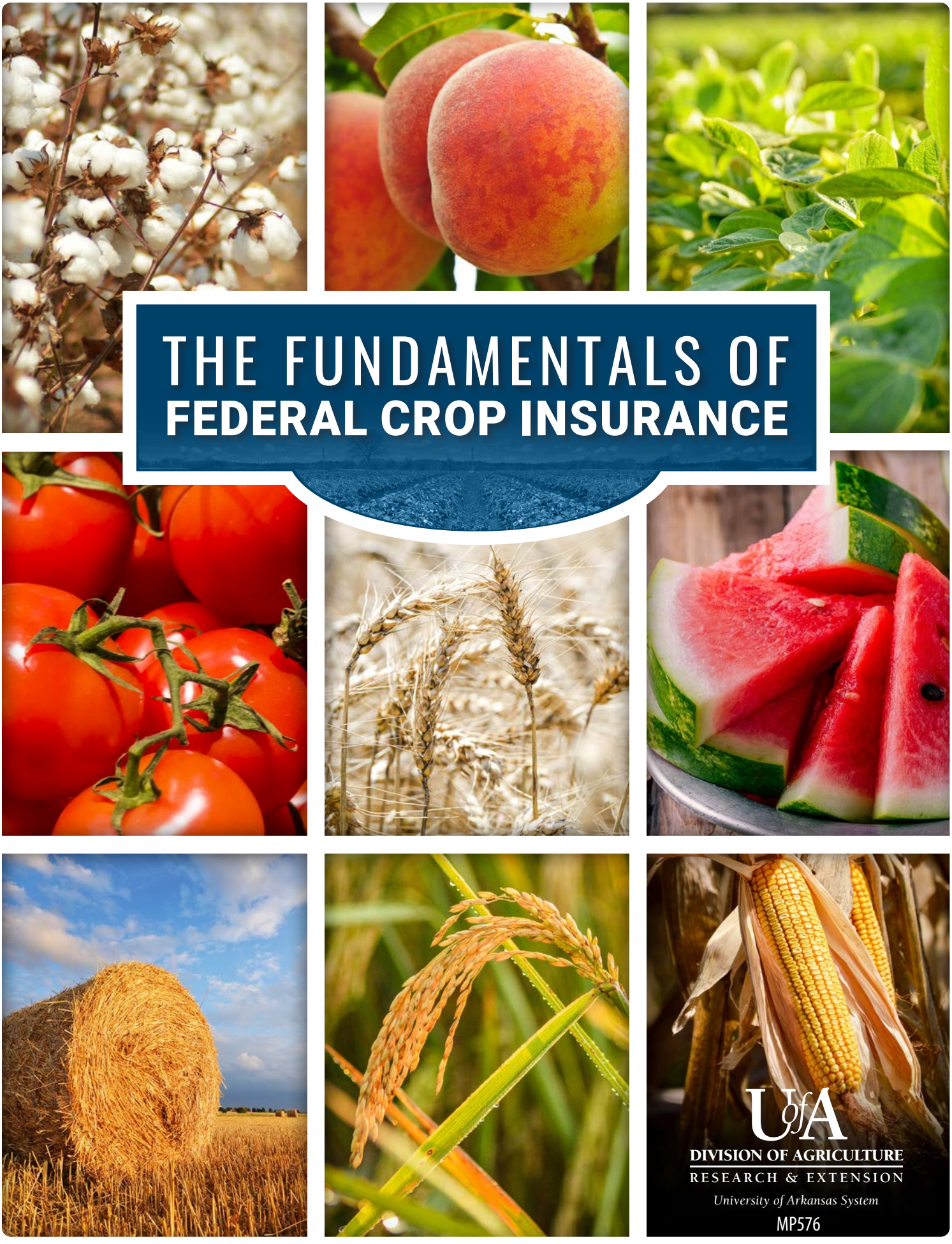

THE FUNDAMENTALS OF FEDERAL CROP INSURANCE

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The Fundamentals of Federal Crop Insurance

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A Brief History of Crop Insurance

Overview

This chapter provides the background necessary to understand why the crop insurance industry is structured the way it is today. Crop insurance as a federal program dates to 1938, five years after the passage of the 1933 farm bill under Franklin D. Roosevelt. Covered crops and the types of insurance have changed drastically over time to provide the risk management tools we now have available. The overarching story centers around the actuarial performance of U.S. crop insurance and its success hinging on the participation of producers.

An Experiment Becomes Policy: 1899-1938

Kramer (1983) provides a detailed history of crop insurance from the first year it was considered as an experiment in 1899 through the introduction of the first premium subsidy in 1980. Even though crop insurance became federally administered in 1938 through the Federal Crop Insurance Act (FCIA), crop insurance has been recorded to have existed in the United States since 1899 when a private company in Minneapolis introduced the first "all-risk" crop insurance as an experiment. In 1917, more private "all-risk" crop insurance policies were written in North Dakota, South Dakota, and Montana.

It wasn't until 1922 USDA published data on causes of crop damages which is also when Senator Charles McNary (R-OR) and the then Secretary of Agriculture Henry Wallace cite crop insurance as a national problem. While federally administered crop insurance was not included in the first farm bill, the Agricultural Adjustment Act of 1933 (AAA), it did become a presidential campaign issue in 1936 as Franklin D. Roosevelt supported federal crop insurance and his opponent, Alfred Landon, supported private crop insurance. In 1937, Roosevelt tasked a Committee on Crop Insurance to release a report on crop insurance for wheat production. Shortly after, Senate and House bills for the FCIA were passed. In 1938, Roosevelt signed the FCIA into law, introducing the first federally administered crop insurance program for wheat in the United States.

Expansion of Crop Eligibility and the First Premium Subsidy: 1940-1980

The period from 1940-1980 marked a rather large expansion of eligible crops. The primary reason wheat was the only eligible crop was because there was crop yield data available from government support programs enacted under the AAA of 1933. This yield data provided the basis for assessing actuarial performance and rating actuarial sound crop insurance. In other words, premium rates were to be established which would cover administrative expenses and indemnities paid to producers. However, as new crops were introduced, the program was not actuarially sound in practice as indemnities exceed premiums with insurance underwriting losses recorded at $11 million in 1943.

The introduction of more eligible crops began with cotton in 1941. This decision was likely heavily influenced by the president of American Farm Bureau Federation, Edward O' Neal from Alabama. Corn and tobacco became eligible for crop insurance on a trial basis in 1945, and soybeans became eligible in 1955. By 1956, 24 different crops across 948 counties were made eligible for U.S. crop insurance. Rice and peanuts became eligible in 1960 and 1962, respectively. Notably, all crop insurance to this point was strictly yield insurance insured at the county level, not farm level, and low participation rate across the U.S. plagued the actuarial performance of the program.

In 1978, the first pilot program for individual insurance was introduced as a means to increase participation since the Government Accountability Office (GAO) cited low participation as the reason the Federal Crop Insurance Corporation could not operate an "effective" disaster program. Increasing equity across all farmers was another reason individual crop insurance was introduced since individual premium rates would eliminate any differences in losses reported at the county-level versus on specific farms (i.e, basis risk would be eliminated). The last effort made to increase insurance participation in this period was the introduction of the premium subsidy under the Federal Crop Insurance Act of 1980. The subsidy rate was 30% of the actuarially fair premium for the 50% and 65% coverage levels, and the subsidy rate for the 75% coverage level was to match the dollar amount of premium for the 65% coverage level.

Mandatory Participation and Changes to the Subsidy Rate: 1994-2008

As participation rates remained low hindering the effective premium rating of crop insurance, policymakers introduced a landmark piece of legislation, the Federal Crop Insurance Reform Act of 1994 (FCIRA) (Coble and Barnett, 2008; Glauber, 2013). The FCIRA not only authorized a major increase in premium subsidy rates but also instituted mandatory participation in crop insurance for those utilizing other programs authorized under the Farm Service Agency (FSA) such as price support, production adjustment, farm loan, or other similar programs. Since not all producers wanted to participate in higher levels of crop insurance due to relatively costly premiums, the FCIRA also introduced Catastrophic (CAT) Coverage which originally insured 50% of insurable yield at 60% of the expected harvest-time market price. Today, CAT coverage is an endorsement which provides an indemnity when harvest-time yield falls below 50% of expected yield and is paid at 55% of expected price. Figure 1 shows how the pattern of crop insurance participation has changed since 1989 with the most notable increase being in 1995 reflecting the legislative changes implemented by the FCIRA of 1994.

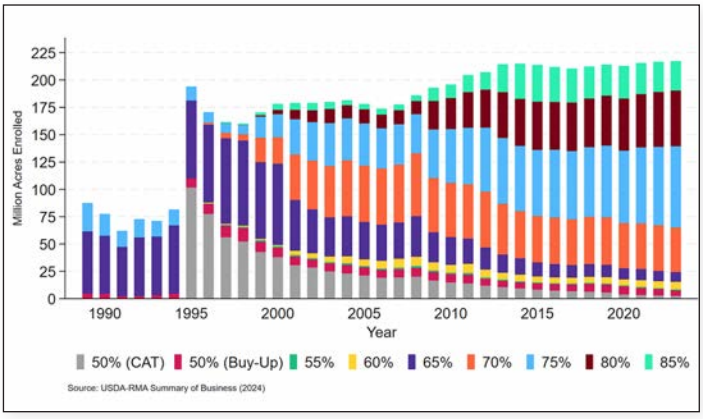

Figure 1. U.S. Crop Insurance Participation Represented by the Amount of Acres Enrolled in Individual Yield and Revenue Plans (1989-2023). Crops included: Corn, Cotton, Grain Sorghum, Rice, Soybeans, Wheat

After receiving ad hoc premium subsidies in 1999, there was another statutory change in the premium subsidy rates in 2000 through the Agricultural Risk Protection Act (Coble and Barnett, 2008). The primary motivation for these premium subsidy rate increases was not just increasing participation to increase actuarial experience but also to reduce ex post disaster assistance which largely dominated federal crop insurance before the FCIRA of 1994 (Coble and Barnett, 2008).

The last change to the subsidy rates for what is considered the traditional suite of crop insurance programs (i.e., yield and revenue[1] insurances) was in the Food, Conservation, and Energy Act of 2008, or the 2008 farm bill. This subsidy rate change came in the form of a new type of insurable unit known as the Enterprise Unit, which faces a relatively high premium subsidy rate compared to the Optional and Basic Units. Unit Structures will be discussed in a subsequent chapter.

Shallow Loss and Margin Programs: 2012-2022

Prior to the FCIA of 1980, all eligible crops could be insured under an area policy which provided coverage for county-average yields. All policies after this were largely individual policies insuring farm-level yields based on actual production history (APH). Despite area-based policies created in the 1990 farm bill, individual policies still dominate insured acreage. However, in spite of the lack of popularity in area plans, USDA-RMA introduced endorsements or products which offer supplemental protection based on county-level measures. These endorsements were designed to add-on to underlying individual protection, although a few function as a stand-alone insurance policy. These endorsements are intended to provide protection against "shallow losses", or those losses not triggered by traditional crop insurance plans

[1] Between these premium subsidy rate changes, revenue insurance was first introduced for corn and soybean producers in Iowa and Nebraska in 1996 (Glauber, 2013).

(i.e., losses less than 15% of insurable revenue).

The first of these endorsements, introduced in 2015, is the Supplemental Coverage Option (SCO) which provides additional coverage for a portion of the producer's individual insurance deductible. The Enhanced Coverage Option (ECO), introduced in 2018, provides an even higher amount of coverage for the producer's underlying deductible and may be purchased with SCO. Another endorsement a producer can pair with SCO is Hurricane Insurance Protection - Wind Index (HIP-WI) which only provides protection for counties triggered by hurricane or tropical storm events was made available for the 2020 crop year. Stacked Income Protection (STAX), introduced in 2015, and Margin Protection (MP), introduced in 2018, provide area protection but can to be added on to a traditional plan of crop insurance. STAX provides county-level revenue protection for upland cotton, while MP provides county-level protection for the difference in expected revenue and expected costs. Further details on these products will be given in a subsequent chapter.

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CHAPTER 1

Check Your Knowledge

True/False

Please circle the best answer.

1.	Crop insurance is a recent government program (after 2000).	True	False
2.	The first crop insurance premium subsidy was introduced in 1938.	True	False
3.	Catastrophic (CAT) coverage was introduced in 1994.	True	False
4.	Revenue insurance was first introduced in 1996.	True	False
5.	Enterprise Units were introduced in the 2014 farm bill.	True	False

Matching

Please match the events on the left to the correct dates on the right by writing the letter of the date of the corresponding event in the blank.

6.	First recorded introduction of crop insurance in the U.S.	_____	a. 1938
7.	Agricultural Adjustment Act	_____	b. 1978
8.	Federal Crop Insurance Act	_____	c. 1899
9.	First crop insurance premium subsidy	_____	d. 1933
10.	Pilot program for individual (farm-level) crop insurance	_____	e. 1980

The Structure of the U.S. Crop Insurance Industry

Overview

The U.S. crop insurance industry is different than the traditional property and casualty insurance industry in that its structure is defined by a public-private partnership. The U.S. Department of Agriculture Risk Management Agency (USDA-RMA) is the government agency which administers the federal crop insurance program and rates crop insurance products provided by the government. The Federal Crop Insurance Corporation (FCIC) provides the premium subsidy and administrative and operating expenses to private approved insurance providers (AIP). AIPs underwrite insurance policies to keep and to pass on to one another, and local insurance companies contract with the AIPs to sell crop insurance directly to farmers.

The Role of USDA

The U.S. government has not always played a part in the crop insurance industry. Federally sponsored crop insurance was not introduced until the authorization of the FCIC in the Federal Crop Insurance Act of 1938 (Biram and Coble, 2023). USDA-RMA oversees the FCIC and is the vehicle through which funding for Administrative and Operating Expenses, Premium Subsidy, and Reinsurance is provided. The FCIC can be considered the financial link between USDA-RMA and the AIPs. While the FCIC provides the financial support for AIPs, USDA-RMA is responsible for estimating crop insurance premium rates for all the products offered by the federal government and sold by the AIPs. However, not all private insurance companies who apply to be an AIP of federal crop insurance are necessarily selected to sell crop insurance products rated and administered by USDA-RMA.

Approved Insurance Providers

The FCIC carried out the delivery of federal crop insurance until the Federal Crop Insurance Act of 1980 which put this responsibility into the hands of private insurance companies. USDA employees were the ones responsible for selling crop insurance products, and sometimes private insurance agents would contract with USDA to deliver insurance. Now, all crop insurance is sold by several local insurance companies who enter into contracts with AIPs to receive the right to sell crop insurance products rated and administered by USDA-RMA. There are currently 12 AIPs approved by USDA to provide crop insurance through the Standard Reinsurance Agreement (SRA), which is a contract entered into between each AIP and USDA. Similarly, 11 Livestock Price Insurance Providers (LPIP) have been designated by USDA to sell livestock price insurance coverage. A list of AIPs and LPIPs (Table 1) follows.

Local Insurance Companies

AIPs do not usually sell insurance directly to agricultural producers. They contract with local insurance companies and other businesses that offer various forms of insurance, such as farm credit associations, and take on all the policies in a local insurance company's book of business. In other words, local insurance companies provide the marketing and outreach of crop insurance for AIPs in return for a fee which is agreed upon privately between the AIP and the local insurance company. Producers may individually decide where to purchase their crop insurance coverage. For a list of local crop insurance agents, please use the USDA-RMA Agent Locator.

Tying it all Together

USDA-RMA rates crop insurance products sold by AIPs and oversees the FCIC, which is the financial link between AIPs and USDA. AIPs must enter into a contract with USDA-RMA, known as the SRA, in order to sell the products rated and administered by the federal government. However, most farmers will not buy directly from AIPs but rather from their local crop insurance agent, who

Table 1. List of AIPs and LPIPs Across the U.S.[1] (2025 Crop Year)

Crop Insurance Provider	AIP	LPIP
ACE American Insurance Company (Rain and Hail, LLC)	YES	YES
American Agri-Business Insurance Company (AgriSompo North America, Inc.)	YES	YES
American Agricultural Insurance Company (American Farm Bureau Insurance Services, Inc.)	YES	YES
Clear Blue Insurance Company Precision Risk Management, LLC(PRM)	YES	NO
Country Mutual Insurance Company	YES	YES
Farmers Mutual Hail Insurance Company of Iowa	YES	YES
Great American Insurance Company	YES	YES
Hudson Insurance Company (Hudson Crop Insurance Services, Inc.)	YES	YES
NAU Country Insurance Company	YES	YES
Palomar Specialty Insurance Company (Advanced Ag Protection, LLC)	YES	YES
Producers Agriculture Insurance Company (Pro Ag Management, Inc.)	YES	YES
Rural Community Insurance Company	YES	YES

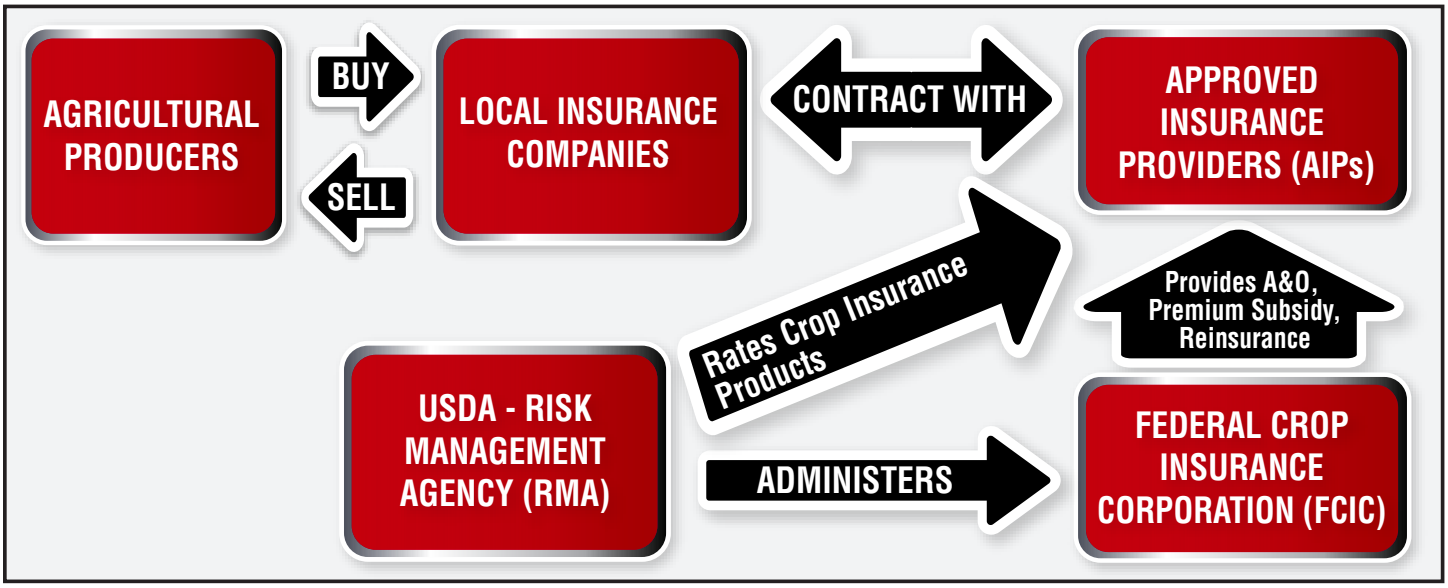
could be located anywhere in the U.S. Once producers have chosen their crop insurance products for a growing season, they will receive from their local insurance agent a Schedule of Insurance (SOI) prepared by the AIP. The SOI will contain the details of the policy, or policies, purchased by the farmer. It will contain information on product and coverage level choices, as well as information on the share of the crop insurance premium paid for by the government and by the producer. The share paid for by the government — the premium subsidy — varies across many factors and will be discussed in a subsequent fact sheet. Figure 1 gives a visual summary of the U.S. crop insurance industry.

References:

Biram, H.D. & Coble, K. H. (2023). *A Brief History of Crop Insurance*. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA70. https://www.uaex.uada.edu/publications/pdf/FSA70.pdf

[1] Importantly, AIPs and LPIPs vary from state-to-state. Please see the USDA-RMA AIP listing for a list of AIPs in your respective state

Figure 1. The Structure of the U.S. Crop Insurance Industry



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CHAPTER 2

Check Your Knowledge

True/False

Please circle the best answer.

1. The U.S. crop insurance industry can be defined as a public-private partnership. True False
2. USDA-FSA provides the financial support to AIPs selling crop insurance. True False
3. Farmers will likely purchase crop insurance from local insurance companies. True False
4. Crop insurance is available through all U.S. insurance companies True False
5. All LPIPs are also AIPs. True False

Fill-in-the-Blank

Please write out the words for which each respective acronym stands for.

6. FCIC:_____
7. RMA: _____
8. SRA:_____
9. AIP: _____
10. SOI: _____

Notes

Why Does the Federal Government Subsidize Crop Insurance?

Overview

This chapter expounds on the reasons the U.S. crop insurance program provides a subsidy for premiums paid by farmers. It focuses on five primary reasons Coble and Barnett (2013) argue crop insurance premiums are subsidized. First, the premium subsidy was introduced to incentivize more participation as charging a premium for risk coverage was difficult after years of providing coverage at a cost. Second, subsidies were introduced as an attempt to reduce ex post disaster assistance in programs which provided potentially less efficient risk protection as crop insurance. Third, farm organizations involved in the policymaking process have only become more interested in this program to support stakeholders and maintain benefits over time. Fourth, through increased participation, the loss history had an opportunity to increase, providing a way to better satisfy an important condition of an ideally insurable risk: having a large number of exposure units. Fifth, crop losses violate the independence of risks assumption with losses spanning a large area, sometimes multiple counties or entire states. The chapter concludes with a discussion of U.S. crop insurance premium subsidy rates faced by farmers today.

