

# **Evaluation of the North Dakota Personal Transitional Yield Insurance Program and Feasibility Study for National Expansion**

## **Deliverable 1 (Revised) Evaluation of the North Dakota Personal Transitional Yield Insurance Program**

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## SECTION I. EXECUTIVE SUMMARY

The United States Department of Agriculture (USDA) Risk Management Agency (RMA) engaged the Contractor to evaluate the North Dakota Personal Transitional Yield (PTY) Pilot Program. The contracted evaluation addresses three unique elements. The first is an assessment of the impact of requiring use of the PTY within the pilot area, as opposed to allowing insureds to elect the use of the PTY program as an option. The second is an assessment of an alternative PTY calculation approach using a weighted average in the PTY summary database. These two elements are specifically addressed in this report. The third element of this contracted evaluation, an assessment of the feasibility of expanding the program beyond North Dakota using either the existing PTY calculation procedures or the alternative PTY calculation procedures, is addressed in a subsequent report as required by the contract. The Contractor has focused the report on quantitative analysis and stakeholder input, as required by the contract, and does not provide recommendations concerning any elements of the analysis.

Under the current pilot program, a PTY is calculated using a summary database that combines all basic and optional unit acreage and production history by crop, practice, type, variety, and Transitional Yield Map Area (P/T/V/TMA) for a crop policy. Yield for a crop year in the PTY summary database is the total production divided by the total acreage within that crop year for the P/T/V/TMA. The PTY is the simple average of the annual values from the summary PTY database. The calculations require a minimum of four crop years of data, one of which must be an actual yield. The summary database may contain as many as ten consecutive crop years of actual or assigned production values. RMA describes these PTY procedures in detail in an attachment (PM-06-028.1) to the Product Management Bulletin: Informational Memorandum PM-06-028 announcing the program.

Two primary data sources are used in the required assessments: the crop insurance experience data collected and maintained by RMA and stakeholder input from listening sessions and trade show attendees in regions of North Dakota. Data from the RMA crop insurance experience database for the eligible crops<sup>1</sup> were initially segmented into four categories: units using PTY, units using T-yields, units with all actual yields, and unclassified units. Only data from units using PTY and from units using T-yields were initially used to evaluate the impact of the use of the PTY. Unclassified yield records included units coded with yield indicator of K, but with no annual yields based on any T-yield type. Many of these unclassified units were “added land” whose approved yields were based on added land procedures. The experience data were subsequently separated into two mutually exclusive groups: those with a PTY summary database and those without. These data were used in an analysis that included consideration of the effects of PTY approaches in North Dakota on cups, floors, and yield substitution.

The Contractor had the opportunity to discuss the PTY Pilot with approximately 150 individuals, most of whom were North Dakota producers. As a group, the North Dakota producers were quite pleased with the PTY Pilot program, were enthusiastic about its continuation, and saw few barriers to its expansion. Two insureds expressed concern about the effects of crop insurance in general and the PTY program in particular on the prices of agricultural land. One of these two

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<sup>1</sup> Barley, Canola/Rapeseed, Corn, Dry Beans, Dry Peas, Flax, Grain Sorghum, Millet, Mustard, Oats, Rye, Safflower, Soybeans, Sunflower Seed, and Wheat.

felt it is particularly important to consider the impact of land prices on entry-level farmers, particularly if the PTY program encourages a new generation of farmers to begin independent production. Most producers indicated having a choice between T-yields and PTYs was one of the most attractive features of the pilot. Those who did not were primarily producers with lesser need to establish an approved yield for a unit using any proxy yield procedures. Almost all the insureds indicated they depended on insurance agents to complete all program calculations and made their decisions based on the liability and premium information supplied by the agents. All the insurance industry personnel were pleased to be able to offer the PTY option. They had a strong preference to continue the program as an option rather than as a requirement. None of the insurance industry personnel expressed concern about the added administrative burden of the program. A limited number of agents and most insureds indicated they were not aware of the surcharge associated with the option.

This report includes a detailed quantitative evaluation of the effects of requiring the use of PTY. To do so, a PTY was calculated for units that had used the standard T-yield approach originally. Similarly, the standard T-yield replaced the PTY for those units that had used the PTY originally. Approximately 13 percent of policies and units that originally used the standard T-yield procedure and 10 percent of net insured acres were eliminated from these calculations due to lack of one actual yield for the policy. Premiums and indemnities were standardized to the Type 15 average yields to avoid the confounding effects of the various rating and indemnity calculations on the subsequent analyses.

The standardized data were used to evaluate the effects of requiring the use of the PTY procedures. The estimated impact of requiring the use of PTY procedures for those units that had used the T-yield is small. Some units had higher guarantees; some had lower. The net effect was a reduction in liability (-0.3 percent), an increase in premium (+1.7 percent), and a reduction in indemnities (-2.8 percent). However, it should be noted, the premium increase is less than the 5 percent surcharge associated with the PTY. Furthermore, if North Dakota is representative of all states, a substantial number of policies and units will not have the single actual yield required to use the PTY procedure.

Substituting the T-yield for PTY on units that originally used PTY results in a substantial reduction in loss cost ratio and loss ratio for those units. However, unit performance before substitution was substantially the same as units that used the T-yield. The short data series and the variable results by year, crop, etc. limits the utility of any test of significance. One could conclude that program performance was adversely affected in a relative sense by use of the PTY: losses potentially would have been lower if those units had been forced to use the T-yield procedures. But, producers also have options to use added land procedures and other methods. It is quite possible that some units that used PTY might have used those alternatives. Hence, it is not possible to state unequivocally that losses would have been substantially lower if the PTY had not been available.

The Contractor evaluated the effect of using an alternative “weighted average” PTY procedure in place of the current simple average procedure. Each annual average yield was weighted with either the total production or the total acreage for that year. The production-weighted PTY approach increases the loss ratio and loss cost ratio. The acreage-weighted PTY calculation

results in substantially the same values as those obtained using the simple average PTY. These results are similar for units that originally used the T-yield and for units that originally used the PTY.

At the request of RMA, the Contractor conducted additional analyses regarding the impact of the PTY on floors, cups, and yield substitution. Information about the distribution of effects over the crop insurance portfolio is presented to supplement the original analysis which focused on average outcomes. Within each of the two mutually exclusive groups (policies with a PTY summary database and policies without this database), units (by P/T/V/TMA if necessary) were further separated into groups according to yield limitation flag. Substitutions of PTY for published T-yield and T-yield for published PTY then were made.

The section of the report on these supplemental analyses focuses on the aggregate effects for all crops included under the pilot for all counties in North Dakota, since relatively few substantive differences were found among crops or counties. Relatively small changes in loss cost ratios and loss ratios are observed.

As requested during the Oral Report, the Contractor examined the changes to liability, premium, and indemnity according to percentile of change in the approved yield resulting from alternative T-yield approaches. The subset of data used for this purpose included only policies that had at least one T-yield type in a Type 15 record or that utilized a floor or yield substitution, and that had at least one actual yield at the policy level. Replacing the simple average PTY for the T-yield resulted in no change in the liability, a small decrease in premium, and a small increase in indemnity for this group. The changes were small at all percentiles of change in the approved yield.

## **SECTION II. INTRODUCTION**

The United States Department of Agriculture (USDA) Risk Management Agency (RMA) through the Federal Crop Insurance Corporation (FCIC) provides a range of crop insurance programs for agricultural producers. Actual Production History (APH) insurance, Revenue Assurance (RA) insurance, and Crop Revenue Coverage (CRC) insurance are structured around individual producer historical yield databases (APH Databases). The creation and management of these APH Databases follow published procedures and require considerable attention from the insured and the agent, especially in cases where the operation is large and multiple crops are grown. Much of the complexity required by the APH Database system derives from the wide range of species and varieties, practices, land, and cooperative agreements involved in the production of crops on large and diverse operations in addition to producer choices regarding creation of optional units.

An approved yield derived from the APH Database determines the guarantee for most federally-subsidized crop insurance policies (e.g., more than 80 percent of the book of business in 2009). In the APH Database, yearly actual, assigned, adjusted transitional-yields and/or unadjusted transitional yields are summed and the sum is divided by the number of yields. The APH Database must include at least four yields and may contain up to ten consecutive crop years of actual or assigned yields. The approved yield used to determine the production guarantee may

incorporate yield adjustments elected under applicable policy provisions, yield revisions/reductions, or other limitations according to FCIC approved procedures applied when calculating the approved yield.<sup>2</sup>

Separate APH Databases are required in many circumstances: basic and optional units and by P/T/V/TMA to match the actuarial documents. Acreage grown under an organic practice also requires a separate APH Database. If a producer has fewer than four years of actual data in a particular APH Database, the database is “completed” using transitional yields (T-yields) established by RMA. T-yields have played an important role in insurance under the APH insurance plan and other plans<sup>3</sup> that use these values as the basis for establishing an insured’s expected yield. In North Dakota, almost 40 percent of the acreage insured under the plans using APH Databases in 2009 was insured using some form of T-yield.

Long crop rotations limit the ability of some insureds to provide four years of actual records for some APH Databases. Under long rotational patterns involving a variety of crops grown on a single unit, accumulating four years of actual yields in all APH Databases may require many years of farming on the unit. While these longer rotations may address best production practices, using these rotations effectively requires the use of T-yields in an insured’s APH Database. If T-yields underestimate a producer’s production capabilities, as some producers believe, the guarantee for a unit would be reduced; the premium could be increased; and as a consequence a producer’s decisions about crop insurance may be affected.

For the 2000 and 2001 crop years, a Basic Unit APH Transitional Yield Pilot Program (Basic Unit T-yield Pilot) was offered for five Montana counties (Daniels, Fergus, Hill, Pondera, and Yellowstone). The T-yields used under this Basic Unit T-yield Pilot were called “personal transitional yields” (PTY) in a 2000 USDA Manager’s Bulletin.<sup>4</sup> The crop year 2000 pilot applied to eligible crops<sup>5</sup> with November 30 and December 31 contract change dates. For 2001, the pilot procedures were initially intended to apply only to crops with a June 30, 2000 contract change date. However, the Basic Unit T-yield Pilot was expanded to include crops with November and December contract change dates for the 2001 crop year and extended to include the 2002 and 2003 crop years in a 2001 Manager’s Bulletin.<sup>6</sup> It is important to note the Basic Unit T-yield Pilot did not apply to all plans of insurance nor to all coverage levels.<sup>7</sup> The Contractor was not able to find references to the Basic Unit T-yield Pilot program in publicly available RMA or FCIC documents after the end of the program in the 2003 crop year.

The current PTY Pilot Program was created after, “Some North Dakota policyholders expressed concern that crop rotations limit their ability to provide four years of actual records and eliminate the use of T-yields.”<sup>8</sup> The Pilot was effective beginning with the 2007 crop year. No precise duration was specified for the pilot, but Informational Memorandum PM 06-028 stated the

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<sup>2</sup> USDA, RMA, 2006, 2007 Crop Insurance Handbook, page 7.

<sup>3</sup> CRC and RA in particular.

<sup>4</sup> USDA, RMA, 2000, Manager’s Bulletin MGR-00-007.

<sup>5</sup> Except sugar beets, potatoes, and dry peas (which are authorized for Master Yields which are generally believed to reflect a producers production capabilities)

<sup>6</sup> USDA, RMA, 2000, Manager’s Bulletin MGR-01-005.

<sup>7</sup> For example, it was not available for to revenue or CAT insurance programs.

<sup>8</sup> <http://www.rma.usda.gov/bulletins/rd/2006/PDF/pm06-028.pdf>, accessed February 2, 2010.

bulletin was in effect until “rescinded, revised, or upon publication of superseding procedures.” The FCIC Board of Directors, in consideration of Docket No. CI - Personal T-yield Program – 06-01, Exhibit No. 2834, authorized the PTY Pilot Program through the evaluation period, as authorized under section 508(g)(B)(ii)(III) of the Federal Crop Insurance Act.<sup>9</sup>

The current PTY Pilot Program is for eligible Category B APH crops in North Dakota. Eligible crops under the pilot include barley, canola/rapeseed, corn, dry beans, dry peas, flax, grain sorghum, millet, mustard, oats, rye, safflower, soybeans, sunflower seed, and wheat. The purpose of the program is to provide APH procedures that more accurately reflect individual producer capabilities.<sup>10</sup> Under the current PTY program, the insured must provide an acceptable production report that contains at least one crop year with actual yields for the crop for which the PTY option is elected. The PTY is then calculated using the insured’s actual yield(s) and assigned yields, as necessary. The PTY is then used in place of T-yields published in the Actuarial Documents (or other calculated T-yields authorized by the FCIC 18010 Crop Insurance Handbook (CIH), such as Simple Average (SA) T-yields for added land).

Under current procedures, the agent completes the summary database by P/T/V/TMA for the crop elected by the insured. Values in each PTY summary database are total production divided by total acreage within a crop year. The PTY is then calculated as the simple average of the annual values from the summary PTY database. An attachment to the RMA informational notice announcing the pilot<sup>11</sup> describes the PTY procedures in detail. The calculations require:

- Determining an acre-weighted average of actual/assigned yields for each crop year for all APH Databases by crop/P/T/V/TMA by dividing total production by total acres for crop/P/T/V/TMA for each APH crop year;
- Calculating the simple average of such annual yields by summing the results for each crop year as derived above and dividing by the number of APH crop years;
- Including at least 4 but not more than the 10 most recent APH crop year actual/assigned yields; and
- Using county T-yields (adjusted if necessary) to complete four crop years in the APH Database if there are not at least 4 years of actual/assigned production.

While these steps appear to be relatively simple, the application of the procedures by crop P/T/V/TMA has the potential to add substantial complexity, especially when a large variety of crops and types are grown. Nonetheless, producer and insurance industry response to the PTY pilot has been substantial and enthusiastic.

RMA engaged the Contractor to evaluate the PTY pilot, including:

- (1) An assessment of the impact of requiring use of the PTY within the pilot area, as opposed to allowing producers to elect it as an option;

<sup>9</sup> <http://www.rma.usda.gov/fcic/2006/118minutes.pdf>, accessed February 2, 2010.

