Crop insurance policies for citrus growers

By Ariel Singerman

To compensate growers for losses suffered due to Hurricane Irma in 2017, the U.S. Department of Agriculture has put in place the Wildfires and Hurricanes Indemnity Program (WHIP). As part of the requirements for receiving payments from WHIP and/or the Florida Department of Agriculture and Consumer Services (FDACS) Citrus Recovery Block Grant, citrus growers will have to purchase tree and crop insurance for at least the next two seasons. This requirement seems to emphasize the trend that started nationwide with the 2014 farm bill — the increasing role of crop insurance as a key component to the grower safety net.

Federal crop insurance is provided through a partnership between public institutions and private companies. The Risk Management Agency (RMA) acts on behalf of the Federal Crop Insurance Corporation (FCIC) to administer all federal crop insurance programs. The RMA designates private insurance companies, which are in charge of marketing, underwriting, and adjusting claims for crop insurance policies.

It is important to realize that premium rates, insurance terms and conditions are established by FCIC. Therefore, the premium for a specific policy and coverage level is the same across companies. Insurance companies compete only with their knowledge, customer service and related insurance products. In addition, to increase participation in the

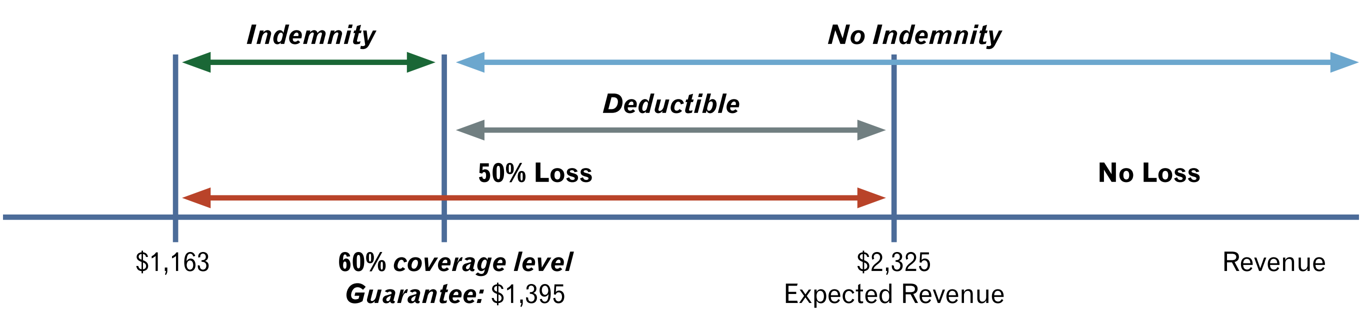

Figure 1. Illustration of the basic concepts involved in crop insurance for a 1-acre farm

program, the federal government subsidizes crop insurance premiums.

In this article, I describe the main crop insurance policies available to citrus growers and provide examples that illustrate the calculations involved. Some policies offer coverage for trees, others for production, and others for farm revenue. However, the commonality among all policies is that by purchasing crop insurance, the grower transfers part of the risk in exchange for a premium (which is the cost of purchasing insurance).

THE BASICS

At the time of enrollment, the grower needs to choose a coverage level, which determines two components of the policy. First, it determines the guarantee or liability (the amount at which the grower is insuring for). Second, the coverage level chosen also determines the deductible (the amount of loss for which the grower will not receive an indemnity for). In the event of a loss, any level below the guarantee will trigger an indemnity.

Figure 1 (page 20) illustrates the basics of how crop insurance works with a 1-acre example. Assume the grower expects revenue to be $2,325 and chooses a 60 percent coverage level. His choice of coverage level sets the guarantee at $1,395 and also establishes the premium the grower will pay for insuring at such level. If, for example, the grower experiences a 50 percent loss, the actual farm revenue will be $1,163. The indemnity will then be equal to $232, which is the difference between the guarantee and the actual farm revenue.