Figure 1. U.S. Crop Insurance Participation Measured by Total Liability and Subsidy per dollar of Liability Across All Program Crops (1948-2022) *Source: USDA-RMA Summary of Business (2023)*

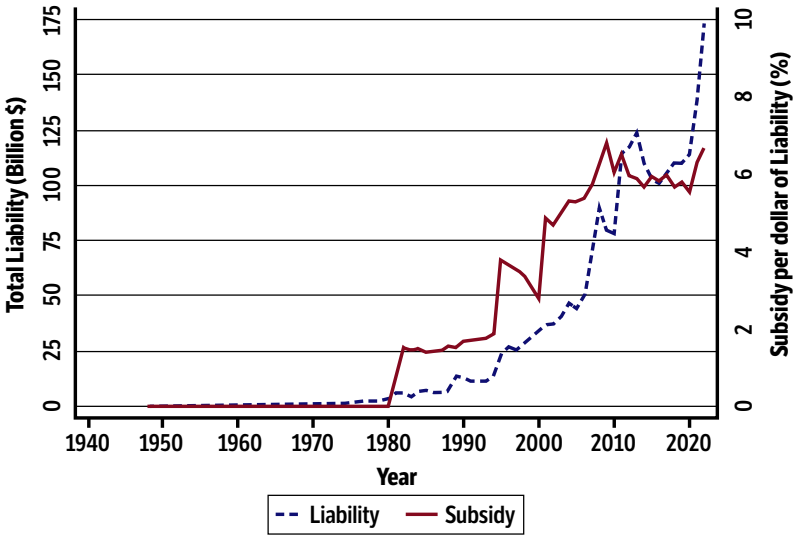
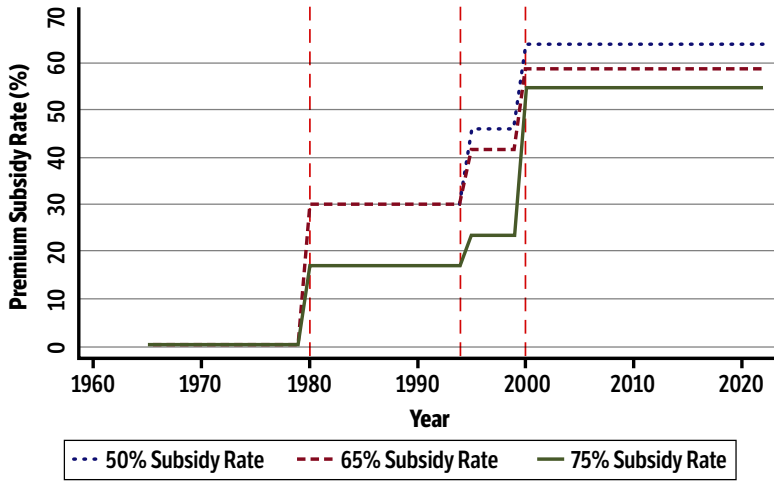


Figure 2. U.S. Crop Insurance Premium Subsidy Rates for the Basic and Optional Unit Structures (1965-2022) *Source: FCIA (1980), FCIRA (1994), ARPA (2000), Glauber (2004), FCEA (2008), Agricultural Act of 2014*



Increasing Participation

Crop insurance was first introduced as a federally sponsored program in 1938 (Biram and Coble, 2023). However, the amount of insurance purchased was little to none until the Federal Crop Insurance Act of 1980 (FCIA) when the first premium subsidy was introduced. This lack of participation leading up to the FCIA can be shown in Figure 1 which highlights the total dollar amount of liability across all crops in the U.S. While the subsidy per dollar of liability increased sharply, participation increased at a relatively slow rate and remained lower than was desired by supporters of the program (Coble and Barnett, 2013). In response, there were two more increases in the subsidy rate under the Federal Crop Insurance Reform Act of 1994 (FCIRA) and the Agricultural Risk Protection Act of 2000 (ARPA). Crop insurance liability nearly tripled as a result of these subsidy rate changes, increasing from $13.6 billion in liability

in 1994 to $36.7 billion in 2001. See Figure 2 for a visual summary of the changes to the crop insurance premium subsidy rate for the U.S. Department of Agriculture Risk Management Agency (USDA-RMA) products since 1965.

Reducing Ex Post Disaster Assistance

In 2006 and 2007, the U.S. saw widespread drought (NOAA-NCEI). There were two avenues to consider in terms of providing financial assistance to farmers: ex post disaster assistance and incentivizing participation in crop insurance. While there was one ex post disaster program introduced in the 2008 farm bill, it had strict enrollment requirements and the conditions for receiving a payment were so specific it was considered an ineffective program. Rather than continuing to provide ex post disaster assistance programs, there was a push to increase participation in individual crop insurance plans by increasing the premium subsidy rates for the more longstanding crop insurance programs (i.e., Yield and Revenue Protection). Ex post in this context means creating a support program motivated by the fact that there have been a sufficient number of disasters to justify a program which only provides financial support when a disaster has been declared by the Secretary of Agriculture, or farm-level losses greater than 50% are incurred. Notably, there has been an observed correlation between the shifting away from ex post disaster assistance, increasing the premium subsidy rate, and a shifting toward crop insurance (Coble and Barnett, 2013).

Increased Stakeholder Support

With increased participation from farmers across the country came increased interest from general farm organizations and commodity interest groups. The initial increases of the premium subsidy rate in 1980 and 1994 successfully influenced the adoption of more crop insurance participation which led to more interest in how the products were designed and how affordable the products should be for the members represented by agricultural policy advocacy groups. Therefore, changes after the initial increases of the premium subsidy rate were influenced by general farm interest groups and will likely be influenced by these same groups in future legislation.

Increasing Exposure Units

One important condition of an insurable risk is having a large number of exposure units (Rejda and McNamara, 2017). In practice, it is nearly impossible to assign an accurate risk profile with only one observation. Having more exposure units, or having longer insurance loss histories, tends to result in a more accurate representation of the true risk profile of a typical insured unit. The unit could be a car or house, and the unit could be a soybean or rice field. As more farmers enroll in products offered by the U.S. crop insurance program, the number of exposure units increases as there are now more observed outcomes which help to refine the appropriate risk profile for a given crop unit. This is another argument for providing premium subsidies since we have seen large increases in liability associated with large increases in the premium subsidy rate (see Figures 1 and 2).

Actuarial Impact of Widespread Losses

Another important condition of an insurable risk is the risk must not violate what is known as the independence of risks assumption. In essence, independence of risks means that losses across insurable units must not have any statistical relationship between them (i.e., insurable units must have zero correlation). Consider an insurance company insuring a car. When the company sells one policy to insure a car, they rest on the assumption that in the case of a car accident (i.e., the risk of losing a car), only one or two vehicles will be involved and hence will only cost the insurance company the indemnity paid to only a few cars per accident. The independence of risk assumption is violated when there is a high chance all the cars across a large region, be it a county or state, will be in the accident at the same time.

In the context of agriculture, this assumption is largely violated since the losses across counties, and occasionally states, tend to have a high degree of correlation driven by state and regional weather patterns. Unlike the car example in which there is essentially zero correlation across car accidents, there is a greater degree of all the fields of a given crop in a region facing losses at the same time. Because of this, there is a risk on the part of the insurer that there will not be enough premiums collected to satisfy the indemnities to be paid out. This is one primary motivation for the Federal Crop Insurance Corporation (FCIC) providing reinsurance, administrative, and operating expenses to Approved Insurance Providers (AIPs).

Premium Subsidy Rates Today

Crop insurance premium subsidy rates can be

[1] Liability is noted as total dollar amount of crop insurance coverage.
[2] The Supplemental Revenue Assistance program (SURE), introduced under the Food, Conservation, and Energy Act of 2008 (i.e., 2008 farm bill), is one example of an ex post disaster assistance program. Notably, the SURE program was quite difficult to enroll in and to trigger a payment from which was another avenue to disincentivizing ex post disaster assistance programs.
[3] Importantly, there is no subsidy included in the rating of the AFP in U.S. crop insurance.

Table 1. Subsidy Rates for Crop Insurance Products Administered by USDA-RMA

Coverage Level	Basic & Optional Units	Enterprise Units	SCO	ECO-RP	STAX	Margin Protection
50%	67%	80%	65%			
55%	64%	80%	65%			
60%	64%	80%	65%			
65%	59%	80%	65%			
70%	59%	80%	65%			59%
75%	55%	77%	65%		80%	55%
80%	48%	68%	65%		80%	55%
85%	38%	53%	65%		80%	49%
90%				44%	80%	44%
95%				44%		44%

The percentages shown here indicate the portion of premium paid for by the government

thought of as a government cost-share program. Crop insurance is not a zero-cost payment program where a producer receives financial support without paying for any of the protection like the Direct Payment program introduced in the 2008 farm bill. The FCIC will pay AIPs a portion of the actuarially fair premium (AFP), and the farmer will pay the other portion of the AFP. The amount of premium paid by both the FCIC and the farmer will vary by product, coverage level, and insurable unit structure. Generally, higher coverage levels will face a lower premium subsidy rate since there is a greater chance of a farmer receiving an indemnity at higher coverage levels. Crop insurance products with individual farm yield triggers will face a lower subsidy rate than those with area, or county, yield triggers. Lastly, insurable units which do not face a high level of risk aggregation (i.e., Basic and Optional Units) will face a lower subsidy rate than those with higher levels of aggregation (i.e., Enterprise Units). For a list of premium subsidy rates across popular crop insurance products see Table 1.

What is important to note here is that there are two components to the producer paid premium: the AFP and the premium subsidy rate. The AFP is the premium rate which is calculated to result in the same amount of dollars paid in (i.e., premiums) as there are dollars paid out to farmers (i.e., indemnities). In other words, under the AFP, the premiums paid by producers are to equal the indemnities paid to producers. For example, each of the coverage levels provided in Table 1 have their own AFP, and in some cases, have their own premium subsidy rate.

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CHAPTER 3

Check Your Knowledge

True/False

Please circle the best answer.

1. U.S. crop insurance has always been subsidized. True False
2. All crop insurance products face the same premium subsidy rate. True False
3. The premium subsidy can be thought of as a cost-share program. True False
4. The premium subsidy rate has remained the same across time. True False
5. The premium subsidy is considered in the actuarially fair rating of crop insurance. True False

Fill-in-the-Blank

6. The two components of a crop insurance premium rate are the _____ and _____.
7. The first premium subsidy was introduced under the _____Act of 1980.
8. The first change in the premium subsidy rate was under the _____Act of 1994.
9. The _____ pays the AIPs the government portion of the actuarial fair premium.
10. The agriculture industry faces _____ correlated risks.

(more or less)

Notes

Notes

Types of Federal Crop Insurance Products: Individual and Area Plans

Introduction

This chapter describes the primary ways in which insurance guarantees and indemnities (i.e., crop insurance payment triggers) are determined. There are two primary categories of crop insurance products: individual and area plans. Individual plans use a farm-level trigger (such as a representative yield or revenue), while area plans use an area trigger based on a larger area of land, such as a county. Understanding the differences between these types of products is crucial to assessing the trade-offs of using these products either independently or jointly.

Individual Plans

Individual plans of insurance provide yield and revenue guarantees based on the RMA's representative yield value and the Actual Production History (APH), which is an average of a farm-level yield history. There must be a minimum of four years of yield history to establish an APH for a given crop[1], and as many as 10 years of farm-level yield history can be used to determine an APH.

The most popular individual insurance plans are Yield Protection (YP), Revenue Protection (RP), and Revenue Protection with Harvest Price Exclusion (RP-HPE). All these plans use an APH yield to establish a guarantee and use annual farm-level production to determine indemnities, which is what makes them individual plans of insurance. The YP guarantee is based on insuring a specific amount of farm-level production, measured in bushels or pounds and determined by multiplying the APH and the producer's chosen coverage level. The RP and RP-HPE guarantees are based on insuring a specific amount of farm-level revenue, measured in dollars and determined by multiplying the APH, a futures price and the coverage level chosen. Subsequent chapter will describe these plans of insurance in greater detail.

Area Plans

Area plans of insurance may also provide yield and revenue guarantees. However, the key difference between area and individual plans is that area plans may use county yield or an index to determine guarantees and indemnities, while individual plans use farm-level production values to determine guarantees and indemnities. Area Risk Protection (ARP) insurance is an example of an area plan providing county-level yield protection. Current area plans of insurance that provide area yield and revenue protection include Supplemental Coverage Option (SCO) and Enhanced Coverage Option (ECO), and Stacked Income Protection (STAX[2]) only provides area revenue protection for cotton. Area plans that use an index to determine guarantees and indemnities include Pasture, Rangeland, and Forage - Rainfall Index (PRF-RI) and Hurricane Insurance Protection - Wind Index (HIP-WI). One unique area product is Margin Protection (MP), which protects against county-level margin risk, or the risk of experiencing a margin (i.e., Revenue net of Operating Cost) less than an expected margin (Biram and Stiles, 2023). Subsequent chapters will describe these area plans of insurance in greater detail.

Basis Risk

An important concept in risk management is basis risk. Basis risk generally refers to the many potential outcomes in the difference between two measures. In the context of marketing, basis refers to the difference in a local

[1] In cases where four years of individual farm-level history is not available, a county average yield called a T-yield, is used instead to calculate the APH. For a discussion of T-yields see Biram and Rainey (2023).
[2] It is important to note STAX is only available for upland cotton.

cash price and a futures price, so the basis risk is all the potential differences in these two prices. The concept applied in the context of crop insurance is primarily concerned with the differences in the farm-level yield and the county yield. Crop insurance companies will often mention there is a possibility a producer will experience a loss on the farm and not receive an indemnity for an area product, and vice-versa. In other words, the basis risk with enrolling in an area yield or area revenue plan of insurance is that a producer may experience a farm-level yield loss and not receive an indemnity under their area insurance.

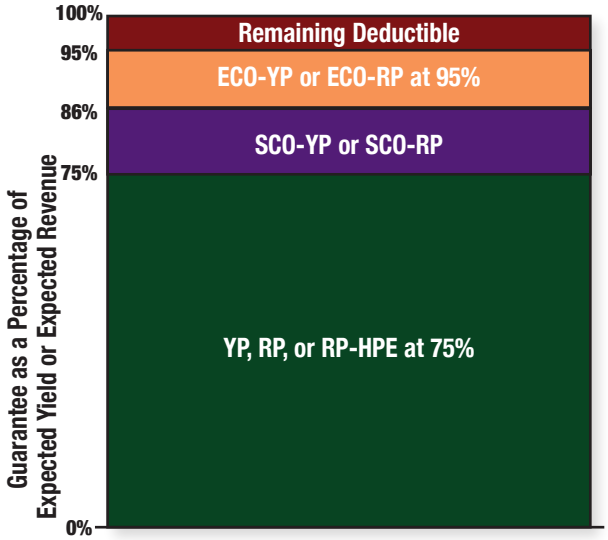
Table 1. Popular individual and area crop insurance products with associated indemnity triggers and status as a standalone product

Product	Type	Trigger	Standalone?
Yield Protection (YP)	Individual	Farm Yield	YES
Revenue Protection (RP)	Individual	Farm Revenue	YES
Revenue Protection, Harvest Price Exclusion (RP-HPE)	Individual	Farm Revenue	YES
Supplemental Coverage Option (SCO)	Area	County Yield or County Revenue	NO
Enhanced Coverage Option (ECO)	Area	County Yield or County Revenue	NO
Area Risk Protection (ARP)	Area	County Yield	YES
Margin Protection (MP)	Area	County Margin	YES
Stacked Income Protection (STAX)	Area	County Revenue	YES
Pasture, Rangeland, Forage - Rainfall Index (PRF-RI)	Area	Grid cell-specific Rainfall	YES
Hurricane Insurance Protection - Wind Index (HIP-Wi)	Area	Hurricane or Tropical Storm Incidence and Wind Speed	NO

Jointness and Overlap of Individual and Area Plans

Individual and area plans do not have to be purchased separately. In fact, most area plans are designed to be added as endorsements to an underlying individual plan of insurance. For example, a producer can enroll in RP at the 75 percent coverage level and add SCO and ECO as endorsements. Any indemnities triggered by SCO and ECO can be used to pay towards the 25 percent deductible on the underlying base RP policy. Additionally, YP can be paired with SCO and ECO. However, the protection offered by SCO and ECO are designed to reflect the underlying base policy, providing county-level yield protection when paired with YP rather than county-level revenue protection as with RP. See figure 1 for an example of how these products can work jointly. Additionally, STAX can be paired with the base YP, RP, or RP-HPE policy (see figure 2).

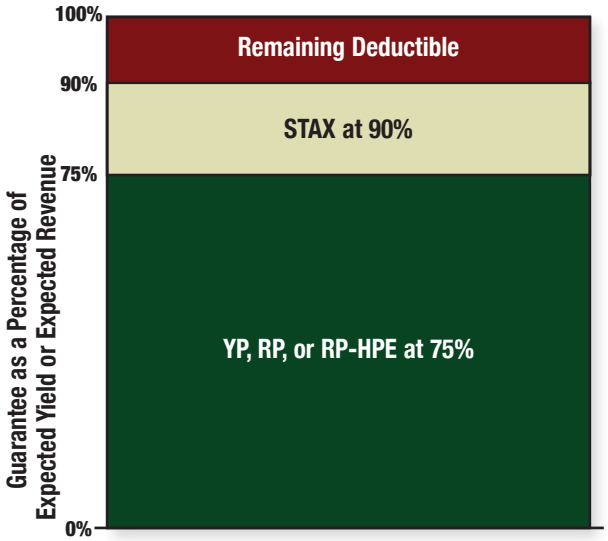
Figure 1. The Jointness of Individual and Area Products using 75% individual insurance coverage, SCO, and 95% ECO coverage as examples



Some area plans of insurance can be purchased as standalone products. Some examples of standalone area products include STAX, MP, and PRF-RI. However, it is important to consider the basis risk associated with only buying an area plan of insurance. While premiums for area plans generally face higher subsidy rates relative to individual plans (see Biram, 2023), there exists the risk that a loss is experienced at the farm level and not at the area level. Producers should consider historical farm-level loss experience to that of the county. If loss experience at the farm level tends to follow what occurs at the county level, that would imply there is lower basis risk between the farm and county. See table 1 for a list of individual and area plans, their indemnity triggers and their status as a standalone program.

While individual and area plans of crop insurance are generally designed to work in tandem with one another, there are restrictions that prevent a producer from enrolling in specific

Figure 2. The Jointness of STAX and Individual Products using 75% individual insurance coverage and 90% STAX coverage as examples



combinations of area plans. One restriction is that a producer cannot enroll in more than one area plan that offers protection in the same range of coverage. For example, MP protects six coverage levels ranging from 70-95 percent, and ECO provides protection across two coverage levels, 90 and 95 percent. Since both MP and ECO have coverage levels that overlap (i.e., 90 and 95 percent), a producer cannot enroll in both area products. Similarly, since SCO provides coverage at 86 percent, a producer cannot enroll in both SCO and MP since the coverage ranges overlap (see figure 3). Similarly, while STAX can be paired with a base individual insurance plan, STAX cannot be paired with ECO or SCO since

Figure 3. Examples of potential overlap between ECO, SCO, and MP.
Areas with hashmarks indicate areas of overlap between ECO/SCO and MP which illustrates the reason these products cannot be used jointly.

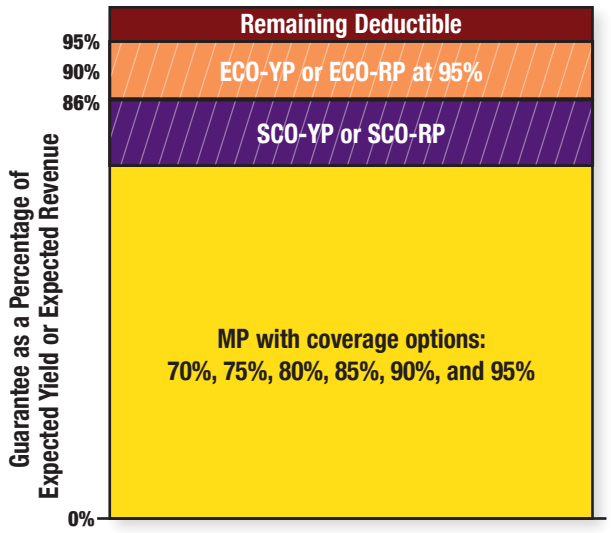
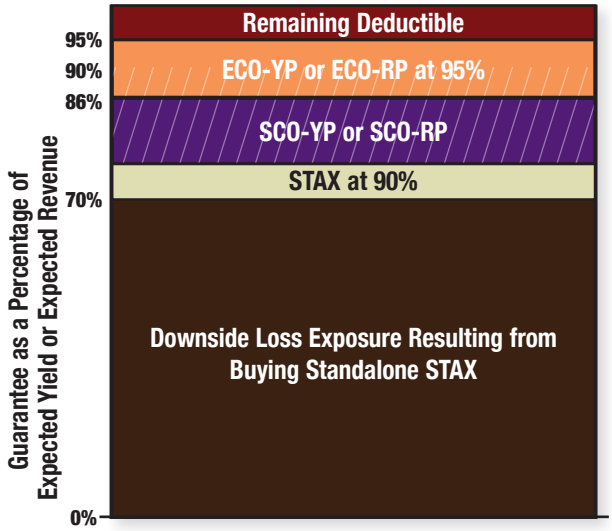


Figure 4. Examples of potential overlap between ECO, SCO, and STAX.
Areas with hashmarks indicate areas of overlap between ECO/SCO and STAX which illustrates the reason these products cannot be used jointly. Importantly, ECO and SCO cannot be purchased as standalone products as this figure might indicate. Rather, this figure is to show the potential overlap between the products.



STAX provides coverage across the range of 70-90 percent of expected county revenue which overlaps with the 86 percent coverage level of SCO and the 90 percent and 95 percent coverage levels of ECO (see figure 4).

Whole Farm Products: A Special Case of an Individual Plan of Insurance

Another type of federal crop insurance is a whole farm product. A whole farm product is like an individual plan of insurance in that a producer can get farm-level protection. However, insurance with a whole farm product is provided across all enterprises in a farming operation rather than for each enterprise. In other words, with a whole farm product, a farmer producing peaches, tomatoes and watermelons as enterprises would have to insure the expected crop revenue across all three enterprises. While farm-level protection is provided, a producer cannot insure each crop individually by farm which makes this a special case of an individual plan of insurance. Examples of whole farm products include Whole Farm Revenue Protection (WFRP) and Micro Farm Insurance (WFRP-MF). These will be discussed in more detail in a subsequent chapter.

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CHAPTER 4

Check Your Knowledge

True/False

Please circle the best answer.

1. Area products provide farm-level protection. True False
2. Individual products provide farm-level protection. True False
3. SCO can be purchased with STAX. True False
4. ECO can be purchased with SCO. True False
5. As an area product, PRF-RI is not subject to basis risk. True False

Matching

Please match the definitions on the left to the terms on the right by writing the letter of the term of the corresponding definition in the blank.