<sup>10</sup> USDA, RMA, 2006, Informational Memorandum: PM-06-028.

<sup>11</sup> USDA, RMA, 2006, Personal Transitional Yield (PTY) Pilot Program Procedures (North Dakota), <http://www.rma.usda.gov/bulletins/rd/2006/PDF/pm06-028.1-attach.pdf>, accessed January, 2009.



- (2) An assessment [of] an alternative PTY using a weighted average among years in the PTY summary database; and
- (3) An assessment of the feasibility of expanding the program beyond North Dakota as a program requirement, as either the existing Pilot PTY or Alternative PTY<sup>12</sup>

The scope of this evaluation is substantially limited compared to a program evaluation as described in the Program Evaluation Handbook (FCIC-22010 (09-2005)). Accordingly, the scope of this report does not address many of the components of a program review identified in that document. The focus is upon an assessment of the impact use of PTY may have had on program outcomes during crop years 2007 through 2009 in North Dakota and upon documenting the reactions of producers and other interested parties in that state regarding the procedure. The Contractor has structured the remainder of the report to incorporate seven sections including:

- An overview of the data considered in the report;
- An evaluation of current program procedures;
- Discussion of specific themes from the listening sessions including both positive and negative attributes of the pilot PTY program, potential enhancements, and program deficiencies as expressed by participants in the listening sessions and interviews;
- A preliminary review and evaluation of the existing PTY program in North Dakota; including an analysis of the impact of the elective nature of the PTY program and an assessment of the impact of requiring the use of the PTY program in the pilot area;
- An assessment of the impact of two alternative PTY calculation procedures;
- An assessment of the effects of prevented planting indemnity and replant payments on the patterns reflected in the previous assessments;
- An assessment of the impact of the PTY procedures on cups, floors, and yield substitutions; and
- A summary of the findings in the report.

A subsequent report under this contract addresses issues that might affect the feasibility of expanding the PTY program beyond North Dakota as a program requirement, using either the existing or alternate PTY calculation procedures. Pursuant to the instructions in the contract, the Contractor has focused the report on analysis and does not provide recommendations concerning any elements of the analysis.

### SECTION III. DATA

Two primary data sources are used in these assessments: the crop insurance experience data collected and maintained by RMA and stakeholder input from listening sessions and trade show interactions in various regions of North Dakota. Data from the RMA crop insurance experience database for the eligible crops<sup>13</sup> were initially subdivided into categories using the following criteria applied to the Type 15 data records of the Data Acceptance System administered by RMA:

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<sup>12</sup> United States Department of Interior, National Business Center, Acquisition Services Directorate, 2009, Solicitation Number: 14060409CS21443

<sup>13</sup> Barley, Canola/Rapeseed, Corn, Dry Beans, Dry Peas, Flax, Grain Sorghum, Millet, Mustard, Oats, Rye, Safflower, Soybeans, Sunflower Seed, and Wheat.

- (1) Units using PTY: Yield indicator is K, the PY common option code is present, and one or more annual yields has yield type equal to C, E, I, IL, IX, L, N, S, T, TX, or X.<sup>14</sup>
- (2) Units using T-yields but not PTY: Yield indicator is not K, the PY common option code is not present, and one or more annual yields has yield type equal to C, E, I, IL, IX, L, N, S, T, TX, or X.
- (3) Units with all actual yields: Yield indicator is not K and yield types C, E, I, IL, IX, L, N, S, T, TX, or X are not present.
- (4) Unclassified units. Any unit that did not have characteristics specified for category 1 through 3 was included in this category: Many units in this category had yield indicator of K, the PY option code was present, but no yield types equal to C, E, I, IL, IX, L, N, S, T, TX, or X were present.

Only data from Category 1 and an appropriate subset of data from Category 2 were used in the initial evaluation of the impact of the choice of using PTYs or T-yields by insureds. Units in Category 2 not including at least one actual yield at the policy level are ineligible for the PTY program and consequently were eliminated from the dataset used in the evaluation. Categories 3 are not subject to the PTY or T-yield procedures, except when cups, floors, or yield substitutions are used. Otherwise, approved yields are not based on transitional yield types. As noted previously, Category 4 records included units coded with yield indicator of K, but with no annual yields based on the T-yield types. Many of these were added land using an average of the approved yields and similar situations.

The procedures for calculating the approved yield are complex, involving factors such as cupping, 60 percent yield substitution, and others. Furthermore, premium calculations involve many factors, such as optional unit, enterprise unit, and whole farm unit discounts; optional coverage such as higher levels of prevented planting; late planting reductions; and others. Indemnity calculations can involve multi-crop reduction, liability adjustment, and other factors. These calculations can be very complicated in some circumstances and ultimately will affect the performance of a crop insurance product. The Contractor did not attempt to recreate all the complexities of the Data Acceptance System for analysis of the effects of requiring PTY procedures nor for comparison of a simple average PTY and production-weighted or acreage-weighted PTY calculation procedures. To provide the most transparent analyses, calculations of liability, premium, and indemnity for these comparisons were standardized to the average yield from the Type 15 record. The base data from the experience database were recalculated using the average of the actual data entered in the Type 15 record. The results of these calculations were then used for comparison of the effects of alternative PTY calculation procedures (i.e., simple average PTY, production-weighted PTY, and acreage-weighted PTY) and for the assessment of the impact of using PTY procedures for all transitional yields after the first year (so the insured has the requisite production record for establishing a PTY).

Regarding stakeholder input data, the Contractor gathered these data during discussions with interested and affected parties. The Contractor collected this input during three listening sessions, two trade shows, and numerous personal and telephonic conversations outside these

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<sup>14</sup> The term yield indicator refers to a characteristic of the data used to calculate the approved yield. Yield type is associated with the data for a particular year. Yield types are defined in the Exhibits to the Type 15 record of the Data Acceptance System. See [http://www.rma.usda.gov/FTP/Publications/M13\\_Handbook/2007/approved/REC15EXH.PDF](http://www.rma.usda.gov/FTP/Publications/M13_Handbook/2007/approved/REC15EXH.PDF) for the 2007 version.

more structured stakeholder input gathering exercises. The listening sessions were held in Grand Forks, Williston, and Minot, North Dakota. The trade show stakeholder information gathered took place at the Prairie Grains Conference and the KMOT Ag Expo. The conversations outside these venues were held in conjunction with the listening sessions and tradeshow generally during organized social gatherings for producers and exhibitors.

#### SECTION IV. PROGRAM PROCEDURES

W&A examined documents that control the program procedures and evaluated these against the data that have been accumulated under the pilot. There are two documents that specifically govern the PTY Pilot: a set of procedures issued as an attachment to Product Management Bulletin: Informational Memorandum PM-06-028 (designated as PM-06-028.1) and the edits contained in the Appendix III for the Type 15 records. W&A's interpretation of PM-06-028.1 is that the choice of using PTY was to be identified by the common option code "PY" included in the appropriate field in both the Type 11 and the Type 15 records to flag the policies that had chosen this option. Secondly, the Type 15 record was to include a yield indicator of "K" to indicate the use of PTY. In other words, if PTY was used in any way to establish the approved yield for the unit represented by the Type 15 record, the yield indicator field was to be "K." However, if the approved yield did not incorporate a PTY in its determination, the yield indicator was to be any other authorized value. This would facilitate extraction of data for the particular units on which the PTY was applied.

Extraction of the data for the analysis was hampered because the interpretation outlined above appeared to the Contractor to have not been followed in all cases. In the three years of available data for North Dakota, the Contractor found 45,788 units earning premium that had Type 15 records with yield indicator of "K" and a common option code of "PY," but where all data entered into the records were actual yields, zero planting years, assigned yields, and similar non-transitional yields. Summary totals for these records included 5.8 million acres, \$1.4 billion of liability, \$251 million of premium, and \$157 million of indemnities. The loss ratio for these records is approximately 0.63, very similar to the loss ratio for units with all actual yields (or derivatives thereof). The yield indicator "K" was expected to have identified use of the PTY procedures for establishing the approved yield, but that was not necessarily the case. The Contractor also identified records with the "PY" common option code (but no PTY summary database) that used published T-yields for calculating the approved yield.

One criterion used by the Contractor to identify units that used PTY was to search for the "PY" common option code in **both** the Type 11 and the Type 15 records. However, during reconciliation of data for the finalization of this report, the Contractor identified a small number of units for which PTYs were used, but whose data did not include the "PY" common option code in both the Type 11 and Type 15 records. The Contractor noted the coding instructions appear to have caused the PTY procedure to over-ride other yield indicator flags such as an added land flag.

## SECTION V. STAKEHOLDER INPUT

The Contractor gathered stakeholder input during discussions with producers, insurance industry representatives, extension agents, producer organization representatives, and USDA staff, including RMA Regional Office staff. The Contractor collected this input during three listening sessions, two trade shows, and numerous personal and telephonic conversations outside these more structured stakeholder input gathering exercises. The listening sessions were held in Grand Forks, North Dakota, on December 9, 2009; in Williston, North Dakota, on January 25, 2010; and in Minot, North Dakota, on January 29, 2010. The trade shows wherein stakeholder information was gathered took place at the Prairie Grains Conference at the Alerus Center in Grand Forks, North Dakota, on December 9 and 10, 2009; and at the KMOT Ag Expo at State Fair Center on the North Dakota State Fairgrounds in Minot, North Dakota, on January 27 through 29, 2010. Most of the conversations outside these venues were held in conjunction with the listening sessions and trade shows during social gatherings organized as optional elements of the trade shows.

### Grand Forks

The Contractor staffed a booth in the exhibitor area of the Prairie Grains Conference. Paid attendance at the conference for 2009 was estimated by the conference organizers at approximately 600. Attendance in 2009 was down slightly from historical levels due to a period of extremely cold winter weather. The trade show organizers stated producers with livestock were less likely to attend in 2009 than in earlier years due to the weather. Paid attendees at the Prairie Grains Conference were almost exclusively producers, although some of these producers also serve as agents for companies selling crop insurance. In addition, there were approximately 100 individuals staffing trade show booths at the conference, including insurance industry (4), financial (2), and government representatives (2). The Contractor made an effort to speak to all the insurance, finance, and government stakeholders exhibiting at the conference.

The theme of the Contractor's booth at the conference was "Crop Insurance: North Dakota Personal Transitional Yield Pilot Program Assessment." The Contractor's presence in Grand Forks was well advertised through producer group emailing, announcements at conference sessions, and the trade show banners. The Contractor was prepared to supply as much information about the PTY option as a visitor wished and to receive comments and suggestions concerning the PTY program from any stakeholders who wished to supply such information. Those who stopped at the booth were provided a very brief summary of the program elements and encouraged to express their opinions concerning the PTY Pilot, its tender as an option, and the possibility that a PTY approach might be expanded outside North Dakota.

The North Dakota Barley Council semi-annual meeting and the North Dakota Grain Growers Association annual meeting are held in conjunction with the Prairie Grains Conference. During these meetings, the Contractor made brief announcements about the opportunity to assist in the evaluation of the North Dakota PTY Pilot Program through individual conversations during the exhibition and through the more structured listening session whose time and location were announced.

### *Listening Session*

The Contractor conducted a traditional listening session in Grand Forks on December 9, 2009. In compliance with the constraints imposed by the Paperwork Reduction Act, the listening session was driven by an agenda (Appendix A) rather than by specific questions addressed to the participants. The agenda reviewed the use of T-yields, the history of the PTY concept, the current PTY procedures, and invited comments concerning benefits and problems with the program, as well as a period inviting general comment.

Seven producers attended the full session and two participants whose profession was not identified joined the session while it was in progress. The discussion at the listening session was lively and informative. Three of the self identified producers used the PTY option for some or all their crops and four did not use the option. Three of those who did not use the option did not qualify for use because they had complete sets of actual historical values in all their APH Databases which did not require yield floors and yield substitution. The other producer who chose not to use the option had a single year of actual history characterized by very poor production. His agent advised him to use T-yields.

### *Trade Show Stakeholder Input*

During the 20 hours of open exhibits, the Contractor representatives held more than 40 conversations on the PTY program. Most of these conversations were with individuals who had not attended the listening session, although a small number of stakeholders from the listening session stopped by to expand on their comments about the program or to share information they did not care to present in a more public forum. The conversations ranged from less than 4 minutes to more than 20 minutes in length. The briefest conversations identified stakeholder reaction to the PTY program. The more protracted conversations included both detailed discussions of the PTY approach and extensive exploration of the perceived effect of the program on producer risk management. The participants in these conversations included 36 self-identified producers and 4 insurance industry representatives who sell crop insurance throughout North Dakota. The producers who discussed the PTY concept ranged in age from the mid 20s to approximately 80 and included a very small proportion of female producers. A very limited number of apparently Hispanic stakeholders stopped for discussions, although from their comments they appeared to have a limited stake in the insurance of production.

The producer population is characterized primarily by producers who grow at least five crops. The largest number of crops produced by those who communicated with the Contractor was 15. Most producers grow their crops on both land they own and land owned by others. Relatively few operations are vertically integrated (including both production and processing operations).

The overall assessment of the North Dakota PTY Pilot Program was quite positive. Producers expressed their appreciation of the opportunity to compare PTY with the T-yields and to elect the more favorable of the two. A number of producers from Minnesota voiced positive reactions to a potential expansion of the pilot nationwide.

The North Dakota audience was not at all reticent to engage in conversations about insurance in general. Not all producers who discussed the PTY concept with the Contractor use T-yields. Only two producers were completely unfamiliar with the option. Both producers and agents found the PTY concept to be relatively intuitive and of great potential value. Approximately 40

percent of the producers who discussed the PTY option with the Contractor at the trade show indicated they had no need for PTY, largely because they had complete APH Databases for all their crops and land. While precluded from surveying the participants by the Paperwork Reduction Act, the Contractor was able to determine that at least three-fourths of the producers who expressed an opinion considered the PTY approach a potentially useful tool for risk management and worthy of expansion. For those who expressed an interest in the PTY concept, almost all indicated the option to use PTY or T-yields was an important element of the program.

