



United States Department of Agriculture



OFFICE OF INSPECTOR GENERAL

# Annual Forage Program and Followup on Pasture, Rangeland, and Forage Program Recommendations

## Audit Report 05601-0006-31

OIG reviewed RMA's Annual Forage insurance plan and followed up on recommendations from two prior audit reports on the Pasture, Rangeland, and Forage insurance plan.

### OBJECTIVE

OIG evaluated the Annual Forage insurance plan and followed up on the implementation of PRF recommendations in Audit Report 05601-0003-31(1) and Audit Report 05601-0003-31.

### REVIEWED

We non-statistically selected and visited three States and four counties with the highest indemnities paid for the Annual Forage insurance plan in crop year 2017 and highest number of enrollees for crop year 2018. For each county we visited, we reviewed five producers. We also: reviewed applicable laws, regulations, and guidance; interviewed RMA officials; and followed up on two prior PRF audit reports.

### RECOMMENDS

We recommend that RMA work with NOAA to develop a plan to implement quality controls for rainfall measurements, and work with the Annual Forage insurance plan submitter to evaluate and potentially revise county base values pricing.

### WHAT OIG FOUND

The Office of Inspector General (OIG) performed this audit to review the Annual Forage insurance plan and to follow up on two prior OIG reports on the Pasture, Rangeland, and Forage (PRF) insurance plan. We determined that although the Risk Management Agency (RMA) made appropriate changes to the PRF insurance plan based on prior recommendations, further improvements are needed in both the PRF and Annual Forage insurance plans.

First, we determined that rain gauges in two States provided suspicious rainfall readings. These readings led to producers in one State receiving at least \$8.52 million more in Annual Forage indemnity payments than they should have received for crop year 2017. RMA needs to work with the National Oceanic and Atmospheric Administration (NOAA) to ensure the rainfall measurements used to calculate indemnity payments for Annual Forage and PRF insurance plans are accurate and consistent with readings from other gauges in the area.

Within the scope of our review, we also found that the county base values used to calculate indemnity payments exceeded the production capability of the land. This resulted in producers receiving high or disproportionate Annual Forage indemnities. RMA was aware of these weaknesses based on prior reviews. Although RMA addressed most of the county base value limitations in the PRF insurance plan, RMA needs to ensure these vulnerabilities are also addressed in the Annual Forage insurance plan.

RMA generally agreed with our recommendations and we accepted management decision on all four recommendations.





United States Department of Agriculture  
Office of Inspector General  
Washington, D.C. 20250



DATE: July 26, 2019

AUDIT  
NUMBER: 05601-0006-31

TO: Martin Barbre  
Administrator  
Risk Management Agency

ATTN: Heather L. Manzano  
Deputy Administrator for Compliance

FROM: Gil H. Harden  
Assistant Inspector General for Audit

SUBJECT: Annual Forage Program and Follow Up on Pasture, Rangeland, and Forage  
Program Recommendations

This report presents the results of the subject review. Your written response to the official draft is included in its entirety at the end of the report. We have incorporated excerpts from your response, and the Office of Inspector General's (OIG) position, into the relevant sections of the report. Based on your written response, we are accepting management decision for all four audit recommendations in the report, and no further response to this office is necessary. Please follow your internal agency procedures in forwarding final action correspondence to the Office of the Chief Financial Officer (OCFO).

In accordance with Departmental Regulation 1720-1, final action needs to be taken within 1 year of each management decision to prevent being listed in the Department's annual Agency Financial Report. For agencies other than the OCFO, please follow your internal agency procedures in forwarding final action correspondence to OCFO.

We appreciate the courtesies and cooperation extended to us by members of your staff during our audit fieldwork and subsequent discussions. This report contains publicly available information and will be posted in its entirety to our website (<http://www.usda.gov/oig>) in the near future.



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# Background and Objectives

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## Background

The Department of Agriculture's (USDA) Risk Management Agency (RMA) administers the Federal Crop Insurance plans and helps insure producers against crop failures due to crop diseases, hurricanes, and other risks. Federal crop insurance is available solely through private companies known as approved insurance providers (AIP), who market and service crop insurance policies and process claims for loss. AIPs directly insure producers and their crops, and then RMA reinsures AIPs against a portion of the losses they may suffer.

Private parties, called submitters, can develop insurance products to address specific crops, livestock, or risks.<sup>1</sup> The Federal Crop Insurance Corporation (FCIC) considers these proposed insurance plans for approval. According to Section 508(h) of the Federal Crop Insurance Act (Act),<sup>2</sup> the proposed private party insurance plans should be in the best interests of producers, follow sound insurance principles, and be actuarially appropriate.

The Annual Forage insurance plan is a privately developed insurance plan submitted to RMA under Section 508(h) that provides coverage to acreage planted each year that is used as feed and fodder by livestock. Similarly, the Pasture, Rangeland, and Forage (PRF) insurance plan, which RMA administers, is designed to provide coverage on the farmer's pasture, rangeland, or forage acreage. These insurance plans are intended to give producers the ability to cover replacement feed costs when producers lose forage or feed due to low precipitation.