6. The many potential outcomes in the difference between two measures. _____ a. Grid-Cell
7. YP, RP, and RP-HPE are this type of federal crop insurance product. _____ b. Area
8. SCO, ECO, and MP are this type of federal crop insurance product. _____ c. Basis Risk
9. PRF-RI uses this measure to determine indemnities. _____ d. Individual
10. STAX uses this level of revenue to determine indemnities. _____ e. County

Notes

Insurable Unit Structures in Crop Insurance

Introduction

This chapter provides information on the types of insurable unit structures offered under individual[1] crop insurance programs administered by the USDA-Risk Management Agency and provides examples of how each unit structure functions.

Crops insured under individual insurances may be insured with optional, basic, enterprise or whole farm units. Basic and Optional Units allow a producer to insure at the lowest level of aggregation, while Enterprise Units provide coverage aggregated across all planted acreage under one farm business legal structure in each county. Whole Farm Units aggregate covered acres across all insurable crops in each county.

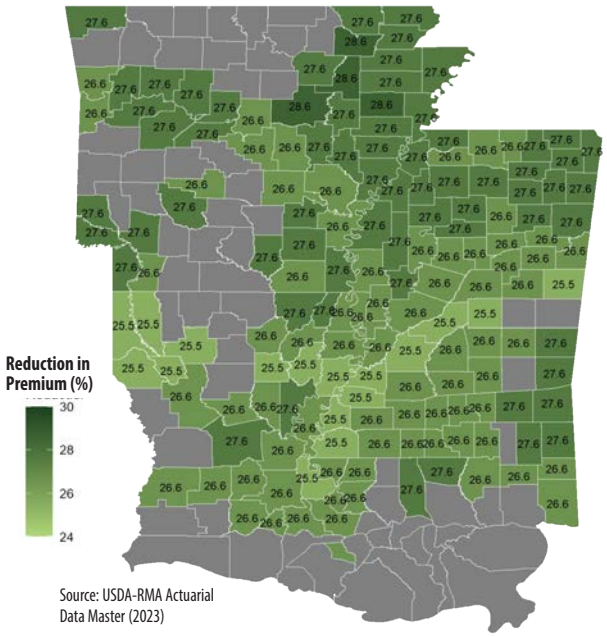
Basic Units

Basic Units allow acreage to be insured based on crop, land ownership, and rental agreements. All land under the same crop that is owned or cash rented can be considered as one Basic Unit. Insurable acreage under a crop share agreement is broken up into different Basic Units for each different landlord. A producer needs to keep production records for each Basic Unit. Basic Units may face close to a 30 percent premium discount but face the same premium subsidy rate as Optional Units (Figure 1). For more information on subsidy rates for each insurance unit type see Biram (2023).

Optional Units

Optional Units are the most specific insurance option and allow a producer to divide their Basic Units into Optional Units given several factors. For example, if a Basic Unit has segments located in two separate legal sections it can be divided into two optional units. A Basic Unit can also be divided into optional units based on if segments are irrigated or not. If half of the acreage in a Basic Unit is irrigated and half is non-irrigated then it can be divided into two Optional Units. Producers need to have production records for each Optional Unit.

Figure 1. Percentage Discount in Basic and Enterprise Units Compared to Optional Units.
(Corn at 75% YP Coverage Level)



Source: USDA-RMA Actuarial Data Master (2023)

Enterprise Units

Enterprise Units aggregate acreage across land that is either owned, cash rented or leased with a crop share agreement for each crop in a county. Producers can also create separate Enterprise Units for irrigated and non-irrigated for a given crop. Enterprise Units, like Basic Units, face as much as a 25 percent premium discount and a higher premium subsidy rate relative to Optional and Basic Units mostly because risks are aggregated across plots of land in a county. While Enterprise Units face a higher subsidy rate and therefore face lower producer-paid premiums, the risk protection can be diminished if yields are not strongly

[1]See Biram and Connor (2023) for a discussion of individual versus area plans of insurance.

correlated across insurable acreage in a county. If yields across multiple insurable plots of land are strongly correlated or tend to be the same no matter where a crop is planted in a county, then Enterprise Units could be a cost-effective way to manage risk relative to Optional or Basic Units.

Whole Farm Units

Whole Farm Units further aggregate the land by combining insurable units across crops. Whole Farm Units face a premium discount that depends on the number of crops insured under the unit and face a higher premium subsidy rate than Enterprise Units for farmers who choose to insure more than one crop under a Whole Farm Unit. The subsidy rate for Whole Farm Units is the same as that of Optional and Basic Units if there is only one commodity insured under the policy. The subsidy rate increases to 80 percent for the 50-75 percent coverage levels for farmers who insure two or more commodities. Farmers are eligible to enroll in 80 and 85 percent coverage levels if they plan to insure three or more commodities under one Whole Farm Unit.

One Crop Example

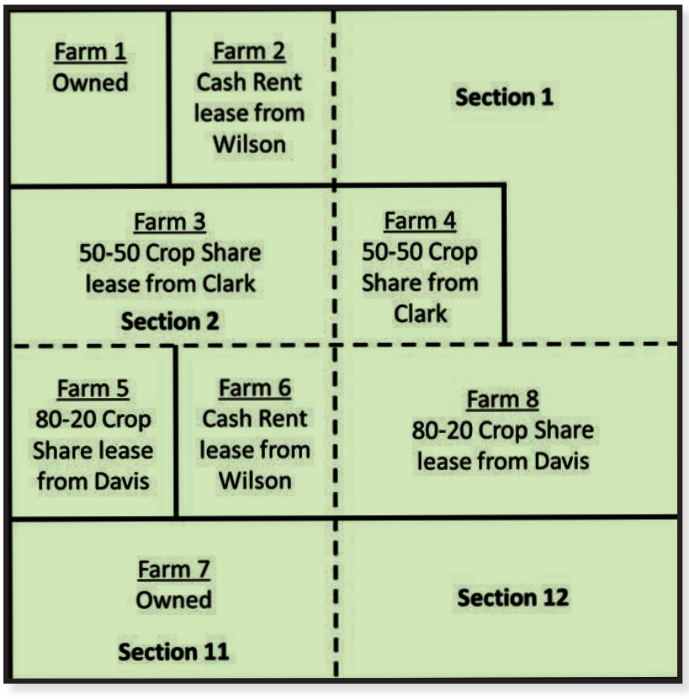


Figure 2. Example Plat Map for one crop.

Figure 2 give an example of insurable units when there is one crop across multiple sections and rental agreements in a county. In this example there are six Optional units, three Basic units, one Enterprise unit, and one Whole Farm unit. What follows is a breakdown of how the number of each type of unit is determined.

Optional Units: 6 units

1. Farm 1 (Owned) + Farm 2 (Cash Rent,Wilson)
2. Farm 3 (50-50 Crop Share, Clark, Section 2)
3. Farm 4 (50-50 Crop Share, Clark, Section 1)
4. Farm 5 (80-20 Crop Share, Davis, Section 11)
5. Farm 6 (Cash Rent, Wilson) + Farm 7 (Owned)
6. Farm 8 (80-20 Crop Share, Davis, Section 12)

Basic Units: 3 units

1. Farm 1 (Owned) + Farm 2 (Cash Rent, Wilson) + Farm 6 (Cash Rent, Wilson) + Farm 7 (Owned)
2. Farm 3 (50-50 Crop Share, Clark, Section 2) + Farm 4 (50-50 Crop Share, Clark, Section 1)
3. Farm 5 (80-20 Crop Share, Davis, Section 11) + Farm 8 (80-20 Crop Share, Davis, Section 12)

Enterprise Units: 1 unit

1. All eight farms

Whole Farm Units: 1 unit

1. All eight farms

Multiple Crops Example

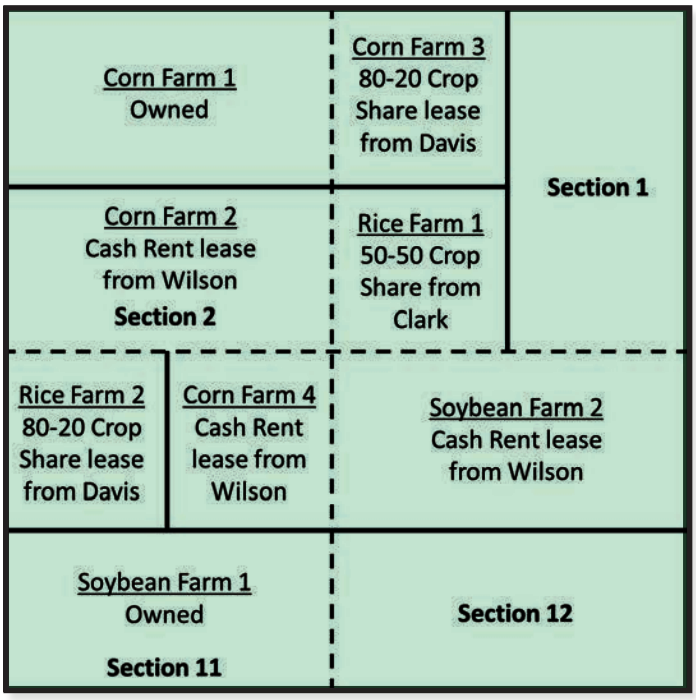


Figure 3. Example Plat Map for multiple crops.

Consider when a farmer wants to insure multiple crops under multiple ownership structures in a county (figure 3). In this example, there seven Optional units, five Basic units, three Enterprise units, and one Whole Farm unit. Below is a breakdown of how the number of each type of unit is determined.

Optional Units: 7 units

1. Corn Farm 1 (Owned) + Corn Farm 2 (Cash Rent, Wilson)
2. Corn Farm 3 (80-20 Crop Share, Davis)
3. Corn Farm 4 (Cash Rent, Wilson)
4. Soybean Farm 1 (Owned)
5. Soybean Farm 2 (Cash Rent, Wilson)
6. Rice Farm 1 (50-50 Crop Share, Clark)
7. Rice Farm 2 (80-20 Crop Share, Davis)

Basic Units: 5 units

1. Corn Farm 1 (Owned) + Corn Farm 2 (Cash Rent, Wilson) + Corn Farm 4 (Cash Rent, Wilson)
2. Corn Farm 3 (80-20 Crop Share, Davis)
3. Soybean Farm 1 (Owned) + Soybean Farm 2 (Cash Rent, Wilson)
4. Rice Farm 1 (50-50 Crop Share, Clark)
5. Rice Farm 2 (80-20 Crop Share, Davis)

Enterprise Units: 3 units

1. Corn Farm 1 (Owned) + Corn Farm 2 (Cash Rent, Wilson) + Corn Farm 3 (80-20 Crop Share, Davis) + Corn Farm 4 (Cash Rent, Wilson)
2. Soybean Farm 1 (Owned) + Soybean Farm 2 (Cash Rent, Wilson)
3. Rice Farm 1 (50-50 Crop Share, Clark) + Rice Farm 2 (80-20 Crop Share, Davis)

Whole Farm Units: 1 unit

1. All eight farms

Specialty Crop Example

Consider the case when a farmer grows peaches, sweet corn, tomatoes and watermelon all under one farm (figure 4). Since these crops are not eligible for individual insurance products that qualify for Optional, Basic and Enterprise units, these crops may be insured under a Whole Farm Revenue Protection Policy. A farmer would need to insure total revenue, summed across all crops, and would insure their revenue across the whole farm under one Whole Farm unit.

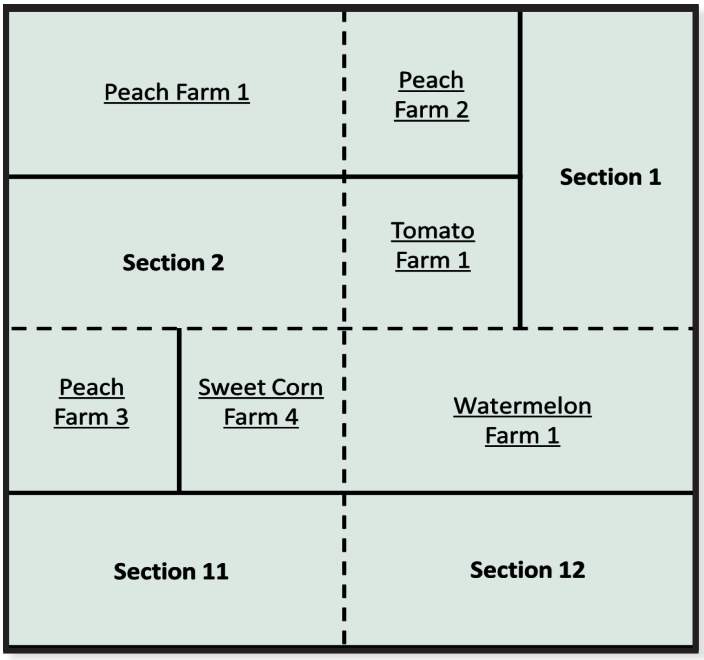


Figure 4. Example Plat Map for specialty crops.

Considerations

We have described the similarities and differences between the insurable unit structures for all major types of individual insurance products (YP, RP, RP-HPE and WFRP). Each insurable unit structure faces both a different premium structure and a different premium subsidy rate structure. Generally, Optional units face the highest producer premium and the lowest premium subsidy rate but offer better risk protection since yield and revenue losses are not aggregated across units. Conversely, Enterprise units face the lowest producer premium and the highest premium subsidy rates but offer less effective risk protection since losses are aggregated across units.

Therefore, it is important to consider the diversity of your insurable land when choosing your insurance unit. If your insurable land includes several different crops, soil types, irrigation, etc., this will impact the variability in your yield/revenue. The more variability

across insurable units, the more risk protection provided by Optional and Basic units and the lower the risk protection from Enterprise and Whole Farm units. Thus, producers who have more variability across their land could see high losses in both yield and revenue in a given year and still not receive an indemnity payment if they have Enterprise units and especially if they have Whole Farm. Understanding the differences in insurance units is important so that the risk to your farm is properly managed.

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Biram, H.D., Connor, L. (2023). *Types of Federal Crop Insurance Products: Individual and Area Plans.* University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA75.

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CHAPTER 5

Check Your Knowledge

Ordering

Please order the insurable unit structures in terms of aggregation with the units with the most aggregation being listed first and the units with the lowest level of aggregation being listed last.

Level of Aggregation	Insurable Unit Structure
1. _____	Basic
2. _____	Enterprise
3. _____	Whole Farm
4. _____	Optional

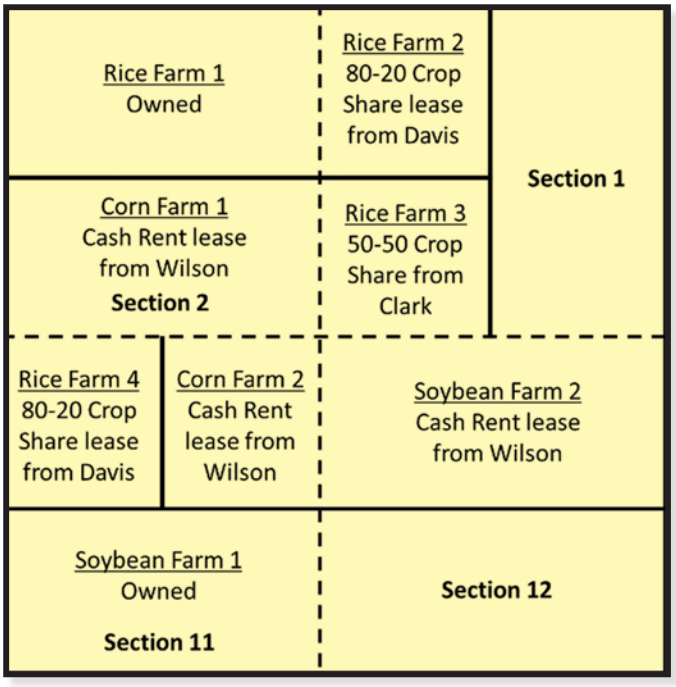
True/False

Please circle the best answer.

5. Enterprise units allow you to insure acreage by land ownership within a county. True False
6. Optional units are eligible for a premium discount. True False
7. All specialty crops must be insured under one Whole Farm unit. True False

Determining Insurable Units

An example plat map showing different ownership structures, lease agreements, and crop acreage is given below.



8. How many insurable optional units does corn have? List them below.

9. How many insurable basic units does rice have? List them below.

10. How many insurable enterprise units do soybeans have? List them below.

Notes

Notes

Individual Crop Insurance: Yield Protection

Introduction

A producer has many tools available to them to mitigate the potential losses resulting from production risks in the form of lower-than-expected yields at harvest. One way to manage farm-level yield risk is through an individual[1] Yield Protection (YP) crop insurance product. We will explain the design of YP and provide examples of how an indemnity is calculated.

Yield Protection

YP provides protection against production risk only. Coverage is based on a yield guarantee which can be found by multiplying the expected yield and a coverage level to be chosen by a producer. Expected yield is measured by the Actual Production History (APH) which is the average of a producer's yield for a given insured unit across the years for which a producer has approved yields. The minimum amount of recorded annual yields to establish an APH is four consecutive years, and the maximum amount is 10. If four years of annual yield history is not available, one or more T-yields (i.e. Transition Yields), will be substituted into the yield history. A T-yield is the county average of the farm yields for insured producers in a given county and year. YP has eight coverage level options[2], which range from 50-85% in 5% increments.

YP is designed to pay in bushels if a yield loss is triggered. However, since insurance companies do not hold grain on hand to deliver as payment, the yield loss measured in bushels per acre is multiplied by a futures price to convert the loss to a dollar amount. This futures price is called the Projected Price by USDA-RMA and is the 30-day average of the harvest month futures contract for a given crop and county. Importantly, the period for this 30-day average varies across counties with counties further south generally having earlier discovery periods and counties further north having later discovery periods due to differences in regional climate. The Projected Price discovery period for most crops and counties in Arkansas is Jan. 15 through Feb. 14. Winter wheat has a Projected Price discovery period of Aug. 15 through Sept.14.

Yield Protection Insurance Premiums

The premium, or the cost of insurance, for YP varies by county, crop, irrigation practice, unit structure, and coverage level. Generally, irrigated premium rates are lower than non-irrigated premium rates since the yield risk is lower for irrigated crops. Premiums tend to be highest for optional units with relatively lower premiums for basic units and even lower premiums for enterprise units. Premiums also tend to be higher for higher coverage levels with 85% facing the highest premium and 50% facing the lowest among coverage levels available.

Additionally, one important aspect of crop insurance which sets it apart from typical Property and Casualty insurance is that the premium paid by the producer is partially paid for by the U.S. government in the form of a subsidy. A table of coverage levels and their respective subsidy rates, which is the portion of the premium paid for by the government, is given in (Table 1). These subsidy rates are the same across all program crops, which include corn, cotton, rice, soybeans, wheat and others, and are the same across all states, counties, and irrigation practices.

[1] See Biram and Connor (2023) for a discussion of individual versus area plans of insurance.
[2] In addition to these coverage levels, catastrophic coverage (CAT) is available. The coverage levels listed here are often considered "Buy-Up" coverage levels because these levels buy up beyond CAT. Buy-Up coverage by far dominates the types of coverage in recent years whereas CAT dominated coverage level choices after it was first introduced in the 1994 Federal Crop Insurance Act to provide a way for producers to buy minimal coverage at a fee so they could participate in countercyclical commodity programs offered in Title 1 of the 2002 farm bill.

Subsidy rates differ across insurable unit[3] structures with enterprise units facing the highest subsidy rates across all eight coverage levels. For more information on the federal crop insurance premium subsidy see Biram (2023).

Table 1. Subsidy Rates for Individual Products Administered by USDA-RMA

Coverage Level	Basic & Optional Subsidy	Enterprise Unit Subsidy
50%	67%	80%
55%	64%	80%
60%	64%	80%
65%	59%	80%
70%	59%	80%
75%	55%	77%
80%	48%	68%
85%	38%	53%

Note: Percentages indicate portion of premium paid by the government.

Examples of the Indemnity Calculation and Impacts to Revenue

This section provides scenarios which show how YP indemnities are triggered for an example growing season. We will use corn prices and irrigated yields from the 2023 growing season and provide per acre returns over cost in each scenario. We assume an APH Yield of 230 bu/ac. Projected Prices are from the USDA-RMA Price Discovery Tool, the Spot Price is from USDA-AMS Arkansas Daily Cash Grain Bids week of August 29, 2023, the producer paid premium for YP is from the USDA-RMA Cost Estimator and is for Greene County, AR. We choose the Greene County producer premium because it is representative of the average premium rate paid by Arkansas producers. Key parameters4 are given below:

- APH Yield = 230 bu/acre
- Projected Price (USDA-RMA) = $5.94/bu
- Spot Price (USDA-AMS) = $4.59/bu
- Producer Premium (80% YP, Optional Units) = $76.00/ac
- Producer Premium (60% YP, Optional Units) = $32.00/ac

Scenario 1: No Crop Insurance

In this scenario, a producer chooses to take the spot price at the local grain elevator for their corn, and yield came in at 161 bu/ac. If this were the case, revenue would be $738.99/ac (161 bu/acre X $4.59/bu).

Scenario 2: 80% YP Crop Insurance

- Based on the parameters above, the actual yield fell to 30% of APH yield.
- Yield Guarantee (APH Yield X 80% Coverage Level) = 184.00 bu/ac
- Realized Yield = 161.00 bu/ac
- Indemnity ((Yield Guarantee - Realized Yield) x Projected Price) = $136.62/ac
- Producer Premium = $76.00/ac
- Indemnity net of Premium (Indemnity - Premium) = $60.62/ac
- Revenue with Net Indemnity = $799.61/ac

In this scenario, YP at 80% coverage would provide a producer with 8% more revenue compared to the case with no insurance coverage.

Scenario 3: 60% YP Crop Insurance

Under the assumptions made above, the yield guarantee for YP at 60% coverage will be less than the yield guarantee for YP at 80%. However, the premium paid by the producer will be less for YP at 60% coverage relative to YP at 80% coverage. The producer premium for YP at 60% coverage in Greene County, AR is $32.00/ac.

- Yield Guarantee (APH Yield X 60% Coverage Level) = 138.00 bu/ac
- Realized Yield = 161.00 bu/ac
- Indemnity ((Yield Guarantee - Realized Yield) x Projected Price) = $0.00/ac
- Producer Premium = $32.00/ac
- Indemnity net of Premium (Indemnity - Premium) = -$32.00/ac
- Revenue with Net Indemnity = $706.99/ac

In this scenario, YP at 60% coverage would not result in an indemnity since the realized yield is greater than the yield guarantee. Further, the producer premium must be paid which results in a 4% drop in revenue compared to Scenario 1. An important point to make here is that crop insurance is a risk transfer and will not always yield an indemnity payment. However, given the subsidized nature of the actuarially

[3] For an explanation of insurable unit structures for individual plans of crop insurance, see Biram and Mills (2023).

