an estimate of average historical revenue for the county (region) based upon NASS information.
- That value is $1,800/acre for Michigan for 2014

Procedure for farms with fewer than four years data

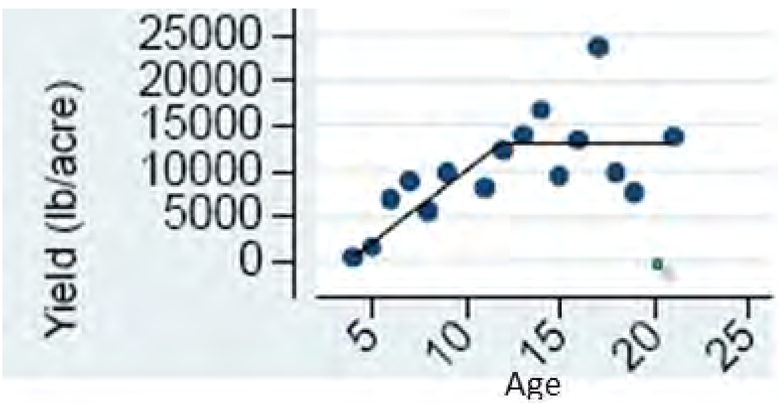
- If only one year of own data, use 80% of transition revenue ($1,800) for the 3 missing years.
- If 2 years of own data, use 90% of transition revenue ($1,800) for the 2 missing years.
- If 3years of own data, use 100% of transition revenue ($1,800) for the missing year.

Partially mitigate 2012 impact on ARH average

- Substitute 60% transition revenue for (say) zero revenue
- That's $\$1{,}800 \times 0.60 = \$1{,}080$

What is required for a “block” to be insurable?

Yield vs. age example



Guidelines

- A new block must have produced <u>3,900 lbs/acre</u> to be eligible for insurance.
- For example, for the block in Figure 1, insurance would have begun in year 4 of harvestable production.
- Pass an orchard inspection

What Coverage Levels Are Available?

Coverage

- 50%, 55%, 60%, 65%, 70% or 75% of the grower's average revenue history (ARH).