The primary difference between Annual Forage and PRF insurance lies in the type of commodity covered. Annual Forage encompasses all annually-planted acres grown for forage or fodder with an intended use of, but not limited to, grazing, haying, green chop, or silage. In contrast, PRF encompasses perennial grasses, rangeland, and hay types (such as alfalfa) that are not planted on an annual basis.

Both Annual Forage and PRF insurance plans utilize a rainfall index to determine when a loss occurs. The rainfall index is based on weather measurements collected and maintained by the National Oceanic and Atmospheric Administration's (NOAA) Climate Prediction Center. The index reflects how much precipitation is received relative to the long-term average for a specified area and timeframe. Producers receive an indemnity payment when the rainfall value in their area falls below a certain level.<sup>3</sup>

To determine the insured value of the annual forage land, the submitter establishes a county base value (CBV) using the 3-year average of the National Agricultural Statistics Service (NASS)

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<sup>1</sup> A submitter is any person or entity that submits to the Federal Crop Insurance Corporation Board for approval a 508(h) submission under Section 508(h) of the Act.

<sup>2</sup> Federal Crop Insurance Act, Section 508 (Dec. 20, 2018).

<sup>3</sup> This value, known as the "trigger grid index," is the result of multiplying the expected grid index by the producer's selected coverage level.

published “all hay yield/value” for each State, which includes a blended yield of irrigated and nonirrigated production. The CBV is applied to all counties within the State.<sup>4</sup>

According to the submitter’s insurance plan, the submitter annually calculates a State’s CBV using NASS information<sup>5</sup> in the following formula:

$$\text{CBV} = \text{hay prices} \times \text{hay yield}$$

Once the submitter calculates the CBV, producers can select a coverage level and a productivity factor, which the producers select to reflect the land’s productivity. At the time of our audit, producers could select a productivity factor between 60 and 150 percent of the established CBV.<sup>6</sup>

The Annual Forage insurance plan was first offered in six States<sup>7</sup> during crop year 2014. The Annual Forage insurance plan expanded to Colorado in 2016 and New Mexico in 2017. In crop year 2017, producers in these eight States had 904 insurance policies covering 480,687 acres; the producers collectively received \$41 million in indemnity payments.

In September 2014, we issued an interim report to RMA concerning issues we identified with PRF. We reported that in Colorado and New Mexico, RMA insured nonirrigated hay producers at the same level as irrigated hay producers, even though irrigated land is capable of producing much more hay. As a result, nonirrigated producers received indemnities that were substantially in excess of the value of their lost hay production. We recommended that RMA suspend offering PRF coverage for nonirrigated hay in Colorado and New Mexico based on combined yield until it established a method to account for the substantial difference in production capability of irrigated versus nonirrigated land. RMA generally agreed with our finding and recommendations, and we reached agreement on the corrective action to be taken in December 2014.<sup>8</sup>

In an April 2015 audit report, we informed RMA that even though irrigated producers’ yields are not nearly as dependent on rainfall as nonirrigated producers and, thus, do not incur the same level of loss, RMA insures irrigated forage producers who experience a reduction in rainfall using the same criteria RMA applies to nonirrigated forage producers who experience a reduction in rainfall. As a result, irrigated producers were able to receive indemnities in excess of lost hay production value. We recommended that RMA modify the PRF insurance plan’s payment methodology to account for the material difference that irrigation practice has on the

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<sup>4</sup> CBVs are only developed for States approved to offer the Annual Forage insurance plan.

<sup>5</sup> For Colorado and New Mexico, the values for hay are derived from the NASS’ average data on hay values, excluding alfalfa for their computations.

<sup>6</sup> In crop year 2018, producers in Colorado and New Mexico were limited to selecting a productivity factor covering only up to 100 percent of the CBV.

<sup>7</sup> These six States are Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas.

<sup>8</sup> Audit Report 05601-0003-31(1), *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage—Interim Report*, Sept. 2014.

impact of rainfall on forage yield. RMA agreed with our finding and recommendation, and we reached agreement on the corrective action to be taken in April 2015.<sup>9</sup>

## **Objectives**

Our objectives were to evaluate RMA's Annual Forage insurance plan and follow up on the implementation of PRF recommendations from Audit Report 05601-0003-31(1) and Audit Report 05601-0003-31. During our audit, we determined that RMA made appropriate changes to the PRF insurance plan based on prior recommendations, and we have no reportable findings in relation to this objective (see Exhibit B).

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<sup>9</sup> Audit Report 05601-0003-31, *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage*, April 2015.

## **Finding 1: RMA Needs to Ensure the Accuracy of Rainfall Measurements Used in Crop Insurance Plans**

RMA relies on rainfall measurements from NOAA and is ultimately responsible for the integrity of information used to calculate payments and indemnities. However, Annual Forage insurance payments were made based on localized, inaccurate rainfall measurements from two States. Specifically, we found that from 2015 through 2017, tampering affected 11 rain gauges. This occurred because RMA has not worked with NOAA to establish necessary controls to identify suspicious rainfall measurement readings before processing insurance payments. Therefore, RMA relied on compromised rainfall measurements, which resulted in improper indemnity payments to producers. Consequently, producers enrolled in the Annual Forage insurance plan in one State alone received at least \$8.52 million more in indemnity payments than they should have.

