



RMA's Utilization of Contracted Data Mining Results

Audit Report 05601-0005-31

OIG reviewed RMA's and approved insurance providers' use of contracted data mining results.

OBJECTIVE

Our objective was to determine whether the results of the data mining performed by CAE are being utilized by RMA and AIPs to administer and enforce crop insurance program compliance and integrity initiatives.

REVIEWED

We interviewed RMA and CAE officials to gain an understanding of their roles in the data mining process. We also reviewed AIP records, data mining reports from fiscal years 2015 and 2016, and the spot check list cost avoidance calculation methodology.

RECOMMENDS

We recommended that RMA develop and implement a process to obtain more detailed, actionable data from AIP-conducted spot check list reviews; design and implement controls to mitigate identified problem areas and weaknesses; ensure all identified anomalous agents or loss adjusters are reviewed; and validate the spot check list cost avoidance methodology.

WHAT OIG FOUND

The Risk Management Agency (RMA) needs to make improvements to maximize the use of data mining results to safeguard the integrity of the Federal crop insurance program. We found that RMA is not obtaining the information necessary to identify and implement controls that mitigate potential problem areas and weaknesses. Therefore, RMA has reduced assurance that potential Federal crop insurance vulnerability, fraud, waste, or abuse is detected and addressed. In addition, RMA is not effectively reviewing anomalous insurance agents and loss adjusters on the Agricultural Risk Protection Act of 2000 (ARPA) List.

ARPA required use of data mining and data warehousing to improve compliance with, and the integrity of, the Federal crop insurance program. To address this requirement, RMA contracted with the Center for Agribusiness Excellence (CAE) to develop those technologies. Since 2001, CAE has annually produced a list of producers with anomalous losses over time. This is called the spot check list.

While RMA has been proactive in updating the spot check list cost avoidance methodology since its 2001 inception, additional factors could be relevant when determining cost avoidance. RMA has not validated the updated spot check list cost avoidance methodology. As a result, RMA's reported spot check list cost avoidance of about \$1.16 billion since 2001 could be over or understated.

RMA agreed with our findings and recommendations, and we accepted management decision on all seven recommendations.



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



DATE: December 19, 2017

AUDIT
NUMBER: 05601-0005-31

TO: Heather Manzano
Acting Administrator
Risk Management Agency

FROM: Gil H. Harden
Assistant Inspector General for Audit

SUBJECT: RMA's Utilization of Contracted Data Mining Results

This report presents the results of the subject review. Your written response to the official draft report, dated November 21, 2017, is included in its entirety at the end of this report. Your response and the Office of Inspector General's (OIG) position are incorporated into the relevant sections of the report. Based on your written response, we are accepting management decision for all audit recommendations in the report, and no further response to this office is necessary. The Risk Management Agency provided clarification on four items in our report. We have reviewed the referenced report sections and determined that the report adequately addresses RMA's points of clarification.

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. However, we agreed to extend final action for Recommendation 1 until June 30, 2019. For agencies other than the Office of the Chief Financial Officer (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

Background

The Department of Agriculture's (USDA) Risk Management Agency (RMA) manages the Federal Crop Insurance Corporation (FCIC) to provide crop insurance products to America's farmers and ranchers.¹ RMA approves crop insurance premium rates, administers premium and expense subsidies, approves and supports products, and reinsures the insurance companies. Approved insurance providers (AIP) sell and service Federal crop insurance policies in every State and in Puerto Rico through a public-private partnership with RMA. All crop insurance policies are available from private crop insurance agents. The Standard Reinsurance Agreement is a cooperative financial assistance agreement between FCIC and an AIP. According to Appendix IV of the Standard Reinsurance Agreement, AIPs are required to conduct data mining reviews and report the results to FCIC.²

RMA's compliance function rests with the Deputy Administrator for Compliance, who conducts compliance reviews through six regional compliance offices (RCO); the Business Analytics Division; the Evaluations, Audits, and Recoveries Division; Appeals and Litigation staff; and Special Investigations Staff.

The Agricultural Risk Protection Act of 2000 (ARPA) required the Secretary of Agriculture to use data mining and data warehousing to improve compliance with, and the integrity of, the Federal crop insurance program.³ To address this requirement, RMA contracted with the Center for Agribusiness Excellence (CAE) at Tarleton State University to develop those technologies. Since 2001, CAE has annually produced a list of producers with anomalous losses over time.⁴ This is called the spot check list.

CAE used 14 scenarios to flag producers with anomalous losses and identified over 2,000 distinct producers and over 3,400 crop policies for the 2016 spot check list. The scenarios ranged from identifying producers with multi-year anomalous losses to identifying producers who may have colluded to undermine the integrity of the crop insurance program. These scenarios do not indicate that the identified producers have necessarily committed fraudulent acts, but rather that these producers may be worthy of further review because of their anomalous losses.

After the anomalous producers are identified on the spot check list, they are notified and inspected the following year by either the Farm Service Agency (FSA) or an AIP. The inspections consist of a growing season inspection and a harvest season inspection. FSA inspects half of the crop insurance policies on the list, and AIPs inspect the other half. Prior to

¹ FCIC is a government corporation within USDA that administers the Federal crop insurance program.

² Data mining is the practice of searching through large amounts of computerized data to find useful patterns or trends. A data warehouse is a large, centralized collection of digital data gathered from various units within an organization.

³ Pub. L. No. 106-224, 114 Stat. 358.

⁴ Anomalous is defined as inconsistent with or deviating from what is usual, normal, or expected.

2012, the entire spot check list was sent to FSA for conducting reviews. The spot check list was split between FSA and AIPs starting in 2012 because FSA was having difficulty completing reviews due to lack of resources and personnel.⁵ A single producer is inspected by either FSA or an AIP, but not both.

According to CAE, most of the producers identified on the spot check list tend to reduce their excessive claims after they are notified and/or reviewed. The cost avoidance that results from the spot check list process is measured by the reduction in the amount of indemnities claimed after the spot check inspections are conducted. According to the 2015 Spot Check List Cost Avoidance CAE report, the cost avoidance for the 2015 spot check list was \$61 million. The spot check lists from 2001 through 2015 produced a total cost avoidance of \$1.16 billion per the report.