CAT COVERAGE

There are two insurance policies specifically available for Florida citrus growers based on reference maximum dollar amounts set by RMA: tree insurance and fruit/crop insurance. Catastrophic risk protection (CAT) is available for both policies and is set at 50 percent coverage and 55 percent of the reference dollar amount. Thus, the coverage is very limited because payments are only triggered for losses that are greater than 73 percent (= 50 percent * 55 percent) of the reference maximum dollar amount. The advantage, however, is that it is less

Table 1. Fruit Dollar Amount Policy Example for 1-Acre Farm in Polk County

Line	Risk Management Agency Terminology	
(1)	Age class	9 year old
(2)	Commodity	Oranges
(3)	Commodity type	Late season
(4)	Intended use	Juice
(5)	Reference maximum dollar amount	$2,325
(6)	Coverage Level	60%
(7)	Guarantee [(5) x (6)]	$1,395
(8)	Deductible [(5) - (7)]	$930
Base Premium Calculation		
(9)	Basic rate	0.041
(10)	Rate differential factor	0.901
(11)	Base premium rate [(9) x (10)]	0.037
(12)	Total premium [(7) x (11)]	$52
(13)	Subsidy percent	64%
(14)	Subsidized amount [(12) x (13)]	$33
(15)	Farmer premium [(12) - (14)]	$19
Indemnity Calculation		
(16)	Assumed production damwage	50%
(17)	Loss value [(5) x (16)]	$1,163
(18)	Indemnity [(7) - (17)]	$232

expensive. It costs $300 per crop per county regardless of acreage.

The majority of citrus growers in Florida choose CAT coverage for their trees and fruit. This is likely due to its low cost, together with either the need to fulfill a lender's requirement or to make themselves eligible for ad hoc hurricane relief. However, growers will have to obtain at least 60 percent buy-up coverage to fulfill WHIP and FDACS Citrus Recovery Block Grant crop insurance purchase requirements.

TREE INSURANCE

Tree insurance is based on reference prices established by RMA that differ according to tree age. For example, for oranges, growth stage III is for trees that are older than 6 years and have a reference price of $87 per tree. Causes of insurable loss under this policy are excess moisture, flooding, freeze and wind.

Coverage levels range from 50 to 75 percent (in 5 percent increments). The premium subsidy for 60 percent coverage is 64 percent, so the grower has to pay the remaining 36 percent.

FRUIT/CROP INSURANCE

Citrus fruit/crop insurance is based on a reference maximum dollar amount per acre. This policy offers coverage for fruit from trees that are at least 5 years old. Insurable causes of

Table 2. Premium Subsidy for Each Level of Whole Farm Revenue Protection Coverage and Number of Commodities Grown on the Farm

	Coverage Level							
	50%	55%	60%	65%	70%	75%	80%	85%
Minimum # Commodities Required	1	1	1	1	1	1	3	3
Basic Subsidy for 1 Commodity	67%	64%	64%	59%	59%	55%	N/A	N/A
Subsidy for 2 Commodities	80%	80%	80%	80%	80%	80%	N/A	N/A
Subsidy for 3+ Commodities	80%	80%	80%	80%	80%	80%	71%	56%

loss under this policy are excess wind, fire, freeze, hurricane, hail and tornado. Growers can choose coverage levels ranging from 50 to 85 percent (in 5 percent increments).

Table 1 (page 22) illustrates how the fruit dollar amount policy works using 1 acre of late-season oranges from 9-year-old trees located in Polk County. The reference maximum dollar amount established by RMA for 2019 is $2,325 per acre. Assuming the grower chooses the 60 percent coverage level, the guarantee is set at $1,395 and the deductible at $930. The calculations in Table 1 also show the total premium is $52, but the grower only needs to pay $19 per acre. In the case of a 50 percent loss, the amount lost would equal $1,163, triggering an indemnity of $232 so as to provide the guarantee of $1,395.

WHOLE FARM REVENUE PROTECTION

Whole Farm Revenue Protection (WFRP) is a newer policy available nationwide that provides coverage against losses in farm revenue for the entire farm. In other words, all farm revenue is insured together under one policy. Thus, individual commodity losses are not considered. The approved revenue amount under this policy is the lower of (1) historic farm revenue (5-year average based on tax records) or (2) expected revenue.

The coverage level ranges from 50 to 85 percent (in 5 percent increments). Eligibility criteria include having no more than $1 million expected revenue from animals and animal products; having no more than $1 million from greenhouse and nursery products; and the policy is available for any farm with up to $8.5 million in insured (i.e., approved) revenue. The annual sales closing date for this policy is Feb. 28.