According to Office of Management and Budget (OMB) Circular A-123, management must establish and implement financial and administrative internal controls to manage program risks.<sup>10</sup> While RMA has chosen to use information gathered by NOAA, ultimately RMA senior officials are responsible for developing and maintaining effective internal controls over the rainfall measurements used in crop insurance plans.<sup>11</sup> RMA reviews and approves the suitability of the data source used to calculate loss for each proposed crop insurance plan. When the Annual Forage insurance plan was submitted in 2010, RMA determined that NOAA's rainfall data set, which had been utilized since PRF's inception in 2007, was the most reliable and best available at the time.

RMA bases potential loss payments for its Annual Forage and PRF insurance plans solely on NOAA rainfall measurements. Lower rainfall readings, therefore, can be used to increase producers' indemnity payments. Because the rainfall measurements are gathered by NOAA and then utilized by RMA, both parties must coordinate to ensure this information is reliable and accurate.

In our review, we learned that rainfall readings could be easily manipulated and such actions go undetected for long periods of time. Producers seeking to benefit from rainfall index insurance plans could potentially tamper with rain gauges, resulting in lower rainfall readings. This, in turn, would increase their indemnity payments. We found that two of the three States we reviewed had 12 gauges that recorded substantially inaccurate rainfall measurements in crop years 2016 and 2017. Of these, NOAA determined 11 gauges showed evidence of tampering.<sup>12</sup> Rainfall readings from the tampered gauges substantially increased the indemnity payments paid to the corresponding producers.

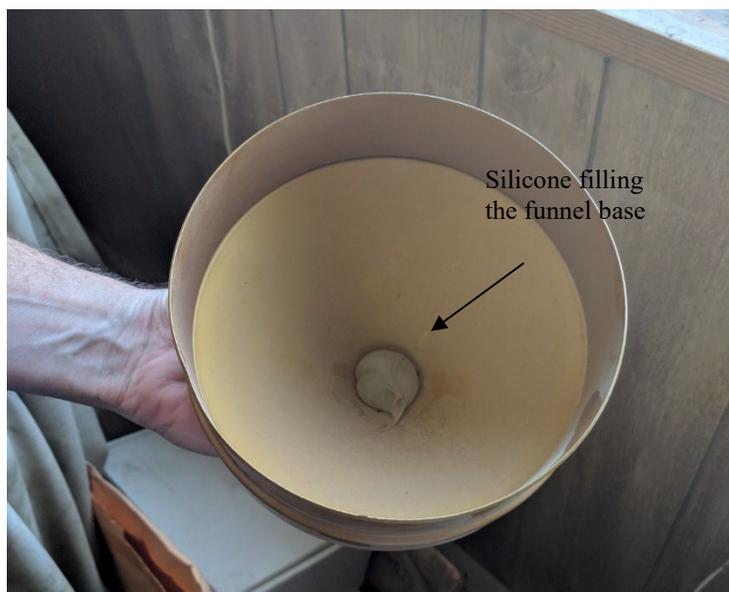
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<sup>10</sup> OMB, *OMB Circular No. A-123, Management's Responsibility for Enterprise Risk Management and Internal Control*, Memorandum M-16-17 (July 15, 2016).

<sup>11</sup> RMA, *Federal Crop Insurance Corporation Directive Number 17010, Review and Approval of Private Crop Insurance Products*, section APDD, no. 4 (Mar. 2009).

<sup>12</sup> In December 2016, a nongovernmental company informed RMA that gauges showed evidence of tampering.

NOAA officials stated that rain gauge tampering included filling rain gauges with silicone and caulk, covering them with cake pans, and creating holes with drills and shotguns in order to reduce rainfall readings, which favored insured producers. During our fieldwork, we confirmed one gauge was filled with silicone (see Figure 1). Similarly, in another State, one gauge had suspicious readings, showing no rainfall for an 8-month period while nearby gauges reported rainfall. Whether accidental or intentional, rainfall measurements were affected by this gauge, which in turn skewed the indemnity payments to applicable producers in this State.



**Figure 1.** This rain gauge was tampered with by filling the funnel with silicone to prevent water from entering the gauge to be measured. OIG photo.

Because RMA did not identify and address the inaccurate rainfall measurements in time, producers in the two States received more indemnities than they were entitled to receive. For example, producers in one State that used readings from affected gauges received at least \$8.52 million more in indemnities than they should have received. We reviewed three producers in this State who participated in the Annual Forage insurance plan in crop year 2017 and found that these three producers received approximately \$3.54 million more in indemnities than they should have received.