CAE also prepares an annual anomalous insurance agent and adjuster list called the ARPA List. The ARPA List is provided to AIPs to conduct reviews. The ARPA List scenarios range from identifying agents who have gained a significant amount of anomalous new business to those with producers who claim excessive indemnities relative to others in the same area over many years. Each scenario is then used to identify those producer crop policies that are most responsible for the agent's anomalous losses over the same time period. The 2015 ARPA List scenarios identified 529 distinct policies insured by 16 AIPs and identified 66 agents and 14 adjusters. The 2016 ARPA List scenarios identified 1,868 distinct policies insured by 16 AIPs and identified 97 agents and 41 adjusters.

Objectives

Our objective was to determine whether the results of the data mining performed by CAE are being utilized by RMA and AIPs to administer and enforce crop insurance program compliance and integrity initiatives.

⁵ CAE judgmentally assigns some producers to AIPs for review based on a number of factors including the specific scenario that flagged the producer. CAE randomly assigns the remainder of the spot check list between FSA and AIPs.

Section 1: Use of Data Mining Results

Finding 1: RMA Needs to Obtain Better Information from the Spot Check List Reviews

RMA is unable to identify potential Federal crop insurance problem areas and weaknesses using results from AIP-conducted spot check list reviews. This occurred because RMA has not implemented a process to obtain detailed, actionable data from AIPs. Specifically, AIPs only report whether or not spot check list reviews were completed and if the application, acreage, production, and claim were “reviewed” or “corrected.” As a result, RMA is not obtaining the information necessary to identify and implement controls that could mitigate potential problem areas and weaknesses. Consequently, RMA has reduced assurance that potential Federal crop insurance vulnerability, fraud, waste, or abuse is detected, deterred, and addressed.

One purpose of ARPA was to improve compliance with, and the integrity of, the Federal crop insurance program.⁶ ARPA required the Secretary of Agriculture to use data mining and data warehousing to administer and enforce the Federal crop insurance program.⁷ ARPA also states that RMA shall work actively with AIPs to address program compliance and integrity issues as they develop.⁸ According to Appendix IV of the Standard Reinsurance Agreement, AIPs are to immediately report all cases where they reasonably suspect misrepresentation, fraud, waste, or abuse to RMA. RMA’s compliance staff is responsible for safeguarding the integrity of the Federal crop insurance program by assessing and investigating program vulnerability, fraud, waste, and abuse.

To meet ARPA requirements, CAE prepares an annual spot check list using data mining scenarios to flag producers with anomalous losses. CAE splits the spot check list between FSA and AIPs. FSA county offices are to perform a minimum of two documented field inspections of the selected producer’s fields: one within 30 calendar days after the final planting date (growing season inspection) and one before harvest becomes general in the area (pre-harvest inspection). Similarly, AIPs are also to complete growing season and pre-harvest inspections of selected producer’s fields. In addition, AIPs are to review and verify the producer’s application, acreage report, production report, and notice of claim.

Each AIP must ensure that all review results are submitted to RMA using the P57 quality control reporting record in accordance with Appendix IV of the Standard Reinsurance Agreement. After conducting reviews, AIPs report to RMA spot check list review completion dates and whether the application, acreage, production, and claim were “reviewed” or “corrected.” An RMA national official said that AIPs do not report the details of what was found, and RMA needs that type of feedback. The official said that RMA needs a process or a mechanism for getting feedback and “closing the loop” from AIP-conducted reviews. In addition, RCO officials stated that they would like to know more information from AIP-conducted spot check list review results in order to learn about potential problems areas, vulnerabilities, and weaknesses.

⁶ 7 U.S.C. § 1515(a) (1).

⁷ 7 U.S.C. § 1515(j) (2).

⁸ 7 U.S.C. § 1515(a) (2).

AIP officials told us that the AIP spot check list inspection process is a deterrent for producers. AIP officials said that producers and their neighbors see AIP officials conducting spot check list field inspections, so producers are deterred from doing the wrong thing. AIP officials told us that such deterrence is why AIPs do not find fraud, waste, and abuse during spot check list reviews. Nevertheless, FSA found more than 100 instances (over 5 percent) where the producer's crop conditions were not similar to other farms in the area while conducting its half of the spot check list reviews in both 2015 and 2016.⁹ FSA referred these instances to RMA RCOs for investigation.

When we raised the concern about AIPs not finding fraud, waste, and abuse while FSA finds and refers over 100 instances a year to RCOs for investigation, an RMA national official said that he had the same concern. The official said that RMA needs more feedback on what AIPs are seeing during spot check list reviews. The official also said that AIPs reporting that they corrected a record does not provide enough information for RMA to determine if it is a systemic issue. Without knowing the specific results of AIP-conducted spot check list reviews, RMA is unable to identify and correct potential systemic issues. As a result, RMA has reduced assurance that potential Federal crop insurance program vulnerability, fraud, waste, or abuse is detected, deterred, and addressed.

The Government Accountability Office (GAO) previously recommended that RMA develop a mechanism, such as a revised electronic form, to collect additional data from insurance companies in order to facilitate the use of the companies' reviews in data mining.¹⁰ In response to the GAO report, RMA stated that it will find better ways to record and gather data for data mining as one of the agency's information systems projects matures. An RMA national official said, however, that the P57 record was not revised in response to the 2012 GAO report recommendation, and the current RMA compliance leadership is uncertain why that is the case.

An RMA national official said the current RMA leadership now recognizes the need to obtain more and better information from AIP spot check list reviews and is in the process of revising the P57 record to capture this additional data. The official said that the revised P57 record will capture information related to root causes and sources of errors AIPs find during reviews. RMA anticipates that the draft P57 record revision will be shared with AIPs for review and comment in the summer of 2017.¹¹

Recommendation 1

Develop and implement a process to obtain more detailed, actionable data from AIP conducted spot check list reviews.

⁹ FSA was allocated 1,980 inspections in spot check list year 2015 and allocated 1,732 inspections in spot check list year 2016.

