

Graff, Natalie A.; Fischer, Bart L.; Outlaw, Joe L.

Research Report

Overview of the dual use crop insurance policy for forage producers

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Agricultural and Food Policy Center
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Overview of the Dual Use Crop Insurance Policy for Forage Producers



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Department of Agricultural Economics
Texas AgriLife Research
Texas AgriLife Extension Service
Texas A&M University

College Station, Texas 77843-2124
Telephone: (979) 845-5913
Fax: (979) 845-3140
<http://www.afpc.tamu.edu> | @AFPCTAMU

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Agricultural and Food Policy Center
Department of Agricultural Economics
2124 TAMU
College Station, TX 77843-2124
Web site: www.afpc.tamu.edu
Twitter: @AFPCTAMU

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Natalie A. Graff
Bart L. Fischer
Joe L. Outlaw



**Agricultural and Food Policy Center
The Texas A&M University System**

Agricultural & Food Policy Center
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College Station, Texas 77843-2124
Telephone: 979.845.5913
Fax: 979.845.3140
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Twitter: @AFPCTAMU

Introduction

Under The 2018 Farm Bill authorized annual forage producers to utilize two different insurance policies on the same acreage in the same growing season for crops intended to be both grazed and mechanically harvested. The Annual Forage Insurance Program Dual Use Option allows producers to insure their small grains crop with both an Annual Forage policy for grazing and a Small Grains policy for grain. Producers enrolled in the Dual Use Option can receive indemnities under both policies if a loss under each policy is realized. This change was unique because prior to the 2018 Farm Bill, federal law generally disallowed the purchase of multiple insurance policies on the same acres. The Dual Use Option is only available in Growing Season I (September to March) and in certain counties in Colorado, Kansas, Nebraska, New Mexico, Oklahoma, and Texas (Figure 1). The sales closing date for the Dual Use Option is July 15 each year. July 15 is also the sales closing date for a Growing Season I standalone Annual Forage policy. The objective of this paper is to describe the Dual Use Option and provide examples to illustrate how the program works.

Annual Forage – Dual Use Option Availability

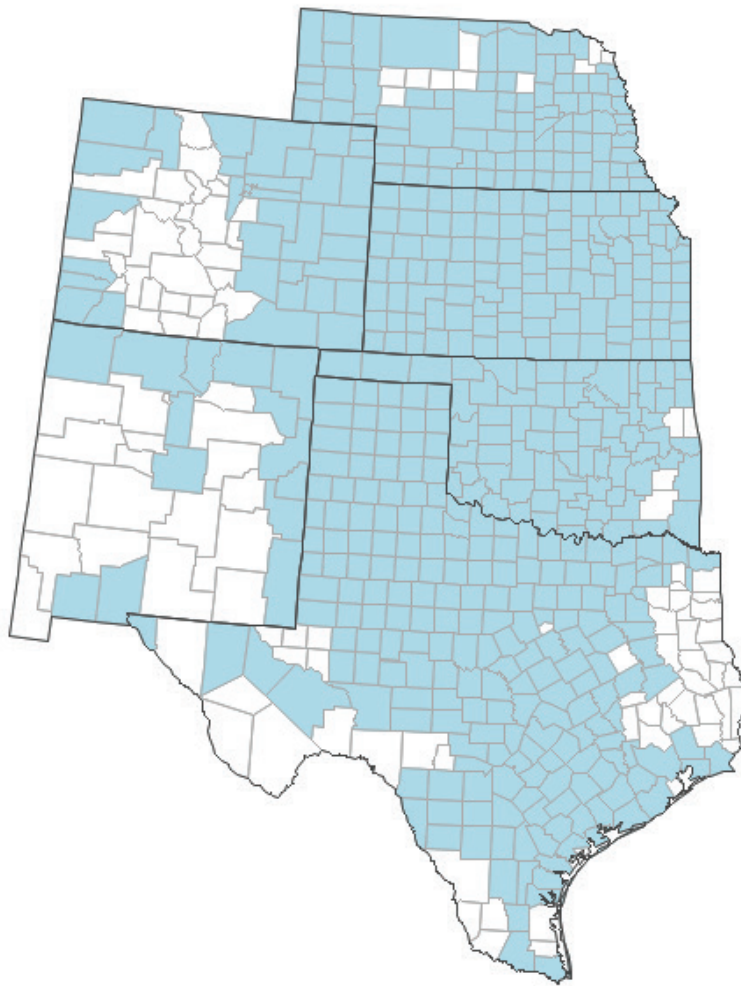


Figure 1: Annual Forage Dual Use Option Availability

Source: RMA, 2019b.