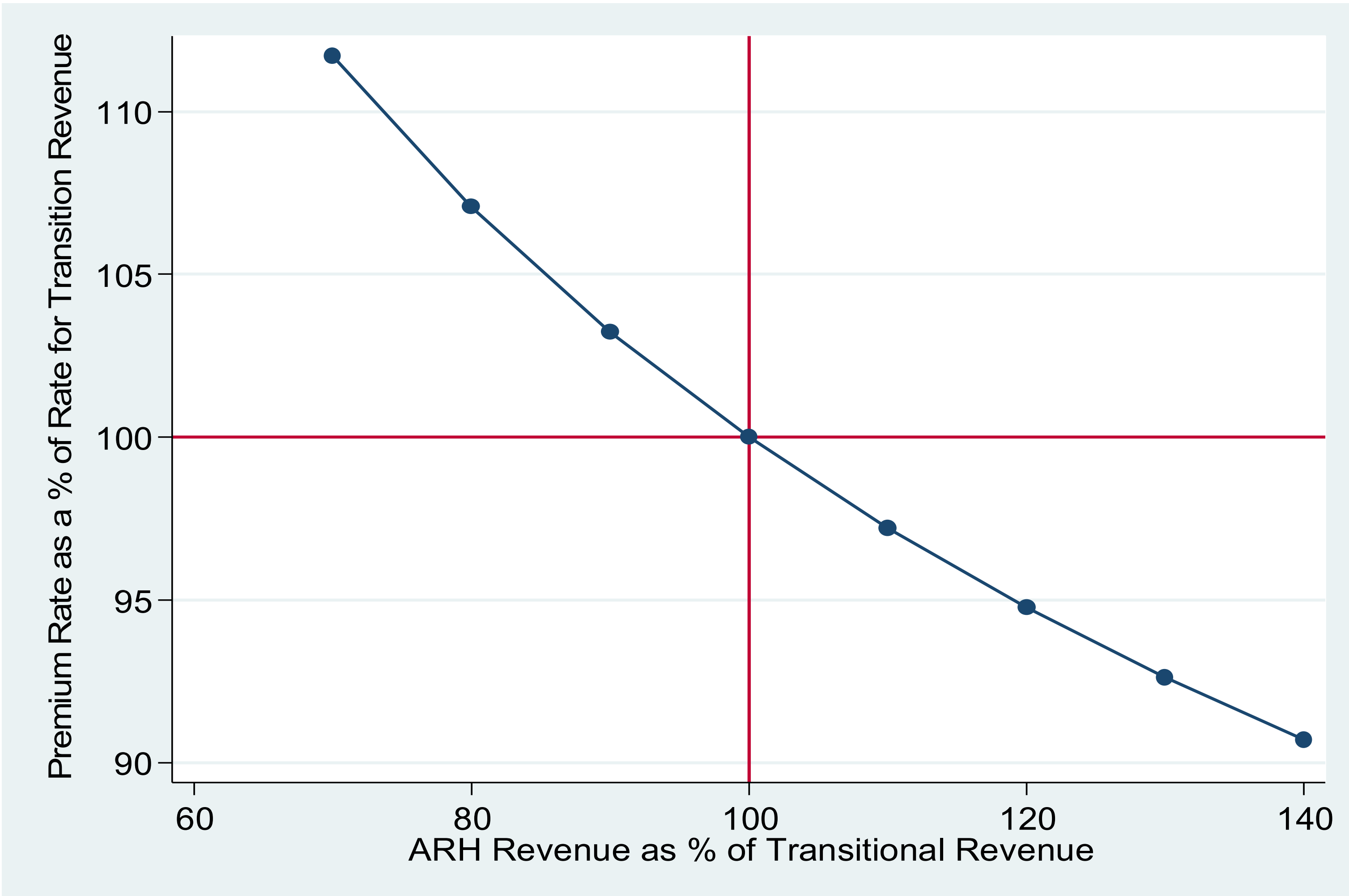
Example

- For a farm with a $2,400 / acre ARH
- Coverage Protection
  - 50% $1,200
  - 65% $1,560
  - 75% $1,800

What Does ARH insurance Cost?

- Premium will vary with the grower's actual revenue history, coverage level, and the premium rate.
- Adjustment in the premium rate for the growers ARH premium rate based on the grower's ARH relative to the county (region) transitional revenue
- Rates are a bit less for those with higher ARH's, higher for those with lower ARH's than the transitional revenue.
- For example, the base pre-subsidy rate at 65% coverage for Leelanau county for 2014 is 10% of protection; the practical range of variation is 8.5% to 11.5%

Adjust Premium Rate for ARH Relative to Transition Revenue



Example: $1,800/acre ARH. 10% pre-subsidy rate for 65% coverage

Coverage	Protection ($/acre)	Rate relative to rate at 65% coverage	Adjust for ARH relative to transition revenue	Farm pay (% of un-subsidized premium)	Farm pay premium rate (/ $ Protection)	Premium ($/ acre)
50%	$900	0.800	100%	33%	2.64%	$23.76
60%	$1,080	0.932	100%	36%	3.36%	$36.24
65%	$1,170	1.000	100%	41%	4.10%	$47.97
70%	$1,260	1.086	100%	41%	4.45%	$56.10
75%	$1,350	1.183	100%	45%	5.32%	$71.87

Example: $2,400/acre ARH. 10% pre-subsidy rate for 65% coverage

Coverage	Protection ($/acre)	Rate relative to rate at 65% coverage	Adjust for ARH relative to transition revenue	Farm pay (% of un-subsidized premium)	Farm pay premium rate (/ $ Protection)	Premium ($/ acre)
50%	$1,200	0.800	92%	33%	2.43%	$29.13
60%	$1,440	0.932	92%	36%	3.09%	$44.43
65%	$1,560	1.000	92%	41%	3.77%	$58.82
70%	$1,680	1.086	92%	41%	4.09%	$68.79
75%	$1,800	1.183	92%	45%	4.90%	$88.12

Cost /lb Yield Underlying ARH policy

- 65% coverage: about 0.7 ₵ / lb
- 75% coverage: about 1.0 ₵ / lb

Points to consider:

- Prediction of bad events, by their very nature, is very difficult.
  - Regions in Iowa experienced droughts in 1980, 1983, and 1988. Excess moisture in 1992. Indemnities received far exceeded premiums for decade.
  - The next big drought was in 2012. Indemnities were less than premiums for two decades.
- Tart cherry ARH premium rates in Michigan are lower than the loss experience of the last 15 years but higher than the loss experience of the last 35 years.

Points to consider:

- ARH insurance is different than most property-casualty lines of insurance
  - The probability of one or more bad events <u>over a generation</u> is higher than under most P&C lines.
  - ARH is subsidized
  - For individuals whose risk is properly classified, <u>over a generation</u> total indemnities received will typically be similar to total premiums paid.

Points to consider:

- Diversification reduces financial risk exposure when the enterprise revenues are not highly positively correlated.
  - Diversification strategy is ineffective against a 2012 type crop development and freeze events.
  - In 2012, most perennial crops on diversified fruit farms were hard hit including zero yields.