¹⁰ GAO, *Savings Would Result from Program Changes and Greater Use of Data Mining*, GAO-12-256 (March 2012).

¹¹ As of Aug. 22, 2017, RMA had not shared the draft P57 record revision with AIPs.

Agency Response

In its November 21, 2017, response, RMA stated:

RMA drafted a revision of the P57 record to capture information related to root causes and sources of errors found in the conduct of AIP spot check and quality control reviews. The draft P57 record was shared with AIPs on August 24, 2017 for review and comment. Subsequent discussions led to a recognition that other record types would also likely require revision in order to efficiently capture all of the desired information. On October 25-26, 2017, RMA and AIP representatives met to discuss revision of the P57 and other record types, including implications for the conduct of AIP reviews and for changes to company IT systems. RMA anticipates that it will finalize the revision in the spring/summer of 2018. Implementation of the revised record types will be for the 2020 reinsurance year (which will begin July 1, 2019) given that other program areas will also be competing for available IT resources.

In its December 5, 2017, clarification, RMA stated:

RMA anticipates it will implement the revised P57 record by June 30, 2019.

OIG Position

We accept management decision for this recommendation.

Recommendation 2

Develop and implement a process to analyze the data from Recommendation 1 to identify potential problem areas and weaknesses. Design and implement controls to mitigate identified problem areas and weaknesses.

Agency Response

In its November 21, 2017, response, RMA stated:

Early in calendar 2018, RMA will begin working with its data mining partner at the Center for Agribusiness Excellence to develop a protocol to analyze the data from the revised P57 and other record types. This may require possible modifications to programming and algorithms to identify changes in monetary values (e.g., premium, liability, and indemnity) that directly result from AIP spot check and quality control reviews, as distinct from the changes that occur during routine business processes. RMA anticipates a pilot analytical process will be developed by the fall of calendar 2018. Design and implementation of controls to mitigate identified vulnerabilities will depend on the specific issues uncovered.

In its December 5, 2017, clarification, RMA stated:

RMA anticipates a pilot analytical process will be developed by November 30, 2018.

OIG Position

We accept management decision for this recommendation.

Finding 2: RMA Needs to Improve Reviews of Anomalous Insurance Agents and Loss Adjusters with High Loss Claims

RMA is not effectively reviewing anomalous insurance agents and loss adjusters identified by the ARPA List to determine whether the higher loss claims are the result of fraud, waste, and abuse. Additionally, RMA is not effectively taking remedial action with respect to any occurrence of fraud, waste, and abuse identified during ARPA List reviews. This occurred because RMA did not provide specific guidance or requirements for reviews and reporting to AIPs for those insurance agents and loss adjusters on the ARPA List. As a result, RMA has reduced assurance that potential insurance agent and loss adjuster fraud, waste, and abuse is detected, deterred, and addressed.

According to ARPA, RMA is to identify insurance agents whose loss claims are equal to or greater than 150 percent (or an appropriate percentage specified by RMA) of the mean for all loss claims in the same area.¹² In addition, RMA is to identify loss adjusters whose loss adjustments result in accepted or denied claims equal to or greater than 150 percent (or an appropriate percentage specified by RMA) of the mean for all other loss adjusters in the same area.¹³ RMA shall also conduct a review of any agent or loss adjuster identified above to determine whether the higher loss claims associated with the agent or the higher number of accepted or denied claims associated with the loss adjuster are the result of fraud, waste, and abuse.¹⁴ Lastly, RMA shall take appropriate remedial action with respect to any occurrence of fraud, waste, and abuse identified during the review.¹⁵

To meet the requirements of sections 515(f) (1) (A) and (B) of ARPA, CAE prepares an annual anomalous agent and adjuster list called the ARPA List. The 2015 ARPA List was comprised of nine scenarios. These scenarios ranged from identifying agents who gained a significant amount of anomalous new business to those with producers who claimed excessively relative to others in the same area over many years. Each scenario was then used to identify those producer crop policies that were most responsible for the agent's anomalous losses over the same time period. The 2015 ARPA List scenarios identified 529 distinct policies insured by 16 AIPs and identified 66 agents and 14 adjusters. The 2016 ARPA List scenarios identified 1,868 distinct policies insured by 16 AIPs and identified 97 agents and 41 adjusters.

An RMA national official said that the number of agents and adjusters on the ARPA List far exceeds what RMA can review. The official said that RMA has historically provided the ARPA List to AIPs to conduct the reviews to meet section 515(f) (2) requirements.¹⁶ However, RMA did not provide specific guidance or review requirements to the AIPs for those agents and loss adjusters on the ARPA List. When we asked AIP officials what they do with the ARPA Lists, AIP officials' answers ranged from taking no action to completing full spot check list-type

¹² 7 U.S.C. § 1515(f) (1) (A).

¹³ 7 U.S.C. § 1515(f) (1) (B).

¹⁴ 7 U.S.C. § 1515(f) (2) (A).

¹⁵ 7 U.S.C. § 1515(f) (2) (B).

¹⁶ RMA has begun development of a process to have RMA regional compliance offices conduct some reviews.

reviews.¹⁷ As a result, RMA is not effectively complying with section 515(f)(2)(A) of ARPA, which requires the review of any identified agent or loss adjuster to determine whether the higher loss claims associated with the agent or the higher number of accepted or denied claims associated with the loss adjuster are the result of fraud, waste, and abuse. Furthermore, RMA is not effectively complying with section 515(f) (2) (B) of ARPA, which requires taking appropriate remedial action with respect to any occurrence of fraud, waste, and abuse identified during the reviews.

AIP officials told us that they wish RMA would publish clear expectations of what RMA wants to see from ARPA List reviews. An RMA national official agreed that RMA's expectations are not clearly spelled out anywhere as to what AIPs are required to do when an agent or loss adjuster is on the ARPA List. RMA instructed AIPs to provide the results of reviews conducted on each agent and loss adjuster identified on the ARPA List. However, RMA did not provide specific guidance on what AIPs were to report. As a result, RMA national officials said that AIP reporting of ARPA List review results has been "haphazard" because there is no standard format and the results are "not amenable to analysis."