Dual Use Option – Program Description

Crop insurance coverage options for annual forage producers have evolved over time. While producers have long had access to Multi-Peril Crop Insurance (MPCI) policies for grain—for example, Revenue Protection (RP) and Yield Protection (YP), coverage for forage was largely limited to the Noninsured Crop Disaster Assistance Program (NAP) administered by the Farm Service Agency (FSA) at the U.S. Department of Agriculture (USDA). In 2013, the Annual Forage insurance program (AF) was developed by USDA's Risk Management Agency (RMA) to provide coverage for annual forage crops based on a rainfall index. However, an AF policy could not be purchased in tandem with a small grains MPCI policy, so the grazed forage and the harvested small grain could not both be insured. The 2018 Farm Bill authorized the Annual Forage Dual Use Option (Dual Use), which provides coverage of a small grains crop by both an AF policy and a small grain MPCI policy on the same acres.

Annual Forage Program

AF was established as a pilot program for annual forage crops in Texas, Oklahoma, Kansas, Nebraska, North Dakota, and South Dakota (expanded to include Colorado in 2016). AF protects against a single peril: lack of precipitation. Crops eligible for AF include small grains (wheat, oats, rye, barley, triticale) intended for grazing or forage, corn for silage, sorghum forage for grazing or forage, annually planted grasses for grazing or forage, and annually planted mixed forages for grazing or forage (FCIC, 2016).

AF uses a rainfall index and grid system to determine precipitation within an area. Grids are 0.25 degrees in longitude by 0.25 degrees in latitude (approximately 17 miles by 17 miles) and each is identified by an individual grid ID (RMA, 2019a). For each grid ID, rainfall is tracked in two-month intervals (also known as index intervals). The final grid index for each index interval is based on the precipitation received during the index interval and is expressed as a percentage of average historical precipitation for the grid (RMA, 2017). Final grid index values are determined by the National Oceanic and Atmospheric Administration Climate Prediction Center (NOAA CPC) and are published by RMA. For example, if NOAA estimates the rainfall in a grid for a specific index interval was 4 inches and the average historical precipitation for the grid for that index interval was 8 inches, then the final grid index would be 50% (or 4/8).

Insured acres use the rainfall index for the grid in which they are physically located. If contiguous acres are located in more than one grid, the acres can all be assigned to one of the grids, or the acres can be separated and assigned to multiple grids. For example: assume a producer wants to enroll 100 contiguous acres in AF; some of the acres are in grid 1 and the rest are in grid 2. The producer can

- 1) assign 100 acres to grid 1,
- 2) assign 100 acres to grid 2, or
- 3) assign less than 100 acres to grid 1 and the remaining acres to grid 2.

Table 1: Annual Forage Growing Seasons and Index Intervals.

Growing Season 1	Growing Season 2	Growing Season 3	Growing Season 4
SEPT – OCT	DEC – JAN	MAR – APR	JUN – JUL
OCT – NOV	JAN – FEB	APR – MAY	JUL – AUG
NOV – DEC	FEB – MAR	MAY – JUN	AUG – SEPT
DEC – JAN	MAR – APR	JUN – JUL	SEPT – OCT
JAN – FEB	APR – MAY	JUL – AUG	OCT – NOV
FEB – MAR	MAY – JUN	AUG – SEPT	NOV – DEC

Producers have several decisions to make regarding their AF policy. Before discussing those coverage options, it is important to note a few key definitions (FCIC, 2019):