According to NOAA officials, the tampering occurred as early as “mid-to-late 2015.” RMA officials said they were unaware of tampering and inaccurate readings until December 2016 when they were notified of potential tampering by a non-governmental company. However, because the appropriate controls were not established to detect inaccurate rainfall measurements, RMA officials said they did not realize that gauges had been tampered with until producers had already received rainfall index indemnity payments for crop years 2016 and 2017.<sup>13</sup> This

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<sup>13</sup> Because neither of these two States offered Annual Forage in 2015, we are only questioning the 2016 and 2017 rainfall measurements.

occurred because RMA does not have mechanisms to identify data anomalies. In each instance of tampering we reviewed, external entities, not RMA, reported the tampering.

NOAA began capturing rain gauge measurements in the 1940s, before rainfall amounts affected insurance claims. By using NOAA's data set for insurance purposes, RMA has monetized rainfall measurements and introduced additional risks. While RMA has chosen to use NOAA's rainfall measurements to calculate crop insurance payments, RMA also has responsibilities for ensuring that rainfall measurements used to calculate crop insurance payments in PRF and the Annual Forage insurance claims are appropriate, reliable, the best available, and not vulnerable to tampering.

NOAA captures, reports, and has ownership of the rainfall data. However, RMA is responsible for the integrity of the information it relies on for its insurance programs. RMA should assess the risks associated with relying on these rainfall gauges and work with NOAA to create an internal control structure that anticipates and addresses these risks. RMA may accomplish this by developing a system in which RMA methodically and timely identifies suspicious readings and notifies NOAA when gauges produce abnormal rainfall measurements prior to indemnity payments being made.

RMA officials agreed with our findings and stated that they have been working with NOAA to implement a system to identify and remedy suspicious gauges. As such, if RMA, NOAA, automated processes, or external entities identify suspicious gauges, the gauges will be placed on a list and dropped from the data set until they are individually investigated and cleared for use.

Additionally, RMA and NOAA are working on a memorandum of understanding (MOU) to delineate roles and responsibilities. We agree with these efforts.

## **Recommendation 1**

Work with NOAA to develop a plan to implement quality controls for measurements used in rainfall index insurance plans that will anticipate, mitigate, and address the risk of making payments based on data generated from potentially tampered rain gauges.

## **Agency Response**

RMA agrees and has worked with NOAA Climate Prediction Center (CPC) to develop a quality control process. NOAA CPC has implemented this process and provides data reports to RMA outlining their findings. RMA will continue to work with NOAA CPC to update the quality control process as needed to ensure that the process is working to identify potential issues.

## **OIG Position**

We accept RMA's management decision for this recommendation.

## **Recommendation 2**

Enter into a MOU with NOAA that clearly delineates roles and responsibilities in gathering, analyzing, and protecting information. Update rain index insurance plan policies accordingly.

### **Agency Response**

RMA agrees to work with NOAA CPC on establishing a MOU. We anticipate having the MOU in place by August 2020, contingent upon obtaining the appropriate clearances.

### **OIG Position**

We accept RMA's management decision for this recommendation.

## **Recommendation 3**

Recover \$8.52 million in indemnities erroneously overpaid to producers based on inaccurate rainfall data.

### **Agency Response**

RMA disagrees with the recommendation. Recovering indemnities in this manner would require final grid indices to be changed for all producers in the areas identified by OIG. This would be in violation of the Rainfall Index Basic Provisions. Specifically, Section 8(e) states that once the final grid index is published by RMA it is conclusively presumed to be accurate and will not be changed. RMA would likely not prevail in potential legal proceedings to recover the indemnities.

### **OIG Position**

We accept RMA's management decision for this recommendation.

## **Finding 2: RMA Needs to Work with the Annual Forage Insurance Plan Submitter to Address Known Issues and High County Base Values**

We found that the county base values (CBV) in the three States we reviewed did not always reflect the production capability of the land. This occurred because, though RMA was aware of CBV pricing limitations within the PRF insurance plan—a plan similar to the Annual Forage insurance plan—it did not ensure that Annual Forage’s submitter addressed these limitations before expanding the Annual Forage insurance plan to other States in 2016 and 2017. From 2016 through 2018, producers in two States received over \$34 million<sup>14</sup> in indemnity payments based on disproportionately high CBVs.<sup>15</sup> If these issues are not fully addressed, producers in States with elevated CBVs could continue to receive high or disproportionate indemnities.

According to internal guidance, RMA officials must review all privately developed insurance plans, such as the Annual Forage insurance plan, to ensure they are in the best interests of producers, follow sound insurance principles, and are actuarially appropriate. During this review process, several RMA divisions review the submission, identify potential areas of concern, and provide their comments and recommendation for approval or disapproval. As part of this review, RMA must consider prior reviews it conducted for similar products and determine whether those reviews indicate potential problems with the proposed insurance plan.