RMA needs to ensure it is meeting ARPA requirements by (1) ensuring identified anomalous agents and adjusters are adequately and consistently reviewed to determine if there is fraud, waste, and abuse, and (2) taking appropriate remedial actions on any identified fraud, waste, and abuse. An RMA national official said that RMA recognizes that the expectations of AIPs regarding their responsibilities for reviews of agents and adjusters on the ARPA List have not been clearly communicated. The official said that RMA has begun development of a process to better identify anomalous agents and adjusters and to have RCOs conduct reviews of the identified individuals. The official said that RMA recognizes that the current ARPA List review process will have to be improved. RMA anticipates it will initiate a review of the ARPA process in late calendar year 2017 or early calendar year 2018.

Recommendation 3

Update guidance by publishing clear expectations of what actions AIPs are to perform regarding the ARPA List data mining reviews. This includes the specific actions AIPs are to take with respect to agents and adjusters identified on ARPA Lists and how those actions, along with the results of those actions, are reported to RMA.

Agency Response

In its November 21, 2017, response, RMA stated:

RMA has begun drafting guidance for AIPs to use in their reviews (history) and monitoring (active year) of anomalous agents and loss adjusters on the annual ARPA List. The guidance will provide AIPs with explicit instructions for conduct of the reviews and monitoring, and are intended to subject the identified agents and adjusters to

¹⁷ Spot check list type-reviews would include reviewing and verifying the producer's (1) application, (2) acreage report, (3) production report, and (4) notice of claim.

a significantly heightened degree of scrutiny. The guidance will also include instructions for reporting of results and outcomes from the reviews monitoring. RMA is targeting August 2018 for finalizing the AIP ARPA List review guidance.

In its December 5, 2017, clarification, RMA stated:

RMA anticipates the guidance for AIP ARPA List reviews will be completed by August 31, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 4

Ensure all identified anomalous agents or loss adjusters are reviewed to determine whether the higher loss claims associated with the agents or the higher number of accepted or denied claims associated with the loss adjusters are the results of fraud, waste, and abuse.

Agency Response

In its November 21, 2017, response, RMA stated:

With the enhanced reporting structure, AIPs will be required to document and report to RMA the results and outcomes from their reviews and monitoring of agents and adjusters on the ARPA List. In addition, RMA intends to use the revised P57 record to document actions and results taken with respect to the specific insurance policies associated with the anomalous agents and adjusters. This should provide for a more comprehensive assessment of the activities and behaviors of the individuals on the ARPA List. This will enable RMA to assure that all of the identified individuals are reviewed and monitored, and that appropriate corrective/remedial actions are taken with respect to any issues relating to fraud, waste and abuse.

In its December 5, 2017, clarification, RMA stated:

The guidance developed in response to Recommendation 3 will include a requirement that all agents and adjusters on the ARPA list be reviewed in accordance with the guidance provided by RMA. Thus, the requirement will be incorporated into the guidance that should be issued by August 31, 2018.

Because of timing, the 2019 ARPA List will be the first to which the guidance will apply. The annual ARPA List is provided to AIPs each April.

OIG Position

We accept management decision for this recommendation.

Recommendation 5

Ensure that appropriate remedial action is taken if fraud, waste, and abuse is identified during the agent or loss adjuster reviews.

Agency Response

In its November 21, 2017, response, RMA stated:

With the enhanced reporting structure, AIPs will be required to document and report to RMA the results and outcomes from their reviews and monitoring of agents and adjusters on the ARPA List. In addition, RMA intends to use the revised P57 record to document actions and results taken with respect to the specific insurance policies associated with the anomalous agents and adjusters. This should provide for a more comprehensive assessment of the activities and behaviors of the individuals on the ARPA List. This will enable RMA to assure that all of the identified individuals are reviewed and monitored, and that appropriate corrective/remedial actions are taken with respect to any issues relating to fraud, waste and abuse.

In its December 5, 2017, clarification, RMA stated:

The guidance developed in response to Recommendation 3 will include a requirement for AIPs to take appropriate remedial action if fraud, waste or abuse is identified during the ARPA List reviews. As part of this requirement, AIPs will also have to document the specific issue(s) identified and the remedial action taken, and to submit such documentation to RMA. This requirement will be incorporated into the guidance that should be issued by August 31, 2018.

Because of timing, the 2019 ARPA List will be the first to which the guidance will apply. The annual ARPA List is provided to AIPs each April.

OIG Position

We accept management decision for this recommendation.

Finding 3: RMA Needs to Validate the Cost Avoidance Methodology

RMA has not validated the spot check list cost avoidance methodology. While RMA has been proactive in updating the cost avoidance methodology since its 2001 inception, additional factors could be relevant when determining cost avoidance. Additionally, RMA did not fully document justifications for changes to the cost avoidance methodology. RMA national officials said that external validation has not occurred because other issues have taken precedence. As a result, RMA’s reported spot check list cost avoidance of about \$1.16 billion since 2001 could be over or understated.

According to the Office of Management and Budget (OMB) Circular A-123, management is responsible for establishing and maintaining internal controls to achieve specific internal control objectives related to operations, reporting, and compliance.¹⁸ According to GAO, documentation is a necessary part of an effective internal control system. At a minimum, management develops and maintains documentation of its internal control system, documents the results of ongoing monitoring and evaluations, and documents corrective actions for deficiencies.¹⁹ OMB defines cost avoidance as an action taken in the immediate timeframe that will decrease costs in the future.²⁰

To assess the spot check list control’s effectiveness, CAE calculates spot check list cost avoidance figures. An RMA national official said that the primary intent of the spot check list is to deter producer actions and behaviors that would otherwise result in questionable indemnity payments. The official further stated that cost avoidance is an attempt to measure the deterrent effect. According to a CAE report dated July 14, 2016, the cost avoidance for the 2015 spot check list was about \$61 million.²¹ CAE also reported that the spot check lists from 2001-2015 produced a cumulative cost avoidance of about \$1.16 billion.