- County Base Value (CBV) – parameter determined by RMA for each county that measures basic per acre productivity (in dollars) of annual forage within an area.
- Growing season – period in which the crop is planted/growing. Annual forage can be insured in any growing season but cannot be insured in consecutive growing seasons for the same crop on the same acreage. The four insurable growing seasons are: 1) September-March; 2) December-June; 3) March-September; 4) June-November (AF, GMS, and RMA, 2020). Table 1 more clearly defines growing seasons and respective intervals (defined below).
- Coverage level – percentage of the grid index to insure. Options range from 70 to 90 percent, in 5 percent increments.
- Productivity factor – allows producers to individualize coverage based on productivity of the insured acreage compared to the county. Options range from 60 to 150 percent in 1 percent increments. Only one productivity factor can be selected for a crop for each county. The productivity factor is a percentage of the CBV for the crop (i.e., a producer selects 125% productivity factor if they believe their productivity is 1.25 times the productivity of the county).
- Index intervals – period for which precipitation data is reported. Each of the four growing seasons are split into six, two-month index intervals; there are 12 total intervals (see Table 1). For additional coverage, producers must select three intervals. Consecutive/overlapping intervals (intervals containing the same month) cannot be selected—for example, if the September-October interval is selected, the August-September and October-November intervals cannot be selected.
- Percent of value – percentage of the total insured value allocated to each selected index interval, applied to each applicable grid ID in the county. The sum of percentages for all index intervals by crop, intended use, irrigated practice, and grid ID must equal 100 percent. For AF, the minimum value that can be allocated to any single index interval, if selected, is 10 percent; the maximum value is 40 percent (50 percent in Growing Season 4 only).

CAT (catastrophic) coverage and additional coverage are available. For CAT coverage, producers specify their crop, intended use, number of acres to insure, and growing season. CAT coverage provides protection at the 65 percent coverage level and 45 percent productivity factor. For CAT coverage, the entire growing season is one seven-month interval, and 100 percent of the insured value is applied to the one interval. Additional coverage requires producer elections of coverage level, productivity factor, index intervals, and percent of value in addition to specification of crop, intended use, number of acres to insure, and growing season. These coverage parameters, combined with a CBV, determine AF premiums, liabilities, and indemnities.

Calculating Annual Forage Coverage and Indemnities

AF producers receive an indemnity when the final grid index is below the selected coverage level. For AF there is no physical loss adjustment—in other words, actual crop production is not directly measured by an AF policy. Therefore, a producer may receive an indemnity payment without experiencing a production loss, or they may suffer a production loss and not receive an indemnity payment. For each index interval, the liability is:

$$\text{Liability} = \text{productivity factor} * \text{coverage level} * \text{CBV} * \text{percent of value} * \text{acres}$$

Then, the indemnity for each index interval, if triggered, is:

$$\text{Indemnity} = (\text{coverage level} - \text{final grid index}) / (\text{coverage level}) * \text{liability}$$

Dual Use Option

Under Dual Use, a producer can insure an annual forage for grazing with an AF policy, insure the grain crop under a Small Grains policy, and maintain both benefits (RMA, 2019a). Dual Use is only available in certain counties in Texas, Oklahoma, Colorado, New Mexico, Nebraska, and Kansas where grain/grazing is considered a good farming practice by RMA. Dual Use is intended for small grains producers who plant their crop by October 15 to graze during the winter and harvest for grain in the summer; therefore, producers utilizing Dual Use can only select Growing Season I (September-March) for the annual forage portion of their Dual Use policy. For Growing Season I, producers can choose from these interval combinations:

- 1) Sept-Oct, Nov-Dec, Jan-Feb,
- 2) Sept-Oct, Nov-Dec, Feb-Mar,
- 3) Sept-Oct, Dec-Jan, Feb-Mar,
- 4) Oct-Nov, Dec-Jan, Feb-Mar.

RMA adjusts the annual forage CBV for a Dual Use policy to reflect the difference in grazing value for the shortened grazing period. The Dual Use CBV is 40 percent of the full year AF CBV (RMA, 2019a). The 60 percent reduction in CBV for Dual Use reduces the coverage by 60 percent compared to full AF. The 2020 crop year was the first for which Dual Use was available.

Table 2: Final Index Values for Grid ID 15120, 2019-2020 Crop Year.

SEPT – OCT	OCT – NOV	NOV – DEC	DEC – JAN	JAN – FEB	FEB – MAR
29.9	81.8	147.4	124.1	188.3	293.2

Source: AF, GMS, and RMA, 2020.