[4] For an analysis using a different county, crop, irrigation practice, unit structure, and coverage level, contact Dr. Hunter Biram at hdbiram@uark.edu.

fair crop insurance premium, the average indemnity paid over time (e.g., 10 years) will be greater than the producer premium. A producer should consult with their crop insurance agent and observe historical indemnity payments for insurable units on their farm to determine the best coverage level.

Conclusion

YP is an individual crop insurance product which provides protection against yield losses relative to a yield guarantee. This chapter provides the basic knowledge needed to make an informed decision to purchase YP crop insurance by explaining the yield guarantee and providing examples of when an indemnity will and will not trigger. Purchasing YP at higher coverage levels provides greater yield risk protection but comes at a higher cost in the producer premium while YP at lower coverage levels provide less yield risk protection and a lower producer premium cost. It is important to consult with your crop insurance agent to determine the best coverage level to fit your crop enterprise budget and risk protection needs.

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CHAPTER 6

Check Your Knowledge

True/False

Please circle the best answer.

1. APH stands for Actual Production History.	True	False
2. A producer needs at least 10 years of annual yields to establish an APH.	True	False
3. T-yield stands for Transitional Yield.	True	False
4. The premium subsidy rate for YP is different for different crops.	True	False
5. Producers pay the actuarially fair premium rate for YP.	True	False

Determining YP Producer Premiums

Using Table 1 from Chapter 6, determine the YP producer premium for each of the examples below. Round your answer to the nearest dollar.

Selected Coverage	Actuarially Fair Premium	Producer Premium
6. 75% coverage under an Optional Unit	$117.00/acre	_____
7. 50% coverage under a Basic Unit	$40.00/acre	_____
8. 85% coverage under an Enterprise Unit	$112.00/acre	_____

Determining YP Indemnities

You are interested in purchasing YP crop insurance at the 75% coverage level for corn, and your APH yield is 200 bushels per acre. Use the realized harvest yields below to determine your YP indemnities. The realized harvest yields reflect different yield outcomes in different growing conditions which have been determined by your crop insurance adjuster. The projected price is $5.94/bushel.

9. Realized Harvest Yield of 100 bushels per acre.

CHAPTER 6

Check Your Knowledge

Determining YP Indemnities (continued)

You are interested in purchasing YP crop insurance at the 75% coverage level for corn, and your APH yield is 200 bushels per acre. Use the realized harvest yields below to determine your YP indemnities. The realized harvest yields reflect different yield outcomes in different growing conditions which have been determined by your crop insurance adjuster. The projected price is $5.94/bushel.

10. Realized Harvest Yield of 185 bushels per acre.

Notes

Individual Crop Insurance: Revenue Protection and Revenue Protection - Harvest Price Exclusion

Introduction

A producer has many tools available to them to mitigate the potential revenue losses resulting from production and price risks in the form of lower-than-expected yields or from a fall in the crop price in the form of lower-than-expected prices at harvest. One way to manage both risks is to buy an individual revenue plan of insurance, such as Revenue Protection (RP) or Revenue Protection - Harvest Price Exclusion (RP-HPE). We will explain the design of each tool and provide examples of how an indemnity is calculated.

Revenue Protection

Revenue Protection (RP) provides protection against price and production risk. Coverage is based on a revenue guarantee which is the product of expected yield, a futures price, and a coverage level. Expected yield is measured by the Actual Production History (APH[2]) which is the average of a producer's yield for a given insured unit across the years for which a producer has approved yields. The futures contract used to calculate the revenue guarantee is the harvest-month contract and varies by crop. The harvest-month contracts[3] for corn, soybeans, rice, cotton, and winter wheat are December (ZCZ), November (ZSX), November (ZRX), December (CTZ), and July (ZWN), respectively. The last piece of the revenue guarantee is the coverage level. RP has eight coverage level options[4] to choose from which range from 50-85% in 5% increments.

The revenue guarantee is set based on the higher of the Projected Price and the Harvest Price, both of which are determined by the USDA Risk Management Agency (RMA). The Projected Price is determined for each crop by taking an average of the daily closing futures prices across a 30-day window, in early spring when crop planting would normally occur, for a given crop's harvest month contract. Similarly, the Harvest Price is determined for each crop by taking an average of the daily closing futures prices across a 30-day window, in the fall when harvest would normally occur, for a given crop's harvest month contract. A table of Projected Price and Harvest Price discovery periods by crop and their respective harvest month futures contracts is given above (Table 1).

Table 1. Price Discovery Periods for Arkansas (USDA-RMA)

Crop	Futures Contract	Projected Price	Harvest Price
Corn	DEC (ZCZ)	1/15 - 2/14	8/15 - 9/14
Cotton	DEC (CTZ)	1/15 - 2/14	10/1 - 10/31
Rice	NOV (ZRX)	1/15 - 2/14	9/1 - 9/30
Soybeans	NOV (ZSX)	1/15 - 2/14	10/1 - 10/31
Winter Wheat	JUL (ZWN)	8/15 - 9/14	6/1 - 6/30

Note: Price Discovery periods for all covered program crops can be found in the Commodity Exchange Price Provisions

The producer paid premium, or cost of insurance, for RP and RP-HPE has many similarities to those of Yield Protection[5] (YP) crop insurance. In fact, the premium for individual revenue insurances is built upon the base premium rate used for YP since all three products offer some level of yield risk protection. The key difference is that the premium for RP and RP-HPE includes the cost of protection against price volatility, so the premiums for RP and RP-HPE are generally higher compared to those of YP. All

[1] See Biram and Connor (2023) for a discussion of individual versus area plans of insurance.
[2] For details on the case where there is not enough historical yield data to calculate an APH, please read about T-yields in Biram and Rainey (2023).
[3] The harvest-month futures contracts for corn, soybeans, rice, and wheat are traded on the Chicago Mercantile Exchange (CME), and the futures contract for cotton is traded on the Intercontinental Exchange (ICE).
[4] In addition to these coverage levels, there is catastrophic coverage (CAT) available. CAT coverage provides an indemnity when losses fall below 50% of APH yield and is paid at 55% of the Projected Price. For more information on CAT coverage see Biram and Coble (2023) and Biram and Rainey (2023).
[5] See Biram and Rainey (2023) for a breakdown of the determinants of YP insurance premiums.

individual insurance premiums are shared by both the producer and the federal government (see Biram, 2023).

In calculating the indemnity, or the cash value of the loss, the realized revenue will be calculated by taking the product of a producer's realized yield, determined by a producer and crop insurance adjuster, and the higher of the Projected Price or Harvest Price determined by RMA. If the realized revenue is less than the revenue guarantee, then an indemnity equal to the difference in the revenue guarantee and the realized revenue is paid. If the realized revenue is greater than the revenue guarantee, then no indemnity is paid.

Revenue Protection - Harvest Price Exclusion

Revenue Protection - Harvest Price Exclusion (RP-HPE) also provides protection against price and production risk but faces a lower premium cost. This is because RP-HPE revenue guarantees are only based on the APH yield, Projected Price, and coverage level. The RMA-determined Harvest Price is not considered in calculating this revenue guarantee and so does not provide the opportunity for a higher revenue guarantee calculation at harvest time. If a producer has no reason to believe the crop price will rise above the Project Price, then RP-HPE is the product to choose given it faces cheaper premiums and will provide the price floor needed to keep their operation afloat. RP-HPE is calculated in a similar way to RP with the key difference being the RP-HPE revenue guarantee is found only by using the Project Price and does not allow for the option to use the higher of the RMA-determined Project Price or Harvest Price.

Examples of the Indemnity Calculation and Impacts to Revenue

This section provides scenarios to use these tools in order to minimize revenue losses experienced throughout an example growing season. We will use soybean prices and irrigated yields from the 2022 growing season and provide per acre returns over cost in each scenario. We assume an APH yield of 50 bushels per acre. The Projected Price is from the USDA-RMA Price Discovery Tool, Spot Price is from USDA-AMS Arkansas Daily Cash Grain Bids as of August 30, 2022, and crop insurance premiums for RP and RP-HPE come from the USDA-RMA Cost Estimator and are for Woodruff County, AR. We chose the Woodruff County producer premium because it is representative of the average premium rate paid by Arkansas producers. Key parameters[6] are given below:

- APH Yield = 50 bu/acre
- Realized Yield = 35 bu/acre
- Projected Price (USDA-RMA) = $13.65/bu
- Harvest Price (Forecast) = $13.87/bu
- Spot Price (USDA-AMS) = $13.62/bu
- Crop Insurance Premium (80% RP) = $35.00/ac
- Crop Insurance (80% RP-HPE) = $30.00/ac

Scenario 1: No Crop Insurance

In this scenario, a producer chooses to take the spot price at the local grain elevator for their soybeans and realized yield is 35 bu/ac. If this were the case, revenue would be $476.70/ac (35 bu/acre X $13.62/bu).

Scenario 2: 80% RP Crop Insurance

I will now provide an example of using RP crop insurance. Based on the parameters above, the realized yield fell relative to the APH yield and the Harvest Price increased relative to the Projected Price so the Harvest Price will be used for the revenue guarantee calculation. This also means the revenue guarantee will be greater for RP than for RP-HPE but at a higher premium.

- Expected Revenue (Actual Yield X Harvest Price) = $693.50/ac
- Revenue Guarantee (Expected Revenue X 80% Coverage Level) = $554.80/ac
- Realized Revenue (Realized Yield X Harvest Price) = $485.45/ac
- Indemnity (Revenue Guarantee - Realized Revenue) = $69.35/ac
- Producer Premium = $35.00/ac
- Indemnity net of Premium (Indemnity - Premium) = $34.35/ac
- Farm Revenue (Realized Yield X Spot Price) = $476.70/ac
- Farm Revenue with RP Indemnity net of Premium = $511.05/ac

In this scenario, RP at 80% coverage would

[6] For an analysis using a different county, crop, irrigation practice, unit structure, and coverage level, contact Dr. Hunter Biram at hdbiram@uark.edu.

provide a producer with 7% more revenue compared to Scenario 1.

Scenario 3: 80% RP-HPE Crop Insurance

I will now provide an example of using RP-HPE crop insurance. Under the assumptions made above, the revenue guarantee for RP-HPE will be less than the revenue guarantee for RP since the Harvest Price is higher than the Projected Price and the revenue guarantee is based on the Projected Price. However, the premium paid by the producer will be less for RP-HPE relative to RP.

- Expected Revenue (APH Yield X Projected Price) = $682.50/ac
- Revenue Guarantee (Expected Revenue X 80% Coverage Level) = $546.00/ac
- Realized Revenue (Actual Yield X Harvest Price) = $485.45/ac
- Indemnity (Revenue Guarantee - Realized Revenue) = $60.55/ac
- Producer Premium = $30.00/ac
- Indemnity net of Premium (Indemnity - Premium) = $30.55/ac
- Farm Revenue (Realized Yield X Spot Price) = $476.70/ac
- Revenue with RP-HPE Indemnity net of Premium = $507.25/ac

In this scenario, RP-HPE at 80% coverage would provide a producer with 6% more revenue compared to Scenario 1.

Conclusion

Producers face price and yield uncertainty every growing season. Individual crop revenue insurances like RP and RP-HPE provide a guaranteed revenue which is designed to minimize losses experienced from low yields and prices. However, these two products differ in the type of protection offered with RP providing protection against both the potential for price upside and downside and RP-HPE only providing protection against price downside potential. We have provided examples of how each individual crop revenue insurance product indemnity is determined and shown how RP provided more price protection than RP-HPE since the harvest-month futures contract for soybeans increased between planting and harvest. This will not always be the case, and producers should consult with their crop insurance agent before making any decisions regarding coverage.

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CHAPTER 7

Check Your Knowledge

Matching

Please match the definitions on the left to the terms on the right by writing the letter of the term of the corresponding definition in the blank.

1. Corn futures contract used to determine Projected and Harvest Prices.	_____	a. 8/15 – 9/14
2. Rice futures contract used to determine Projected and Harvest Prices.	_____	b. 1/15 – 2/14
3. Harvest price discovery period for cotton and soybeans.	_____	c. 10/1 – 10/31
4. Projected price discovery period for corn, cotton rice, and soybeans.	_____	d. NOV (ZRX)
5. Projected price discovery period for winter wheat.	_____	e. DEC (ZCZ)

Determining RP and RP-HPE Revenue Guarantees

Calculate the RP and RP-HPE revenue guarantees for each crop below using a 75% coverage level and their respective Actual Production History (APH) yields.

Crop	APH	Projected	Harvest	RP Guarantee	RP-HPE Guarantee
6. Corn	200 bu/ac	$5.75/bu	$6.58/bu	_____	_____
7. Soybeans	50 bu/ac	$13.65/bu	$12.84/bu	_____	_____
8. Rice	7500 lbs/ac	$14.50/cwt	$17.50/cwt	_____	_____

Determining RP and RP-HPE Indemnities

You are interested in purchasing RP crop insurance at the 75% coverage level for corn, and your APH yield is 200 bushels per acre. Use the realized harvest yields and harvest prices below to determine your RP and RP-HPE indemnities. The realized harvest yields reflect different yield outcomes in different growing conditions which have been determined by your crop insurance adjuster. The projected price is $4.75/bushel.

9. Using a realized harvest yield of 100 bushels per acre with a harvest price of $5.80/bu, determine the RP indemnity.

10. Using a realized harvest yield of 100 bushels per acre with a harvest price of $5.80/bu, determine the RP-HPE indemnity.

Notes

Notes

Cultivating Financial Security: A Guide on Farm Finances, Taxes, and Crop Insurance

Overview

Crop insurance as it relates to agricultural finance is important when creating financial security for a successful farm. Crop insurance has both financial and tax implications that directly impact a producer's tax bill and budget at the farm level. Understanding the impact of these factors is imperative for informed farm planning, debt financing, and determining correct taxable income during the tax reporting season. These concepts serve as foundational knowledge so a farmer can be prepared when creating budgets and managing their production and financial risk. We discuss the Schedule F tax form (e.g., profit and loss from farming) and provide a hypothetical pre-harvest budget including crop insurance. All serve to highlight the importance of planning early to find financial peace of mind when uncontrollable and catastrophic production losses occur.

A Brief History

The United States (U.S.) agricultural sector experienced the most extreme financial crisis – only superseded by the Great Depression – from 1981-1986 (Barnett, 2000). During the decade prior to 1980, a bubble (similar to the 2008 housing crisis) was created in agriculture with sharp increases in debt levels, land values, and demands for U.S. commodities leading to increased production and investment in farmland. During this time, the real price of corn increased by 35% while farmland values rose by 88% (Bergman et al. 2020). In other words, the potential for high returns in a stable sector attracted more investment in agriculture. Additionally, the U.S. tax code leading up to the 1980s created incentives for investment, with the "income tax deduction" being the most important incentive (Barnett, 2000). The income tax deduction incentive meant interest expenses could be used to reduce taxable income, thus dropping the "effective" interest rate a producer pays on a loan – creating an incentive to increase farm debt. With increasing inflation, producers and investors alike saw the need to invest their money in appreciating assets, such as farmland, rather than retaining cash reserves.

The financial crisis began in 1981 by a combination of 1) tightening monetary policy by the Federal Reserve in 1979 that increased interest rates and raised the farm debt burden, 2) the strengthening U.S. dollar making U.S. commodities more expensive in the global market, and 3) a 1980 ban on grain exported to the Soviet Union that plunged export demand (Bergman et al. 2020). These factors exacerbated leveraging issues since producers had heavily invested in agriculture during the boom of the '70s. These producers faced declining markets resulting from reduced export demand due to a strong U.S. dollar coupled with sharp increases in borrowing costs following monetary policy decisions in 1979. Thus, the 1980s in agriculture was a period of financial distress from declines in farm income, steep declines in farmland values, and tight credit conditions (Bergman et al. 2020). For example, the average value of farmland and commodity prices dropped by 50% during the farm crisis. The effects of the crisis were felt well beyond the farm gate; over 100 agricultural banks failed during this period (Barnett, 2000).

The farm crisis greatly increased producer interest in crop insurance policies as a means of stabilizing farm revenue to alleviate similar crises that could arise in the future[1]. These policies aim to strengthen the farm sector's balance sheets by providing additional tools with which producers could better manage their financial risks. Over the years, the federal crop insurance program offerings have expanded and evolved to

offer more and better risk management products. Today, by far the most popular insurance products on commercial crops are revenue protection (RP) policies, which allow producers to guarantee a designated level of revenue protection against falling commodity prices (Biram and Rainey, 2023b). RP allows producers to better equip themselves to cover farm debt obligations since they are guaranteed to receive a portion of their expected revenue.

The "Schedule F" and Tax Implications of Crop Insurance

The Schedule F (commonly referred to as the "Profit and Loss from Farming") is an Internal Revenue Service (IRS) form that allows producers to report their net profit (or losses) from agricultural production (IRS, 2022). Schedule F pertains to reporting revenues and expenses from principal farming activities, such as grain and livestock sold, income from cooperatives, farm program payments, and federal crop insurance distributions. An example Schedule F is provided in Appendix C so producers can familiarize themselves with the form and any income and cost categories included. Discussion here will not focus on the intricacies of filling out a Schedule F but will focus on crop insurance premiums and indemnities as they relate to Schedule F and taxes.

Crop insurance proceeds (or indemnities) are included on Schedule F as farm income and can be reported in several ways. Consider lines 6a-d where crop insurance income is reported. Line 6 on Schedule F is income reporting for crop insurance and federal crop disaster payments, while line 6a pertains to the amount received from these programs and 6b is the taxable amount of that income. A producer who is awarded a $50,000 crop insurance indemnity would receive a 1099-MISC from the crop insurance company containing that payment amount. The $50,000 would then be reported on line 6a as the amount received that year. The producer is then presented with two options: they can elect to have the indemnity included in that year's taxable income (in which case, the producer would include the dollar amount on line 6b) or have the income deferred to next year. Income can be deferred if, and only if, the insured crop (or crops) are typically sold the year after production (checkmark line 6c while leaving 6b blank). The deferment of income protects the producer from being taxed on excess income in one year if their regular practice would have been to sell the crop the following year (Tidgren, 2019). If crop insurance payments are deferred, next year's Schedule F would include the amount deferred from the previous year on line 6d. Furthermore, a producer is eligible to deduct their crop insurance premium expenses from their tax bill by recording the amount they paid for crop insurance policies in that year on Schedule F – Part II, line 20 (insurance (other than health)). For example, if a producer paid $40,000 in total for their premiums, then line 20 would include $40,000.

Crop Insurance and Debt Obligations

Using crop insurance to guarantee debt obligation coverage is one of many ways insurance can be used as a risk management tool. Operating loans are typically revolving lines of credit that assist in covering pre-harvest expenses (e.g., seed cost, fertilizer, fuel, etc.). Table 1 below contains example revenue and pre-harvest expenses that might be incurred by a soybean producer in Arkansas. We assume the farm-level Actual Production History (APH) soybean yield to be the state-average yield of 50 bushels per acre, and the Projected Price[2] for the 2024 growing season to be $12.60 per bushel.

Consider a producer who finances an operating loan to cover their pre-harvest expenses (e.g.,

Table 1. Simplified Sample Budget for an Arkansas Soybean Producer

REVENUE		
APH Yield	Per Acre	50
Projected Price (USDA-RMA)	Per Bushel	$12.60
Expected Revenue (324 Acres)		$204,120.00
Expected Revenue (500 Acres)		$315,000.00
PRE-HARVEST EXPENSES		
Seed	Per Acre	$57.00
Fertilizer	Per Acre	$81.55
Herbicide, Pesticide, & Fungicide	Per Acre	$155.14
Fuel (Irrigation & Equipment)	Per Acre	$29.24
Expected Pre-Harvest Expenses (324 Acres)		$104,629.32
Expected Pre-Harvest Expenses (500 Acres)		$161,465.00

*Note: 324-acre farm size was derived from the 2023 Arkansas Agriculture Profile. Pre-harvest expenses are based on the University of Arkansas' 2023 furrow-irrigated conventional soybean enterprise budget.

[1]The premium subsidy was first introduced into the federal multiple peril crop insurance (MPCI) program in 1980 with the Federal Crop Insurance Act (Biram, 2023, Biram and Coble, 2023), and crop insurance participation was relatively low until the passage of this act (Knight and Coble, 1997).

[2] See Biram and Rainey (2023a, 2023b) for more information on APH yield and the USDA-RMA Projected Price.

Table 2. Returns Above $105,000 Operating Loan (324 Acres)

	CAT COVERAGE	REVENUE PROTECTION (RP) CROP INSURANCE COVERAGE LEVEL							
OPERATING LOAN INTEREST RATE	50% Yield, 55% Price	50%	55%	60%	65%	70%	75%	80%	85%
5.00%	-$51,805.21	-$5,878.21	$4,327.79	$14,533.79	$24,739.79	$34,945.79	$45,151.79	$55,357.79	$65,563.79
5.50%	-$52,101.39	-$6,174.39	$4,031.61	$14,237.61	$24,443.61	$34,649.61	$44,855.61	$55,061.61	$65,267.61
6.00%	-$52,398.01	-$6,471.01	$3,734.99	$13,940.99	$24,146.99	$34,352.99	$44,558.99	$54,764.99	$64,970.99
6.50%	-$52,695.05	-$6,768.05	$3,437.95	$13,643.95	$23,849.95	$34,055.95	$44,261.95	$54,467.95	$64,673.95
7.00%	-$52,992.51	-$7,065.51	$3,140.49	$13,346.49	$23,552.49	$33,758.49	$43,964.49	$54,170.49	$64,376.49
7.50%	-$53,290.41	-$7,363.41	$2,842.59	$13,048.59	$23,254.59	$33,460.59	$43,666.59	$53,872.59	$64,078.59
8.00%	-$53,588.73	-$7,661.73	$2,544.27	$12,750.27	$22,956.27	$33,162.27	$43,368.27	$53,574.27	$63,780.27
8.50%	-$53,887.47	-$7,960.47	$2,245.53	$12,451.53	$22,657.53	$32,863.53	$43,069.53	$53,275.53	$63,481.53
9.00%	-$54,186.64	-$8,259.64	$1,946.36	$12,152.36	$22,358.36	$32,564.36	$42,770.36	$52,976.36	$63,182.36
9.50%	-$54,486.24	-$8,559.24	$1,646.76	$11,852.76	$22,058.76	$32,264.76	$42,470.76	$52,676.76	$62,882.76
10.00%	-$54,786.26	-$8,859.26	$1,346.74	$11,552.74	$21,758.74	$31,964.74	$42,170.74	$52,376.74	$62,582.74

*Note: Average interest rate on operating loans in Q2 2023 is 8.25% with an average loan size of $65,000 (KC-FED, 2023). CAT coverage levels based on data in Table 1 for yield and projected price are 25 bushels and $6.93, respectively.