### *Informal Information Gathering*

All totaled, in Grand Forks, the Contractor had conversations outside the more structured venues with 15 individuals. These included producers, producer organization representatives, and insurance and financial industry representatives. In general, these conversations reflected a great deal of enthusiasm for the pilot. Most individuals were aware of the PTY Pilot in general, but were not aware of some of the program details. Most indicated the evolution of agricultural production and enterprises required some change from the current system of T-yields.

### *Summary*

In Grand Forks, the Contractor had the opportunity to discuss the PTY Pilot with approximately 60 individuals, most of whom were producers. These producers collectively grow barley, canola, corn, dry beans, dry peas, flax, oats, safflower, soybeans, sunflower seed, and wheat. They represented 17 counties in North Dakota and 4 counties in Minnesota. As a group, the North Dakota producers were quite pleased with the PTY Pilot program, were enthusiastic about its continuation, and saw no barriers to its expansion. Of those who expressed an opinion about having a PTY program, most indicated that having a choice between T-yields and PTYs was one of the most attractive features of the pilot. However, most indicated they depended on agents to complete all program calculations and made their decisions based on the liability and premium information supplied by the agents, rather than on an understanding of the details of the program itself. All the insurance industry personnel were pleased to be able to offer the PTY option. None expressed concern about the added administrative burden. However, two of the agents were not aware of the surcharge associated with the option and indicated they did not believe this element of the program was covered in their training.

### **Williston**

The Contractor conducted a traditional listening session in Williston, North Dakota, at the Williston Research Extension Center on January 25, 2010. In compliance with the constraints imposed by the Paperwork Reduction Act, the listening session was intended to be agenda driven. Extreme winter snows limited participation. Nonetheless, one producer, who was also an agricultural educator, and one Billings, Montana, RMA Regional Office (RO) representative attended the session. Due to the limited attendance, the session was conducted as an open forum although all the topics contained on the agenda were discussed at some point. The discussion at the listening session was frank and informative.

The producer did not use the PTY option because of his limited production of category B crops. The RO representative reported general enthusiasm for the current PTY Pilot. He reviewed elements of the original Basic Unit program in Montana. The RO found the producers in North Dakota generally enthusiastic for the pilot. Neither producers nor insurance industry personnel

find the program particularly burdensome. Relatively few circumstances have required special efforts on the part of the RO to support the pilot. Both participants anticipated substantial producer attendance at the KMOT Ag Expo, and indicated the poor attendance in Williston should not limit stakeholder input substantially.

### **Minot**

The Contractor shared a large booth in the exhibitor area of the KMOT Ag Expo with the North Dakota Barley Council and the North Dakota Grain Growers Association. Attendance at the conference is free. Total attendance for 2010 was estimated by the conference organizers at 25,000 to 28,000. These figures may be misleading because a single individual attending all three days is counted three times by the organizers. Exhibitors are also included in attendance estimates. With 350 exhibits, exhibitors may account for at least 1,000 and possibly as many as 3,000 in the total attendance estimate. Furthermore, the Ag Expo attracts many families. A wide variety of people, both with and without agricultural responsibilities, attend the KMOT Ag Expo. Attendance in 2010 was down slightly from historical levels due to a period of extremely cold winter weather. Travel on some secondary routes was limited and producers with livestock were much less likely to attend in 2010 than at past conferences. The Contractor estimates that between 1,500 and 2,500 producers with decision-making responsibilities attended the KMOT Ag Expo.

Exhibitors attending the conference include insurance industry, financial, producer organization, and government representatives. The Contractor made an effort to speak to at least one representative in each of the insurance, finance, producer organization, and government exhibit at the conference. Since producer organization representatives are often producers themselves, the Contractor stopped for conversations at those exhibits multiple times during the trade show.

The theme of the Contractor's posters in the booth at the Ag Expo was "A Penny for your Thoughts on the North Dakota Personal Transitional Yield Pilot Program." This theme generated substantial traffic as attendees inquired about the pilot and about the nature of the thoughts that were solicited. The Contractor was prepared to supply as much information about the PTY option as a visitor wished. At the least, those who stopped at the booth were provided a summary of the program elements and encouraged to express their opinions concerning the PTY Pilot, its tender as an option, and the possibility that such a T-yield approach might be expanded outside North Dakota. Producers had been notified by email about both the listening session and the trade show presence. During the Ag Expo, the Contractor was interviewed by Clear Channel Radio, with the interview broadcast locally. Before the interview the Contractor discussed the terms of the contract restricting public disclosure and announcements about award with the interviewer. The interview focused on the nature of the PTY Pilot, the listening session agenda, and information sought from stakeholders during the review. Following the interview, there was substantial traffic to the trade show booth, although it is impossible to establish the effects of the interview on participation.

### *Listening Session*

The Contractor conducted a traditional listening session in Minot on January 29, 2010. In compliance with the constraints imposed by the Paperwork Reduction Act, the listening session was driven by an agenda rather than by specific questions to the participants. Five producers

attended the full session. Four of these producers did not use the PTY option because they did not qualify for use (i.e., they had four or more actual values in all databases which did not require yield floors and yield substitution). Two insurance industry representatives, one USDA representative, and one extension officer also attended and participated in the discussion at the listening session, which was animated and informative. Those attending were all supportive of the availability of PTYs. They had experienced the effects of T-yields and believed the current optional PTY approach provided an appropriate mechanism to address some of the disadvantages of T-yields. One participant was particularly concerned with the effects of PTYs on land values and commented that an unintended consequence of the program might be to elevate land prices to the point where entry into farming might be a challenge for new producers.

#### *Trade Show Stakeholder Input*

During the 20 hours the two Contractor's representatives staffed the exhibit, 98 attendees stopped to discuss the PTY program in particular and crop insurance in general. Fifty-six of these identified themselves as producers. Six were insurance industry representatives. The overall assessment of the North Dakota PTY Pilot Program was positive. Producers expressed their enthusiasm for the opportunity to compare PTYs with the T-yields and to elect the more favorable of the two. Producers from outside the pilot area (Minnesota, Montana, and Wisconsin) all voiced positive reactions to a potential expansion of the pilot.

Individual conversations about the PTY program ranged from less than 3 minutes to more than 30 minutes in length. The briefest conversations identified stakeholder reaction to the PTY program. The more protracted conversations included detailed discussions about the PTY approach and calculations and extensive exploration of the perceived effect of the program on producer risk management.

The producers who discussed the PTY concept ranged in age from approximately 20 to more than 85, and included approximately 15 percent female producers. The producer population was characterized by producers who grew from 1 to 17 crops. Most producers grow crops on both land they own and land owned by others. Relatively few operations are vertically integrated, including both production and processing operations.

While precluded from surveying the participants by the Paperwork Reduction Act, the Contractor was able to determine that approximately 45 percent of the producers who discussed the pilot program concept with the Contractor used PTYs. Most of the remaining producers indicated they had no need for PTY, largely because they had complete APH Databases for all their crops and land. Two producers were unsure whether they used PTYs although they did use some form of transitional yields. For those who expressed an interest in the PTY concept, almost all indicated that the option to use PTY was an important element of the program.

#### *Informal Information Gathering*

In Minot, the Contractor had conversations outside the more structured venues with 6 individuals. These included producers and producer organization representatives. In general, these conversations also reflected a great deal of enthusiasm for the pilot. Most individuals were aware of the PTY Pilot in general, and some were aware of program details. Most indicated the changes in agricultural production practices and enterprise structure required some changes from



a system focused on T-yields as crops “migrated” across the state and producers diversified their operations.

### *Summary*

All totaled, in Minot, the Contractor had the opportunity to discuss the PTY Pilot with more than 110 individuals, more than half of whom were producers. These producers collectively grow barley, canola, corn, dry beans, dry peas, flax, lentils, mustard, oats, soybeans, sunflower seed, and wheat. They represented 24 counties in North Dakota. As a group, the North Dakota producers were happy with the PTY Pilot program, were enthusiastic about its continuation, and saw no barriers to its expansion. Of those who expressed an opinion about having PTY as a transitional yield program requirement, most indicated that having a choice between T-yields and PTYs was a feature of the pilot that contributed to their enthusiasm. Nonetheless, most producers indicated they depended on agents to complete all program calculations and made their decisions based solely on the liability and premium information supplied by the agents. All of the insurance industry personnel were pleased to be able to offer the PTY option. None expressed concern about the added administrative burden. Several indicated they based their assessment of the value of the program to a producer on calculations completed using Approved Insurance Provider (AIP) software. Discussions concerning this software suggested that the materials available from different AIPs were quite variable.

## **SECTION VI. INSURANCE EXPERIENCE**

This section discusses the analysis required in Statement of Work (SOW) 2.4.1(a) and trends discovered through that evaluation. Summary statistics regarding election of the option at the aggregate level for each of the years 2007, 2008, and 2009 are contained in Table 1.<sup>15</sup> The primary focus of this evaluation is on the effect at the aggregate level since this is the level at which the legal requirement of actuarial adequacy applies to RMA.<sup>16</sup> Hence, much of the discussion will focus on the state-level data that aggregates all crops and counties. However, certain crop and county comparisons will be made to identify marked differences from the overall pattern. In 2009, of all the acreage insured with any kind of T-yields in North Dakota, almost one-third was insured using approved yields established with PTYs. Acreage insured with PTYs increased from almost 2.0 million in 2007 to almost 2.7 million in 2009. During that same period, acreage insured using other T-yields decreased from just fewer than 6.3 million to just fewer than 5.4 million.<sup>17</sup>

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<sup>15</sup> Data records Type 11 (acreage) and 15 (APH report) were obtained from RMA as of January 13, 2010. These data are believed to be nearly complete for the crop year. The record Type 21 (indemnity) data were obtained on the same date, and likely do not include all indemnities paid for the 2009 crop year. However, the results in percentage terms are believed to be representative of the frequency of election of the PTY option. Data extracted from the insurance experience dataset and organized at a variety of different levels are presented in Appendix B. Data by year, crop, and county (a table with more than 6,450 rows) is available upon request.

<sup>16</sup> “Rate adequacy can and should be determined for the system as a whole. Adequacy at this level ensures that the system is financially sound.” From “A Comprehensive Review of RMA APH and Combo Ratemaking Methodology,” page 45.

<sup>17</sup> The Contractor’s Underwriting Department using USDA RMA data.

**Table 1. Summary of Business Data for All Eligible Crops Aggregated by Type of Approved Yield, North Dakota 2007-2009**

Year	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres (1,000)	Liability (\$1,000)	Total Premium (\$1,000)	Indemnity (\$1,000)	Loss Cost Ratio	Loss Ratio
<b>Units With All Actual Yields</b>										
2007	17,098	39,576	5,800	9,544	3,477	524,662	83,682	54,163	0.10	0.65
2008	16,721	39,654	6,924	13,786	3,640	1,023,225	182,798	132,918	0.13	0.73
2009	16,373	34,576	5,171	7,128	3,666	687,109	114,452	51,279	0.07	0.45
Total	50,192	113,806	17,895	30,458	10,784	2,234,997	380,932	238,360	0.11	0.63
Percent of All Relevant Data	21	19	20	19	18	18	17	17		
<b>Unclassified Units</b>										
2007	23,501	75,088	8,268	16,117	7,824	1,201,843	201,632	112,546	0.09	0.56
2008	23,481	76,218	10,998	28,137	8,243	2,331,010	438,117	344,220	0.15	0.79
2009	23,756	68,269	8,514	13,995	8,556	1,613,709	280,610	124,521	0.08	0.44
Total	70,738	219,575	27,780	58,249	24,623	5,146,562	920,359	581,286	0.11	0.63
Percent of All Relevant Data	30	37	32	36	41	42	42	41		
<b>Units Using T-yield</b>										
2007	32,618	71,460	9,942	15,490	6,251	857,291	155,734	86,717	0.10	0.56
2008	29,131	63,514	13,257	24,594	5,694	1,388,028	271,233	235,095	0.17	0.87
2009	28,445	55,361	8,560	11,899	5,338	901,212	171,064	86,221	0.10	0.50
Total	90,194	190,335	31,759	51,983	17,283	3,146,531	598,031	408,033	0.13	0.68
Percent of All Relevant Data	38	32	36	33	29	26	27	28		
<b>Units Using PTY</b>										
2007	6,432	19,020	2,096	3,662	1,979	342,769	58,251	26,657	0.08	0.46
2008	8,657	25,330	4,245	9,739	2,656	785,250	143,485	119,416	0.15	0.83
2009	9,230	22,201	3,909	5,856	2,674	556,594	99,332	61,207	0.11	0.62
Total	24,319	66,551	10,250	19,257	7,308	1,684,613	301,068	207,280	0.12	0.69
Percent of All Relevant Data	10	11	12	12	12	14	14	14		
<b>All Units</b>										
2007	79,649	205,144	26,106	44,813	19,531	2,926,565	499,298	280,083	0.10	0.56
2008	77,990	204,716	35,424	76,256	20,234	5,527,514	1,035,633	831,650	0.15	0.80
2009	77,804	180,407	26,154	38,878	20,234	3,758,624	665,458	323,227	0.09	0.49
Total	235,443	590,267	87,684	159,947	59,999	12,212,703	2,200,390	1,434,960	0.12	0.65

For the three years, 2007 through 2009, approximately 60 million acres of the eligible crops in North Dakota, excluding acres insured under CAT, were insured under Federal crop insurance programs, generating about \$12 billion of liability and about \$2.2 billion of total premium. Indemnities were about \$1.4 billion, resulting in an overall loss ratio of approximately 65 percent. Units on which the PTY option was elected by insureds represented approximately 12 percent of acres, and about 14 percent of liability, premium, and indemnities. The loss ratio for the units using PTY for their approved yields was marginally higher than the state average loss

ratio for these crops (excluding CAT) at 69 percent versus 65 percent.<sup>18</sup> Policies and units insured using PTY procedures represent 10 to 11 percent of policies earning premium and units.

T-yields were used for substantially more policies, units, and acres than were PTYs. However, it would not be correct to state that all the insureds using T-yields “chose” to use them, since some of the insureds using T-yields were ineligible for the PTY option (i.e., they had no actual yield in the required database for the policy, crop, type, practice, variety, or TMA). An unknown number of insured using T-yields in North Dakota may have been unaware the PTY was available. A discussion of the awareness of producers regarding the PTY option is contained in the section addressing stakeholder input. Based on the self-selected sample of people who provided input, awareness was quite high.