Table 1. Cost Avoidance for 2001-2015 Spot Check Lists in Millions.

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
\$48	\$112	\$81	\$71	\$140	\$27	\$85	\$73	\$89	\$112	\$46	\$91	\$70	\$54	\$61

RMA has been proactive in updating the cost avoidance methodology since its 2001 inception; however, RMA did not fully document justifications for changes to the cost avoidance methodology. An RMA national official explained the history of changes made to the cost avoidance methodology. From 2001-2006, cost avoidance was determined by comparing indemnities from spot check list reviewed producers from 1 year to the next. For example, in 2002 the total indemnities for producers on the spot check list dropped from about \$234 million to about \$122 million. The \$112 million difference was reported as cost avoidance in 2002. According to an RMA national official, price adjustment was added to the cost avoidance calculation in 2007. The official stated that with the methodology used from 2001-2006, crop price changes between years could significantly increase or decrease the indemnity payment

¹⁸ OMB, *Management’s Responsibility for Enterprise Risk Management and Internal Control*, Circular A-123 (July 15, 2016).

¹⁹ GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Sept. 2014).

²⁰ OMB, *Value Engineering*, Circular A-131 (Dec. 26, 2013).

²¹ As of Aug. 22, 2017, the cost avoidance for the 2016 spot check list had not been determined.

even if the physical loss was the same between 2 years. Starting in 2007, the indemnity in the previous year was corrected to reflect the prices in the inspection year. From 2007-2010, cost avoidance was determined by comparing indemnities from spot check list reviewed producers from 1 year to the next with changes in price no longer being a factor in the difference.

Starting in 2011, at the request of the RMA Business Analytics Division, indemnities were corrected for expected losses. An RMA national official said that the cost avoidance methodology prior to 2011 made no attempt to account for growing conditions, and differences in growing conditions between years could be driving the change in producers' indemnities rather than the presence of the spot check list. Since 2011, cost avoidance has been calculated based on the difference between the prior year's total excess indemnity and the inspection year's total excess indemnity for all policies on the spot check list.²²

We believe that RMA needs to obtain an external expert to validate the cost avoidance methodology used to assess the effectiveness of the spot check list. An RMA national official stated that the current measure might not adequately account for other potential factors. According to an RMA national official, potential factors include regression toward the mean,²³ the inherent riskiness of land farmed by spot check list producers relative to that of other producers, and the impact of microclimates and very localized weather events. In addition, the current cost avoidance measure does not consider the impact on indemnities beyond the inspection year.²⁴

An RMA national official agreed that RMA should validate the cost avoidance methodology to determine the impact of the spot check list. The RMA Business Analytics Division has begun drafting a statement of objectives for a contracted review of the spot check program. One of the objectives will be to develop an improved methodology for measuring future cost avoidance that addresses limitations and concerns with the current approach. RMA anticipates that the contracting opportunity will be advertised in the fall of 2017.

Recommendation 6

Validate the spot check list cost avoidance methodology. This includes obtaining an expert to conduct an independent, external review of the spot check list cost avoidance methodology to determine all relevant factors. Revise the spot check list cost avoidance methodology as needed.

²² To compute total excess indemnity, the indemnity in the previous year is corrected to reflect the prices in the inspection year. Then the indemnities in both years are adjusted for the normal expected losses, using the loss experience of the other producers in the same geographic area for the same crop, type, and practice. When excess losses decline or disappear after the inspections, it generates a positive cost avoidance.

²³ Regression toward the mean is the phenomenon that a variable that is extreme on its first measurement will tend to be closer to the center of the distribution for a later measurement.

²⁴ According to CAE, the loss cost of the spot check list producers before the inspections is much higher than their peers, and after the inspections, tends to be much closer to the normal experience of other producers in the same area. CAE reported that this effect continues for multiple years. The cost avoidance figure only includes the reduction in excess losses during the inspection year.

Agency Response

In its November 21, 2017, response, RMA stated:

RMA has drafted a statement of objectives for a contracted review of the spot check list program (SCL), and engaged the Farm Service Agency (FSA) contracting office to move the contracting opportunity forward. The FSA contracting officer is currently determining the best practice for competing the contract. We currently anticipate the contracting opportunity will be advertised in December 2017 or January 2018. The period of performance is expected to be one year.

A primary focus of the contracted study will be the development of metrics to more fully capture both the direct and indirect effects of spot checks. Among the objectives of the contracted study are:

- Estimate the reduction in indemnity payments attributable to the SCL for producers placed on the list;
- Estimate the effect of the SCL on indemnity payments to producers not on the list;
- Evaluate the behavioral impacts of the SCL on producers placed on the list, both for the year producers are placed on the SCL and for subsequent years;
- Assess the impact of policy variables (e.g., policy size) on changes in cost avoidance across years; and
- Develop an improved methodology for measuring future cost avoidance that addresses limitations and concerns with the current approach.

RMA will require the final deliverable for the contracted study to include complete documentation of the recommended methodology. To the extent that the actual implementation differs from the methodology as recommended, RMA will document said modifications as well as any subsequent future modifications.

In its December 5, 2017, clarification, RMA stated:

RMA anticipates the solicitation for the contracted expert review of the cost avoidance methodology will be advertised by February 28, 2018, with a period of performance of one year from the start date of the contract. However, RMA notes that it is working with the FSA contracting office to develop and advertise the solicitation and, as such, the anticipated timetable is not entirely under our control.

OIG Position

We accept management decision for this recommendation.

Recommendation 7

Develop and implement a process to periodically review the spot check list cost avoidance methodology to ensure the measure is effective and fully document the methodology, including any reasons or justifications for changes.

Agency Response

In its November 21, 2017, response, RMA stated:

RMA has drafted a statement of objectives for a contracted review of the spot check list program (SCL). We currently anticipate the contracting opportunity will be advertised in December 2017 or January 2018. The period of performance is expected to be one year.

RMA will require the final deliverable for the contracted study to include complete documentation of the recommended methodology. To the extent that the actual implementation differs from the methodology as recommended, RMA will document said modifications as well as any subsequent future modifications. RMA will also work with the contractor to develop a process for periodic review and refinement of the methodology.