Dual Use Option Scenarios

An example wheat and stocker operation will be used to demonstrate the Dual Use Option. This example operation and the scenarios presented are illustrations of how the policy would have worked in the specified county and year given the chosen parameters. While these examples serve as a guide to understanding the program, producers should make decisions based on local circumstances and the risk management needs of their operation.

Example Operation Description

This example operation, located in Jones County, Texas (grid ID 15120), planted 500 acres of wheat in September, grazed stocker cattle from November to March, and harvested wheat for grain in June. The farm utilized the Dual Use Option for the 2019-2020 crop year, the first year for which Dual Use was available.

For the AF portion of Dual Use, all 500 acres are in the same grid; therefore, all 500 acres used the grid index for grid ID 15120. For the 2019-2020 crop year, the AF CBV for grid ID 15120 was \$195.52; the Dual Use CBV was \$78.21 (40 percent of the AF CBV). For Dual Use, index intervals in Growing Season 1 (September to March) had to be selected. For each scenario, the producer also had to assign a percent of value of enrolled acres to each interval and had to select a coverage level and productivity factor. Since the same grid is used for both scenarios, Table 2 shows the final index values for grid ID 15120.

For the MPC1 portion of Dual Use, the producer had to select a small grains MPC1 policy such as Revenue Protection (RP) or Yield Protection (YP). For both scenarios, the Actual Production History (APH) for the farm was 10 bushels per acre, and the actual yield in 2020 was 8 bushels per acre. The projected price was \$4.35/bushel, and the harvest price was \$4.58/bushel.

Scenario 1

For scenario 1, assume the producer chose the following index intervals: September-October, November-December, January-February with 34, 33, and 33 percent of value of enrolled acres assigned to each interval, respectively, for the AF portion of Dual Use. Further assume the producer chose 125 percent for the productivity factor and 75 percent for the AF coverage level. For the small grains policy, assume the producer selected Revenue Protection (RP) with 70 percent coverage. The producer elections for Scenario 1 are summarized in Table 3.

Tables 4 and 5 show the liability and indemnity calculations for the AF portion of Dual Use and the standalone AF policy. September-October was the only interval of the three selected that triggered an

Table 3: Scenario 1 Dual Use Option Selections.

AF Intervals	Percent of Value	AF Productivity Factor	AF Coverage Level	Small Grains Policy	Small Grains Coverage Level
Sept-Oct	34%	125%	75%	RP	70%
Nov-Dec	33%				
Jan-Feb	33%				

Table 4: Calculated Liabilities for Scenario 1 AF portion of Dual Use and AF Coverage.

Program	Liability (Sept-Oct)	=	Productivity Factor	*	CBV	*	Coverage Level	*	Percent of Value	*	# of Acres
AF portion of Dual Use	\$12,464.72	=	125%	*	\$78.21	*	75%	*	34%	*	500
Annual Forage only	\$31,161.00	=	125%	*	\$195.52	*	75%	*	34%	*	500

Table 5: Calculated Indemnities for Scenario 1 AF portion of Dual Use and AF Coverage.

Program	Indemnity (Sept-Oct)	=	(Coverage Level – Final Grid Index) / Coverage Level	*	Liability
AF portion of Dual Use	\$7,495.45	=	(75% – 29.9%) / 75%	*	\$12,464.72
Annual Forage only	\$18,738.15	=	(75% – 29.9%) / 75%	*	\$31,161.00

indemnity payment. Recall, an indemnity is triggered when the final index value is less than the selected coverage level, and of the three intervals selected, only the September-October value (29.9) was less than the 75 percent coverage level (Table 2). This resulted in a \$7,495.45 indemnity for the AF portion of Dual Use. The AF indemnity (\$18,738.15) is 60 percent higher than the indemnity for the AF portion of the Dual Use Option.