Regardless of cause, policies insured using assigned (non-PTY) T-yields represent 26 to 29 percent of liability, premium, indemnity, and acres (in the order of the range), slightly more than twice the same measures for PTY. The loss ratio for this category at 68 percent also exceeded the state average at 65 percent. This group represented more than 38 percent of policies earning premium and 32 percent of insured units.

Loss ratios among categories of procedures used to establish approved yields are consistent with results observed from previous work. Typically, the loss ratio on units where the approved yield is based on all actual yield types is lowest. That is the case for this dataset. Since insureds opted into the PTY procedures, one would expect they were doing so seeking a higher guarantee. The use of any proxy yields in the calculations for approved yield is generally characterized by a higher loss ratio. That is the case with these data. Both the T-yield dataset and the PTY dataset have a loss ratio that exceeds the loss ratio of units having the approved yield based on all actual yields. The PTY dataset has a slightly higher loss ratio than the T-yield dataset. This also seems logical, since it is likely the units with the highest level of proxy yields will have a higher loss ratio. However, the difference between the T-yield and the PTY datasets is less than one percentage point.

After an initial surge in 2007, participation in PTY has grown slowly. About two million acres had the approved yield based on PTY in 2007, which increased to about 2.7 million acres in 2008 and grew only marginally in 2009.

Units whose approved yields were established using PTY were marginally more likely to have a loss (Table 2). The percentage of units with a loss was approximately two percentage points greater for PTY units than units in the other three categories. The pattern among years is not consistent. Units whose approved yields were established using PTY had the lowest frequency of loss in 2007, essentially tied with T-yield units in 2008, but were five to six percentage points greater than the other categories in 2009. There are insufficient data to establish any pattern in these differences.

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<sup>18</sup> Although the indemnity data for 2009 may not be complete, there is no reason to believe the relative relationship will change dramatically once all indemnity data are available.

**Table 2. Frequency of Loss among Units by Category of Unit**

Year	Actual (%)	Unclassified (%)	T-yield (%)	PTY (%)	Average (%)
2007	24.1	21.5	21.7	19.3	21.8
2008	34.8	36.9	38.7	38.4	37.2
2009	20.6	20.5	21.5	26.4	21.6
Average	26.8	26.5	27.3	28.9	27.1

Units for which PTY was used to establish the approved yield consistently had the highest average liability per acre (Table 3). Again it should be noted, if a proxy yield is used to establish the amount of insurance; insureds will often choose the method that provides the greatest amount of insurance per acre. Units whose approved yields were established using PTY had an average liability per acre nearly 27 percent greater than units whose approved yields were established using T-yields. It is important to note the average liability on units with a PTY was greater than the average liability on units with all actual yields.

**Table 3. Liability and Premium per Acre (\$) by Category of Approved Yield**

Year	All Actual Yields		Unclassified		Units with T-yield		Units with PTY		All Units	
	Liability	Premium	Liability	Premium	Liability	Premium	Liability	Premium	Liability	Premium
2007	151	24	154	14	137	14	173	29	150	14
2008	281	50	283	42	244	41	296	54	273	41
2009	187	31	189	15	169	16	208	37	186	16
3-years	207	35	209	24	182	24	231	41	204	24

Units with the approved yield based in part on PTYs were reported for 14 of the 15 eligible crops for at least 1 of the 3 years the pilot has been available. No units were reported for millet during these years; units were reported for grain sorghum only in 2007. Summary of business data for all crops with more than 100,000 net insured acres with PTY are shown in Table 4. In order, these crops are wheat, corn, soybeans, barley, canola, sunflower, dry peas, dry beans, and flax. These crops collectively accounted for 98.8 percent of all net insured acres of eligible crops during these three years and 99.5 percent of acres with PTYs. Data for grain sorghum, millet, mustard, oats, rye, and safflower are excluded from these analyses as the data available for these eligible crops have been deemed insufficient to support meaningful analysis in this context.

**Table 4. Summary of Business Data for Crops with Highest Number of Acres with PTY, 2007-2009**

Category	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
Wheat										
Actual	24,566	59,578	7,558	13,170	5,557	1,009,171	184,173	95,704	0.09	0.52
Unclassified	26,240	108,404	9,659	23,598	12,668	2,332,630	423,857	250,294	0.11	0.59
T-yield	22,468	55,155	7,160	13,270	5,384	874,490	163,809	110,307	0.13	0.67
PTY	5,677	18,753	2,110	4,498	2,093	415,050	71,175	50,244	0.12	0.71
Total	78,951	241,890	26,487	54,536	25,702	4,631,340	843,015	506,549	0.11	0.60
Percent PTY	7	8	8	8	8	9	8	10		

Category	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
<b>Corn</b>										
Actual	4,473	8,776	1,856	2,771	949	320,039	62,251	38,247	0.12	0.61
Unclassified	8,842	22,357	3,442	6,300	2,589	881,048	182,562	92,609	0.11	0.51
T-yield	12,330	23,846	3,882	5,958	2,159	610,971	137,398	68,158	0.11	0.50
PTY	4,944	12,381	2,334	4,014	1,499	522,769	106,735	60,818	0.12	0.57
Total	30,589	67,360	11,514	19,043	7,197	2,334,826	488,947	259,832	0.11	0.53
Percent PTY	16	18	20	21	21	22	22	23		
<b>Soybeans</b>										
Actual	8,944	22,350	4,693	9,055	2,422	591,529	84,289	69,360	0.12	0.82
Unclassified	11,095	36,646	6,002	14,685	4,449	1,056,958	162,975	133,118	0.13	0.82
T-yield	14,375	31,270	6,354	10,784	2,863	581,174	99,545	76,489	0.13	0.77
PTY	3,861	11,330	2,098	4,324	1,184	257,149	45,763	36,831	0.14	0.80
Total	38,275	101,596	19,147	38,848	10,919	2,486,810	392,572	315,798	0.13	0.80
Percent PTY	10	11	11	11	11	10	12	12		
<b>Barley</b>										
Actual	4,019	7,323	1,020	1,347	601	74,570	10,624	4,973	0.07	0.47
Unclassified	7,639	17,347	2,211	3,298	1,852	227,570	32,628	16,402	0.07	0.50
T-yield	8,538	16,474	2,369	3,463	1,594	174,143	25,840	16,170	0.09	0.63
PTY	2,214	5,446	638	1,064	696	93,638	12,440	6,610	0.07	0.53
Total	22,410	46,590	6,238	9,172	4,742	569,920	81,532	44,156	0.08	0.54
Percent PTY	10	12	10	12	15	16	15	15		
<b>Canola</b>										
Actual	1,484	2,789	615	932	231	51,070	8,218	7,831	0.15	0.95
Unclassified	4,274	9,426	1,950	3,358	955	213,247	35,390	35,118	0.16	0.99
T-yield	6,746	13,437	2,868	4,465	1,220	230,978	39,359	36,189	0.16	0.92
PTY	2,087	5,163	1,034	1,856	502	110,440	16,932	18,380	0.17	1.09
Total	14,591	30,815	6,467	10,611	2,907	605,736	99,899	97,519	0.16	0.98
Percent PTY	14	17	16	17	17	18	17	19		
<b>Sunflowers</b>										
Actual	2,240	3,385	954	1,271	251	50,729	10,179	9,636	0.19	0.95
Unclassified	4,772	9,026	2,130	3,299	854	172,096	35,378	27,981	0.16	0.79
T-yield	8,530	16,430	3,782	5,946	1,544	291,668	62,031	56,010	0.19	0.90
PTY	1,665	3,994	787	1,417	465	108,584	19,887	17,573	0.16	0.88
Total	17,207	32,835	7,653	11,933	3,114	623,078	127,476	111,199	0.18	0.87
Percent PTY	10	12	10	12	15	17	16	16		
<b>Dry Peas</b>										
Actual	1,153	4,047	307	692	414	69,894	8,902	5,045	0.07	0.57
Unclassified	606	1,101	123	211	92	14,324	2,327	1,259	0.09	0.54
T-yield	4,712	10,696	1,196	2,087	885	107,614	17,662	10,280	0.10	0.58
PTY	1,427	3,554	339	612	359	58,602	8,049	4,378	0.07	0.54
Total	7,898	19,398	1,965	3,602	1,749	250,434	36,940	20,961	0.08	0.57
Percent PTY	18	18	17	17	21	23	22	21		

Category	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
<b>Dry Beans</b>										
Actual	1,284	2,598	352	507	199	52,017	9,009	5,015	0.10	0.56
Unclassified	3,181	8,513	1,091	1,786	765	199,801	36,558	17,754	0.09	0.49
T-yield	4,045	9,288	1,403	2,160	751	170,102	35,453	17,350	0.10	0.49
PTY	1,303	3,587	524	874	319	87,049	16,018	8,746	0.10	0.55
Total	9,813	23,986	3,370	5,327	2,035	508,970	97,038	48,865	0.10	0.50
Percent PTY	13	15	16	16	16	17	17	18		
<b>Flax</b>										
Actual	605	830	191	238	47	6,325	926	804	0.13	0.87
Unclassified	1,830	3,065	660	931	223	33,600	4,833	4,687	0.14	0.97
T-yield	4,312	7,429	1,664	2,371	518	69,940	9,873	10,131	0.14	1.03
PTY	786	1,747	300	476	150	26,441	3,295	3,081	0.12	0.94
Total	7,533	13,071	2,815	4,016	939	136,306	18,927	18,703	0.14	0.99
Percent PTY	10	13	11	12	16	19	17	16		
<b>Selected Crops</b>										
Actual	48,768	111,676	17,546	29,983	10,671	2,225,344	378,571	236,614	0.11	0.63
Unclassified	68,479	215,885	27,268	57,466	24,446	5,131,274	916,509	579,222	0.11	0.63
T-yield	86,056	184,025	30,678	50,504	16,918	3,111,080	590,971	401,085	0.13	0.68
PTY	23,964	65,955	10,164	19,135	7,268	1,679,722	300,294	206,661	0.12	0.69
Total	227,267	577,541	85,656	157,088	59,304	12,147,420	2,186,345	1,423,582	0.12	0.65
Percent PTY	11	11	12	12	12	14	14	15		

Participation in the PTY program was highest in corn and dry peas, both with about 21 percent of all net insured acres included in a unit using PTYs. Wheat had the lowest net acreage of the crops with more than 100,000 net insured acres at 8 percent. Liability per acre for units using PTYs typically was the highest of the four designated categories; when it was not the highest value (i.e., for soybeans, canola, and dry peas), it was only slightly less than the highest value (Table 5). The liability per acre for units using PTY often exceeded the liability per acre for units using all actual yields. One potential reason for this outcome is the nature of the PTY calculations compared to calculations used to establish approved yields in units with all actual yields. An APH Database for a unit with all actual yields may include one or more very low yields that substantially reduce the average. However, inasmuch as the PTY is based on the average of the yields for all units for a policy; the impact of a low yield in an individual unit using PTYs is likely to be smaller.

**Table 5. Liability per Acre (\$) by Designated Category, Selected Crops**

Category	Wheat	Corn	Soybeans	Barley	Canola	Sunflower	Dry Peas	Dry Beans	Flax	Average
Actual	182	337	244	124	221	202	169	261	134	209
Unclassified	184	340	238	123	223	202	156	261	151	210
T-yield	162	283	203	109	189	189	122	226	135	184
PTY	198	349	217	135	220	234	163	273	176	231
Average	180	324	228	120	208	200	143	250	145	205

### Geographic Concentration of Use of PTY

Use of PTY has been concentrated in the central regions of North Dakota. Use exceeded 20 percent of net insured acres in 6 counties, and exceeded the state average of 12.2 percent in an additional 13 counties (Table 6). Generally, these counties are contiguous beginning in Barnes County in the southeastern part of the state and extending northwesterly to the Canadian border. The exception was Golden Valley County, which is in the extreme western part of the state. These 19 counties accounted for slightly more than 60 percent of all acres insured with PTY but less than 40 percent of all insured acres (Table 6).

**Table 6. Counties in which Acres with PTY Exceeded State Average**

County	PTY Acres	T-yield Acres	Net Insured Acres	Percent PTY	Percent T-yield	Percent Proxy Yield
Foster	243	178	886	27	20	48
Renville	348	335	1,305	27	26	52
Wells	373	344	1,575	24	22	46
Bottineau	434	593	2,022	21	29	51
Ward	484	628	2,304	21	27	48
Mountrail	288	519	1,449	20	36	56
Stutsman	423	485	2,200	19	22	41
Mercer	79	181	410	19	44	63
Logan	104	197	550	19	36	55
Benson	272	487	1,438	19	34	53
McLean	365	576	2,026	18	28	46
Kidder	83	177	470	18	38	55
Eddy	84	159	496	17	32	49
Burke	168	358	1,022	16	35	52
Sheridan	107	217	676	16	32	48
Pierce	141	264	946	15	28	43
McHenry	171	357	1,152	15	31	46
Barnes	261	347	1,916	14	18	32
Golden Valley	40	130	318	12	41	53
Sub-total	4,467	6,530	23,160	19	28	47
State total	7,308	17,283	59,999	12	29	41
% of State	61.1	37.8	38.6			

Use of either a T-yield or PTY exceeded the state average of 41 percent, often by a substantial margin, in 18 of the 19 counties. Among this group of counties, only Barnes County had less than the state average use of a proxy yield in the establishment of approved yields. Use of PTY was lower than use of T-yields in 16 of these counties. Consequently, although insureds in this group of counties were more likely to elect to use PTY than were insureds elsewhere in the state, in virtually all of the state the use of T-yields predominated.

### Recalculating Approved Yields Assuming Use of the PTY Option in Lieu of T-yield

The information developed from the comparison of experience provides little guidance for evaluating the performance of the PTY procedure. While PTY performed no worse (and for that matter, no better) than the T-yield procedure, use was relatively limited (30 percent of all acres

with a proxy yield) and may not constitute the results of informed choices made by each insured who elected to adopt either the PTY or to remain with a T-yield.