In its December 5, 2017, clarification, RMA stated:

The Statement of Work (SOW) for the solicitation has been modified to include a requirement for the contractor to fully document the recommended methodology and to provide a recommendation for periodic review and updating of the methodology. This requirement will be in effect when the solicitation is advertised by February 28, 2018.

OIG Position

We accept management decision for this recommendation.

Scope and Methodology

We conducted our audit of RMA’s use of contracted data mining results at the RMA national office located in Washington, D.C.; CAE’s office in Stephenville, Texas; 4 of 6 RMA regional compliance offices; 12 of 16 AIPs operational for all of fiscal years 2015 and 2016 and had producers selected on the 2015 and 2016 spot check lists; 2 of 51 FSA State offices; and 4 of 2,124 FSA county offices. We communicated via e-mail with the remaining two RMA regional compliance offices and communicated via telephone with the remaining four AIPs. For specific locations visited and contacted, see Exhibit A.

The scope of this audit covered RMA’s and AIPs’ use of the CAE data mining results for fiscal years 2015 and 2016. This audit focused on the spot check list and ARPA List data mining reviews because the law requires them. The annual spot check list is the product most associated with the data mining program. See the table below for the universe of crop insurance policies and indemnities, the number of selected spot check list policies and amount of indemnities, and the number of selected ARPA List policies and amount of indemnities for the 2015 and 2016 spot check list and ARPA List years.

Table 2. RMA’s and AIPs’ use of the CAE data mining results for fiscal years 2015 and 2016.

Spot Check List/ ARPA List Year	Universe Policies	Universe Indemnities	Spot Check List Policies	Spot Check List Indemnities	ARPA List Policies	ARPA List Indemnities
2015	1,240,789	\$5,920,818,799	3,970	\$199,735,343	529	\$29,415,630
2016	1,248,507	\$5,595,779,484	3,467	\$184,614,241	1,868	\$141,738,565

We visited or contacted all six RMA regional compliance offices. We visited or contacted all 16 AIPs that were operational for all of fiscal years 2015 and 2016 and had producers selected on the 2015 and 2016 spot check lists. We non-statistically selected and visited two FSA State offices. We selected the Kansas State FSA office because Kansas had the most findings from the 2016 spot check list for the Central RCO. We selected the Iowa State FSA office because Iowa had the most findings from the 2016 spot check list for the Northern RCO.

We non-statistically selected and visited two FSA county offices in both Kansas and Iowa that had a spot check list finding during the scope of our audit and were located near the FSA State offices visited. In Kansas, we non-statistically selected and visited the FSA offices in Ottawa and Marshall Counties. In Iowa, we non-statistically selected and visited the FSA offices in Dallas and Jasper counties. We conducted our audit work from September 2016 through August 2017.

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

- Reviewed laws and regulations that were applicable to the scope of the audit.

- Obtained and reviewed information on 2015 and 2016 spot check list and ARPA List reviews to determine the universe.
- Interviewed RMA national and RCO officials to gain an understanding of their roles and responsibilities regarding the use of the CAE data mining results.
- Interviewed CAE officials to gain an understanding of CAE's role in the data mining process.
- Obtained and reviewed CAE-generated data mining reports from fiscal years 2015 and 2016.
- Interviewed AIPs to determine the process followed by AIPs when conducting data mining reviews.
- Obtained and reviewed AIP records to determine the results of data mining reviews and actions taken.
- Conducted testing of the reliability of spot check list results in the Hyper Dynamic Reporting Application information system by comparing that data to documentation maintained by AIPs.
- Obtained and reviewed the spot check list cost avoidance calculation methodology.
- Interviewed State and county FSA officials to determine FSA's responsibilities and actions regarding the spot check list.
- Obtained and reviewed records that support findings from FSA-conducted spot check list reviews from the selected FSA county offices.

During the course of our audit, we did not solely rely on or verify information in any agency information system, and we make no representation regarding the adequacy of any agency computer system or the information generated from them because evaluating the effectiveness of information system or information technology controls was not one of the engagement objectives.

We conducted this performance audit in accordance with generally accepted government auditing 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Abbreviations

AIP	Approved Insurance Provider
ARPA	Agricultural Risk Protection Act of 2000
CAE	Center for Agribusiness Excellence
FCIC	Federal Crop Insurance Corporation
FSA	Farm Service Agency
GAO	Government Accountability Office
OIG	Office of Inspector General
OMB	Office of Management and Budget
RCO	Regional Compliance Office
RMA	Risk Management Agency
USDA	Department of Agriculture

Exhibit A: Fieldwork Locations Visited or Contacted

Audit Site	Location	Visited or Contacted
RMA National Office	Washington, D.C.	Visited
RMA Central Regional Compliance Office	Kansas City, MO	Visited
RMA Eastern Regional Compliance Office	Raleigh, NC	Contacted
RMA Midwest Regional Compliance Office	Indianapolis, IN	Visited
RMA Northern Regional Compliance Office	Eagan, MN	Visited
RMA Southern Regional Compliance Office	Dallas, TX	Visited
RMA Western Regional Compliance Office	Davis, CA	Contacted
Center for Agribusiness Excellence	Stephenville, TX	Visited
ADM Crop Risk Services	Decatur, IL	Visited
AgriLogic Insurance Services, LLC	Overland Park, KS	Visited
American Farm Bureau Insurance Services, Inc.	Fargo, ND	Contacted
AmTrust Agriculture Insurance Services	Leawood, KS	Contacted
ARMtech Insurance Services, Inc.	Lubbock, TX	Visited
CGB Diversified Services	Jacksonville, IL	Visited
Country Mutual Insurance Company	Bloomington, IL	Visited in Overland Park, KS
Farmers Mutual Hail Insurance Company of Iowa	West Des Moines, IA	Visited
Global Ag Insurance Services, LLC	Fresno, CA	Contacted
Great American Insurance Company	Cincinnati, OH	Contacted
Hudson Insurance Company	Overland Park, KS	Visited
International Ag Insurance Solutions, LLC	West Des Moines, IA	Visited
NAU Country Insurance Company	Ramsey, MN	Visited
Pro Ag Management, Inc.	Amarillo, TX	Visited in Lenexa, KS
Rain and Hail, LLC	Johnston, IA	Visited
Rural Community Insurance Services	Anoka, MN	Visited
Iowa State FSA Office	Urbandale, IA	Visited
Dallas County Iowa FSA Office	Adel, IA	Visited
Jasper County Iowa FSA Office	Newton, IA	Visited
Kansas State FSA Office	Manhattan, KS	Visited
Marshall County Kansas FSA Office	Marysville, KS	Visited
Ottawa County Kansas FSA Office	Minneapolis, KS	Visited