An individual producer’s level of Annual Forage protection per acre is determined by the established CBV, the coverage level (between 70 percent and 90 percent),<sup>16</sup> and the productivity factor.<sup>17</sup> This amount is supposed to accurately reflect the productivity of the insured crop. However, we found that the average yields the submitter used to calculate CBVs did not reflect the land’s productivity. For example, in crop year 2017, Texas producers could insure their acreage for as much as \$223.92 per acre, Colorado producers could insure their annual forage acreage for as much as \$478.06 per acre, and New Mexico producers could insure their acreage for as much as \$497.03 per acre. However, based on potential yields from NRCS’ soil productivity information, the yields used to calculate the CBVs were higher than what our sampled producers’ land could produce.<sup>18</sup> CBVs in Colorado and New Mexico were nearly twice as high as their land’s production capability. For example, the CBV in Colorado for crop

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<sup>14</sup> We are questioning the indemnities paid to all producers in these two States. Producers in these two States received a total of \$43,039,972 in indemnities from 2016 through 2018 based on disproportionately high CBVs. In Finding 1, we attributed \$8,520,618 in overpaid indemnities to manipulated rainfall data. The remaining indemnities were paid based on disproportionately high CBVs.

<sup>15</sup> We are questioning the totality of these indemnities, but we are not recommending recovery since the producers would be eligible for a portion of these indemnity payments. The submitter, working with RMA, would be responsible to calculate reasonable CBVs. Without having a reasonable CBV, we are unable to calculate indemnities that producers should have received.

<sup>16</sup> “Coverage level” means a percentage of insurance coverage, which the producer selects within a range that RMA provides (for example, 70 to 90 percent).

<sup>17</sup> A producer selects a productivity factor, or percentage factor, that allows the producer to individualize their coverage based on the land’s productivity. The producer selects this productivity factor by the established sales closing date.

<sup>18</sup> NRCS, *Web Soil Survey*, <https://websoilsurvey.nrcs.usda.gov/app/> (last visited June 6, 2018). We utilized this website for all sampled producers.

year 2017 stated that the yield was 1.75 tons, even though sampled producers could only produce a maximum of 0.9 tons (see Figure 2).



**Figure 2.** A producer insured his nonirrigated land in the Annual Forage insurance plan, including this field, with a developed yield of 1.78 tons per acre in crop year 2018, which far exceeded the land’s potential productivity per acre of 0.6 tons based on the soil suitability maps that NRCS develops. OIG Photo.

This occurred because, when the submitter proposed expanding the Annual Forage insurance plan in October 2014 and July 2016, it did not consider certain factors when calculating the CBV, factors that RMA was aware of in the PRF insurance plan. From July 2014 to April 2015, both OIG and an outside contractor highlighted multiple issues that could lead to inaccurate CBVs in the PRF insurance plan. Because PRF is an RMA insurance product, RMA was able to make changes to address the majority of known issues in 2016. The Annual Forage insurance plan is similar to the PRF insurance plan; therefore, these plans could be susceptible to the same weaknesses. Because the Annual Forage insurance plan was proposed and established by a submitter, RMA is limited in the changes it can make to the plan itself.

When RMA reviewed the Annual Forage insurance plan in October 2014—before it expanded to other states—RMA should have requested that the submitter address the PRF CBV issues in the Annual Forage insurance plan first reported to RMA three months prior. Because RMA did not

address the PRF CBV issues,<sup>19</sup> the Annual Forage insurance plan still includes the issues that resulted in disproportionate CBVs and benefits. Specifically, the Annual Forage plan has issues in the following categories—yield and soil suitability and productivity.<sup>20</sup>

## **Yield**

First, OIG and an outside contractor recommended that RMA separate irrigated and nonirrigated CBVs for the PRF insurance plan. Because irrigated and nonirrigated lands have significantly different yields, it is important that the CBVs be calculated separately. Producers who primarily farm nonirrigated land are able to insure their land using CBVs primarily based on irrigated factors. Realizing this disparity, RMA instituted separate irrigated and nonirrigated CBVs in western States for PRF for crop year 2016, but did not request the submitter make a similar change to the Annual Forage insurance plan.

## **Soil Suitability and Productivity**

Second, for PRF, RMA agreed that the productivity factor in Colorado and New Mexico needed reducing to address high CBVs. Prior to these changes, all producers could insure their lands' productivity for up to 150 percent. However, the 150 percent productivity factor is intended to cover producers who have exceedingly fertile land.

The term “annual forage” can include a myriad of different crops (examples include wheat, oats, and triticale). Because not all soil is best suited for forage crops, the submitter included a productivity factor that producers could use to adjust their insurance coverage based on their lands' productivity. However, for the Annual Forage insurance plan, RMA still does not require the producer's selected productivity to have any relation to the productivity of the Annual Forage land. As a result, producers in the Annual Forage insurance plan can insure their Annual Forage land in excess of the soil's productivity.

We identified issues with soil productivity within the Annual Forage insurance plan in all three States we reviewed. For example, for the Annual Forage insurance plan in crop year 2017, producers we sampled in two States were able to insure their land for the maximum productivity factor of 150 percent, even though NRCS determined that the soil was not best suited for growing crops. For example, we determined that, for one producer, the CBV and the producer's selected productivity factor allowed the producer's land to be insured as though it was significantly more productive. Per the CBV, this land had a yield of 1.75 tons per acre and, applying the productivity factor of 150 percent, this

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<sup>19</sup> OIG had reported these issues with PRF in Audit Report 05601-0003-31(1), *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage—Interim Report*, Sep. 2014 and Audit Report 05601-0003-31, *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage* (Apr. 2015).