$105,000 based on a 324-acre farm). Additionally, they elect to use RP crop insurance to guarantee a level of revenue. For example, at a coverage level of 50% the producer would be guaranteed $102,060 based on an expected revenue of $204,120 ($204,120 * 0.50 = $102,060). A producer may look to cover their operating debt obligations to manage the risk of a catastrophic loss. Will the RP guarantee cover the entire operating loan obligation? Additionally, we consider the option of a producer taking Catastrophic Risk Protection Endorsement (CAT) coverage that triggers in the event of a yield loss of 50% or more. CAT coverage provides producers with low-cost coverage on 50% of APH yield and 55% of the RMA projected price (Biram and Coble, 2023). For this chapter, we assume total yield loss (e.g., 0 bushels per acre). Tables 2 and 3 highlight realized returns to a producer net of their operating loan obligation based on a 324-acre and 500-acre farm. Returns are compared over an interest rate range of 5% to 10% (.5% increments) and RP elected coverage levels from 50% to 85% (5% increments).

If the dollar value within Table 2 is positive, then operating loan debt is covered with additional funds to pay other debt obligations. If the amount is negative, a producer would be unable to finance their entire operating loan only using RP or CAT payments. It's important to note that pre-harvest expenses are only an estimate and RP insurance premiums and CAT administrative fees are not included in this analysis.

Furthermore, we assume an annual interest rate with the producer paying the operating loan in one lump-sum at the end of harvest; that is, if the annual interest rate is 5% and payment is made at the end of harvest (assuming 9 months) with an operating loan of $105,000, the monthly payment

Table 3. Returns Above $162,000 Operating Loan (500 Acres)

	CAT COVERAGE	REVENUE PROTECTION (RP) CROP INSURANCE COVERAGE LEVEL							
OPERATING LOAN INTEREST RATE	50% Yield, 55% Price	50%	55%	60%	65%	70%	75%	80%	85%
5.00%	-$79,908.24	-$9,033.24	$6,716.76	$22,466.76	$38,216.76	$53,966.76	$69,716.76	$85,466.76	$101,216.76
5.50%	-$80,365.21	-$9,490.21	$6,259.79	$22,009.79	$37,759.79	$53,509.79	$69,259.79	$85,009.79	$100,759.79
6.00%	-$80,822.84	-$9,947.84	$5,802.16	$21,552.16	$37,302.16	$53,052.16	$68,802.16	$84,552.16	$100,302.16
6.50%	-$81,281.13	-$10,406.13	$5,343.87	$21,093.87	$36,843.87	$52,593.87	$68,343.87	$84,093.87	$99,843.87
7.00%	-$81,740.08	-$10,865.08	$4,884.92	$20,634.92	$36,384.92	$52,134.92	$67,884.92	$83,634.92	$99,384.92
7.50%	-$82,199.68	-$11,324.68	$4,425.32	$20,175.32	$35,925.32	$51,675.32	$67,425.32	$83,175.32	$98,925.32
8.00%	-$82,659.95	-$11,784.95	$3,965.05	$19,715.05	$35,465.05	$51,215.05	$66,965.05	$82,715.05	$98,465.05
8.50%	-$83,120.87	-$12,245.87	$3,504.13	$19,254.13	$35,004.13	$50,754.13	$66,504.13	$82,254.13	$98,004.13
9.00%	-$83,582.45	-$12,707.45	$3,042.55	$18,792.55	$34,542.55	$50,292.55	$66,042.55	$81,792.55	$97,542.55
9.50%	-$84,044.68	-$13,169.68	$2,580.32	$18,330.32	$34,080.32	$49,830.32	$65,580.32	$81,330.32	$97,080.32
10.00%	-$84,507.58	-$13,632.58	$2,117.42	$17,867.42	$33,617.42	$49,367.42	$65,117.42	$80,867.42	$96,617.42

would be $11,993.13 with a total pay off amount of $107,938.21 ($11,993.13 * 9 months). We find farm size may play an important part in this decision since RP indemnities increase with the number of acres despite increased production costs with increased farm size. Also, under no circumstance does CAT coverage ensure a producer that they can cover their operating loan debt at the representative loan and farm size. Tables 2 and 3 show that returns based on a 50% RP coverage level will be negative regardless of farm size. Increasing their coverage to 55% would mean a producer could guarantee covering their operating loan. In fact, at an interest rate of 7% and an RP coverage level of 55%, a producer could guarantee $10,206 and $15,750 more in revenue for a 324-acre and 500-acre farm size, respectively. Currently, a producer could expect to pay an interest rate ranging from 8 – 8.50% and would be advised to elect at least a 55% RP coverage level to ensure operating loan obligations are met.

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FSA80-PD-10-2023

CHAPTER 8

Check Your Knowledge

True/False

Please circle the best answer.

1. The farm financial crisis started in 1975. True False
2. The weakening U.S. dollar was a main cause of the farm financial crisis. True False
3. The Schedule F tax form reports revenues from grain and livestock sold. True False
4. A producer can defer crop insurance indemnities if, and only if, the insured crops are historically sold the year after production. True False

Using Crop Insurance to Secure Operating Loans

Using Tables 2 and 3 from Chapter 8, answer the following questions.

5. Does participation solely in Catastrophic Risk Protection (CAT) coverage ensure positive cash flows in the event of a catastrophic (i.e., complete) yield loss? What is your recommendation to someone wanting to enroll in CAT coverage?

6. A soybean producer who farms 324 acres (see Table 2) plans to enroll in Revenue Protection (RP) crop insurance. They have a 9.5% interest rate on their operating loan and want to guarantee at least $10,000 above their operating loan in the event of a catastrophic loss. What is the minimum RP coverage they should enroll in?

7. The same soybean producer now farms 500 acres (see Table 3) with a 9.0% interest rate on their operating loan. They want to guarantee at least $30,000 above their operating loan in the event of a catastrophic loss. What is the minimum RP coverage they should enroll in?

CHAPTER 8

Check Your Knowledge

Completing a Schedule F Tax Form

Please use the Schedule F form to answer the following questions.

8. A soybean producer receives a $70,000 RP indemnity and wants to know how to report this income on a Schedule F form. Historically, they have sold their crop the year after it was produced and are interested in minimizing taxable income this year. Where should they report their crop insurance proceeds?

Part I	**Farm Income—Cash Method.** Complete Parts I and II. (Accrual method. Complete Parts II and III, and Part I, line 9.)					
1a	Sales of purchased livestock and other resale items (see instructions)	1a				
b	Cost or other basis of purchased livestock or other items reported on line 1a	1b				
c	Subtract line 1b from line 1a				1c	
2	Sales of livestock, produce, grains, and other products you raised				2	
3a	Cooperative distributions (Form(s) 1099-PATR)	3a		3b	Taxable amount	3b
4a	Agricultural program payments (see instructions)	4a		4b	Taxable amount	4b
5a	Commodity Credit Corporation (CCC) loans reported under election				5a	
b	CCC loans forfeited	5b		5c	Taxable amount	5c
6	Crop insurance proceeds and federal crop disaster payments (see instructions):					
a	Amount received in 2022	6a		6b	Taxable amount	6b
c	If election to defer to 2023 is attached, check here ☐			6d	Amount deferred from 2021	6d
7	Custom hire (machine work) income				7	
8	Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)				8	
9	**Gross income.** Add amounts in the right column (lines 1c, 2, 3b, 4b, 5a, 5c, 6b, 6d, 7, and 8). If you use the accrual method, enter the amount from Part III, line 50. See instructions				9	

9. Consider a corn producer who receives a $40,000 RP indemnity and always sells their crop at harvest (e.g., in the same calendar year). The producer asks for your help on where to report the indemnity on their Schedule F. Please fill out the proper boxes on the example Schedule F.

Part I	**Farm Income—Cash Method.** Complete Parts I and II. (Accrual method. Complete Parts II and III, and Part I, line 9.)					
1a	Sales of purchased livestock and other resale items (see instructions)	1a				
b	Cost or other basis of purchased livestock or other items reported on line 1a	1b				
c	Subtract line 1b from line 1a				1c	
2	Sales of livestock, produce, grains, and other products you raised				2	
3a	Cooperative distributions (Form(s) 1099-PATR)	3a		3b	Taxable amount	3b
4a	Agricultural program payments (see instructions)	4a		4b	Taxable amount	4b
5a	Commodity Credit Corporation (CCC) loans reported under election				5a	
b	CCC loans forfeited	5b		5c	Taxable amount	5c
6	Crop insurance proceeds and federal crop disaster payments (see instructions):					
a	Amount received in 2022	6a		6b	Taxable amount	6b
c	If election to defer to 2023 is attached, check here ☐			6d	Amount deferred from 2021	6d
7	Custom hire (machine work) income				7	
8	Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)				8	
9	**Gross income.** Add amounts in the right column (lines 1c, 2, 3b, 4b, 5a, 5c, 6b, 6d, 7, and 8). If you use the accrual method, enter the amount from Part III, line 50. See instructions				9	

10. A producer pays a $30,000 RP premium on their soybean crop this year. They are wanting to know if this amount can be deducted from their taxes and if so, how to record the premium on Schedule F.

Part II	**Farm Expenses—Cash and Accrual Method.** Do not include personal or living expenses. See instructions.					
10	Car and truck expenses (see instructions). Also attach **Form 4562**	10		23	Pension and profit-sharing plans	23
11	Chemicals	11		24	Rent or lease (see instructions):	
12	Conservation expenses (see instructions)	12		a	Vehicles, machinery, equipment	24a
13	Custom hire (machine work)	13		b	Other (land, animals, etc.)	24b
14	Depreciation and section 179 expense (see instructions)	14		25	Repairs and maintenance	25
15	Employee benefit programs other than on line 23	15		26	Seeds and plants	26
16	Feed	16		27	Storage and warehousing	27
17	Fertilizers and lime	17		28	Supplies	28
18	Freight and trucking	18		29	Taxes	29
19	Gasoline, fuel, and oil	19		30	Utilities	30
20	Insurance (other than health)	20		31	Veterinary, breeding, and medicine	31
21	Interest (see instructions):			32	Other expenses (specify):	
a	Mortgage (paid to banks, etc.)	21a		a		32a
b	Other	21b		b		32b
22	Labor hired (less employment credits)	22		c		32c
				d		32d
				e		32e
				f		32f
33	**Total expenses.** Add lines 10 through 32f. If line 32f is negative, see instructions					33
34	**Net farm profit or (loss).** Subtract line 33 from line 9					34

Notes

Notes

Area Crop Insurance: Pasture, Rangeland, and Forage Insurance

Introduction

The types of risks that most agricultural producers are subject to can be classified as price and production risks. Price risk refers to the many different potential scenarios where realized prices differ from price expectations. Similary, production risk refers to the many different potential scenarios where realized output differs from expected output. Producers need to develop risk management plans that fit the needs and objectives of their operations to cope with both types of risk.

One production risk for livestock and forage producers is producing less forage than what is expected or needed. There are several production risks, including pests and weeds, that pose a significant risk for Arkansas forage producers. Weather is perhaps the most significant risk as it is completely out of the producer's control—for example, the quantity and timeliness of precipitation impacts forage yields. Finally, input availability and cost are also sources of forage production risk. Several tools are available to producers for livestock price risk management. There are fewer products available for forage production risk management. Historically, producers have used farm management practices to protect against forage production risk. Namely, forage diversification, soil fertility and hay tests, practices that improve soil fertility, and grazing management like the Arkansas 300 Day Grazing System[1]. A relatively new product offered by USDA's Risk Management Agency for forage production risk management is Pasture, Rangeland, and Forage Insurance (PRF).

Pasture, Rangeland, and Forage Insurance (PRF)

PRF is an area-based subsidized insurance product offered by USDA-RMA for perennial forages used for grazing or hay[2]. The program is intended to help producers cover replacement feed costs when a loss of forage for grazing or hay is experienced due to inadequate precipitation. PRF is based on a rainfall index. As a single-peril insurance product, producers receive an indemnity payment when observed precipitation for a producer's area falls below a chosen coverage level based on a historic rainfall index. Expected rainfall is insured is because it is difficult to uniformly measure forage production on farms, and it is more feasible to measure precipitation. PRF is a tool for producers to protect against forage production risk to the extent precipitation correlates with forage production.

The Grid as an Area to Measure Rainfall

Area-based multi-peril crop insurance is based on county-level yields and revenue (Biram and Connor, 2023). Area-based PRF insurance is based on a grid. The grids used by RMA are defined as 0.25 latitude by 0.25 longitude (i.e., 69 miles by 69 miles, or 4,761 square miles). For a PRF policy, a producer chooses the grid corresponding to the location of the acreage they want to insure. If a farm is in more than one grid, the producer can select either grid but not both. For example, we provide the grid information for the University of Arkansas Livestock and Forestry Research Station in Batesville, Arkansas (see Figure 1). Using RMA's PRF Support Tool (https://prodwebnlb.rma.usda.gov/apps/prf), producers can enter an address or drop a pin to find their grid.

[1] https://www.uaex.uada.edu/publications/pdf/FSA-3139.pdf
[2] There is a separate insurance product from RMA for annual forages. This program is called Annual Forage. It allows producers to purchase two insurance policies for dual-use acreage. See https://www.rma.usda.gov/Policy-and-Procedure/Insurance-Plans/Annual-Forage

Figure 1. Example PRF Grid for the UA Livestock and Forestry Research Station in Independence County, Arkansas.

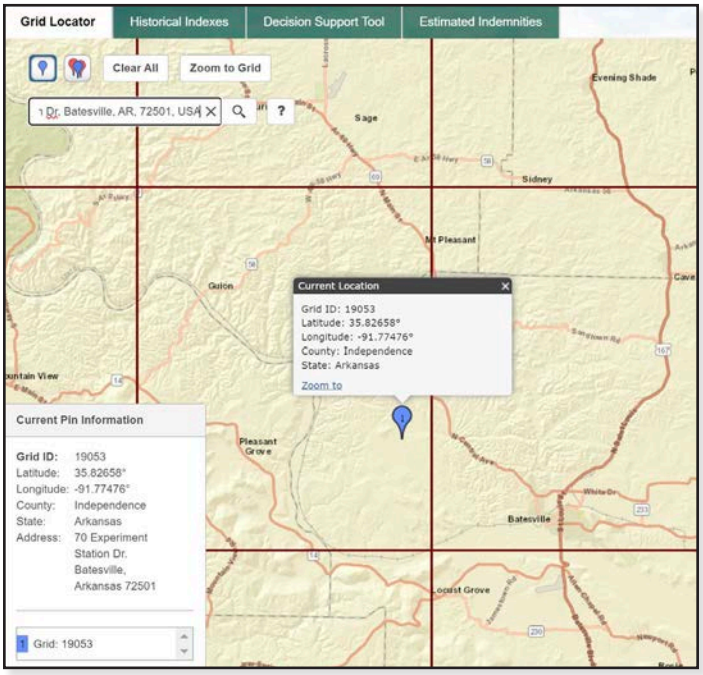
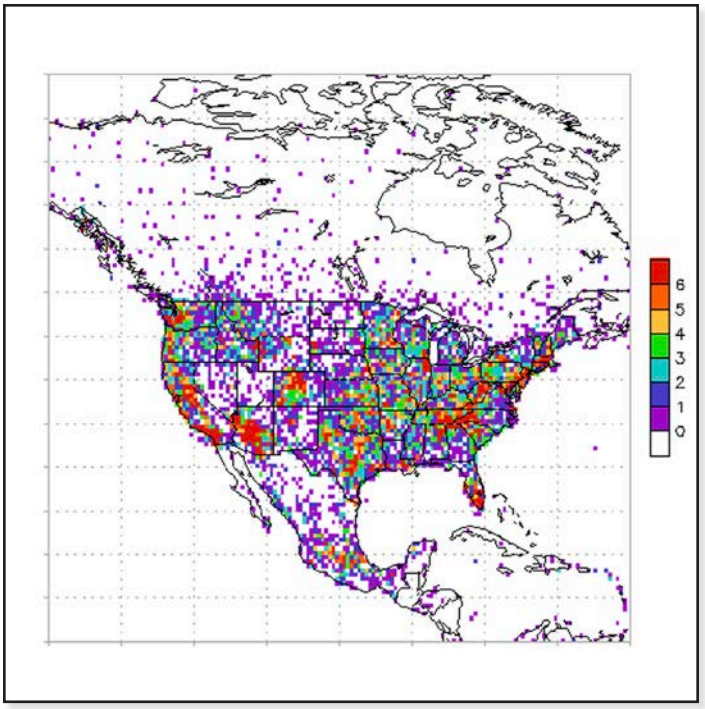


Figure 2. The number of NOAA Weather Stations within each grid



Using Historical Rainfall to Measure Expected Rainfall

Using past precipitation data for the four closest National Oceanic Atmospheric Administration (NOAA) weather stations, historical index values are calculated for eleven 2-month index intervals for each grid: Jan/Feb, Feb/Mar, Mar/Apr, Apr/May, May/Jun, Jun/Jul, Jul/Aug, Aug/Sep, Sep/Oct, Oct/Nov, and Nov/Dec. Figure 2 provides the geographic distribution of NOAA weather stations across North America and the number of weather stations inside each grid cell. For each 2-month interval, historical index values represent average precipitation for a specific grid. Rainfall index values are calculated for each interval and grid using the same four closest weather stations. The rainfall index values reflect current precipitation compared to the long-run average. Based on a chosen coverage level, the current year's rainfall index values are compared to the historical index to determine whether a producer is paid an indemnity. Importantly, an indemnity is paid when a rainfall index value is below a chosen coverage level and historical average precipitation. Basically, the coverage level determines how much below normal rainfall needs to be before an indemnity is triggered. Normal refers to the historical rainfall average.

Rainfall Index Example

Figure 3 reports historical index values for the Livestock and Forestry Research Station example for 2018-2022. The RMA website reports historical index values for each grid going back to 1948. Suppose in 2022, a producer chooses a 90% coverage level and insures value in the Oct-Nov interval. The Oct-Nov rainfall index value in 2022 was 83.0 which means rainfall was 83.0% of historical average precipitation. In the example, a loss was triggered because the rainfall index value was below the 90% coverage level. If the producer had chosen an 80% coverage level, an indemnity would not have been triggered because 83.0% is above the coverage level. Additionally, other two-month intervals which triggered an indemnity at the 90% coverage level in 2022 are the Jun-Jul and Sep-Oct intervals.

Key Decisions to Make When Choosing Coverage

Producers interested in participating in PRF will need to make several decisions about their policy that will impact premium rates and the likelihood of an indemnity payment. Producers should approach these decisions from a risk management perspective. Practically, producers also make decisions to maximize the possibility of receiving an

Figure 3. Historical Rainfall Index Values for UA Livestock and Forestry Research Station in Independence County, Arkansas , 2018-2022
Source: USDA-RMA https://prodwebnlb.rma.usda.gov/apps/prf

Year	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
2022	191.9	111.6	110.9	143.9	107.0	86.6	160.4	92.5	52.5	83.0	112.5
2021	75.2	75.7	125.4	150.9	125.6	112.8	100.3	68.0	86.1	71.2	78.2
2020	155.3	129.8	121.9	119.6	134.8	114.8	151.1	187.8	150.2	89.2	65.7
2019	157.5	133.9	104.1	164.5	145.1	81.3	108.7	93.0	77.1	109.1	76.0
2018	157.7	155.3	71.6	66.7	57.2	54.8	98.3	108.0	88.1	92.2	116.4

indemnity payment. These perspectives are not always the same.

Intended Use: Producers choose the intended use of the insured forage acreage. The options are grazing and hay. Grazing acreage has lower per acre premiums and lower per acre indemnity payments when a loss is triggered. Producers may choose to purchase a policy to insure more than one intended use.

Insured Acres: Producers choose how many acres to insure for a PRF policy. Unlike other crop insurance products, producers do not have to insure all forage acreage, though that is an option. Producers using PRF for the first time might find it beneficial only to insure part of their pasture or hay acreage.

Coverage Level: PRF coverage levels range from 70% to 90% in 5% increments. Higher coverage levels are more likely to trigger an indemnity but are also more expensive. Premium subsidy rates will also depend on the chosen coverage level (see Table 1). Subsidy rates range from 51% to 59%. Lower coverage levels have higher subsidy rates.

Productivity Factor: USDA-RMA calculates a county base value of production. Hay acreage has a higher base value of production. The productivity value allows the producer to adjust how much of the base value to cover. The productivity factor ranges from 60% to 150%, and relative to the RMA base value changes how much coverage to buy. Producers with high-quality pastureland might choose a productivity factor exceeding 100% as the value of that forage is higher relative to the county, thus requiring a higher dollar amount of coverage. Higher productivity factors are more expensive and have higher indemnity payments when a loss is triggered.

Table 1. Subsidy Schedule for PRF

COVERAGE LEVEL	PREMIUM SUBSIDY PERCENTAGE	PRODUCER PREMIUM PERCENTAGE
70%	59%	41%
75%	59%	41%
80%	55%	45%
85%	55%	45%
90%	51%	49%

Two-Month Index Intervals and Percent of Value: Producers choose which intervals to protect against low precipitation. At a minimum, producers must choose two 2-month intervals and cannot exceed six 2-month intervals. Producers should select the intervals that align with their forage production risks. For example, a producer interested in insuring acreage for

Figure 4. PRF example for UA Livestock and Forestry Research Station farm using PRF decision tool.
Source: https://prodwebnlb.rma.usda.gov/apps/prf

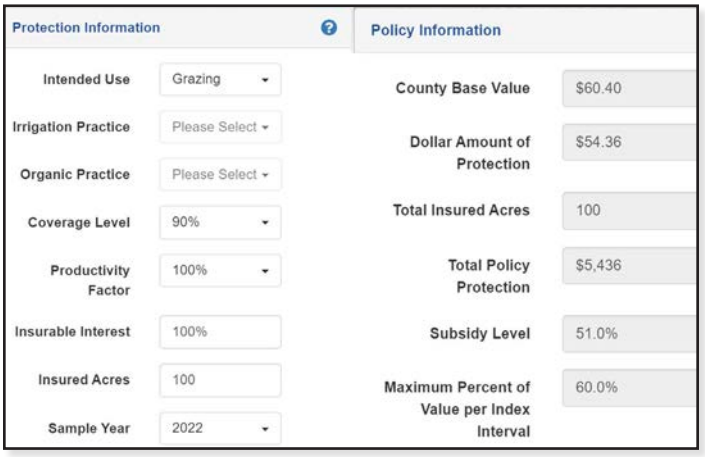


Figure 5. Estimated premiums and indemnity payments for UA Livestock and Forestry Research Station farm PRF Example

Index Interval	Percent of Value (%)	Policy Protection Per Unit	Premium Rate Per $100	Total Premium	Premium Subsidy	Producer Premium	Actual Index Value	Estimated Indemnity
Jan-Feb	15	$815	17.57	$143	$73	$70	191.9	$0
Feb-Mar	N/A	$0	13.88	$0	$0	$0	111.6	$0
Mar-Apr	20	$1,087	12.80	$139	$71	$68	110.9	$0
Apr-May	N/A	$0	13.40	$0	$0	$0	143.9	$0
May-Jun	N/A	$0	13.97	$0	$0	$0	107.0	$0
Jun-Jul	20	$1,087	12.31	$134	$68	$66	86.6	$41
Jul-Aug	N/A	$0	12.69	$0	$0	$0	160.4	$0
Aug-Sep	N/A	$0	18.09	$0	$0	$0	92.5	$0
Sep-Oct	25	$1,359	19.44	$264	$135	$129	52.5	$566
Oct-Nov	N/A	$0	17.04	$0	$0	$0	83.0	$0
Nov-Dec	20	$1,087	18.08	$197	$100	$97	112.5	$0
Per Acre	N/A	N/A	N/A	$8.77	$4.47	$4.30	N/A	$6.07
Total	100	$5,436	N/A	$877	$447	$430	N/A	$607

their Bermuda hay fields should choose intervals that match the growing season. Producers then select the percent of value to protect in each chosen interval.