One test of the impact of wider use of PTYs is to calculate the insurance experience of units that used the T-yield as if those units had used PTYs. This involves calculating the PTY according to the procedure, then substituting appropriate values into the production history for those units with fewer than four actual yields. That is, if a unit had two actual yields, 80 percent of the PTY would be substituted for the 80 percent of T-yield if that value actually was used to calculate the average yield.

As noted earlier, the procedures for calculating the approved yield are complex, involving factors such as cupping, 60 percent yield substitution, and others. Premium calculations involve many factors such as optional unit discount, enterprise unit discount, whole farm unit discount, optional coverage such as higher levels of prevented planting, late planting reductions, and others. Indemnity calculations can involve multi-crop reduction factors, liability adjustment factors, and others. These calculations can be very complex in some circumstances. Consequently, all calculations of liability, premium, and indemnity were standardized to the average yield from the Type 15 record. The base data from the experience database were recalculated using the average of the actual data entered in the Type 15 record. These results then became the base for comparison of the alternatives: simple average PTY, production-weighted PTY, and acreage-weighted PTY.

The effects on the insurance experience of using standardized data for units that had used the T-yield procedure and qualified for PTY<sup>19</sup> are shown in Table 7. The loss ratio on these policies collectively over the three years of the pilot was about 67 percent. About 13 percent of policies and units from the original T-yield category, and 10 percent of net insured acres, were eliminated due to ineligibility (Table 8). If North Dakota is representative of all states, a substantial number of policies and units will not have even the single actual yield required to use the PTY procedure.

**Table 7. Eligible Units that Used T-yield Procedures: Data Standardized to Calculated Average Yield**

Year	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres (1,000)	Liability (\$1,000)	Total Premium (\$1,000)	Indemnity (\$1,000)	Loss Cost Ratio	Loss Ratio
2007	28,259	63,963	8,998	14,094	5,623	775,029	126,945	79,034	0.10	0.62
2008	25,150	56,686	11,500	21,864	5,112	1,266,322	194,046	147,470	0.12	0.76
2009	25,043	49,991	8,135	11,341	4,854	857,765	141,514	82,748	0.10	0.58
Totals	78,452	170,640	28,633	47,299	15,589	2,899,115	462,505	309,252	0.11	0.67

<sup>19</sup> Recall the earlier statement that many units did not qualify for PTY since there was not at least one actual yield at the policy level.



**Table 8. Change in Experience Data and Resultant Loss Ratios and Loss Cost Ratios with Ineligible Units Excluded and Data Standardized to Average Calculated Yield**

Year	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres (1,000)	Liability (\$1,000)	Total Premium (\$1,000)	Indemnity (\$1,000)	Loss Cost Ratio	Loss Ratio
2007	(4,359)	(7,497)	(944)	(1,396)	(627)	(82,262)	(28,790)	(7,683)	0.09	0.27
2008	(3,981)	(6,828)	(1,757)	(2,730)	(583)	(121,706)	(77,187)	(87,625)	0.72	1.14
2009	(3,402)	(5,370)	(425)	(558)	(484)	(43,448)	(29,549)	(3,473)	0.08	0.12
Totals	(11,742)	(19,695)	(3,126)	(4,684)	(1,694)	(247,416)	(135,526)	(98,781)	0.40	0.73
Percent Change	-13	-10	-10	-9	-10	-8	-23	-24		

Table 9 illustrates the estimated impact of substituting PTY for the T-yield on these eligible units using standardized data. Since these units represent a broad selection of insureds (from those who may have considered and rejected PTY procedures to those insureds who were unaware of its availability), the impact is impossible to predict intuitively. However, the changes observed are in fact relatively small. Some units had higher guarantees; some had lower. The net effect was a reduction in liability (-0.3 percent), an increase in premium (+1.7 percent), and a reduction in indemnities (-2.8 percent).

**Table 9. Estimated Experience and Change for Eligible Units that Originally Used T-yield Procedure when Simple Average PTY is Substituted (Standardized Data)**

Year	Substitution of Simple Average PTY					Change Relative to Standardized Data				
	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
2007	772,941	129,327	75,196	0.10	0.58	(2,088)	2,382	(3,838)	(0.00)	(0.04)
2008	1,270,327	196,982	144,323	0.11	0.73	4,005	2,936	(3,147)	(0.00)	(0.03)
2009	847,679	144,180	80,404	0.09	0.56	(10,085)	2,666	(2,344)	(0.00)	(0.03)
Totals	2,890,947	470,488	299,923	0.10	0.64	(8,168)	7,984	(9,329)	(0.00)	(0.03)
Percent Change						-0.3	1.7	-3.1	-2.8	-4.9

In a logical order as the impacts of these changes are considered:

- A lower liability indicates a lower average yield (but not by a large amount).
- A lower average yield resulted in a higher premium rate and higher average premium per acre paid.
- Finally, a lower average yield indicates lower indemnities when compared to the production to count from the experience data.

The net effects are small. There is a 3 percentage point reduction in the loss ratio (approximately a 4.9 percent change relative to the initial loss ratio for the category when standardized data are used).

Recalculating Approved Yields Assuming Use of T-yield in Lieu of PTY

The Contractor also substituted T-yields in place of the PTY for those policies whose insureds chose PTYs and that used PTYs for the approved yield on a unit. As suggested by the data in Table 2 on average liability by category of unit, the liability and indemnity (using standardized

data) are reduced significantly by this substitution (Table 10). However, premium is essentially unchanged since the lower yields increase the yield ratio and premium rate. The loss ratio decreases about 26 percent with this substitution relative to the PTY category units using standardized data.

**Table 10. Estimated Experience for Units Using PTY (Standardized Data) and Change when T-yield is Substituted for PTY**

Year	Standardized Units Using PTY					T-yield Substituted for PTY				
	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
2007	344,437	50,858	26,393	0.08	0.52	285,927	51,918	19,297	0.07	0.37
2008	785,668	106,641	75,024	0.10	0.70	658,331	107,599	49,574	0.08	0.46
2009	578,177	90,175	61,076	0.11	0.68	490,460	89,471	51,990	0.11	0.58
Totals	1,708,282	247,675	162,493	0.10	0.66	1,434,719	248,988	120,860	0.08	0.49
Percent Change	1	-18	-22	-23	-5	-16	1	-26	-11	-26

## SECTION VII. ALTERNATIVE PTY CALCULATIONS

The Solicitation requested an evaluation of the effect of using an alternative, weighted PTY in place of the current simple average PTY, but was silent as to the weight to be applied. The Contractor considered both a production-weighted and an acreage-weighted PTY calculation procedure. In either case, the simple average of all annual yields (including T-yields if fewer than four actual annual yields were certified) was calculated for each year that actual yields were certified. Each of these annual average yields then was weighted by the total production or the total acreage for that year. The sum of the weighted annual yields then was divided by the sum of the weights to obtain a PTY.

The estimated impact of the various substitutions is reported in Tables 11 and 12, which indicate the effect of a single approach to calculating PTY compared to the value realized using the T-yields. The loss cost ratios and the loss ratios of the standardized data and the alternative weighting methods are summarized in Table 13. The simple average calculation method results in a slight reduction in the loss cost ratio and loss ratio (as reported earlier); the production-weighted approach results in an increase in the two measures of performance; and the acre-weighted method results in substantially the same values as those obtained using the T-yields for the standardized data.

**Table 11. Estimated Experience for Eligible Units that Originally Used T-yield Procedure when Production-weighted Average PTY is Substituted (Standardized Data)**

Year	Substitution of Production-weighted PTY					Change Relative to Standardized Data				
	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
2007	736,951	113,740	76,610	0.10	0.67	(38,077)	(13,204)	(2,425)	0.00	0.05
2008	1,231,220	176,408	152,640	0.12	0.87	(35,101)	(17,638)	5,170	0.01	0.11
2009	824,615	130,104	81,331	0.10	0.63	(33,149)	(11,410)	(1,416)	0.00	0.04
Totals / Percent Change	2,792,787	420,253	310,581	11.1%	73.9%	(106,328)	(42,252)	1,329	0.5%	7.0%

**Table 12. Estimated Experience for Eligible Units that Originally Used T-yield Procedure when Acre-Weighted Average PTY is Substituted (Standardized Data)**

Year	Substitution of Acre-Weighted PTY					Change Relative to Standardized Data				
	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
2007	693,918	114,578	69,283	0.10	0.60	(81,110)	(12,367)	(9,752)	(0.00)	(0.02)
2008	1,162,917	176,920	132,908	0.11	0.75	(103,405)	(17,125)	(14,562)	(0.00)	(0.01)
2009	777,939	130,515	76,817	0.10	0.59	(79,826)	(11,000)	(5,930)	0.00	0.00
Totals / Percent Change	2,634,774	422,013	279,008	10.6%	66.1%	(264,341)	(40,492)	(30,244)	-0.1%	-0.8%

**Table 13. Loss Cost Ratios and Loss Ratios for Standardized Data and Three Alternative Calculations of PTY**

Year	Standardized Data		Simple Average PTY		Production-weighted PTY		Acre-Weighted PTY	
	Loss Cost Ratio	Loss Ratio	Loss Cost Ratio	Loss Ratio	Loss Cost Ratio	Loss Ratio	Loss Cost Ratio	Loss Ratio
2007	0.10	0.62	0.10	0.58	0.10	0.67	0.10	0.60
2008	0.12	0.76	0.11	0.73	0.12	0.87	0.11	0.75
2009	0.10	0.58	0.09	0.56	0.10	0.63	0.10	0.59
Totals / Percent Change	0.11	0.67	0.10	0.64	0.11	0.74	0.11	0.66

The impact of the simple average PTY, the acre-weighted PTY, and the production-weighted PTY were also calculated by crop within year, by county within year, and by crop by county within year. Since the overall impact of the various substitutions was relatively small, as demonstrated above, these data are not presented in this report, but are instead available digitally for those interested in a specific element of the analysis.

The Contractor also substituted production and acreage-weighted PTY in place of the simple average PTY for that category of units. These results are reported in Table 14. The production-weighted PTY increases the loss ratio from 65.6 percent in the standardized data to 72.5 percent, while the acreage-weighted PTY results in essentially the same loss ratio as the standardized data. The results are quite comparable to those realized with the substitutions of production and acreage-weighted PTY into the units that originally used T-yield.

**Table 14. Estimated Experience for Units Using PTY (Standardized Data) when Production or Acreage-weighted PTYs is Substituted for the Simple Average PTYs**

Year	Production-weighted PTY					Acreage-weighted PTY				
	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio	Liability	Total Premium	Indemnity	Loss Cost Ratio	Loss Ratio
2007	274,203	38,395	21,385	0.08	0.56	254,285	37,748	18,970	0.07	0.50
2008	637,298	80,927	68,196	0.11	0.84	594,691	79,127	56,276	0.09	0.71
2009	478,642	69,955	47,629	0.10	0.68	448,575	68,328	44,643	0.10	0.65
Totals	1,390,142	189,278	137,210	0.10	0.72	1,297,552	185,204	119,889	0.09	0.65

## SECTION VIII. ADDITIONAL ANALYSES

In addition to the specifically contracted analyses, the Contractor examined the available data to determine if other patterns might impact the Government's decisions about the PTY program. These analyses included an examination of the indemnity type (i.e., a production-based indemnity versus a prevented planting indemnity or a replant payment) and an examination of years of participation in the program. The first informs consideration of program expansion, since if prevented planting and replant payments cause a substantial change in loss ratio and loss cost ratio patterns, those changes would need to be considered if the program is to be required or expanded. The second is a measure of the validity of the available data and their capacity to support meaningful analyses after a relatively short pilot period.

### Effects of Prevented Planting Indemnities

A substantial portion of the indemnities reported under this analysis represent prevented planting. Consequently, there is a linear effect on the changes in liability under these circumstances, since indemnities for prevented planting are simply a percentage of the liability. Since this situation may not be representative of much of the country (e.g., North Dakota may have a higher frequency of prevented planting than other regions), the Contractor examined the effects of the use of PTYs when prevented planting indemnities are excluded from the analysis. The Contractor also eliminated replanting payments so the evaluations are made only with respect to production losses.<sup>20</sup>

These adjustments reduced the loss ratios substantially for the 2009 crop year (Table 15), possibly because the Type 21 data for production losses for 2009 were not complete when the data were extracted. Prevented planting indemnities are paid separately from production loss indemnities on a unit and hence could have been processed much earlier in 2009 than indemnities for a production loss. However, the reduction in the loss ratio in 2007, at approximately 10 percentage points for units using PTYs and units using T-yields, was relatively large. It is worth noting that the overall impact on units of both types was approximately the same, with a reduction of about 25 percent in indemnities for units with PTYs and 19 percent for units with T-yields. It seems appropriate to infer the possibility of a prevented planting indemnity did not influence the choice of PTY to a substantial extent.

<sup>20</sup> The Contractor acknowledges some indemnities may be due to quality adjustment, and notes that it is not possible to make any adjustment for this factor. However, this potential outcome should be unknown to the producer when the choice of PTY must be made.

**Table 15. Effects of Excluding Preventing Planting (PP) Indemnities and Replanting Payments on Indemnities and Loss Ratios**

Year	Units Using PTY		Units Using PTY		Units Using T-yield		Units Using T-yield	
	Amount of Indemnity		Loss Ratio		Amount of Indemnity		Loss Ratio	
	Original	No PP	Original	No PP	Original	No PP	Original	No PP
2007	26,657	20,739	0.46	0.36	86,717	70,432	0.56	0.45
2008	119,416	114,890	0.83	0.80	235,095	227,221	0.87	0.84
2009	61,207	20,157	0.62	0.20	86,221	32,729	0.50	0.19
Total	207,280	155,787	0.69	0.52	408,033	330,382	0.68	0.55
Percent Change		-24.8		-24.8		-19.0		-19.0

The effects of substituting the simple average PTY or the T-yield, as appropriate, are shown in Table 16. Substituting the T-yield for PTY on the units that originally used PTY reduced the loss ratio by 26 percent when the prevented planting indemnities are included (see Table 10) and by 31 percent when those indemnities are excluded (Table 16). The loss ratio for units that originally used the T-yield was reduced by three percent in both cases when the substitution was made. Hence, it does not appear likely that the presence of relatively high levels of prevented planting indemnities has any substantive effect on the overall indications inherent in the analysis presented earlier.