**USDA'S
RISK MANAGEMENT AGENCY
RESPONSE TO AUDIT REPORT**



United States Department of Agriculture

Farm Production and Conservation
Risk Management Agency

November 21, 2017

TO: Gil H. Harden
Assistant Inspector General for Audit
Office of Inspector General

FROM: Heather Manzano
Audit Liaison Official
Risk Management Agency

SUBJECT: Office of Inspector General Audit 05601-0005-31, Draft Report, Crop Insurance
RMA's Utilization of Contracted Data Mining Results

RMA requests Management Decision for Recommendation 1 through 7 for OIG Audit 05601-0005-31, Draft Report, RMA's Utilization of Contracted Data Mining Results.

RMA has reviewed the draft report for OIG Audit Number 05601-0005-31 "RMA's Utilization of Contracted Data Mining Results." RMA concurs with the findings and recommendations as stated in the draft report, and the agency is already working diligently to address the concerns and implement the recommendations as described below. RMA does note that new leadership at the agency, once it arrives, could impact the agency's work and priorities, including our activities with respect to this audit.

Before responding to the specific recommendations in the audit report, RMA would like to clarify and/or correct a few points. On page 4 of the draft report, OIG stated that "A single producer is inspected by either FSA or an AIP, but not both." That is correct in regards to the initial responsibility for review of a policy on the spot check list. However, for FSA "D" referrals, the RMA Regional Compliance Offices will often assign these policies to the applicable AIP for subsequent review and follow up.



Deputy Administrator for Compliance
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On page 5 of the draft report, OIG states “Each AIP must ensure that all review results are submitted to RMA using the P57 quality control reporting record in accordance with Appendix IV of the Standard Reinsurance Agreement.” As clarification, Appendix III provides the structure (required information) for the P57 record while Appendix IV provides the review requirements.

On page 6 of the draft report, footnote 11, RMA notes that it shared the draft P57 record with AIPs for review and comment on August 24, 2017.

On page 11 of the draft report, OIG states “Starting in 2011, at the request of the RMA Business Analytics Division, indemnities were corrected for expected losses.” The Business Analytics Division adopted that name following a reorganization of RMA in 2016. Prior to that, the unit was known as Strategic Data Acquisition and Analysis (SDAA).

RECOMMENDATION 1

Develop and implement a process to obtain more detailed, actionable data from Approved Insurance Provider (AIP) conducted spot check list reviews.

RECOMMENDATION 2

Develop and implement a process to analyze the data from Recommendation 1 to identify potential problem areas and weaknesses. Design and implement controls to mitigate identified problem areas and weaknesses.

RMA RESPONSE TO RECOMMENDATIONS 1 AND 2

RMA drafted a revision of the P57 record to capture information related to root causes and sources of errors found in the conduct of AIP spot check and quality control reviews. The draft P57 record was shared with AIPs on August 24, 2017 for review and comment. Subsequent discussions led to a recognition that other record types would also likely require revision in order to efficiently capture all of the desired information. On October 25-26, 2017, RMA and AIP representatives met to discuss revision of the P57 and other record types, including implications for the conduct of AIP reviews and for changes to company IT systems. RMA anticipates that it will finalize the revision in the spring/summer of 2018. Implementation of the revised record types will be for the 2020 reinsurance year (which will begin July 1, 2019) given that other program areas will also be competing for available IT resources.

Early in calendar 2018, RMA will begin working with its data mining partner at the Center for Agribusiness Excellence to develop a protocol to analyze the data from the revised P57 and other record types. This may require possible modifications to programming and algorithms to identify changes in monetary values (e.g., premium, liability, and indemnity) that directly result from AIP spot check and quality control reviews, as distinct from the changes that occur during routine business processes. RMA anticipates a pilot analytical process will be developed by the fall of calendar 2018. Design and implementation of controls to mitigate identified vulnerabilities will depend on the specific issues uncovered.

RECOMMENDATION 3

Update guidance by publishing clear expectations of what actions AIPs are to perform regarding the Agricultural Risk Protection Act of 2000 (ARPA) List data mining reviews. This includes the specific actions AIPs are to take with respect to agents and adjusters identified on ARPA Lists and how those actions, along with the results of those actions, are reported to RMA.

RECOMMENDATION 4

Ensure all identified anomalous agents or loss adjusters are reviewed to determine whether the higher loss claims associated with the agents or the higher number of accepted or denied claims associated with the loss adjusters are the results of fraud, waste, and abuse.

RECOMMENDATION 5

Ensure that appropriate remedial action is taken if fraud, waste, and abuse is identified during the agent or loss adjuster reviews.

RMA RESPONSE TO RECOMMENDATIONS 3, 4, AND 5

RMA has begun drafting guidance for AIPs to use in their reviews (history) and monitoring (active year) of anomalous agents and loss adjusters on the annual ARPA List. The guidance will provide AIPs with explicit instructions for conduct of the reviews and monitoring, and are intended to subject the identified agents and adjusters to a significantly heightened degree of scrutiny. The guidance will also include instructions for reporting of results and outcomes from the reviews monitoring. RMA is targeting August 2018 for finalizing the AIP ARPA List review guidance.