Importantly, the two-month intervals may not overlap with one another under the same intended use. For example, a producer wanting to insure under the grazing intended use may not choose to insure the Jan-Feb and Feb-Mar intervals. They may insure the Jan-Feb and Mar-Apr intervals. However, producers may insure across overlapping intervals under two different intended uses.

Example of Choosing PRF-RI Coverage

USDA-RMA has a decision support tool that producers can estimate historical premiums and indemnity payments based on a chosen policy. Figure 4 provides an example for the UA Livestock and Forestry Research Station farm. In the example, the PRF policy is for 100 acres used for grazing. We will choose the highest coverage level of 90% for this example. For simplicity, we have chosen a productivity factor of 100%.

The second image in figure 4 provides calculations for the policy protection based on our protection choices. The RMA base value of production for grazing acreage in Independence County is $60.40 per acre. The dollar amount of protection is calculated by multiplying the RMA county base value, productivity factor, and coverage level. For Independence County, the base value of production is $60.40 per acre. Selecting a 100 percent productivity factor and a 90 percent coverage level gives a dollar amount of protection totaling $60.40×90%×100%=$54.36 per acre. Based on our choices, we are purchasing $5,436 of coverage, which is calculated by multiplying per acre protection ($54.36) and number of insured acres (100). The last decision we need to make is how much of the protection to assign to each 2-month interval.

Example of Estimated PRF-RI Premiums and Indemnities

Figure 5 provides the estimated premiums and indemnity payments for our Independence County, Arkansas example. For this policy, we are distributing 100% of the $5,436 worth of

coverage across five different non-overlapping intervals: Jan-Feb, Mar-Apr, Jun-Jul, Sep-Oct, and Nov-Dec. For illustrative purposes, we have chosen to distribute coverage unevenly across the five intervals by assigning 15% of total to the Jan-Feb interval, 20% to Mar-Apr, 20% to Jun-Jul, 25% to Sep-Oct, and 20% to Nov-Dec. The Percent of Value may be distributed in any amount for each interval so long as all percentages add to 100%. The reason we chose to assign the highest percentage (i.e., 25%) to Sep-Oct is because the historical index has fallen below 90% for nearly all years prior to 2022. This suggests the risk of rainfall coming in below expectation is greatest in this two-month interval.

Two conditions must first hold before an indemnity is triggered for a two-month interval. First, the Actual Index Value must fall below the chosen coverage level, which is 90% in this example. Second, there must be a Percent of Value assigned to the two-month interval in which the Actual Index Value fell below 90%. The way in which indemnities are calculated for each two-month interval is as follows:

1. Divide the Actual Index Value by the chosen coverage level. For the Sep-Oct interval, we would divide 52.5 by 90 to get 0.583.
2. Next, subtract 0.583 from 1 to get 0.417.
3. Multiply the percentage found in step 2 by the Policy Protection Per Unit, which in this case is $1,359 for Sep-Oct (i.e., 25% of $5,346), to obtain $566.

Across all two-month intervals, we paid $8.77 per acre for $54.36 per acre of protection. Based on rainfall in 2022, our estimated indemnity payment would have been $6.07 per acre.

Other Resources

RMA Website: https://www.rma.usda.gov/en/Policy-and-Procedure/Insurance-Plans/Pasture-Rangeland-Forage

PRF Support Tool: https://prodwebnlb.rma.usda.gov/apps/prf

Agent Locator: https://www.rma.usda.gov/Information-Tools/Agent-Locator

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Biram, H.D. and Connor, L. (2023). Types of Federal Crop Insurance Products: Individual and Area Plans. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA75.

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FSA81-PD-10-2023

CHAPTER 9

Check Your Knowledge

True/False

Please circle the best answer.

1. PRF provides protection against livestock price risk. True False
2. PRF is an area-based insurance product and is subject to basis risk. True False
3. PRF uses county forage yield to determine if an indemnity is triggered. True False
4. PRF allows you to overlap 2-month coverage intervals. True False
5. An Index Value above 100 indicates above average rainfall. True False

Fill-in-the-Blank

You are a hay producer looking to insure 100 acres of non-irrigated hay production at the 90% coverage level. Using Figure 5 from Chapter 9 as an example, complete the table below by calculating the producer premium and estimated indemnity for the following farm. Table 1 from Chapter 9 provides premium subsidy rates across the five coverage levels offered. Round your answers to the nearest whole dollar.

Index Interval	Percent of Value (%)	Policy Protection per Unit	Total Premium	Producer Premium	Actual Index Value	Estimated Indemnity
Jan-Feb	15	$3,078	$438		130.5	
Feb-Mar	N/A	$0	$0	$0	116.1	$0
Mar-Apr	20	$4,104	$480		117.4	
Apr-May	N/A	$0	$0	$0	123.3	$0
May-Jun	N/A	$0	$0	$0	119.3	$0
Jun-Jul	20	$4,104	$503		97.5	
Jul-Aug	N/A	$0	$0	$0	93.3	$0
Aug-Sep	N/A	$0	$0	$0	77.8	$0
Sep-Oct	25	$5,130	$921		70.7	
Oct-Nov	N/A	$0	$0	$0	102.1	$0
Nov-Dec	20	$4,104	$671		117.2	
Per Acre	**N/A**	**N/A**	**$30.12**	**$14.77**	**N/A**	**$11.00**
Total	**100**	**$20,520**	**$3,012**	**$1,477**	**N/A**	**$1,100**

Notes

Notes

Individual Crop Insurance: Whole Farm Revenue Protection and Micro Farm Insurance

Overview

Agricultural producers may choose to insure revenue earned from all crops grown on their farm using federal crop insurance products known as Whole Farm Revenue Protection (WFRP) and Micro Farm (WFRP-MF). Both products insure expected revenue at the farm level but differ in the maximum amount of insurance coverage (i.e., liability) that can be purchased. These products may insure commodity grade crops such as corn, soybeans, and rice, as well as specialty crops such as peaches, tomatoes, and watermelons. Insurable enterprises may also include organic commodities, certain livestock, and other crops that are local and directly marketed. Both products are multi-peril crop insurance products in that there are multiple insurable causes of loss covered by these products. This chapter provides a brief description of each product, provides example calculations for a revenue guarantee, producer paid premium, and indemnity, and concludes with takeaways producers should consider when visiting with their crop insurance agent.

Whole Farm Revenue Protection (WFRP)

WFRP is a crop insurance product administered by the USDA Risk Management Agency (RMA). WFRP provides protection against the risk of farm revenue falling below some level of guaranteed revenue, which is set by the product of the chosen coverage level and average revenue over a five-year period. Average revenue is the measure used for expected revenue and is found by taking an average of revenues reported each year from a Schedule F[1] farm tax form for five recent years. For example, the expected revenue for 2023 is found by taking the average of revenue reported in 2017-2021, and the expected revenue for 2024 is found by taking the average of revenue reported in 2018-2022, and so on. WFRP liability, or the value of the revenue guarantee, is capped at $17 million, so the maximum farm approved revenue, or the maximum expected revenue, will vary across coverage levels (see Table 1).

Table 1. Maximum Farm Approved Revenue by Coverage Level.

COVERAGE LEVEL	MAXIMUM FARM APPROVED REVENUE (EXPECTED REVENUE)
50%	$34,000,000
55%	$30,909,091
60%	$28,333,333
65%	$26,153,846
70%	$24,285,714
75%	$22,666,667
80%	$21,250,000
85%	$20,000,000

There are eight coverage levels available to choose from, ranging from 50-85% in 5% increments with premium subsidy rates that decrease as the coverage level increases. Prior to the 2024 insurance year, all producers could choose the coverage levels in the 50-75% range, but producers had to insure at least three or more commodities to be eligible to enroll in the 80-85% coverage levels. Now, any producer is eligible to enroll in all eight coverage levels regardless of the number of commodities being insured. Additionally, the premium subsidy rate has increased for the 2024 insurance year and subsequent years. Prior to the 2024 insurance year, producers insuring one commodity were eligible to receive the optional premium subsidy rate and were only eligible to receive the enterprise unit[2] subsidy rate if they insured two or more qualifying commodities. Producers could also receive a higher premium subsidy rate through the whole-farm premium subsidy rate if they insured three or more qualifying[3] commodities. Now, producers who insure at least one commodity are eligible to receive the enterprise

[1] See Loy and Biram (2023) for discussion of the Schedule F tax form. An example Schedule tax form is available in Appendix C.
[2] See Biram and Mills (2023) for a discussion on insurable unit structures in federal crop insurance.
[3] For a list of covered commodities under WFRP, see Appendix A.

Table 2. Premium Subsidy Rates by Unit Structure and Coverage Level (2024 Insurance Year and Subsequent Years).

COVERAGE LEVEL	ENTERPRISE UNIT SUBSIDY (ONE COMMODITY)	WHOLE FARM UNIT SUBSIDY (2 OR MORE COMMODITIES)
50%	80%	80%
55%	80%	80%
60%	80%	80%
65%	80%	80%
70%	80%	80%
75%	77%	80%
80%	68%	71%
85%	53%	56%

Note: The premium subsidy rate percentages give the portion of the actuarially fair premium paid for by the federal government (see Biram, 2023).

premium subsidy rate and are eligible to receive the whole-farm subsidy rate if they insure two or more qualifying commodities. See table 2 for a list of premium subsidy rates by coverage level.

Micro Farm (WFRP-MF)

WFRP-MF has a design like WFRP in that insurable revenue is based on revenue from multiple commodities, revenue guarantees are based on a five-year historical average, and producer premiums are eligible for the whole-farm unit premium subsidy. However, WFRP-MF only has a maximum allowable revenue of $350,000. Further, the five-year window required to establish expected revenue is different in that the most recent five years of revenue reported on the Schedule F are required rather than omitting the prior year of revenue as in WFRP. For example, expected revenue for 2024 is determined by taking the average of revenue reported in 2019-2023.

Establishing a Revenue Guarantee Using the Schedule F

While both products require a five-year revenue history, it is important to know which revenue to report when enrolling in either WFRP or WFRP-MF. Agricultural producers wanting to purchase either of these products will need their five most recent Schedule F (Form 1040) tax forms. While there are several different commonly used IRS forms upon which farm revenue is reported (e.g., Schedule J, Schedule D, Form 4835, Form 1065, Form 1120, Form 1120-S, Form 1120-C, and Form 4797), the Schedule F is the only federal tax form acceptable to purchase WFRP or WFRP-MF. If a producer uses any form other than a Schedule F to report revenue, then a Substitute Schedule F form must be completed.

If a producer qualifies as a Beginning Farmer or Veteran Farmer or Rancher (BFR/VFR), then they may qualify to purchase these insurances with three consecutive years of revenue reported by their Schedule F tax forms, or four consecutive years if the producer qualified the year prior. If a producer was physically unable to farm in one of the five required historic years but farmed in the previous year, they may not be required to provide five consecutive years of Schedule F tax forms. Lastly, if a producer is a tax-exempt entity such as a Tribal entity, they are also exempt from providing five consecutive years of revenue reported on their Schedule F.

Below we provide an example of how expected revenue is determined for WFRP in 2024 assuming we have adequate Schedule F documentation and assuming the producer does not qualify for BFR/VFR status. We then provide revenue guarantees by coverage level once Expected Revenue has been determined.

Five Consecutive Years of Revenue Reported by Schedule F Tax Forms:

- Year 1 (2018): $100,000
- Year 2 (2019): $85,000
- Year 3 (2020): $90,000
- Year 4 (2021): $105,000
- Year 5 (2022): $110,000

Expected Revenue (average of the five revenues given): $98,000.

Table 3. Revenue Guarantees by Coverage Level for the 2024 Insurance Year.

COVERAGE LEVEL	REVENUE GUARANTEE (COVERAGE LEVEL X EXPECTED REVENUE)
50%	$49,000
55%	$53,900
60%	$58,800
65%	$63,700
70%	$68,600
75%	$73,500
80%	$78,400
85%	$83,300

Calculating Producer Paid Premium for WFRP

The producer-paid premium for WFRP depends

on the coverage level selected, the number and value of qualifying crops being insured, and the specific crops being insured. While calculating the expected revenue used to determine liability adds revenue across all qualifying crops being insured, producers must attribute the percentage of the expected revenue attributable to each crop if the value for more than one crop is being insured. Let's assume the producer, whose expected revenue we found in the previous section, grows tomatoes and watermelons that have been approved as qualifying commodities to be insured under WFRP. Each crop can be attributed to 50% of the revenue reported by the Schedule F tax forms (i.e., $49,000 for each crop in each year). Since each crop faces a different premium rate, there will be a weighted premium rate calculated based on the underlying premium rate determined by RMA and the percentage of revenue each crop makes up of the Expected Revenue.

Using crop-specific premium rates for the 85% coverage level for tomatoes and watermelons for a producer in Bradley County, Arkansas, and the percentages of revenue from above results in the following weighted premium rate.

$$Pct.Watermelon \times Watermelon\ Premium\ Rate + Pct.Tomato \times Tomato\ Premium\ Rate = 0.50 \times 0.2941 + 0.50 \times 0.7022 = 0.147 + 0.351 = 0.498$$

We have just determined the weighted premium rate for a farm in Bradley County, Arkansas, which produces tomatoes and watermelons, both of which have been approved as qualifying commodities to be insured by WFRP. This rate will always fall between 0 and 1 and will always be a percentage. This rate can be interpreted to mean that on the average, a producer in Bradley County, Arkansas, who chooses to insure these two crops under one WFRP policy will incur nearly half of their liability (i.e., they will receive $0.498 for every $1.00 in purchased liability).

Next, we must determine the Diversity Factor, which is a percentage to be multiplied by the actuarially fair premium rate found above. The more qualifying commodities there are under the WFRP policy, the lower the Diversity Factor will be, which means the producer premium will also fall with a greater number of qualifying commodities. The Diversity Factor is determined by RMA and is between 0 and 1 and ranges from 0.41 to 1.00. The Diversity Factor is intended to incentivize diversification by insuring multiple crops at a lower producer premium rate. The producer in our example is growing two different qualifying commodities, so their Diversity Factor is 0.668 which means the actuarially fair premium rate will be reduced by 33.2% before any premium subsidy is introduced. Table 4 provides the list of Diversity Factors determined by RMA for different numbers of qualifying commodities.

Table 4. Diversity Factors for WFRP Across Different Qualifying Commodity Counts.

NUMBER OF QUALIFYING COMMODITIES	DIVERSITY FACTOR
1	1.00
2	0.668
3	0.523
4	0.474
5	0.437
6	0.412
7 or more	0.410

Now, multiply the 85% coverage level by the Expected Revenue to obtain the liability of $83,300 (see Table 3). Then, multiply the liability by the weighted premium rate, Diversity Factor, and the producer paid premium percentage (i.e., 100% - 56% = 44%). The steps for the WFRP producer premium calculation are provided below:

Steps

1. Determine Liability: Coverage Level X Expected Revenue
2. Determine the Actuarially Fair Premium (AFP): Liability X Weighted Premium Rate
3. Determine the Discounted AFP: Diversity Factor X AFP
4. Determine the Producer Premium Percentage: 100% - Premium Subsidy Rate for Chosen Coverage Level
5. Determine the Producer Paid Premium: Producer Premium Percentage X Discounted AFP

WFRP Example

1. Determine Liability: 85% X $98,000 = $83,300
2. Determine the AFP: $83,300 X 0.498 = $41,483.40
3. Determine the discounted AFP: 0.668 X $41,483.40 = $27,710.91
4. Determine the Producer Premium Percentage: 100% - 56% = 44%
5. Determine the Producer Paid Premium: 44% X $27,710.91 = $12,192.80

Additionally, if a producer qualified for a BFR/VFR discount, they would receive an additional 10% discount to their producer premium. In this example, this producer would pay $9,421.71 in premium with the BFR/VFR discount to get $83,300 in coverage.

Calculating the Producer Paid Premium for WFRP-MF

The producer-paid premium for WFRP-MF[4] is more straightforward to calculate than the producer-paid premium for WFRP because WFRP-MF does not require revenue percentages for each crop being insured under a single policy. There is only one actuarially fair premium rate for each county under WFRP-MF, which is the WFRP-MF rate determined by RMA. Importantly, these rates vary by county despite not varying by crop. Because of this design, RMA simply multiplies the actuarially fair premium rate by 1.00 to arrive at the weighted premium rate, and the Diversity Factor is fixed at 0.523, which is the Diversity Factor associated with insuring three qualifying commodities. The WFRP-MF actuarially fair premium will likely be different than the WFRP premium rate for most crops. The steps for calculating the WFRP-MF producer premium are provided below:

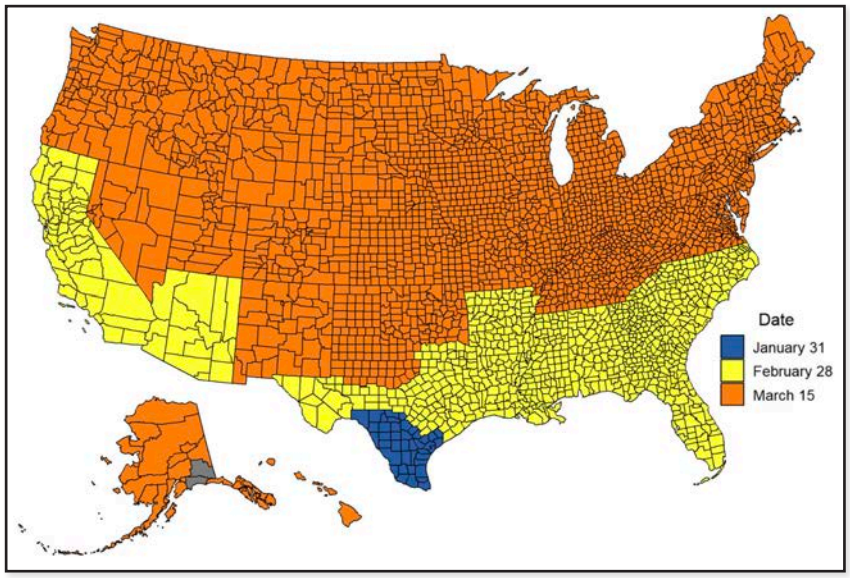
WFRP-MF Example

1. Determine Liability: 85% X $98,000 = $83,300
2. Determine the AFP: $83,300 X 0.436 = $36,318.80
3. Determine the discounted AFP: 0.523 X $36,318.80 = $18,994.73
4. Determine the Producer Premium Percentage: 100% - 56% = 44%
5. Determine the Producer Paid Premium: 44% X $18,994.73 = $8,357.68

Note the lower actuarially fair premium rate of 0.436 for WFRP-MF in this example compared to 0.498 for WFRP in the previous example. Also note the lower Diversity Factor of 0.523 for WFRP-MF compared to 0.668 in the previous example. The producer premium is $3,865.22 (i.e., 32%) lower for WFRP-MF than for WFRP.

Producers who qualify for the BFR/VFR discount are also eligible to receive the 10% discount to their producer premium under WFRP-MF. The producer premium for a producer qualifying for BFR/VFR in this example would be $6,434.95 to get $83,300 in coverage.

Figure 1. Whole Farm Revenue Protection and Micro Farm Sales Closing Dates (2023) Calendar Year and Early Fiscal Year Tax Filers



Source: USDA-RMA Actuarial Data Master (2023) Author: Hunter D. Biram

Determining Indemnities to be Received

At the end of the insurance year and after a producer has filed taxes for their operation, a producer must work with an insurance adjuster from the insurance company they purchased the WFRP or WFRP-MF policy from to complete the Allowable Revenue Worksheet (ARW) form. The ARW is a form that is required to be completed and shows which commodities are allowed from the farm tax forms and what adjustments are necessary. The ARW is also used to determine an insurance applicant's allowable revenue for each year in the whole-farm history period. Information required to complete the ARW is taken directly from the applicant's Schedule F tax form.

The ARW lists the revenue from the sales of animals and other commodities purchased for resale less the cost or other basis of such enterprises, which is reported on line 1c of the Schedule F. The ARW also lists revenue for the sales of animals, produce, grains, and other commodities raised by the producer (line 2 of Schedule F). It lists the proceeds from any cooperative distributions (line 3b of Schedule F) and any revenues from bartering and contracting. An example ARW can be found in Appendix B.

[4]Producers may find decision tools, developed by Dr. Hunter Biram, which determine the producer-paid premium for WFRP and WFRP-MF at https://shiny.uada.edu/whole-farm/ and https://shiny.uada.edu/micro-farm/, respectively.

An indemnity for either WFRP or WFRP-MF is triggered if the Revenue to Count (RTC) is less than the underlying liability (i.e., the insured amount of revenue). The RTC is determined by line 12 of the ARW, which is completed with required information from the Schedule F. If the RTC had fallen below $83,300 in either example given above, then an indemnity would be paid to the producer net of any premium owed on the policy.