**Table 16. Original Standardized Indemnities, Standardized Indemnities without Prevented Planting and Replanting, and Effects of Substituting T-yield for PTY**

Year	Standardized Indemnity Without PP		Indemnities After Substitution <sup>21</sup>	
	Units Using PTY	Units Using T-yield	Units Using PTY	Units Using T-yield
	2007	20,428	63,397	14,124
2008	70,499	140,197	45,683	137,133
2009	20,117	30,693	16,671	29,378
Total	111,044	234,288	76,478	226,453
Percent Change			-31	-3

#### Number of Years Used to Construct PTY

The Contractor examined the data to determine the distribution of number of years of annual data used to construct the PTY. This review considered the data in the PTY summary database associated with each policy (by type, practice, variety, and TMA). Consequently, the results do not indicate the total number of yields used to establish the PTY, but rather the number of crop years of data used in those calculations. This is because the PTY summary database consists of acre-weighted averages of the yields certified for each crop year from all the units on which the crop was produced that crop year. The individual unit records for each of the historic years are not available. Slightly more than one-half of policies had five or more crop years included in the calculation of the PTY (Table 17). More than one-quarter had ten crop years of history. It

<sup>21</sup> Substitution of PTY when T-yield was originally used and PTY when T-yield was originally used.

appears insureds who chose the PTY generally had substantial prior yield history to certify.<sup>22</sup> A search of RMA documents did not identify similar analyses for the number of years of Actual Yields used to calculate T-yield or APH yields without T-yields.

**Table 17. Number of Annual Actual Yields Used to Construct PTY**

No. of Actual Yields	No. of Policies	Percent of Total	Cumulative Percent
1	2,277	9	9
2	2,666	10	19
3	2,738	10	29
4	2,339	9	38
5	2,170	8	47
6	2,036	8	54
7	1,713	7	61
8	1,440	6	66
9	1,220	5	71
10	7,577	29	100
Total	26,176	100	

Continuity of Participation

The Contractor examined the APH Database to determine the number of years an insured had elected the PTY option for a particular policy. This examination depends on consistency of policy identifying data. However, the review did find a relatively high level of continuity: 44 percent of policies utilized PTY all three years it has been available, 33 percent utilized PTY two years, and only 23 percent utilized PTY one year.

The initial analytic approach was supplemented by further consideration of the experience data. The policies for the eligible crops were segregated into two mutually exclusive groups: those with a PTY summary database and those without. The PTY summary database contains an average of all actual yields for each year such yields are certified at the policy level. Traditional transitional yields (T-yields) supplement actual yields to the extent that fewer than four actual yields are available for each practice/type/variety/t map area (P/T/V/TMA) included under the policy. All policies for which the PTY has been elected must create a summary database for each P/T/V/TMA.

After creating the two groups of policies, each unit was examined to determine if a T-yield type was used to determine the average yield, or if a T-yield was used to determine a floor yield or for the purpose of 60 percent yield substitution. For those policies that originally used PTY, the published T-yield was used as a replacement. For those policies that originally used the published T-yield, a PTY was calculated and used as the replacement. The Contractor notes the PTY so constructed may not exactly replicate the PTY that would be calculated in practice since only the Type 15 records reported by the Approved Insurance Provider (AIP) were available. In practice, the history of the policy may include Type 15 records for units that are not planted to

<sup>22</sup> The number of policies earning premium is greater than the numbers reported with experience since these data are segmented by type/practice/variety/T map area. Hence, one policy might have irrigated and non-irrigated acreage of the crop with six years certified for one practice and three for the other. This policy would be counted twice in this summation.

the crop in a particular year and thus are not required to be reported for the current crop year. However, the certified yields for such units must be used by the AIP to construct the PTY summary database. Except for situations wherein only one or two actual yields are included in the reported Type 15 records (but more would have been available), the Contractor does not believe this condition will have substantive impacts on the findings of the study.

### **Summary of the Population of Policies**

The data in Table 18 separate the total population of policies for eligible crops in North Dakota into four groups denoted as follows:

Batch	PTY = policies with a PTY summary database T = policies without a PTY summary database
AnyT	NoT = units without a T-yield type, floor, or yield substitution T = units with a T-yield type, floor, or yield substitution

**Table 18. Experience Data for Policies with PTY Summary Database and Policies without PTY Summary Database 2007-2009, North Dakota**

Batch	AnyT	Crop Year	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
-- thousands --											%	%
PTY	NoT	2007	2,278	4,406	656	979	500	97,934	15,691	9,270	9.5	59.1
PTY	NoT	2008	3,386	6,745	1,436	2,458	779	262,017	45,724	33,940	13.0	74.2
PTY	NoT	2009	4,042	6,876	1,562	2,006	902	210,213	34,905	22,419	10.7	64.2
PTY	NoT	Total	9,706	18,027	3,654	5,443	2,181	570,164	96,320	65,629	11.5	68.1
PTY	T	2007	7,605	28,423	2,691	5,458	3,087	526,176	92,420	41,591	7.9	45.0
PTY	T	2008	10,463	39,877	5,240	14,635	4,410	1,302,447	247,825	197,464	15.2	79.7
PTY	T	2009	11,348	35,268	5,115	8,778	4,617	934,815	169,354	95,813	10.2	56.6
PTY	T	Total	29,416	103,568	13,046	28,871	12,114	2,763,438	509,599	334,868	12.1	65.7
PTY	All	2007	9,883	32,829	3,347	6,437	3,587	624,110	108,111	50,861	8.1	47.0
PTY	All	2008	13,849	46,622	6,676	17,093	5,189	1,564,464	293,549	231,404	14.8	78.8
PTY	All	2009	15,390	42,144	6,677	10,784	5,519	1,145,028	204,259	118,232	10.3	57.9
PTY	All	Total	39,122	121,595	16,700	34,314	14,295	3,333,602	605,919	400,497	12.0	66.1
T	NoT	2007	16,728	33,631	5,228	7,827	3,308	575,229	80,329	59,986	10.4	74.7
T	NoT	2008	15,563	31,588	6,441	12,021	3,147	985,525	154,296	123,871	12.6	80.3
T	NoT	2009	14,727	26,632	4,541	5,799	3,018	645,687	93,907	49,243	7.6	52.4
T	NoT	Total	47,018	91,851	16,210	25,647	9,473	2,206,441	328,532	233,100	10.6	71.0
T	T	2007	49,173	138,026	16,714	30,373	12,635	1,727,225	310,856	169,235	9.8	54.4
T	T	2008	44,809	125,814	20,634	46,814	11,895	2,977,523	587,786	476,372	16.0	81.0
T	T	2009	43,667	110,370	14,275	22,240	11,695	1,967,907	367,290	155,750	7.9	42.4
T	T	Total	137,649	374,210	51,623	99,427	36,225	6,672,655	1,265,932	801,357	12.0	63.3
T	All	2007	65,901	171,657	21,942	38,200	15,943	2,302,454	391,185	229,221	10.0	58.6
T	All	2008	60,372	157,402	27,075	58,835	15,042	3,963,048	742,082	600,243	15.1	80.9
T	All	2009	58,394	137,002	18,816	28,039	14,713	2,613,594	461,197	204,993	7.8	44.4
T	All	Total	184,667	466,061	67,833	125,074	45,698	8,879,096	1,594,464	1,034,457	11.7	64.9
All	All	2007	75,784	204,486	25,289	44,637	19,530	2,926,564	499,296	280,082	9.6	56.1
All	All	2008	74,221	204,024	33,751	75,928	20,231	5,527,512	1,035,631	831,647	15.0	80.3
All	All	2009	73,784	179,146	25,493	38,823	20,232	3,758,622	665,456	323,225	8.6	48.6
All	All	Total	223,789	587,656	84,533	159,388	59,993	12,212,698	2,200,383	1,434,954	11.7	65.2



Note the total policy and unit counts differ from the data reported in the initial analyses, but acres, liability, etc., all are substantially the same. Policy and unit counts are difficult to interpret in these comparisons. Some units on a crop policy might have been classified as PTY/NoT while other units on the same policy might have been classified as PTY/T. In this case, the policy would be counted twice. Unit counts have a similar issue. One line of a unit might have been classified PTY/NoT while another line (a different P/T/V/TMA) might have been classified as PTY/T. For this reason, policy and unit counts will not be the major element used to describe usage of PTY or its impact. Instead, acres and liability are dominant since these variables cannot be counted multiple times in the classification schema. These are a better measure of participation than policy and unit counts for the reason stated herein.

### Differences from the Data Included in Original Deliverable 1 Analysis

Table 19 summarizes the difference in acres, liability, premium, and indemnity for units that involved a proxy yield for a purpose other than a T-yield type. These units primarily involve floor yields and yield substitutions, although a cup may be involved if a T-yield type resulted in a drop of 10 percent or more from a previous approved yield. Increases were greatest for units involving published T-yields. Acres and liability for units using published T-yields more than doubled while the data for units using PTY increased about 65 percent relative to the data reported in the original Deliverable 1 analysis. Overall, a proxy yield was involved in some manner for determining the approved yield on about 80 percent of all net insured acres.

**Table 19. Increase in Acres, Liability, Premium, and Indemnity for Units Involving Proxy Yield Other than as T-yield Type Relative to Original Data**

Year	Batch	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
		-- thousands --				%	%
2007	PTY	1,108	183,407	34,169	14,934	8.1	43.7
2008	PTY	1,754	517,197	104,340	78,048	15.1	74.8
2009	PTY	1,943	378,221	70,022	34,606	9.1	49.4
Total	PTY	4,806	1,078,825	208,531	127,588	11.8	61.2
2007	T	6,384	869,934	155,122	82,518	9.5	53.2
2008	T	6,201	1,589,495	316,553	241,277	15.2	76.2
2009	T	6,357	1,066,695	196,226	69,529	6.5	35.4
Total	T	18,942	3,526,124	667,901	393,324	11.2	58.9

### Distribution of Data by Yield Limitation Flags

Table 20 contains the aggregation of normalized experience data according to the yield limitation flags in the original Type 15 data.<sup>23</sup> The category APH (yield limitation flag = 1, i.e., the approved yield is the average of the data in the Type 15 record) in this table includes both units which include four or more actual yields as well as those that utilize a proxy yield to determine the approved yield.

<sup>23</sup> Recall that “normalized” indicates the liability, premium, and indemnity are calculated using the average yield from the Type 15 records.

**Table 20. Distribution According to Yield Limitation Flag for Original Type 15 Data, by Batch (Normalized Data)**

Year	Batch	Flag	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
			-- thousands --					
2007	PTY	APH	2,437	434,476	62,363	34,397	7.9	55.2
2008	PTY	APH	3,364	1,035,580	135,334	93,117	9.0	68.8
2009	PTY	APH	3,491	786,168	119,538	81,026	10.3	67.8
Total	PTY	APH	9,292	2,256,224	317,235	208,540	9.2	65.7
2007	PTY	Cup	1	346	46	4	1.2	8.7
2008	PTY	Cup	13	3,918	557	391	10.0	70.2
2009	PTY	Cup	23	3,985	647	296	7.4	45.7
Total	PTY	Cup	37	8,249	1,250	691	8.4	55.3
2007	PTY	Floor	81	10,996	1,817	832	7.6	45.8
2008	PTY	Floor	144	37,355	5,436	2,508	6.7	46.1
2009	PTY	Floor	172	29,923	4,820	2,412	8.1	50.0
Total	PTY	Floor	397	78,274	12,073	5,752	7.3	47.6
2007	PTY	Substitution	1,062	180,506	29,148	15,128	8.4	51.9
2008	PTY	Substitution	1,655	485,127	68,908	55,689	11.5	80.8
2009	PTY	Substitution	1,825	363,058	57,753	34,253	9.4	59.3
Total	PTY	Substitution	4,542	1,028,691	155,809	105,070	10.2	67.4
All	PTY	Total	14,268	3,371,438	486,367	320,053	9.5	65.8
2007	T	APH	10,342	1,593,461	225,828	151,462	9.5	67.1
2008	T	APH	9,787	2,730,128	357,713	249,806	9.2	69.8
2009	T	APH	9,223	1,814,135	261,968	139,299	7.7	53.2
Total	T	APH	29,352	6,137,724	845,509	540,567	8.8	63.9
2007	T	Cup	151	15,997	2,978	1,836	11.5	61.7
2008	T	Cup	86	18,951	3,090	3,804	20.1	123.1
2009	T	Cup	171	25,090	4,310	1,781	7.1	41.3
Total	T	Cup	408	60,038	10,378	7,421	12.4	71.5
2007	T	Floor	638	67,630	14,025	11,391	16.8	81.2
2008	T	Floor	594	113,000	22,158	15,034	13.3	67.8
2009	T	Floor	966	120,408	22,880	9,943	8.3	43.5
Total	T	Floor	2,198	301,038	59,063	36,368	12.1	61.6
2007	T	Substitution	4,162	549,013	92,494	56,457	10.3	61.0
2008	T	Substitution	3,975	977,989	152,295	112,443	11.5	73.8
2009	T	Substitution	3,854	646,966	106,412	49,955	7.7	46.9
Total	T	Substitution	11,991	2,173,968	351,201	218,855	10.1	62.3
All	T	Total	43,949	8,672,768	1,266,151	803,211	9.3	63.4
All	All	Total	58,217	12,044,206	1,752,518	1,123,264	9.3	64.1

Between 65 and 71 percent of the acres and liability for both batches were encoded as APH (yield limitation flag = 1). Yield substitution (yield limitation flag 9) accounted for nearly all the remaining acres and liability, but was about four percentage points greater for the PTY batch than for the T batch (Table 21). Another relatively large difference between the batches is the higher share of batch T with units having a floor (yield limitation flags 05, 07, and 08).