Importantly, the Dual Use option also includes indemnities from the small grain MPC policy (not included in Table 5). In this scenario, an RP indemnity was not triggered since the revenue guarantee ($\$4.58 \times 10$ bushels per acre $\times 70\%$) was not greater than the actual revenue ($\$4.58 \times 8$ bushels per acre). Therefore, the producer's total indemnity from Dual Use was \$7,495.45. As a result, a standalone AF policy would have paid the larger indemnity. It is also important to note that these scenarios simply illustrate total indemnities and do not account for premiums paid by producers for the coverage. Because the AF portion of Dual Use is always 40% of a standalone AF policy, the return from the small grains policy must make up for the difference for Dual Use to be preferred.

Scenario 2

For AF in the second scenario, assume the producer assigned 40 percent of value of enrolled acres to the October-November interval, 40 percent to December-January, and 20 percent to February-March. Further assume the producer elected 100 percent for the productivity factor and 85 percent for the coverage level.

Table 6: Scenario 2 Dual Use Option Selections.

AF Intervals	Percent of Value	AF Productivity Factor	AF Coverage Level	Small Grains Policy	Small Grains Coverage Level
Sept-Oct	40%	100%	85%	YP	85%
Nov-Dec	40%				
Jan-Feb	20%				

Table 7: Calculated Liabilities for Scenario 2 AF portion of Dual Use and AF Coverage.

Program	Liability (Sept-Oct)	=	Productivity Factor	*	CBV	*	Coverage Level	*	Percent of Value	*	# of Acres
AF portion of Dual Use	\$13,295.70	=	100%	*	\$78.21		85%	*	40%	*	500
Annual Forage only	\$33,238.40	=	100%	*	\$195.52		85%	*	40%	*	500

Table 8: Calculated Indemnities for Scenario 1 AF portion of Dual Use and AF Coverage.

Program	Indemnity (Sept-Oct)	=	(Coverage Level – Final Grid Index) / Coverage Level						*	Liability
AF portion of Dual Use	\$500.54 (+ \$1,087.40 for YP)	=	(85% – 81.8%) / 85%						*	\$13,295.70
Annual Forage only	\$1,251.33	=	(85% – 81.8%) / 85%						*	\$33,238.40

For the small grains policy, assume the producer chose Yield Protection (YP) with an 85 percent coverage level and insured 100 percent of the \$4.35/bushel projected price. The producer elections for Scenario 1 are summarized in Table 6.

As noted in Tables 7 and 8, an indemnity for the AF portion was triggered by the October-November interval (final index value of 81.8) resulting in an indemnity payment of \$500.54. A YP indemnity of \$1,087.50 was also triggered since the actual production value (\$4.35 * 8 bushels per acre * 500 acres) was less than the YP guarantee (\$4.35 * 10 bushels per acre * 85% * 500 acres). As a result, the total indemnity from the Dual Use policy was \$1,587.54. Unlike in scenario 1, Dual Use provided a larger indemnity than the standalone AF policy. With that said, as noted above, this is a comparison of total indemnities, not net indemnities, and producers should take premiums into account when selecting policies and coverage options.

Conclusion

Dual-purpose annual forage producers have a lot of decisions to make regarding coverage options, including whether to purchase a standalone AF policy, a standalone small grains MPCl policy, or a Dual Use policy. While the purpose of the paper was to illustrate how the various policies work, following are a few key rules of thumb when selecting policy types and coverage levels:

- **For Producers Currently Utilizing Only Small Grain MPCI Policies.** It may make sense for a producer who already utilizes a small grains policy to switch to Dual Use if they are seeking coverage for their grazing crop while wanting to maintain protection for the grain. As noted in the paper, producers may also wish to evaluate a standalone AF policy as an option.
- **For Producers Currently Utilizing Standalone AF Policies Only.** There is a 60 percent reduction in coverage (relative to a standalone AF policy) when Dual Use is utilized. For a Dual Use policy to yield equal or more benefit than a standalone AF policy when the rainfall index triggers a payment, a significant small grains indemnity payment must occur simultaneously. When thinking about Dual Use policies, a producer with a standalone AF policy should consider whether the added benefit of a small grains policy will outweigh the reduced AF coverage. A producer who has been successful with AF may be better off keeping their standalone policy rather than switching to Dual Use.

In all cases, producers should consider premium differences when choosing between insurance options. Producers should also talk to their crop insurance agent for advice and quotes specific to their operation.

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