Determining the Sales Closing Date

It is important to know the Sales Closing Date (SCD), which is when a premium is due for a purchased policy. Under WFRP and WFRP-MF, the SCD depends on a producer's tax year. The three different tax years recognized by these products are the Calendar Year (i.e., January 1 – December 31), Early Fiscal Year (e.g., August 1, 2023 – July 31, 2024), or Late Fiscal Year (e.g., September 1, 2022 – August 31, 2023). The Calendar Year is most common.

If your tax year follows the Calendar Year or Early Fiscal Year, then all applicable forms must be submitted on or prior to the Sales Closing Date, which falls in the year that begins your tax year. For example, if a producer's tax year begins on January 1, 2023, then they must decide by the Sales Closing Date in 2023 for the county they plan to insure in. See Figure 1 below for a map of Sales Closing Dates for Calendar Year and Early Fiscal Year tax filers. If a producer's tax year begins on August 1, then the same rule applies. However, if a producer's tax year is the Late Fiscal Year, then all forms must be submitted on or prior to November 20 in the year prior to the policy year you plan to insure in. For example, if a producer begins their tax year on September 1, 2022, then they must submit all relevant paperwork by November 20, 2022, for coverage in the 2023 policy year.

Conclusion

This chapter has described the similarities and differences between two federal crop insurance products that allow a producer to insure all crops produced on the farm under one policy: WFRP and WFRP-MF. Both products provide revenue protection but face different insurance coverage limitations, premium rates, and premium discounts. Relatively larger producers with greater than $20 million in expected revenue year-over-year should consider purchasing WFRP while relatively smaller producers with less than $350,000 in expected revenue year-over-year might consider purchasing WFRP-MF. Producers should consult with their crop insurance agent to determine which product and which coverage is best for their farm.

Resources

Whole-Farm Revenue Protection Pilot Handbook (2023 and Succeeding Policy Years). https://www.rma.usda.gov/-/media/RMA/Handbooks/Coverage-Plans---18000/Whole-Farm-Revenue-Protection---18160/2023-18160-1-WFRP-Pilot-Handbook.ashx?la=en.

Whole Farm Revenue Protection National Fact Sheet. https://www.rma.usda.gov/Fact-Sheets/National-Fact-Sheets/Whole-Farm-Revenue-Protection.

Micro Farm Program National Fact Sheet. https://www.rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Micro-Farm-Program.

Whole-Farm Insurance Overview: Whole-Farm Revenue Protection (WFRP) Slideshow. https://www.rma.usda.gov/-/media/RMA/Whole-Farm-Revenue-Protection/WFRP-PowerPoint.ashx?la=en.

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Biram, H.D. (2023). Why does the federal government subsidize crop insurance?. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA74.

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Loy, R., and Biram, H.D. (2023). Cultivating Financial Security: A Guide on Farm Finances, Taxes, and Crop Insurance. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA80.

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CHAPTER 10

Check Your Knowledge

True/False

Please circle the best answer.

1. WFRP only insures specialty crops like peaches and tomatoes.	True	False
2. BFR/VFR may pay 10% less of the producer premium.	True	False
3. Producers may insure more than $350,000 of expected revenue under WFRP-MF.	True	False
4. A producer may establish a revenue history with a Schedule J tax form.	True	False
5. Calendar Year tax filers must choose WFRP coverage by March 15 in Arkansas.	True	False

Fill-in-the-Blank

Please write out the words for which each respective acronym stands for.

6. BFR: _____

7. RTC: _____

8. ARW: _____

Determining Producer Premium

You are a tomato, peach, and sweet corn producer and have decided to insure 75% of your expected revenue. You have VFR status and have collected the three most recent years of Schedule F tax forms and are able to establish a revenue history. You reported $275,000 of revenue in 2020, $300,000 of revenue in 2021, and $400,000 of revenue in 2022. Tomatoes account for 50% of your annual revenue; peaches account for 25% of your annual revenue; and sweet corn accounts for the remaining 25% of your annual revenue. The WFRP premium rates for tomatoes, peaches, and sweet corn are 0.6054, 0.6970, and 0.1372, respectively. The WFRP-MF premium rate is 0.4230. Round your answers to the nearest whole dollar.

9. Determine the WFRP-MF producer premium.

10. Determine the WFRP producer premium.

Notes

Notes

What do I Need for a Crop Insurance Application?

Overview

The decision to purchase crop insurance is one which requires a great deal of consideration. Once an agricultural producer has made the decision to purchase crop insurance, there is a list of forms and questions which must be answered before completing an application for crop insurance. This chapter provides information on common forms and information required by private crop insurance companies to purchase crop insurance.

Establishing a Production (or Revenue) History

The most important step in the crop insurance purchase process is establishing a production history in the case of individual insurance products such as Yield Protection (YP) and Revenue Protection (RP) or establishing a revenue history for whole farm products such as Whole Farm Revenue Protection (WFRP) or Micro Farm (WFRP-MF). Producers must be able to prove the land upon which an insured crop will be grown is productive and establish the productivity of the land so insurance guarantees and producer premiums can be established.

Establishing a production history, sometimes referred to as a yield history, for new farmers on land which has no history is primarily done through settlement sheets for grains and oilseeds and gin reports from country elevators and cotton gins for cotton. Additionally, the production must be tied to acreage which is provided by the FSA-578[1] form. A minimum of four years of farm-level production history reported by the FSA-578 is required to establish an Actual Production History (APH) yield used to determine yield and revenue guarantees as noted in previous chapters (Chapters 4-6). If four years of yield history is not available, then a producer wanting to purchase crop insurance will receive the transitional yield, or T-yield, in the years yield data are not available. Further, if historical yield data is available through sources but it has not been reported, a producer may receive only a percentage of the T-yield.

Those who qualify as a Beginning Farmer or Rancher or Veteran Farmer or Rancher (BFR/VFR) are not subject to the same rules. A BFR/VFR may use the APH of the previous producer when the BFR/VFR was previously involved in a farming or ranching operation (USDA-RMA, 2023). The USDA Risk Management Agency (RMA) states this condition is satisfied if the BFR/VFR had been involved in decision making necessary to produce the crop or livestock on the farm or they engaged in physical activity needed to produce the crop or livestock on the farm. If these conditions are satisfied, then the Approved Insurance Provider (AIP) may transfer production history for years in which there is actual or assigned yield to someone who qualifies as a BFR/VFR. The BFR/VFR would then receive the higher of the APH yield reported in a given year or 100% of the T-yield. It is important to note this only applies to those who qualify as a BFR/VFR.

A revenue history is established primarily through the Schedule F[2] tax form, or the Profit or Loss From Farming federal tax form. Five consecutive years of revenue reported by Schedule F forms are required to purchase WFRP or WFRP-MF. If farm revenue is reported on other federal tax forms such as the Schedule J, Schedule D,

[1] See Appendix D for an example FSA-578 form.
[2] See Loy and Biram (2023), Biram and Rainey (2023), or Appendix C for an example Schedule F form.

Form 4835, Form 1065, Form 1120-S, Form 1120-C, or Form 4797, then a Substitute Schedule F must be completed. However, producers who qualify for BFR/VFR status are only required to provide three consecutive years of farm revenue or four consecutive years if the farmer qualified in the previous year.

Establishing a farm-level production or revenue history is not required when purchasing area crop insurance products such as Stacked Income Protection (STAX) for cotton or Pasture, Rangeland, and Forage (PRF) for land intended for haying or grazing. This is primarily because area products do not offer farm-level protection and so do not require production history for insurance guarantee and premium determination.

What if I Already Have Crop Insurance?

If a producer has purchased crop insurance, then they do not need to provide any further information. The crop insurance policy last purchased will automatically renew year-over-year unless a producer wants to update their existing coverage. Producers should always review coverages for the new insurance year with their crop insurance agent before the Sales Closing Date (SCD). The SCD varies by county and state. In Arkansas, the SCD for all principal row crops (e.g., corn, cotton, rice, soybeans, and peanuts), Calendar Year Tax Filers (i.e., for WFRP and WFRP-MF), and Early Year Tax Filers (i.e., for WFRP and WFRP-MF) is February 28.

Paying the Subsidized (Cheaper) Premium

Federal crop insurance is a cost-share program in that the federal government pays for a portion of the actuarially fair premium determined by the RMA (Biram, 2023a). However, the premium subsidy is not automatically assigned to the producer- paid premium. A completed FSA AD-1026[3] form is required to receive the subsidized premium and failure to do so will result in the producer paying the full actuarially fair premium which can be significantly higher than the subsidized premium (Biram, 2023b). Most crop insurance agents will ensure their customers have this form completed, but producers are encouraged to discuss completing an AD-1026 with their crop insurance agent for more details.

Assignment of Indemnity

Crop insurance agents will often ask applicants if they would like to complete an Assignment of Indemnity (AOI) form. The AOI gives financial institutions such as Farm Credit and other commercial banks the first portion of any indemnity received by producers net of premium paid. It assigns indemnity to a financial institution for payments to go toward loan obligations. An example AOI form can be found in Appendix F.

Additional Questions and Checklist

This chapter has highlighted the primary forms needed to purchase crop insurance and provided example forms so producers can be confident they have the appropriate forms. There are several other questions a producer should anticipate before making the initial decision to purchase crop insurance which are provided in the form of a checklist in Appendix G.

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Biram, H.D. (2023a). The Structure of the U.S. Crop Insurance Industry. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA72.

Biram, H.D. (2023b). Why does the federal government subsidize crop insurance?. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA74.

[3]See Appendix E for an example AD-1026 Conservation Compliance form.

Biram, H.D. and Rainey, R. (2023c). Individual Crop Insurances: Whole Farm Revenue Protection and Micro Farm Insurance. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA82.

Loy, R., and Biram, H.D. (2023). Cultivating Financial Security: A Guide on Farm Finances, Taxes, and Crop Insurance. University of Arkansas System Division of Agriculture, Cooperative Extension Service Fact Sheet No. FSA80.

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CHAPTER 11

Check Your Knowledge

True/False

Please circle the best answer.

1. It is necessary to establish a yield or revenue history to buy individual crop insurance. True False
2. A production history may be established with a Schedule F tax form. True False
3. If four years of yield history are unavailable T-yields may replace missing yields. True False
4. A revenue history may be established with an FSA-578 form. True False
5. A producer does not need to provide a form to receive a cheaper premium. True False

Matching

Please match the definitions on the left to the terms on the right by writing the letter of the term of the corresponding definition in the blank.

6. A form that is often used to establish a production history. _____ a. AD-1026
7. A form that is often used to establish a revenue history. _____ b. T-Yield
8. A form that is required to receive a cheaper premium. _____ c. AOI
9. Allows financial institutions the first portion of any indemnity received. _____ d. FSA-578
10. May replace missing yields when establishing a production history. _____ e. Schedule F

Notes

Notes

ANSWER KEY

Check Your Knowledge

Chapter 1: A Brief History of Crop Insurance

1. False; **2**. False; **3.** True; **4.** True; **5.** False; **6.** c. 1899; **7.** d. 1933; **8.** a. 1938; **9.** e. 1980; **10.** b. 1978

Chapter 2: The Structure of the U.S. Crop Insurance Industry

1. True; **2.** False; **3.** True; **4.** False; **5.** True; **6.** Federal Crop Insurance Corporation;
7. Risk Management Agency; **8.** Standard Reinsurance Agreement; **9.** Approved Insurance Provider;
10. Schedule of Insurance

Chapter 3: Why Does the Federal Government Subsidize Crop Insurance?

1. False; **2.** False; **3.** True; **4.** False; **5.** False; **6.** Actuarially Fair Premium (AFP) and Premium Subsidy; **7.** Federal Crop Insurance Act (FCIA); **8.** Federal Crop Insurance Reform Act (FCIRA); **9.** Federal Crop Insurance Corporation (FCIC); **10.** More

Chapter 4: Types of Federal Crop Insurance Product

1. False; **2.** True; **3.** False; **4.** True; **5.** False; **6.** c. Basis Risk; **7.** d. Individual; **8.** b. Area; **9.** a. Grid-Cell; **10.** e. County

Chapter 5: Insurable Unit Structures in Federal Crop Insurance

1. Whole Farm; **2.** Enterprise; **3.** Basic; **4.** Optional; **5.** False; **6.** False; **7.** True; **8.** Two

1) Cash Rent lease from Wilson in Section 2
2) Cash Rent lease from Wilson in Section 11;

9. Three

1) Owned in Section 2
2) 50-50 Crop Share from Clark in Section 1
3) 80-20 Crop Share lease from Davis in Section 1 and Section 11;

10. One

1) Owned in Section 11 and Cash Rent lease from Wilson in Section 12

Chapter 6: Individual Crop Insurance: Yield Protection

1. True; **2.** False; **3.** True; **4.** False; **5.** False; **6.** $53/acre; **7.** $13.00/acre ; **8.** $53.00/acre;
9. $297/acre; **10.** $0.00/acre

ANSWER KEY

Check Your Knowledge

Chapter 7: Individual Crop Insurance: Revenue Protection and Revenue Protection – Harvest Price Exclusion

1. e. DEC (ZCZ); **2.** d. NOV (ZRX); **3.** c. 10/1 – 10/31; **4.** b. 1/15 – 2/14; **5.** a. 8/15 – 9/14; **6.** $987/ac and $862.50/ac; **7.** $511.88/ac and $511.88/ac; **8.** $984.38/ac and $815.63/ac; **9.** $290/ac; **10.** $132.50/acre

Chapter 8: Cultivating Financial Security: A Guide to Farm Finances, Taxes, and Crop Insurance

1. False; **2.** False; **3.** True; **4.** True; **5.** Participation solely in CAT does not ensure positive cash flows regardless of farm size. My recommendation would be to not enroll in CAT coverage for their soybean enterprise. **6.** Given a producer's interest rate of 9.5% and the goal of securing a minimum of $10,000, it is advisable for them to opt for an RP coverage level of at least 60%. **7.** Given a producer's interest rate of 9.0% and the goal of securing a minimum of $30,000, it is advisable for them to opt for an RP coverage level of at least 65%. **8.** Report $70,000 on Line 6a **9.** Report $40,000 on Line 6a and Line 6b **10.** Report $30,000 on Line 20

Chapter 9: Area Crop Insurance: Pasture, Rangeland, and Forage Insurance

1. False; **2.** True; **3.** False; **4.** False; **5.** True; **6.** $215 and $0; **7.** $235 and $0; **8.** $247 and $0; **9.** $451/ac and $1,100; **10.** $329 and $0

Chapter 10: Individual Crop Insurance: Whole Farm Revenue Protection and Micro Farm Insurance

1. False; **2.** True; **3.** False; **4.** False; **5.** False; **6.** Beginning Farmer or Rancher; **7.** Revenue to Count; **8.** Allowable Revenue Worksheet; **9.** $5,393; **10**. $6,518

Chapter 11: What do I need for a Crop Insurance Application?

1. True; **2.** False; **3.** True; **4.** False; **5.** False; **6**. d. FSA-578; **7.** e. Schedule F; **8.** a. AD-1026; **9.** c. AOI; **10.** b. T-Yield

The Fundamentals of Federal Crop Insurance

Master Appendix

Appendix A: Commodities Covered by Whole Farm Revenue Protection Products (2024 Insurance Year and Subsequent Years).

Alfalfa (Irrigated)	Celery	Grain Sorghum (Nonirrigated)	Oats (Irrigated)	Pecans (Irrigated)	Soybeans (Nonirrigated)
Alfalfa (Nonirrigated)	Christmas Trees	Grapes	Oats (Nonirrigated)	Pecans (Nonirrigated)	Spinach
Apples (Fresh Market)	Clover	Greens	Okra	Peppers (Fresh Market)	Squash Summer
Apples (Processing)	Corn (Irrigated)	Greens (Other)	Onions	Peppers (Processing)	Squash Winter
Asparagus	Corn (Nonirrigated)	Greens Collard	Onions (Green/Scallions/ Spring)	Pinestraw	Strawberries
Beans, Lima	Cotton (Irrigated)	Hay (Other)	Ornamental Foliage	Plums	Sweet Cherries
Bees (Animals)	Cotton (Nonirrigated)	Hemp Fiber	Other Animal Products	Potatoes	Sweet Corn (Fresh Market)
Beets	Cotton Extra Long Staple	Hemp Flower	Other Aquaculture	Poultry	Sweet Potatoes
Berries (Other)	Cucumbers (Fresh Market)	Hemp Seed	Other Combined Direct Marketing	Pumpkins	Tart Cherries
Blackberries	Cucumbers (Processing)	Herbs	Other Crops	Radishes	Tomatillos
Blueberries	Dairy	Hogs: Farrow	Other Crops Perennial	Rice	Tomatoes (Fresh Market)
Broccoli	Eggplant	Hogs: Farrow/Finish	Other Forage Seeds	Rye	Tomatoes (Processing)
Broilers	Eggs	Hogs: Finish	Other Fruits	Safflower	Triticale
Brussel Sprouts	Fish	Honeydew	Other Live Animals	Seed (Other)	Turnips
Cabbage (Fresh Market)	Flint (Ornamental) Corn	Hops	Other Oilseed	Seed Rice Hybrid	Walnuts
Cabbage (Processing)	Flowers (Other)	Lespedeza	Other Small Grains	Seed Sesame	Watermelons
Cantaloupe	Flowers Cut	Lettuce	Other Vegetables	Seed Teff	Wheat (Irrigated)
Carrots	Forage Production	Melons (Other)	Peaches (Fresh Market)	Sheep: Ewe/Lamb	Wheat (Nonirrigated)
Cattle: Cow-Calf	Fresh Nectarines	Millet	Peaches (Processing)	Sheep: Feedlot	Wild Rice
Cattle: Feedlot	Garlic	Mustard	Peanuts (Irrigated)	Sheep: Stocker/Feeder	
Cattle: Stocker/Feeder	Gourds	Nectarines	Peanuts (Nonirrigated)	Southern Peas	
Cauliflower	Grain Sorghum (Irrigated)	Nursery Field Grown and Container	Pears	Soybeans (Irrigated)	

Appendix B: Allowable Revenue Worksheet Example

Allowable Revenue Worksheet				
1. Producer Information: I.M. Insured Person Type: Individual Box 1 Anytown, USA, 11111 Phone: 999.999.9999	2. Policy Number: XXXXXX	3. State/County: Michigan/Van Buren		
	4. Tax Year: 2022			
5. Adjustment Codes: A = Schedule F income specifically excluded B = Cost of post-production operations C = Co-op distributions not directly related	G = Net gain from commodity hedges H = Not directly related to production I = Other			
6. Schedule F Part I (cash) or III (accrual) Revenue	7. Schedule F Line Number	8. Amount on Schedule F	9. Revenue Adjustment Amount and Code	10. Allowable Revenue Per Item
a. Sales of animals and other resale items, less the cost or other basis of such items	1c or 37	0	0	
b. Sales of livestock, produce, grains, and other products you raised	2 or 37	$192,400	$96,100 (B) (for S&W and packing supplies)	$96,300
c. Cooperative distributions	3b or 38b	$3,800	$3,240 (C)	$560
d. Agricultural program payments	4b or 39b	$18,200	$18,200 (A)	$0
e. Commodity Credit Corporation (CCC) loans reported under election	5a or 40a	0	0	0
f. CCC loans forfeited	5c or 40c	0	0	0
g. Crop insurance proceeds and federal crop disaster payments	6b or 41	$31,875	$31,875 (A)	0
h. Custom hire (machine work) income	7 or 42	$5,000	$5,000 (A)	0
2i. Other income, including federal and state gasoline or fuel tax credit or refund:				
Federal and state gasoline or fuel tax credit or refund	8 or 43	$2,400	$2,400 (A)	0
Income from bartering		$200	0	$200
Payments from buyers of commodities for bypassed acreage		$1,000	0	$1,000
Payments from marketing orders		$1,000	0	$1,000
11. Total Schedule F Part I or III Revenue		$255,875	$156,815	$99,060
	12. Allowable Revenue for Tax Year			$99,060

Appendix C: Schedule F Tax Form (Form 1040) Example

SCHEDULE F (Form 1040)
Department of the Treasury
Internal Revenue Service

Profit or Loss From Farming

Attach to Form 1040, Form 1040-SR, Form 1040-NR, Form 1041, or Form 1065.
Go to *www.irs.gov/ScheduleF* for instructions and the latest information.

OMB No. 1545-0074
2022
Attachment Sequence No. **14**

Name of proprietor | **Social security number (SSN)**

A Principal crop or activity | **B** Enter code from Part IV | **C** Accounting method: ☐ Cash ☐ Accrual | **D** Employer ID number (EIN) (see instr.)

E Did you "materially participate" in the operation of this business during 2022? If "No," see instructions for limit on passive losses ☐ Yes ☐ No
F Did you make any payments in 2022 that would require you to file Form(s) 1099? See instructions ☐ Yes ☐ No
G If "Yes," did you or will you file required Form(s) 1099? ☐ Yes ☐ No

Part I **Farm Income—Cash Method.** Complete Parts I and II. (Accrual method. Complete Parts II and III, and Part I, line 9.)

1a	Sales of purchased livestock and other resale items (see instructions)	1a					
b	Cost or other basis of purchased livestock or other items reported on line 1a	1b					
c	Subtract line 1b from line 1a					1c	
2	Sales of livestock, produce, grains, and other products you raised					2	
3a	Cooperative distributions (Form(s) 1099-PATR)	3a		3b	Taxable amount	3b	
4a	Agricultural program payments (see instructions)	4a		4b	Taxable amount	4b	
5a	Commodity Credit Corporation (CCC) loans reported under election					5a	
b	CCC loans forfeited	5b		5c	Taxable amount	5c	
6	Crop insurance proceeds and federal crop disaster payments (see instructions):						
a	Amount received in 2022	6a		6b	Taxable amount	6b	
c	If election to defer to 2023 is attached, check here ☐			6d	Amount deferred from 2021	6d	
7	Custom hire (machine work) income					7	
8	Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)					8	
9	**Gross income.** Add amounts in the right column (lines 1c, 2, 3b, 4b, 5a, 5c, 6b, 6d, 7, and 8). If you use the accrual method, enter the amount from Part III, line 50. See instructions					9	

Part II **Farm Expenses—Cash and Accrual Method.** Do not include personal or living expenses. See instructions.