<sup>20</sup> All the issues discussed here have been presented in the past for the PRF insurance plan in multiple reports: Audit Report 05601-0003-31(1), *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage—Interim Report*, Sep. 2014; Audit Report 05601-0003-31, *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage* (Apr. 2015); and Agralytica, *Evaluation of PRF Rainfall Index and Vegetation Index Pilot Crop Insurance Programs, Final Program Evaluation Summary Report*, Order No. D14PX00103 (Oct. 2014).

land was insured as though it could yield 2.625 tons per acre. However, both values were significantly higher than actual productivity. Based on NRCS' soil productivity information, the land only could produce a maximum of 0.6 tons per acre. As a result, this land was insured at \$478.06/acre, even though, according to NRCS' soil productivity information, the CBV should have been \$120.40/acre (see Figure 3).<sup>21</sup>



**Figure 3.** A producer insured this unirrigated land under the Annual Forage insurance plan at \$478.06/acre with a productivity factor of 150 (2.625 tons per acre) instead of the actual productivity level of 0.6 tons per acre. OIG photo.

Realizing the soil productivity inconsistencies and the potential for misuse, in 2015, RMA limited the productivity factor to 60 percent in some States for the PRF insurance plan, but did not request the submitter to change the Annual Forage insurance plan accordingly. RMA was concerned that the high Annual Forage CBVs contributed to issues with the insurance plan, so it limited the productivity factor in Colorado and New

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<sup>21</sup> We reviewed producers in Colorado, New Mexico, and Texas who enrolled in the Annual Forage insurance plan from crop years 2014–2018. In total, we reviewed five Colorado producers who were enrolled in either crop years 2017 or 2018. Three producers were insured in crop year 2017 (see Finding 1) and four were insured in crop year 2018—including two producers from the prior year.

Mexico to 100 percent starting in 2018.<sup>22</sup> Limiting the productivity factor had the desired effect of reducing the CBVs in these two States. Before this change was made, our sampled producers in Colorado and New Mexico received over \$2.5 million more in indemnity payments than they would have had producers been limited to 100 percent rather than 150 percent coverage.

Additionally, RMA identified the following issues nationwide in the PRF insurance plan, which could also result in disproportionate CBVs in the Annual Forage insurance plan:

- **District Pricing.** Currently, CBVs for the Annual Forage insurance plan are Statewide, despite differences in pricing throughout a State. For PRF, RMA recognized that having a Statewide CBV was problematic, especially in States with significant productivity variations like Colorado, New Mexico, and Texas. Accordingly, RMA introduced sub-State pricing for the PRF insurance plan in 2018 and the use of multiple CBVs throughout the State. RMA has recently suggested the submitter make a similar change to the Annual Forage insurance plan.
- **Crop.** The Annual Forage insurance plan covers crops grown for forage or fodder. Because there is not a NASS yield for “annual forage crops,” the submitter determined hay yields were the closest crop to annual forage. However, RMA has stated there is little evidence to support that hay yields and prices are the best indicator of forage value. RMA is aware that the value of hay is higher than many of the annual forage crops insured through the Annual Forage insurance plan, further stating that this disparity may result in higher CBVs. Therefore, RMA is currently working with the submitter to determine if hay is truly the best indicator of the value of annual forage crops.

While RMA addressed most of these issues and reduced the vulnerabilities within the PRF insurance plan, RMA stated that only the submitter can introduce a new pricing methodology for the Annual Forage insurance plan, an external product. While we acknowledge that RMA is limited in the changes it can make to the Annual Forage insurance plan, RMA needs to work closely with the submitter to address known issues. When expanding the insurance plan in 2016, RMA should have alerted the submitter to the presence of the problems listed above and not approved the expansion until the submitter made any corresponding changes to the Annual Forage insurance plan’s CBVs. RMA is currently working with the submitter to develop an improved pricing methodology for CBVs.

We also concluded that, because of disproportionately high CBVs, producers were able to receive indemnity payments in substantial excess of the value of their losses. In one State, we found that producers received nearly \$5.9 million on land with no history of annual forage use.<sup>23</sup> These producers had changed their historical use of their land from native grasses or grain

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<sup>22</sup> While the submitter, not RMA, is solely authorized to determine or alter most aspects of the Annual Forage insurance plan, RMA can determine the productivity factor without the submitter’s input.

<sup>23</sup> Only 22.61 percent of the land our sampled producers insured in this one State had a history of being used for annual forage production.

production to forage production. For example, one producer paid approximately \$1.8 million to break his contract with the Farm Service Agency (FSA) Conservation Reserve program in order to enroll over 7,000 acres in the Annual Forage insurance plan in 2017. With lower than normal rainfall readings, this producer received about \$3.6 million in crop year 2017 Annual Forage indemnities. Likewise, we found that in one State, producers have changed over 19,000 acres from grain production to grasses and forage crops since the Annual Forage insurance was introduced.