**Table 21. Percentage Distribution According to Yield Limitation Flag, by Batch**

Batch	Flag	Net Acres	Liability	Premium	Indemnity
		%	%	%	%
PTY	APH	65.1	66.9	65.2	65.2
PTY	Cup	0.3	0.2	0.3	0.2
PTY	Floor	2.8	2.3	2.5	1.8
PTY	Substitution	31.8	30.5	32.0	32.8
T	APH	66.8	70.8	66.8	67.3
T	Cup	0.9	0.7	0.8	0.9
T	Floor	5.0	3.5	4.7	4.5
T	Substitution	27.3	25.1	27.7	27.2

**Distribution among Yield Limitation Flags after Substitution of PTY for T-yield or T-yield for PTY**

Table 22 contains the normalized data after substitution of a PTY for a T-yield and vice versa. All data from both batches are included. Table 23 shows the percentage distribution among yield limitation flags after substitution, and Table 24 reports the absolute changes in the variables after substitution. For both batches, fewer acres were classified as APH and as floor, replaced largely by yield substitution and secondarily by cup. While this may seem counter-intuitive since the average PTY exceeds the average published T-yield, the PTY does not exceed the published T-yield in all cases. The overall consequences are relatively large reductions in the loss cost ratio and the loss ratio for batch PTY while the values of these variables essentially are unchanged for batch T.

**Table 22. Distribution According to Yield Limitation Flag After Substitution of PTY for T-yield and T-yield for PTY (Normalized Data)**

Year	Batch	Flag	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
							-- thousands --	%
2007	PTY	APH	2,120	342,402	55,249	25,752	7.5	46.6
2008	PTY	APH	2,715	764,154	110,852	55,351	7.2	49.9
2009	PTY	APH	2,709	564,788	95,141	60,858	10.8	64.0
Total	PTY	APH	7,544	1,671,344	261,242	141,961	8.5	54.3
2007	PTY	Cup	101	14,705	2,496	921	6.3	36.9
2008	PTY	Cup	375	102,540	14,050	8,331	8.1	59.3
2009	PTY	Cup	518	103,578	15,698	9,694	9.4	61.8
Total	PTY	Cup	994	220,823	32,244	18,946	8.6	58.8
2007	PTY	Floor	55	6,412	1,266	243	3.8	19.3
2008	PTY	Floor	47	10,368	1,489	617	6.0	41.5
2009	PTY	Floor	52	8,414	1,385	769	9.1	55.6
Total	PTY	Floor	154	25,194	4,140	1,629	6.5	39.3
2007	PTY	Substitution	1,306	204,666	34,567	15,928	7.8	46.1
2008	PTY	Substitution	2,038	561,070	82,934	60,156	10.7	72.5
2009	PTY	Substitution	2,232	416,281	68,929	37,920	9.1	55.0
Total	PTY	Substitution	5,576	1,182,017	186,430	114,004	9.6	61.2
All	PTY	Total	14,268	3,099,378	484,056	276,540	8.9	57.1
2007	T	APH	7815	1235074	174663	119648	9.7	68.5
2008	T	APH	7290	2075120	270498	179391	8.6	66.3
2009	T	APH	6841	1379975	200544	112481	8.2	56.1
Total	T	APH	21,946	4,690,169	645,705	411,520	8.8	63.7
2007	T	Cup	223	26657	5157	3387	12.7	65.7
2008	T	Cup	189	40624	7426	6638	16.3	89.4
2009	T	Cup	225	35003	6816	5044	14.4	74.0
Total	T	Cup	637	102,284	19,399	15,069	14.7	77.7
2007	T	Floor	7	853	147	81	9.6	55.7
2008	T	Floor	6	1670	222	88	5.3	39.6
2009	T	Floor	10	1711	251	103	6.0	41.0
Total	T	Floor	23	4,234	620	272	6.4	43.9
2007	T	Substitution	7249	964819	158859	92068	9.5	58.0
2008	T	Substitution	6957	1735165	261882	191546	11.0	73.1
2009	T	Substitution	7138	1178295	192330	79661	6.8	41.4
Total	T	Substitution	21,344	3,878,279	613,071	363,275	9.4	59.3
All	T	Total	43,950	8,674,966	1,278,795	790,136	9.1	61.8
All	All	Total	58,218	11,774,344	1,762,851	1,066,676	9.1	60.5

**Table 23. Percentage Distribution According to Yield Limitation Flag after Substitution, by Batch**

Batch	Flag	Net Acres	Liability	Premium	Indemnity
		%	%	%	%
PTY	APH	52.9	53.9	54.0	51.3
PTY	Cup	7.0	7.1	6.7	6.9
PTY	Floor	1.1	0.8	0.9	0.6
PTY	Substitution	39.1	38.1	38.5	41.2
T	APH	49.9	54.1	50.5	52.1
T	Cup	1.4	1.2	1.5	1.9
T	Floor	0.1	0.0	0.0	0.0
T	Substitution	48.6	44.7	47.9	46.0

**Table 24. Changes in Distribution According to Yield Limitation Flag After Substitution of PTY for T-yield and T-yield for PTY (Normalized Data)**

Year	Batch	Flag	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
			-- thousands --				% Points	% Points
2007	PTY	APH	(317)	(92,074)	(7,114)	(8,645)	-0.4	-8.6
2008	PTY	APH	(649)	(271,426)	(24,482)	(37,766)	-1.8	-18.9
2009	PTY	APH	(782)	(221,380)	(24,397)	(20,168)	0.5	-3.8
Total	PTY	APH	(1,748)	(584,880)	(55,993)	(66,579)	-0.7	-11.4
2007	PTY	Cup	100	14,359	2,450	917	5.1	28.2
2008	PTY	Cup	362	98,622	13,493	7,940	-1.9	-10.9
2009	PTY	Cup	495	99,593	15,051	9,398	2.0	16.1
Total	PTY	Cup	957	212,574	30,994	18,255	0.2	3.5
2007	PTY	Floor	(26)	(4,584)	(551)	(589)	-3.8	-26.5
2008	PTY	Floor	(97)	(26,987)	(3,947)	(1,891)	-0.7	-4.6
2009	PTY	Floor	(120)	(21,509)	(3,435)	(1,643)	1.0	5.6
Total	PTY	Floor	(243)	(53,080)	(7,933)	(4,123)	-0.9	-8.3
2007	PTY	Substitution	244	24,160	5,419	800	-0.6	-5.8
2008	PTY	Substitution	383	75,943	14,026	4,467	-0.8	-8.3
2009	PTY	Substitution	407	53,223	11,176	3,667	-0.3	-4.3
Total	PTY	Substitution	1,034	153,326	30,621	8,934	-0.6	-6.3
All	PTY	Total	-	(272,060)	(2,311)	(43,513)	-0.6	-8.7
2007	T	APH	(2,527)	(358,387)	(51,165)	(31,814)	0.2	1.4
2008	T	APH	(2,497)	(655,008)	(87,215)	(70,415)	-0.6	-3.5
2009	T	APH	(2,382)	(434,160)	(61,424)	(26,818)	0.5	2.9
Total	T	APH	(7,406)	(1,447,555)	(199,804)	(129,047)	0.0	-0.2
2007	T	Cup	72	10,660	2,179	1,551	1.2	4.0
2008	T	Cup	103	21,673	4,336	2,834	-3.8	-33.7
2009	T	Cup	54	9,913	2,506	3,263	7.3	32.7
Total	T	Cup	229	42,246	9,021	7,648	2.4	6.2
2007	T	Floor	(631)	(66,777)	(13,878)	(11,310)	-7.2	-25.5
2008	T	Floor	(588)	(111,330)	(21,936)	(14,946)	-8.0	-28.2
2009	T	Floor	(956)	(118,697)	(22,629)	(9,840)	-2.3	-2.5
Total	T	Floor	(2,175)	(296,804)	(58,443)	(36,096)	-5.7	-17.7
2007	T	Substitution	3,087	415,806	66,365	35,611	-0.8	-3.0
2008	T	Substitution	2,982	757,176	109,587	79,103	-0.5	-0.7
2009	T	Substitution	3,284	531,329	85,918	29,706	-0.9	-5.5
Total	T	Substitution	9,353	1,704,311	261,870	144,420	-0.7	-3.1
All	T	Total	-	2,198	12,644	(13,075)	-0.2	-1.6

**Movements among Yield Substitution Flags with Substitution of PTY for T-yield and T-yield for PTY**

Table 25 identifies the details of changes in the yield limitation flag after substitution. The Contractor notes yield substitution is a voluntary choice of the producer; hence, the Contractor was required to establish a rule with respect to changes affecting this substitution of PTY for T-yield and vice versa. The rule is this: unless an actual yield was flagged as NA in the original database (an actual yield that qualified for yield substitution but the producer elected not to substitute), a 60 percent yield substitution was made for any yield that qualified. Any yield with

an NA yield type remained with that yield type regardless of the change in the level of the T-yield or PTY, as appropriate. Accordingly, the number of yield substitutions likely is overstated as some unknown (but most likely small) portion of producers may have opted not to substitute in these units under this scenario.

Most acres and liability originally classified as APH or yield substitution remained in the same classification after substitution of PTY for T-yield and T-yield for PTY. The most common change for batch PTY is movement from APH to cup, which reflects the generally lower T-yield for this batch. Those units requiring a proxy yield to complete four yields in the database generally would have had a lower average yield after substitution. Movement from APH to substitution in this batch reflects the fact that the published T-yield is not always less than the PTY. More yields became eligible for substitution on such units. As stated earlier, the Contractor cannot state unequivocally that all such eligible substitutions would occur in practice.

Batch T is more diverse in terms of the relationship of PTY to published T-yield. There is relatively more movement from APH to substitution than in batch PTY, a movement reflecting a higher PTY on some units. There also is relatively more movement from floor to yield substitution, again reflecting a higher PTY on some units.

**Table 25. Movement among Yield Limitation Flags with PTY Substituted for T-yield and T-yield for PTY, All Years (Normalized Data)**

Batch	Flag Before	Flag After	Net Acres	Liability	Premium	Indemnity	Loss	Loss
							Cost	Ratio
							%	%
							-- thousands --	
PTY	APH	APH	7,520	1,666,681	260,604	141,677	8.5	54.4
PTY	APH	Cup	984	218,471	31,886	18,733	8.6	58.8
PTY	APH	Floor	127	20,569	3,464	1,243	6.0	35.9
PTY	APH	Substitution	660	134,915	19,188	12,834	9.5	66.9
PTY	Cup	Cup	6	1,669	253	155	9.3	61.3
PTY	Cup	APH	-	105	13	-	0.0	0.0
PTY	Cup	Floor	-	-	-	-	-	-
PTY	Cup	Substitution	31	5,801	991	437	7.5	44.1
PTY	Floor	Floor	27	4,584	670	387	8.5	57.8
PTY	Floor	APH	22	4,110	558	264	6.4	47.3
PTY	Floor	Cup	2	513	76	39	7.8	51.8
PTY	Floor	Substitution	346	60,324	10,984	4,032	6.7	36.7
PTY	Substitution	Substitution	4,539	980,976	155,266	96,700	9.9	62.3
PTY	Substitution	APH	2	447	68	20	4.6	30.2
PTY	Substitution	Cup	1	169	28	18	10.8	64.6
PTY	Substitution	Floor	-	41	6	-	0.0	0.0
PTY	All	All	14,267	3,099,375	484,055	276,539	8.9	57.1
T	APH	APH	21,829	4,672,173	642,741	410,405	8.8	63.9
T	APH	Cup	579	92,723	17,714	13,922	15.0	78.6
T	APH	Floor	14	2,698	383	197	7.3	51.4
T	APH	Substitution	6,929	1,412,896	190,352	118,413	8.4	62.2
T	Cup	Cup	20	3,794	647	549	14.5	85.0
T	Cup	APH	17	3,958	528	326	8.2	61.8
T	Cup	Floor	-	-	-	-	-	-
T	Cup	Substitution	371	49,863	9,513	5,667	11.4	59.6
T	Floor	Floor	9	1,536	238	76	5.0	32.0
T	Floor	APH	86	11,713	1,980	524	4.5	26.5
T	Floor	Cup	21	2,943	514	189	6.4	36.8
T	Floor	Substitution	2,080	237,660	60,047	23,119	9.7	38.5
T	Substitution	Substitution	11,962	2,177,859	353,160	216,075	9.9	61.2
T	Substitution	APH	14	2,325	455	265	11.4	58.2
T	Substitution	Cup	15	2,824	523	409	14.5	78.1
T	Substitution	Floor	-	-	-	-	-	-
T	All	All	43,946	8,674,965	1,278,795	790,136	9.1	61.8

**Distribution among Yield Limitation Flags after Substitution of Acre-Weighted PTY**

Table 26 contains the distribution among yield limitation flags after substitution of the acre-weighted PTY. Table 27 compares the distribution from Table 20 to the distribution resulting from Table 26 for batch PTY and the distribution from Table 22 to the distribution resulting from Table 26 for batch T. This provides a direct comparison of the simple average PTY to the acre-weighted PTY for both batches.



With regard to batch PTY, fewer acres and liability are included in the yield limitation flag APH than was the case with the original data. Use of the cup increases significantly and use of the floor is reduced sharply. In both cases, the number of observations in these categories remains very small. Yield substitution accounts for most of the movement from APH and floor. With regard to batch T, there is little change from the case when the simple average PTY was substituted.