10	Car and truck expenses (see instructions). Also attach **Form 4562**	10		23	Pension and profit-sharing plans	23	
11	Chemicals	11		24	Rent or lease (see instructions):		
12	Conservation expenses (see instructions)	12		a	Vehicles, machinery, equipment	24a	
13	Custom hire (machine work)	13		b	Other (land, animals, etc.)	24b	
14	Depreciation and section 179 expense (see instructions)	14		25	Repairs and maintenance	25	
15	Employee benefit programs other than on line 23	15		26	Seeds and plants	26	
16	Feed	16		27	Storage and warehousing	27	
17	Fertilizers and lime	17		28	Supplies	28	
18	Freight and trucking	18		29	Taxes	29	
19	Gasoline, fuel, and oil	19		30	Utilities	30	
20	Insurance (other than health)	20		31	Veterinary, breeding, and medicine	31	
21	Interest (see instructions):			32	Other expenses (specify):		
a	Mortgage (paid to banks, etc.)	21a		a		32a	
b	Other	21b		b		32b	
22	Labor hired (less employment credits)	22		c		32c	
				d		32d	
				e		32e	
				f		32f	

33	**Total expenses.** Add lines 10 through 32f. If line 32f is negative, see instructions	33
34	**Net farm profit or (loss).** Subtract line 33 from line 9	34

If a profit, stop here and see instructions for where to report. If a loss, complete line 36.

35 Reserved for future use.

36 Check the box that describes your investment in this activity and see instructions for where to report your loss:
a ☐ All investment is at risk. **b** ☐ Some investment is not at risk.

For Paperwork Reduction Act Notice, see the separate instructions. Cat. No. 11346H **Schedule F (Form 1040) 2022**

Schedule F (Form 1040) 2022 Page **2**

Part III **Farm Income—Accrual Method** (see instructions)

37	Sales of livestock, produce, grains, and other products (see instructions)					**37**	
38a	Cooperative distributions (Form(s) 1099-PATR)	**38a**		**38b**	Taxable amount	**38b**	
39a	Agricultural program payments	**39a**		**39b**	Taxable amount	**39b**	
40	Commodity Credit Corporation (CCC) loans:						
a	CCC loans reported under election					**40a**	
b	CCC loans forfeited	**40b**		**40c**	Taxable amount	**40c**	
41	Crop insurance proceeds					**41**	
42	Custom hire (machine work) income					**42**	
43	Other income (see instructions)					**43**	
44	Add amounts in the right column for lines 37 through 43 (lines 37, 38b, 39b, 40a, 40c, 41, 42, and 43)					**44**	
45	Inventory of livestock, produce, grains, and other products at beginning of the year. Do not include sales reported on Form 4797	**45**					
46	Cost of livestock, produce, grains, and other products purchased during the year	**46**					
47	Add lines 45 and 46	**47**					
48	Inventory of livestock, produce, grains, and other products at end of year	**48**					
49	Cost of livestock, produce, grains, and other products sold. Subtract line 48 from line 47*					**49**	
50	**Gross income.** Subtract line 49 from line 44. Enter the result here and on Part I, line 9					**50**	

*If you use the unit-livestock-price method or the farm-price method of valuing inventory and the amount on line 48 is larger than the amount on line 47, subtract line 47 from line 48. Enter the result on line 49. Add lines 44 and 49. Enter the total on line 50 and on Part I, line 9.

Part IV **Principal Agricultural Activity Codes**

CAUTION

Do not file Schedule F (Form 1040) to report the following.

- *Income from providing agricultural services such as soil preparation, veterinary, farm labor, horticultural services if your principal source of income is from providing such services. Instead, see instructions for Schedule C (Form 1040).*
- *Income from breeding, raising, or caring for dogs, cats, or other pet animals. Instead, see instructions for Schedule C (Form 1040).*
- *Income from managing a farm for a fee or on a contract basis. Instead, see instructions for Schedule C (Form 1040).*
- *Sales of livestock held for draft, breeding, sport, or dairy purposes. Instead, see instructions for Form 4797.*

These codes for the Principal Agricultural Activity classify farms by their primary activity to facilitate the administration of the Internal Revenue Code. These six-digit codes are based on the North American Industry Classification System (NAICS).

Select the code that best identifies your primary farming activity and enter the six-digit number on line B.

111300 Fruit and tree nut farming
111400 Greenhouse, nursery, and floriculture production
111900 Other crop farming

Animal Production

112111 Beef cattle ranching and farming
112112 Cattle feedlots
112120 Dairy cattle and milk production
112210 Hog and pig farming
112300 Poultry and egg production
112400 Sheep and goat farming
112510 Aquaculture
112900 Other animal production

Forestry and Logging

113000 Forestry and logging (including forest nurseries and timber tracts)
113110 Timber tract operations
113210 Forest nurseries and gathering of forest products

Appendix D: FSA-578 Acreage Report

This form is available electronically. Form Approved - OMB No. 0560-0004

FSA-578 Manual
(10-15-03)

U.S. Department of Agriculture
Farm Service Agency

PAGE OF

REPORT OF ACREAGE

See Page 2 for Privacy Act and Public Burden Statements.

1. FARM NO.	2. FARMLAND	3. CROPLAND	4. PROGRAM YR.

KEY	5. OPERATOR NAME AND ADDRESS	6. OTHER FARMS
1		

11. PHOTO NO. - LEGAL DESCRIPTION

7. KEY	8. NAMES OF OTHER PRODUCERS	9. ID NUMBER	10. OTHER FARMS

12. TRACT NO.	13. FIELD NO.	14. CROP OR LAND USE	15. PRAC-TICE 1/	16. CROP STATUS 2/	17. CROP OR LAND USE SUMMARY *(Maple trees, after number enter "T"; Honey, after number enter "H")*										18. KEY	19. SHARE

20. TOTAL OPERATOR REPORT ➜

21. TOTAL DETERMINED ACREAGE ➜

22. OPERATOR'S CERTIFICATION - *I certify to the best of my knowledge and belief that the acreage of crops and land uses listed herein are true and correct. The signing of this form gives* ***FSA*** *representatives authorization to enter and inspect crops and land uses on the above identified land. I understand that an inaccurate acreage report could result in a payment reduction or loss of program benefits and/or reduction in future allotments and quotas when applicable.*

A. OPERATOR'S SIGNATURE	B. DATE (MM-DD-YYYY)	A. OPERATOR'S SIGNATURE	B. DATE (MM-DD-YYYY)	A. OPERATOR'S SIGNATURE	B. DATE (MM-DD-YYYY)

1/ I = Irrigated N = Nonirrigated
O = Other (Honey or Maple Sap)

2/ I = Initial E = Experimental
P = Prevented IF = Initial Failed
F = Failed IP = Initial Prevented
S = Subsequent Crop SF = Subsequent Failed
D = Double Crop DF = Double-cropped Failed
R = Repeat DP = Double-cropped Prevented

Appendix D: FSA-578 Acreage Report (continued)

FSA-578 Manual (Page 2 of 2) (10-15-03)

23. REMARKS/SKETCHES

The following statement is made in accordance with the Farm Security and Rural Investment Act of 2002, (Pub. L. 107-171). The information will be used to determine to whom program benefits will be paid. Furnishing the requested information is voluntary; however, failure to furnish the correct and complete information will result in a determination of ineligibility for program benefits. This information maybe provided to other agencies IRS, Department of Justice, or other State and Federal law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, maybe applicable to the information provided.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0560-0004. The time required to complete this information collection is estimated to average 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. ***RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE****.*

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Appendix E: AD-1026 USDA-FSA Conservation Compliance Form

This form is available electronically. *(See Page 2 for Privacy Act and Paperwork Reduction Act Statements)*

AD-1026
(10-30-14)

U.S. DEPARTMENT OF AGRICULTURE
FarmServiceAgency

HIGHLY ERODIBLE LAND CONSERVATION (HELC) AND WETLAND CONSERVATION (WC) CERTIFICATION

Read attached AD-1026 Appendix before completing form.

PART A – BASIC INFORMATION

1. Name of Producer	2. Tax Identification Number *(Last 4 digits)*	3. Crop Year

4. Names of affiliated persons with farming interests. *Enter "None," if applicable.*

Affiliated persons with farming interests must also file an AD-1026. See Item 7 in the Appendix for a definition of an affiliated person.

5. Check one of these boxes if the statement applies; otherwise continue to Part B.

A. ☐ The producer in Part A does not have interest in land devoted to agriculture. Examples include bee keepers who place their hives on another person's land, producers of crops grown in greenhouses, and producers of aquaculture AND these producers do not own/lease any agricultural land themselves. **Note:** Do not check this box if the producer shares in a crop.

B. ☐ The producer in Part A meets all three of the following:
- does not participate in any USDA program that is subject to HELC and WC compliance except Federal Crop Insurance.
- only has interest in land devoted to agriculture which is exclusively used for perennial crops, except sugarcane, and
- has not converted a wetland after February 7, 2014.

Perennial crops include, but are not limited to, tree fruit, tree nuts, grapes, olives, native pasture and perennial forage. A producer that produces alfalfa should contact the Natural Resources Conservation Service at the nearest USDA Service Center to determine whether such production qualifies as production of a perennial crop.

Note: *If either box is checked, and the producer in Part A does not participate in Farm Service Agency (FSA) or Natural Resources Conservation Service (NRCS) programs, the full tax identification number of the producer must be provided, but establishment of detailed farm records with FSA is not required. Go to Part D and sign and date.*

PART B - HELC/WC COMPLIANCE QUESTIONS

Indicate YES or NO to each question. *If you are unsure of whether a HEL determination, wetland determination, or NRCS evaluation has been completed, contact your local USDA Service Center.*	**YES**	**NO**
6. During the crop year entered in Part A or the term of a requested USDA loan, did or will the producer in Part A plant or produce an agricultural commodity (including sugarcane) on land for which an HEL determination has not been made?		
7. Has anyone performed (since December 23, 1985), or will anyone perform any activities to:		
A. Create new drainage systems, conduct land leveling, filling, dredging, land clearing, or excavation that has **NOT** been evaluated by NRCS? ***If "YES", indicate the year(s):*** _____		
B. Improve or modify an existing drainage system that has **NOT** been evaluated by NRCS? ***If "YES", indicate the year(s):*** _____		
C. Maintain an existing drainage system that has **NOT** been evaluated by NRCS? ***If "YES", indicate the year(s):*** _____ **Note:** *Maintenance is the repair, rehabilitation, or replacement of the capacity of existing drainage systems to allow for the continued use of wetlands currently in agricultural production and the continued management of other areas as they were used before December 23, 1985. This allows a person to reconstruct or maintain the capacity of the original system or install a replacement system that is more durable or will realize lower maintenance or costs.*		

Note: *If "YES" is checked for Item 7A or 7B, then Part C must be completed to authorize NRCS to make an HELC/WC and/or certified wetland determination on the identified land. If "YES" is checked for Item 7C, NRCS does not have to conduct a certified wetland determination.*

8. Check one or both boxes, if applicable; otherwise, continue to Part C or D.

A. ☐ Check this box only if the producer in Part A has FCIC reinsured crop insurance and filing this form represents the first time the producer in Part A, including any affiliated person, has been subject to HELC and WC provisions.

B. ☐ Check this box if either of the following applies to the producer and crop year entered in Part A:
- Is a tenant on a farm that is/will not be in compliance with HELC and WC provisions because the landlord refuses to allow compliance, but all other farms not associated with that landlord are in compliance. (AD-1026B, Tenant Exemption Request, must be completed).
- Is a landlord of a farm that is/will not be in compliance with HELC and WC provisions because of a violation by the tenant on that farm, but all other farms not associated with that tenant are in compliance. (AD-1026C, Landlord or Landowner Exemption Request, must be completed).

PART C – ADDITIONAL INFORMATION

9. If "YES" was checked in Item 6 or 7, provide the following information for the land to which the answer applies:

A. Farm and/or tract/field number: _____
If unknown, contact the Farm Service Agency at the nearest USDA Service Center.

B. Activity: _____

C. Current land use *(specify crops)*: _____

D. County: _____

Appendix E: AD-1026 USDA-FSA Conservation Compliance Form (continued)

AD-1026 (10-30-14)

PART D – CERTIFICATION OF COMPLIANCE

I have received and read the AD-1026 Appendix and understand and agree to the terms and conditions therein on all land in which I (or the producer in Part A if different) and any affiliated person have or will have an interest. I understand that eligibility for certain USDA program benefits is contingent upon this certification of compliance with HELC and WC provisions and I am responsible for any non-compliance. I understand and agree that this certification of compliance is considered continuous and will remain in effect unless revoked or a violation is determined. I further understand and agree that:

- all applicable payments must be refunded if a determination of ineligibility is made for a violation of HELC or WC provisions.
- NRCS may verify whether a HELC violation or WC has occurred.
- a revised Form AD-1026 must be filed if there are any operation changes or activities that may affect compliance with the HELC and WC provisions. I understand that failure to revise Form AD-1026 for such changes may result in ineligibility for certain USDA program benefits or other consequences.
- affiliated persons are also subject to compliance with HELC and WC provisions and their failure to comply or file Form AD-1026 will result in loss of eligibility for applicable benefits to any individuals or entities with whom they are considered affiliated.

Producer's Certification:

I hereby certify that the information on this form is true and correct to the best of my knowledge.

10A. Producer's Signature *(By)*	10B. Title/Relationship *(If Signing in Representative Capacity)*	10C. Date *(MM-DD-YYYY)*
FOR FSA USE ONLY *(for referral to NRCS)* Sign and date if NRCS determination is needed.	11A. Signature of FSA Representative	11B. Date *(MM-DD-YYYY)*

IMPORTANT: If you are unsure about the applicability of HELC and WC provisions to your land, contact your local USDA Service Center for details concerning the location of any highly erodible land or wetland and any restrictions applying to your land according to NRCS determinations before planting an agricultural commodity or performing any drainage or manipulation. Failure to certify and properly revise your compliance certification when applicable may: (1) affect your eligibility for USDA program benefits, including whether you qualify for reinstatement of benefits through the Good Faith process; and (2) result in other consequences.

NOTE: *The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a - as amended). The authority for requesting the information identified on this form is 7 CFR Part 12, the Food Security Act of 1985 (Pub. L. 99-198), and the Agricultural Act of 2014 (Pub. L. 113-79). The information will be used to certify compliance with HELC and WC provisions and to determine producer eligibility to participate in and receive benefits under programs administered by USDA agencies. The information collected on this form may be disclosed to other Federal, State, Local government agencies, Tribal agencies, and nongovernmental entities that have been authorized access to the information by statute or regulation and/or as described in applicable Routine Uses identified in the System of Records Notice for USDA/FSA-2, Farm Records File (Automated) and USDA/FSA-14, Applicant/Borrower. Providing the requested information is voluntary. However, failure to furnish the requested information will result in a determination of producer ineligibility to participate in and receive benefits under programs administered by USDA agencies.*

This information collection is exempted from the Paperwork Reduction Act as specified in the Agricultural Act of 2014 (Pub. L. 113-79, Title II, Subtitle G, Funding and Administration). The provisions of appropriate criminal and civil fraud, privacy, and other statutes may be applicable to the information provided. ***RETURN THIS COMPLETED FORM AD-1026 TO YOUR COUNTY FARM SERVICE AGENCY (FSA) OFFICE.***

Appendix F: Assignment of Indemnity

ASSIGNMENT OF INDEMNITY

The undersigned _____ (herein after referred to as the "Insured")
(Insured's Name)

_____
(Insured's Authorized Representative/POA)

of _____ _____
(Street or Mailing Address) (City, State, Zip Code)

assigns to _____ (herein after referred to as the "Creditor")
(Name of Creditor)

of _____ _____
(Street or Mailing Address) (City, State, Zip Code)

the right and interest of any indemnity payment(s) which may be payable to the Insured under the insurance policy for the county/commodity(ies) shown below:

County	Name of Insured Crop(s)	Effective Crop Year

☐ Crop Hail Insurance Policy No. _____ ☐ Multiple Peril Crop Insurance Policy No. _____

CONDITIONS

1. This assignment will be binding upon the person(s) who succeed the Insured's interest in the insurance policy.
2. Indemnity payments made under the insurance policy will be subject to a deduction for any indebtedness due Farmers Mutual Hail by the Insured.
3. This assignment will not grant the Creditor any greater rights than originally held by the Insured.
4. The Creditor's interest will be recognized upon Farmers Mutual Hail's approval of this assignment and the Creditor will have the right to submit the loss notices and other forms as required by the insurance policy.
5. Farmers Mutual Hail will determine the person(s) entitled to any indemnity payment(s) and the payment(s) will be by joint check.
6. Cancellation of this assignment prior to and during the crop year stated above will be accepted by Farmers Mutual Hail only upon notification in writing by the above identified Creditor(s).
7. If the assignment is not canceled according to item 6., the assignment will cease at the end of the effective crop year.

It is understood and agreed this assignment will be subject to the terms and conditions of the insurance policy.

_____ _____
(Printed Name of Insured) (Printed Name of Creditor)

_____ _____ _____ _____
(Signature of Insured) (Date) (Signature of Creditor) (Date)

_____ _____
(Print Name of Witness) (Print Name of Witness)

_____ _____ _____ _____
(Signature of Witness) (Date) (Signature of Witness) (Date)

To be Completed by Home Office

This assignment was filed with Farmers Mutual Hail on _____, _____ at _____ a.m./p.m.
(Month, Day) (Year) (Hour)

Farmers Mutual Hail hereby approves the foregoing assignment.

By: _____
(Print Name of Authorized Representative)

_____
(Signature of Authorized Representative)

Date: _____

M-ALL-005-0214 (See reverse side for Required Statements.)

Appendix F: Assignment of Indemnity

COLLECTION OF INFORMATION AND DATA (PRIVACY ACT) STATEMENT
Agents, Loss Adjusters and Policyholders

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a): The Risk Management Agency (RMA) is authorized by the Federal Crop Insurance Act (7 U.S.C. 1501-1524) or other Acts, and the regulations promulgated thereunder, to solicit the information requested on documents established by RMA or by approved insurance providers (AIPs) that have been approved by the Federal Crop Insurance Corporation (FCIC) to deliver Federal crop insurance. The information is necessary for AIPs and RMA to operate the Federal crop insurance program, determine program eligibility, conduct statistical analysis, and ensure program integrity. Information provided herein may be furnished to other Federal, State, or local agencies, as required or permitted by law, law enforcement agencies, courts or adjudicative bodies, foreign agencies, magistrate, administrative tribunal, AIP's contractors and cooperators, Comprehensive Information Management System (CIMS), congressional offices, or entities under contract with RMA. For insurance agents, certain information may also be disclosed to the public to assist interested individuals in locating agents in a particular area. Disclosure of the information requested is voluntary. However, failure to correctly report the requested information may result in the rejection of this document by the AIP or RMA in accordance with the Standard Reinsurance Agreement between the AIP and FCIC, Federal regulations, or RMA-approved procedures and the denial of program eligibility or benefits derived therefrom. Also, failure to provide true and correct information may result in civil suit or criminal prosecution and the assessment of penalties or pursuit of other remedies.

NONDISCRIMINATION STATEMENT

Non-Discrimination Policy
The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers, employees, and applicants for employment on the basis of race, color, national origin, age, disability, sex, gender identity, religion, reprisal, and where applicable, political beliefs, marital status, familial or parental status, sexual orientation, or all or part of an individual's income is derived from any public assistance program, or protected genetic information in employment or in any program or activity conducted or funded by the Department. (Not all prohibited basis will apply to all programs and/or employment activities.)

To File a Program Complaint
If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter by mail to the U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.

Persons with Disabilities
Individuals who are deaf, hard of hearing or have speech disabilities and wish to file either an EEO or program complaint please contact USDA through the Federal Relay Service at (800) 877-8339 or (800) 845-6136 (in Spanish).
Persons with disabilities, who wish to file a program complaint, please see information above on how to contact the Department by mail directly or by email. If you require alternative means of communication for program information (e.g., Braille, large print, audiotape, etc.) please contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

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Appendix G: Crop Insurance Application Checklist

- ☐ Name: Farming as: Sole Proprietor, S-Corp, etc.
- ☐ Physical farm address and mailing address
- ☐ Email address
- ☐ Telephone: home and mobile
- ☐ Social Security, EIN, and Tax ID numbers for producer, spouse, and all members included on the application if the insured is an entity.
- ☐ Partnerships require valid Partnership Agreements to be submitted, so it is important to have your Partnership Agreement up to date.
- ☐ What counties do you farm in?
- ☐ What crops do you plant?
- ☐ Do you have any crop share rental agreements?
- ☐ Do you have any cash lease rental agreements?
- ☐ Be prepared to provide five years of Schedule F, Schedule of Insurance (SOI), and Production Records for the previous insurance year (applies to Whole Farm and Micro Farm).
- ☐ Do you plan on using an Assignment of Indemnity to a financial institution?
- ☐ Are you going to plant any crops you have not planted before?
- ☐ What is the irrigation practice associated with the crop you plan to insure? Irrigated? Nonirrigated?
- ☐ Are you a new producer? In other words, have you produced or insured crops in the county you plan to grow and insure in for more than two years?
- ☐ How many acres do you plan to farm this year?
- ☐ Have you signed an AD-1026? You must have FSA Conservation Compliance to receive the premium subsidy.
- ☐ Are you enrolled in Agriculture Risk Coverage (ARC) or Price Loss Coverage (PLC) with FSA? This will impact your eligibility to enroll in Supplemental Coverage Option (SCO), Enhanced Coverage Option (ECO), and Stacked Income Protection (STAX).
- ☐ Do you have Noninsured Disaster Assistance Program (NAP) or Catastrophic Risk Protection (CAT) coverage on a different multi-peril crop insurance policy? While participating in these products does not exclude a producer from purchasing WFRP and WFRP-MF in 2024 and subsequent years, NAP and CAT payments may impact Revenue to Count and indemnities received.
- ☐ Have you paid your previous premiums for the previous insurance year? If you have not paid your crop insurance premium in full by the sales closing date of the following year, you will be placed on the Ineligible Tracking System (ITS) list which prevents you from purchasing crop insurance.
- ☐ Are you adding any land in the current year relative to the previous year?
- ☐ When do you file your taxes? Does your tax year follow the Calendar Year (i.e., January 1 – December 31), Early Fiscal Year (August 1, 2023 – July 31, 2024), or Late Fiscal Year (September 1, 2022 – August 31, 2023)?
    - Calendar Year is the most common. If your tax year is the Calendar Year or Early Fiscal Year, then all applicable forms must be submitted on or prior to the Sales Closing Date which falls in the year which begins your tax year. If your tax year is the Late Fiscal Year, then all forms must be submitted on or prior to November 20 in the year prior to the policy year you plan to insure in. See Chapter 10 for more information.
- ☐ Do you understand the differences between insurable units (e.g., Optional, Basic, and Enterprise)? Are you aware of the tradeoffs between units? See Chapter 5 for more information on insurable units in federal crop insurance.

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DIVISION OF AGRICULTURE

RESEARCH & EXTENSION

University of Arkansas System

 MP576-PD-1-2024