The federal premium subsidy for WFRP depends on how diversified the farm is. As illustrated in Table 2, if only one commodity is grown on

Table 3. Whole Farm Revenue Protection Example for 1-Acre in Polk County

Line	RMA Terminology	
(1)	Allowable revenue*	
	Year 1	$2500
	Year 2	$2500
	Year 3	$2500
	Year 4	$2500
	Year 5	$2500
(2)	Average	$2500
* subject to revenue index factor: 0.8 cup and 1.2 cap		
(3)	Expected revenue	$2325
(4)	Approved revenue [min (2), (3)]	$2325
(5)	Coverage level	60%
(6)	Guarantee [(4) x (5)]	$1,395
(7)	Deductible	$930

Base Premium Calculation		**Example I:**	**Example II:**	**Example III:**
		50% Early 50% Late	50% Early 50% Mandarins	33% Early 33% Mandarins 33% Grapefruit
(8)	Weighted commodity rate	0.073	0.046	0.059
(9)	Commodity factor	1.00	0.5	0.333
(10)	Diversity factor	1.00	0.668	0.523
(11)	Premium rate [(8) x (10)]	0.073	0.031	0.031
(12)	Total premium [(6) x (11)]	$102	$43	$43
(13)	Subsidy percent	64%	80%	80%
(14)	Subsidized amount [(12) x (13)]	$65	$35	$35
(15)	Farmer premium [(12) - (14)]	$37	$9	$9

Indemnity Calculation		
(16)	Assumed production damage	50%
(17)	Loss value [(4) x (16)]	$1,163
(18)	Indemnity [(6) - (17)]	$232

the farm, the basic premium subsidy applies. But if two or more commodities are grown, the premium subsidy increases to 80 percent. However, each commodity needs to make a minimum contribution to revenue (in percentage terms) for the additional premium subsidy to apply. When two commodities are grown on the farm, each needs to contribute at least 16.67 percent to the farm's revenue. When three, four or five commodities are grown on the farm, that percentage is at least 11.11, 8.33 and 6.67 percent, respectively. Farm diversification affects not only the premium subsidy but also the premium rate; growing more commodities (up to seven) lowers the premium rate.

Table 3 illustrates how WFRP works for a 1-acre farm located in Polk County. For comparison purposes, the values chosen are similar to those in the previous example. Assuming the farm generated $2,500 in revenue for each of the past five years and is expected to generate $2,325 next year, the approved revenue is $2,325. Assuming the grower chooses the 60 percent coverage level, the guarantee is set at $1,395 and the deductible at $930. However, the premium calculations in Table 3 show how the number of commodities grown on the farm influences the premium the farmer has to pay.

Importantly, starting this year, early and late juice oranges are not considered to be different commodities for insurance purposes. Thus, for example, if each contributes 50 percent toward farm revenue, the diversity factor is still equal to 1 and the premium subsidy is 64 percent. Hence, in this example, the farmer premium is $37 per acre.

If the 1-acre farm was devoted to growing early oranges and mandarins that contributed 50 percent each toward farm revenue, then RMA considers those two to be different commodities, and the farmer premium decreases to $9 per acre. In an example in which early oranges for juice, mandarins and grapefruit are grown (which RMA considers as three different commodities), each contributing 33 percent toward farm revenue, the farmer premium also turns out to be $9 per acre. In the case of a 50 percent loss (as in the example for the fruit dollar amount policy above), the amount lost would equal $1,163, triggering an indemnity of $232.

Even though the numbers used for the examples in the fruit dollar amount policy and WFRP were purposely made to be the same, it is important to realize the significant differences between the policies and the type of coverage they offer. One of the main differences is that WFRP is based on the farm's records, not on an amount RMA establishes. In addition, the dollar amount policy covers production risk (decrease in yield), whereas WFRP covers production and market risk (decrease in both yield and price). In terms of premium, WFRP is more expensive for a single commodity but becomes significantly cheaper once two or more commodities are grown on the farm.

CONCLUSION

The requirement for citrus growers in Florida to purchase at least 60 percent buy-up crop insurance to make them eligible for relief payments from Hurricane Irma is likely signaling a future reduction in ad hoc federal disaster payments. Dollar amount policies for insuring citrus trees and fruit are based on reference prices established by RMA, not on farm's records. In addition, the coverage those policies provide are for specific perils.

WFRP allows eligible growers to insure their entire farm revenue under one policy; the subsidy and premium rate depend on the number of commodities grown on the farm. Thus, for a diversified farm that meets the eligibility criteria, WFRP might turn out to be a cheaper option relative to a dollar amount policy.

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