

Crop Insurance and NAP: Impact in a Catastrophic Year

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Crop insurance and NAP (non-insured crop disaster assistance program) are USDA programs available to help growers off-set crop losses. Congress authorized the Federal Crop Insurance Corporation in 1938 and in 1980 it passed the Federal Crop Insurance Act. NAP coverage was instituted as a provision of the Federal Agriculture Improvement and Reform Act of 1996 and is administered by USDA-FSA.

Crop insurance is available for apples across CT which means apples are not eligible for NAP coverage. Crop insurance is available for peaches only in Litchfield and Middlesex counties, and other counties by written agreement if specific criteria are met. Peaches are eligible for NAP coverage in all counties except Litchfield and Middlesex.

One issue that has come up over the years is whether crop insurance and NAP are cost effective. Crop losses that trigger a payout do not happen every single year for any one grower but may happen periodically, particularly with climate change. For this study, we examined the cost of both crop insurance and NAP over the past 5 years at different coverage levels, and the payout received for a catastrophic loss in 2016 from the Valentine’s day sub-zero freeze and the multiple frost events in April for apples and peaches.

Table 1:

**Multi-Peril Crop Insurance for Apples - Hypothetical Loss Scenario 5 Years 2012-2016.
No Losses 2012 thru 2015. 100% Loss 2016**

Hartford County -20 Acres - Average Production 450 bu/Acre - 42 lb bushel boxes
Fresh Fruit Option added

Coverage Level at 100% market price	Crop	Acres	Average Production	Total sum producer premium for years 2012 thru 2016	Indemnity for 100% Crop Loss in the Year 2016
50/100	Apples	20 Ac	450 Bu/Acre	\$20,860	\$71,775
55/100	Apples	20 Ac	450 Bu/Acre	\$27,007	\$78,953
60/100	Apples	20 Ac	450 Bu/Acre	\$31,971	\$86,130
65/100	Apples	20 Ac	450 Bu/Acre	\$42,692	\$93,308
70/100	Apples	20 Ac	450 Bu/Acre	\$51,516	\$100,485
75/100	Apples	20 Ac	450 Bu/Acre	\$67,226	\$107,663

Table 2:

**Multi-Peril Crop Insurance for Peaches - Hypothetical Loss Scenario 5 Years 2012-2016.
No Losses 2012 thru 2015. 100% Loss 2016**

Middlesex County - 4 Acres - Average Production 200 bu/Acre - 50 lb bushel boxes

Coverage Level at 100% market price	Crop	Acres	Average Production	Total sum producer premium for years 2012 thru 2016	Indemnity for 100% Crop Loss in the Year 2016
50/100	Peaches	4 Ac	200 Bu/Acre	\$5,293	\$20,600
55/100	Peaches	4 Ac	200 Bu/Acre	\$6,741	\$22,660
60/100	Peaches	4 Ac	200 Bu/Acre	\$7,731	\$24,720
65/100	Peaches	4 Ac	200 Bu/Acre	\$10,025	\$26,780
70/100	Peaches	4 Ac	200 Bu/Acre	\$12,141	\$28,840
75/100	Peaches	4 Ac	200 Bu/Acre	\$16,119	\$30,900

In both crop insurance examples (Tables 1 & 2), the premiums paid for the 5-year period were recouped in full plus additional funds.

On a per acre basis for **apples**, the estimated payment minus the 5-year cost works out to be
 \$2,545.75 for 50/100 coverage
 \$2,597.30 for 55/100 coverage
 \$2,707.95 for 60/100 coverage
 \$2,530.80 for 65/100 coverage
 \$2,448.45 for 70/100 coverage
 \$2,021.85 for 75/100 coverage

On a per acre basis for **peaches**, the estimated payment minus the 5-year cost works out to be
 \$3,826.75 for 50/100 coverage
 \$3,979.75 for 55/100 coverage
 \$4,247.25 for 60/100 coverage
 \$4,188.75 for 65/100 coverage
 \$4,174.75 for 70/100 coverage
 \$3,695.25 for 75/100 coverage

Looking at **NAP** for peaches (Table 3) for the same 5-year period, the total cost of premiums at 50/55 coverage was \$1,250 with a payout for the 2016 crop loss of \$16,559. The net gain was \$15,309. With 4 buy-up levels available in 2015 and 2016, the total premiums (basic plus buy-up) minus the payout provided a net payout range from \$24,765.68 to \$32,570.28.

Table 3:

NAP: Peaches

Coverage level	Cost Estimate per Year					Total Cost	Est Payment	Est Payment minus 5 yr cost
	2012	2013	2014	2015	2016			
Basic at 55% market price								
50/55	\$250	\$250	\$250	\$250	\$250	\$1,250.00	\$16,559.00	\$15,309.00

Buy-up at 100% market price

0.5 X	X	X	X	\$1,955.36	\$2,135.96	\$5,341.33	\$30,107.00	\$24,765.68
0.55 X	X	X	X	\$2,150.90	\$2,349.56	\$5,570.46	\$33,118.00	\$27,367.54
0.6 X	X	X	X	\$2,346.44	\$2,563.16	\$6,159.59	\$36,128.00	\$29,968.41
0.65 X	X	X	X	\$2,541.97	\$2,776.75	\$6,568.72	\$39,139.00	\$32,570.28

Producer share	1							
Acres	10							
Unharvested factor	0.74							
County Expected Yield (bu/A)	152	162	156	156	158			
Avg market price	\$40.75	\$44.50	\$47.75	\$47.75	\$51.50			

On a per acre basis for **peaches**, the estimated payment minus the 5-year cost works out to be
 \$1,530.90 for Basic coverage
 \$2,476.57 for 0.5 X buy-up
 \$2,736.75 for 0.55 X buy-up
 \$2,996.84 for 0.6 X buy-up
 \$3,257.03 for 0.65 X buy-up

Based on the data for both crop insurance and NAP, it is apparent that both are cost effective in a catastrophic year. With climate change, these catastrophic events may become more frequent.

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