Currently, the submitter has proposed expanding the Annual Forage insurance plan from 8 to 48 States. Before expanding further, RMA needs to work with the submitter to address systemic weaknesses in the Annual Forage insurance plan and ensure that producers receive proportionate indemnity payments that accurately reflect the crop's value.

#### **Recommendation 4**

With the insurance plan submitter, evaluate the Annual Forage insurance plan to determine if the CBV pricing methodology needs to be revised to address the issues identified.

#### **Agency Response**

RMA agrees with the recommendation. The submitter developed a new pricing methodology for the 2020 crop year and the Federal Crop Insurance Corporation (FCIC) Board of Directors approved these changes on April 23, 2019. The new CBV method provides sub-state CBVs for all program states, resulting in more accurate values, and addresses the issues identified.

#### **OIG Position**

We accept RMA's management decision for this recommendation.

## Scope and Methodology

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Our audit covered the Annual Forage insurance plan from July 2013 through June 2018. As of January 23, 2018, RMA had sold 15,525 policies and issued indemnities for 2,806 policies, totaling over \$61.7 million for this period. We performed fieldwork between December 2017 and October 2018.

During our audit, we talked with RMA officials in Kansas City, Missouri, and non-statistically selected three States and four counties to visit. Our selections primarily consisted of States and counties with the highest indemnities paid for the Annual Forage insurance plan in crop year 2017 and the highest number of enrollees for crop year 2018 (see Exhibit C). Specifically, for crop year 2017, the three States we visited sold 3,340 policies—1,260 of which received indemnities totaling over \$33.5 million. For crop year 2017, the four counties we visited sold 360 policies—101 of which received indemnities totaling over \$24 million. In each of the counties we visited, we non-statistically selected five producers to review based, in part, on high crop year 2017 indemnities and/or enrollment in crop year 2018. These 20 producers received indemnities totaling \$8.8 million in crop year 2017.

To accomplish our objectives, we performed the following audit procedures:

- Reviewed applicable laws, regulations, and agency handbooks concerning the administration of the Annual Forage insurance plan;
- Interviewed RMA officials to gain a sufficient understanding of the Annual Forage insurance plan and its implementation;
- Interviewed RMA officials and reviewed agency guidance to ascertain the internal controls over the Annual Forage insurance plan;
- Interviewed NOAA officials to gain an understanding of the collection of and control over rainfall data;
- Reviewed AIP and FSA files related to the 20 producers selected in our sample;
- Reviewed NRCS soil suitability records for our sampled producers;
- Reviewed NOAA historical and current rainfall data for our sampled counties;
- Compared Annual Forage to other USDA programs to identify potential duplication or overlap;
- Assessed the accuracy and completeness of RMA data by performing analysis of data to ensure it matched publicly available data; and
- Performed followup steps to ensure RMA implemented corrective action for two prior OIG audit reports.<sup>24</sup>

During the course of our audit, we did not perform any tests to determine the overall reliability of any individual agency information system because evaluating the effectiveness of information systems was not one of our engagement objectives. Therefore, we make no representation as to

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<sup>24</sup> Audit Report 05601-0001-31(1), *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage—Interim Report* (Sept. 2014); Audit Report 05601-0001-31, *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage* (Apr. 2015).

the adequacy of any agency information systems. We do not believe the lack of systems testing had an impact on our audit as we did assess the accuracy and completeness of RMA data by performing analysis of data to ensure they matched publicly available data, as stated above.

We conducted this performance audit in accordance with Generally Accepted Government Audit Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Abbreviations

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Act.....	Federal Crop Insurance Act
AIP.....	approved insurance provider
CBV.....	county base value
FSA.....	Farm Service Agency
MOU.....	Memorandum of Understanding
NASS.....	National Agricultural Statistics Service
NOAA.....	National Oceanic and Atmospheric Administration
NRCS.....	Natural Resources Conservation Service
OCFO.....	Office of the Chief Financial Officer
OIG.....	Office of Inspector General
OMB.....	Office of Management and Budget
PRF.....	Pasture, Rangeland, Forage
RMA.....	Risk Management Agency
USDA.....	Department of Agriculture

## Exhibit A: Summary of Monetary Results

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Exhibit A summarizes the monetary results for our audit report by finding and recommendation number.

<b>Finding</b>	<b>Recommendation</b>	<b>Description</b>	<b>Amount</b>	<b>Category</b>
1	3	Producers received indemnities based on inaccurate rainfall data.	\$8,520,618	Questioned Costs/Loans, No Recovery
2	4	Producers received indemnities based on average yields that they could not feasibly produce.	\$34,519,354	Questioned Costs/Loans, No Recovery
<b>Total</b>			<b>\$43,039,972</b>	

## Exhibit B: Results of Prior Audit Recommendations

This exhibit lists the recommendations from audit reports 05601-0003-31(1) and 05601-0003-31 that we reviewed as part of the follow up work.<sup>25</sup>