With the enhanced reporting structure, AIPs will be required to document and report to RMA the results and outcomes from their reviews and monitoring of agents and adjusters on the ARPA List. In addition, RMA intends to use the revised P57 record to document actions and results taken with respect to the specific insurance policies associated with the anomalous agents and adjusters. This should provide for a more comprehensive assessment of the activities and behaviors of the individuals on the ARPA List. This will enable RMA to assure that all of the identified individuals are reviewed and monitored, and that appropriate corrective/remedial actions are taken with respect to any issues relating to fraud, waste and abuse.

RECOMMENDATION 6

Validate the spot check list cost avoidance methodology. This includes obtaining an expert to conduct an independent, external review of the spot check list cost avoidance methodology to determine all relevant factors. Revise the spot check list cost avoidance methodology as needed.

RECOMMENDATION 7

Develop and implement a process to periodically review the spot check list cost avoidance methodology to ensure the measure is effective and fully document the methodology, including any reasons or justifications for changes.

RMA RESPONSE TO RECOMMENDATIONS 6 AND 7

RMA has drafted a statement of objectives for a contracted review of the spot check list program (SCL), and engaged the Farm Service Agency (FSA) contracting office to move the contracting opportunity forward. The FSA contracting officer is currently determining the best practice for competing the contract. We currently anticipate the contracting opportunity will be advertised in December 2017 or January 2018. The period of performance is expected to be one year.

A primary focus of the contracted study will be the development of metrics to more fully capture both the direct and indirect effects of spot checks. Among the objectives of the contracted study are:

- Estimate the reduction in indemnity payments attributable to the SCL for producers placed on the list;
- Estimate the effect of the SCL on indemnity payments to producers not on the list;
- Evaluate the behavioral impacts of the SCL on producers placed on the list, both for the year producers are placed on the SCL and for subsequent years;
- Assess the impact of policy variables (e.g., policy size) on changes in cost avoidance across years; and
- Develop an improved methodology for measuring future cost avoidance that addresses limitations and concerns with the current approach.

RMA will require the final deliverable for the contracted study to include complete documentation of the recommended methodology. To the extent that the actual implementation differs from the methodology as recommended, RMA will document said modifications as well as any subsequent future modifications. RMA will also work with the contractor to develop a process for periodic review and refinement of the methodology.

Should you have any questions, please contact Nicole Smith Lees at (202) 260-8085.

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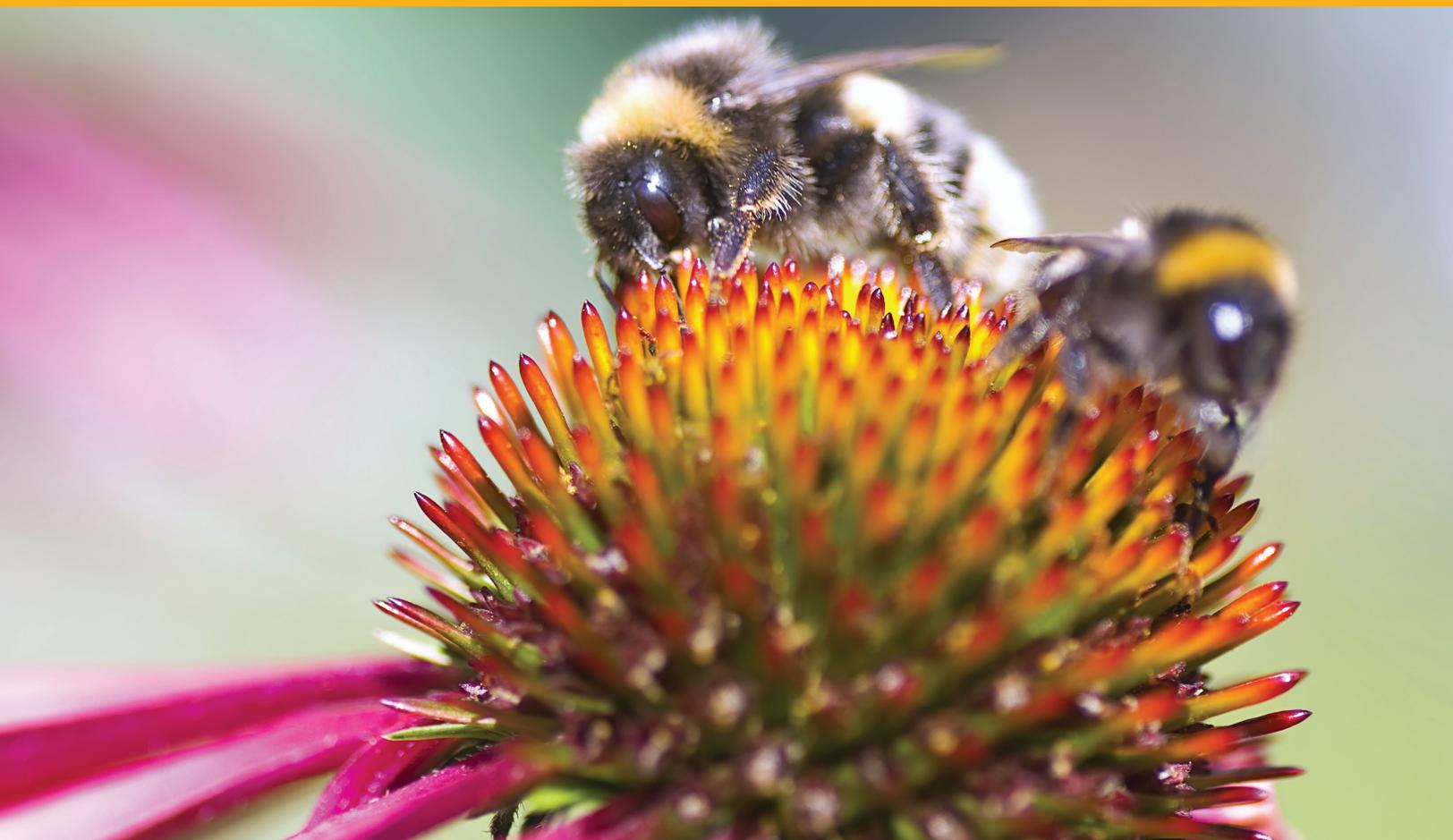
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