Audit Number	Recommendation No.	Prior Recommendation	Final Action Verified
05601-0003-31(1)	1	Suspend the crop year 2015 offering of PRF coverage with an intended use of hay in Colorado and New Mexico on nonirrigated land until RMA can establish county-base values by irrigated and nonirrigated practices, or take other actions that result in PRF coverage that takes into account the substantial difference in production capability of irrigated and nonirrigated hay land. One possible approach is to modify the Special Provisions to require a written agreement for nonirrigated hay land and require a production history of producing hay.	RMA provided to the Office of the Chief Financial Officer (OCFO) documentation evidencing that a Manager’s Bulletin was issued requiring AIPs to verify the feasibility of growing nonirrigated forage crops on acreage insured as hay in Colorado and New Mexico prior to the issuance of any indemnity payments on such land.
05601-0003-31(1)	2	Evaluate Arizona, Idaho, Nevada, Oregon, Utah, and Wyoming to determine if nonirrigated and irrigated hay yields warrant establishing separate county-base values to account for substantial differences in production capabilities or taking other actions to resolve differences.	RMA provided OCFO with documentation supporting that an evaluation was completed that showed whether separate county-base values were needed to account for the substantial differences in irrigated and nonirrigated hay production, and the pricing methodology was presented to the FCIC Board of Directors for crop year 2016.

<sup>25</sup> Audit Report 05601-0001-31(1), *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage—Interim Report* (Sept. 2014); Audit Report 05601-0001-31, *RMA: Rainfall and Vegetation Index Pilot Program—Pasture, Rangeland, Forage* (Apr. 2015).

## Exhibit B: Results of Prior Audit Recommendations

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<b>Audit Number</b>	<b>Recommendation No.</b>	<b>Prior Recommendation</b>	<b>Final Action Verified</b>
05601-0003-31	1	Modify the pasture, rangeland, forage program's payment methodology to account for the material difference that irrigation practice has on the impact of rainfall on forage yield.	RMA provided OCFO with documentation evidencing that RMA incorporated separate pricing methodologies for irrigated and nonirrigated hay for the 2016 crop year.

## Exhibit C: Locations Visited

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The table below shows the locations visited during fieldwork:

Location	Office
Kansas City, Missouri	Product Management–Kansas City, MO
Colorado	Baca County–Springfield, CO
New Mexico	Curry County–Clovis, NM
Texas	Falls County–Marlin, TX
	McLennan County–Waco, TX

**AGENCY'S  
RESPONSE TO AUDIT REPORT**





**United States  
Department of  
Agriculture**

Farm Production  
and Conservation

Risk  
Management  
Agency

1400 Independence  
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**TO:** Gil Harden  
Assistant Inspector General for Audit  
Office of Inspector General

**FROM:** Martin R. Barbre  
Administrator  
Risk Management Agency

**SUBJECT:** OIG Official Draft Report: Annual Forage Program and Follow Up on  
Pasture, Rangeland, Forage Program Recommendations Response to  
Draft Report Audit Report 05601-0006-31

The Risk Management Agency (RMA) appreciates the opportunity to review and comment on the subject Official Draft report. RMA reviewed the Official Draft report and responded with planned corrective actions for each of the recommendations below.

**RECOMMENDATION NO 1:**

Work with NOAA CPC (National Oceanic and Atmospheric Administration Climate Prediction Center), to develop a plan to implement quality controls for measurements used in rainfall index insurance plans that will anticipate, mitigate, and address the risk of making payments based on data generated from potentially tampered rain gauges.

**RMA RESPONSE**

RMA agrees and has worked with NOAA CPC to develop a quality control process. NOAA CPC has implemented this process and provides data reports to RMA outlining their findings. RMA will continue to work with NOAA CPC to update the quality control process as needed to ensure that the process is working to identify potential issues.

**RECOMMENDATION NO 2:**

Enter into a memorandum of understanding (MOU) with NOAA that clearly delineates roles and responsibilities in gathering, analyzing, and protecting information. Update rain index insurance plan policies accordingly.

**RMA RESPONSE:**

RMA agrees to work with NOAA CPC on establishing an MOU. We anticipate having the MOU in place by August 2020, contingent upon obtaining the appropriate clearances.

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**MANAGEMENT DECISION PAGE 2**

**RECOMMENDATION NO 3:**

Recover \$8.52 million in indemnities erroneously overpaid to producers based on inaccurate rainfall data.

**RMA RESPONSE:**

RMA disagrees with the recommendation. Recovering indemnities in this manner would require final grid indices to be changed for all producers in the areas identified by OIG. This would be in violation of the Rainfall Index Basic Provisions. Specifically, Section 8(e) states that once the final grid index is published by RMA it is conclusively presumed to be accurate and will not be changed. RMA would likely not prevail in potential legal proceedings to recover the indemnities.

**RECOMMENDATION NO 4:**

With the insurance plan submitter, evaluate the Annual Forage insurance plan to determine if the county base values (CBV) pricing methodology needs to be revised to address the issues identified.

**RMA RESPONSE:**

RMA agrees with the recommendation. The submitter developed a new pricing methodology for the 2020 crop year and the Federal Crop Insurance Corporation (FCIC) Board of Directors approved these changes on April 23, 2019. The new CBV method provides sub-state CBVs for all program states, resulting in more accurate values and addresses the issues identified.

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