**Table 26. Distribution among Yield Limitation Flags after Substitution of Acre-Weighted PTY**

Year	Batch	Flag	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
			-- thousands --					
2007	PTY	APH	2,309	386,313	54,722	31,920	8.3	58.3
2008	PTY	APH	3,140	905,741	115,871	82,536	9.1	71.2
2009	PTY	APH	3,238	703,404	105,869	76,268	10.8	72.0
Total	PTY	APH	8,687	1,995,458	276,462	190,724	9.6	69.0
2007	PTY	Cup	18	2,616	555	227	8.7	40.9
2008	PTY	Cup	45	10,924	1,846	1,168	10.7	63.3
2009	PTY	Cup	88	15,422	2,638	1,547	10.0	58.7
Total	PTY	Cup	151	28,962	5,039	2,942	10.2	58.4
2007	PTY	Floor	3	358	60	9	2.6	15.3
2008	PTY	Floor	4	1,086	155	103	9.5	66.5
2009	PTY	Floor	6	1,100	165	134	12.2	81.5
Total	PTY	Floor	13	2,544	380	246	9.7	64.7
2007	PTY	Substitution	1,252	204,250	32,925	16,274	8.0	49.4
2008	PTY	Substitution	1,987	572,419	81,014	63,229	11.0	78.0
2009	PTY	Substitution	2,179	424,445	67,342	37,802	8.9	56.1
Total	PTY	Substitution	5,418	1,201,114	181,281	117,305	9.8	64.7
All	PTY	Total	14,269	3,228,078	463,162	311,217	9.6	67.2
2007	T	APH	7,995	1,187,771	164,706	118,193	10.0	71.8
2008	T	APH	7,454	2,014,607	256,981	175,630	8.7	68.3
2009	T	APH	6,985	1,342,048	191,386	112,809	8.4	58.9
Total	T	APH	22,434	4,544,426	613,073	406,632	8.9	66.3
2007	T	Cup	552	57,824	12,554	8,212	14.2	65.4
2008	T	Cup	466	90,749	18,411	15,401	17.0	83.7
2009	T	Cup	536	74,542	15,923	9,815	13.2	61.6
Total	T	Cup	1,554	223,115	46,888	33,428	15.0	71.3
2007	T	Floor	6	717	127	62	8.7	49.1
2008	T	Floor	7	1,650	233	124	7.6	53.6
2009	T	Floor	10	1,457	236	106	7.3	45.1
Total	T	Floor	23	3,824	596	292	7.6	49.0
2007	T	Substitution	6,740	910,314	147,303	84,930	9.3	57.7
2008	T	Substitution	6,516	1,650,132	244,798	178,260	10.8	72.8
2009	T	Substitution	6,683	1,116,760	179,244	72,619	6.5	40.5
Total	T	Substitution	19,939	3,677,206	571,345	335,809	9.1	58.8
All	T	Total	43,950	8,448,571	1,231,902	776,161	9.2	63.0
All	All	Total	58,219	11,676,649	1,695,064	1,087,378	9.3	64.1

**Table 27. Percentage Distribution of Net Acres and Liability According to Yield Limitation Flag after Substitution of Acre-Weighted PTY**

Batch	Flag	Net Acres	Liability	Net Acres	Liability
		%	%	%	%
		From Table 4		From Table 9	
PTY	APH	65.1	66.9	60.9	61.8
PTY	Cup	0.3	0.2	1.1	0.9
PTY	Floor	2.8	2.3	0.1	0.1
PTY	Substitution	31.8	30.5	38.0	37.2
T	APH	66.8	70.8	51.0	53.8
T	Cup	0.9	0.7	3.5	2.6
T	Floor	5.0	3.5	0.1	0.0
T	Substitution	27.3	25.1	45.4	43.5

**Distribution among Yield Limitation Flags after Substitution of Production-Weighted PTY**

Tables 28 and 29 correspond to Tables 26 and 27. These tables illustrate the impact of substituting a production-weighted PTY rather than the simple average PTY.

**Table 28. Distribution among Yield Limitation Flags after Substitution of Production-Weighted PTY**

Year	Batch	Flag	Net Acres	Liability	Premium	Indemnity	Loss Cost Ratio	Loss Ratio
			-- thousands --					
2007	PTY	APH	2,224	383,388	53,126	32,293	8.4	60.8
2008	PTY	APH	3,033	897,877	112,908	87,136	9.7	77.2
2009	PTY	APH	3,146	699,768	103,839	76,011	10.9	73.2
Total	PTY	APH	8,403	1,981,033	269,873	195,440	9.9	72.4
2007	PTY	Cup	13	1,718	369	139	8.1	37.7
2008	PTY	Cup	29	6,824	1,209	545	8.0	45.1
2009	PTY	Cup	47	8,554	1,585	1,081	12.6	68.2
Total	PTY	Cup	89	17,096	3,163	1,765	10.3	55.8
2007	PTY	Floor	6	925	144	40	4.3	27.6
2008	PTY	Floor	7	1,882	258	189	10.1	73.4
2009	PTY	Floor	8	1,557	227	142	9.1	62.4
Total	PTY	Floor	21	4,364	629	371	8.5	59.0
2007	PTY	Substitution	1,340	224,294	35,198	18,109	8.1	51.4
2008	PTY	Substitution	2,106	620,555	85,907	69,782	11.2	81.2
2009	PTY	Substitution	2,309	461,235	71,673	40,996	8.9	57.2
Total	PTY	Substitution	5,755	1,306,084	192,778	128,887	9.9	66.9
All	PTY	Total	14,268	3,308,577	466,443	326,463	9.9	70.0
2007	T	APH	7,665	1,169,566	158,059	120,458	10.3	76.2
2008	T	APH	7,119	1,973,234	245,725	181,259	9.2	73.8
2009	T	APH	6,663	1,313,696	183,650	113,130	8.6	61.6
Total	T	APH	21,447	4,456,496	587,434	414,847	9.3	70.6
2007	T	Cup	388	38,722	8,653	5,932	15.3	68.6
2008	T	Cup	334	63,085	13,184	11,039	17.5	83.7
2009	T	Cup	374	51,033	11,292	7,301	14.3	64.7
Total	T	Cup	1,096	152,840	33,129	24,272	15.9	73.3
2007	T	Floor	15	1,785	288	121	6.8	42.1
2008	T	Floor	14	3,285	482	143	4.4	29.6
2009	T	Floor	15	2,299	334	141	6.1	42.2
Total	T	Floor	44	7,369	1,104	405	5.5	36.7
2007	T	Substitution	7,224	1,004,223	156,513	95,085	9.5	60.8
2008	T	Substitution	6,975	1,810,533	260,031	203,964	11.3	78.4
2009	T	Substitution	7,162	1,232,744	190,774	80,695	6.5	42.3
Total	T	Substitution	21,361	4,047,500	607,318	379,744	9.4	62.5
All	T	Total	43,948	8,664,205	1,228,985	819,268	9.5	66.7
All	All	Total	58,216	11,972,782	1,695,428	1,145,731	9.6	67.6

**Table 29. Percentage Distribution of Net Acres and Liability According to Yield Limitation Flag after Substitution of Production-Weighted PTY**

Batch	Flag	Net Acres	Liability	Net Acres	Liability
		%	%	%	%
		From Table 4		From Table 11	
PTY	APH	65.1	66.9	58.9	59.9
PTY	Cup	0.3	0.2	0.6	0.5
PTY	Floor	2.8	2.3	0.1	0.1
PTY	Substitution	31.8	30.5	40.3	39.5
T	APH	66.8	70.8	48.8	51.4
T	Cup	0.9	0.7	2.5	1.8
T	Floor	5.0	3.5	0.1	0.1
T	Substitution	27.3	25.1	48.6	46.7

**Summary of Loss Cost Ratios and Loss Ratios for the Various Scenarios**

Table 30 contains the loss cost ratios and the loss ratios calculated for the various scenarios developed for this report. The first line reports the data as extracted from the experience database, while the second line shows the effect of normalizing the data by using the average yield calculated from the Type 15 records to determine premium and indemnity. Although the loss cost ratios declined significantly in the normalization process, the loss ratios were largely unchanged. The normalized data are the basis for comparison of the effects of the various substitutions.

The line “Initial Substitution” refers to the substitution of published T-yield for PTY and PTY for published T-yield in the two batches. The lines for “Acre-Weighted Substitution” and “Production-Weighted Substitution” are self-explanatory. There is a decrease in the loss cost ratio and loss ratio for batch T with simple average substitution while both variables are essentially unchanged from the normalized data with acre-weighted substitution. Production-weighted substitution increases both variables relative to the normalized data. While forcing use of the published T-yield would have reduced the loss cost ratio and the loss ratio relatively significantly, the acre-weighted PTY resulted in a small increase in both variables. Similar to batch T, the production-weighted PTY increased both variables. These results correspond with the findings from the initial analysis.

**Table 30. Comparisons of Loss Cost Ratio and Loss Ratio for the Various Scenarios**

Scenario	Batch PTY		Batch T		All Data	
	Loss Cost Ratio	Loss Ratio	Loss Cost Ratio	Loss Ratio	Loss Cost Ratio	Loss Ratio
	%	%	%	%	%	%
Original Data	12.0	66.1	11.7	64.9	11.7	65.2
Normalized Data	9.5	65.8	9.3	63.4	9.3	64.1
Initial Substitution	8.9	57.1	9.1	61.8	9.1	60.5
Acre-Weighted Substitution	9.6	67.2	9.2	63.0	9.3	64.1
Production-Weighted Substitution	9.9	70.0	9.5	66.7	9.6	67.6

### Changes in Batch T by Percentile

Table 31 is constructed from a subset of batch T having these characteristics: at least one T-yield type was used, or a floor or yield substitution was employed, and the policy had at least one actual yield. The intent of this Table is to demonstrate the range of changes that occurred in these records as a result of substituting the PTY for the T-yield actually used.

**Table 31. Changes in Liability, Premium, and Indemnity, by Percentile Of Change in Approved Yield.**

Percentile	Acres	Liability	Premium	Indemnity
10	7.5%	-0.6%	-0.1%	-0.7%
20	9.8%	-0.4%	-0.1%	-0.5%
30	11.0%	-0.3%	-0.1%	-0.5%
40	11.3%	-0.2%	-0.1%	-0.3%
50	13.2%	-0.2%	0.0%	-0.4%
60	11.8%	-0.2%	0.0%	-0.3%
70	14.4%	0.2%	-0.1%	0.5%
80	9.6%	0.2%	0.0%	0.5%
90	5.5%	0.4%	-0.1%	1.0%
100	5.9%	1.1%	-0.5%	2.9%
Total	100.0%	0.0%	-1.2%	2.2%

Overall, there is no net change in liability since the PTY reduced this variable in the lower percentiles but increased it in the higher percentiles. This is due to the fact that the PTY does exceed the T-yield in many cases. The estimated premium decreased slightly due to a reduction at all percentiles. At the lower percentiles, this appears to be the effect of a relatively larger reduction in liability while at the higher percentiles the yield ratio effect might be lowering the premium rate under the RMA rating formula. Estimated indemnities are lower at the lower percentiles (consistent with the lowered liability) but greater at the higher percentiles, resulting overall in an increase in indemnities for this set of records. However, the overall effects are small.

### SECTION IX. SUMMARY OF FINDINGS

The key objectives of the PTY Pilot evaluation are “to determine if the program is meeting the risk management needs of insured producers, is not subject to program abuse, and is actuarially appropriate so that the [FCIC] Board of Directors can determine whether the pilot program should be made permanent, be modified and further evaluated, should be terminated or could be made more Broadly [sic] available.”<sup>24</sup>

Under the current PTY Pilot, the PTY is calculated by combining data from all basic and optional unit acreage and production history for a crop/policy/county on a PTY summary database. Yield for a crop year in the PTY summary database is an acre-weighted average of the yield values within that crop year for the crop, practice, type, variety, and TMA. The PTY for the insured, crop, practice, type, variety, and TMA is then the simple average of the annual values from the summary PTY database.

<sup>24</sup> USDA, RMA, 2009, Statement of Work, page 6.

As a group, insureds who participated in listening sessions and informal discussions were quite pleased with the PTY Pilot program, were enthusiastic about its continuation, and saw few barriers to its expansion. Most insureds indicated having a choice between T-yields and PTYs was one of the most attractive features of the pilot. Almost all the insureds indicated they depended on agents to complete all program calculations and made their decisions based on the liability and premium information supplied by the agents. All the insurance industry personnel were pleased to be able to offer the PTY option. They had a strong preference to continue the program as an option rather than as a requirement. Such a structure does create the issue of adverse selection as insureds choose the approach which provides the highest guarantee, regardless of their production capabilities. The data analysis indicates this is not a major issue with respect to the procedure. None of the insurance industry personnel expressed concern about the added administrative burden of the program. A limited number of the agents and most of the insureds were not aware of the surcharge associated with the option.

The Contractor generated standardized data for units that had used the T-yield procedure and qualified for the use of the PTY option to evaluate the effects of such an action. Approximately 13 percent of policies and units from the original T-yield category and 10 percent of net insured acres are eliminated due to ineligibility. The estimated impact of requiring the use of PTY for policies using the T-yield on eligible units, relative to the outcome of using T-yield procedures based on the standardized data is rather limited. Some units had higher guarantees; some had lower. Replacing the T-yield calculated using standard procedures with the simple average PTY resulted in no change in the liability, a small decrease in premium, and a small increase in indemnity for this group when cups, floors and yield substitutions are considered. Changes are small at all percentiles of change in the approved yield.

The production-weighted PTY calculation approach results in a small increase in loss ratio and loss cost ratio for units that originally used T-yield; while the acre-weighted PTY calculation approach results in substantially the same values as those obtained using the T-yields for the normalized data. It is important to note that the pilot has been operating for just three years, and none of the loss ratios calculated by any of these methods exceeded 1.0. Due to data limitations, it is impossible to test the statistical significance of these results.

Substituting the T-yield for PTY on units that originally used PTY results in a substantial reduction in loss cost ratio and loss ratio for those units. However, unit performance before substitution was substantially the same as units that used the T-yield. Thus, one could conclude that program performance was adversely affected in a relative sense by use of the PTY: losses potentially would have been lesser if those units had been forced to use the T-yield procedures. But, producers also have options to use added land procedures and other methods. It is quite possible that some of the units that used PTY might have used those alternatives. Hence, it is not possible to state unequivocally that losses would have been substantially lower if the PTY had not been available. One may infer that producers opted to use PTY when it benefited them to do so, when the average of their own yields exceeded the T-yield values they might otherwise have used.

## **Appendix A.**

# **North Dakota Personal Transitional Yield Pilot Insurance Program Sample Listening Session Agenda**

# Agenda

- Introductions
  - The Contractor
  - Attendees
- Purpose
  - Gather impressions of the program
  - Learn about possible improvements
  - Make recommendation to USDA about the program
- Background
  - FCIC Insurance Development Contracts
  - History of PTY
    - 2000 MT test
    - 2007 ND Pilot
- Feedback
  - Use
  - Experiences
  - Surprises
  - Improvements
  - Changes
- Questions



## **Appendix B.**

### **North Dakota Personal Transitional Yield Pilot Insurance Program Insurance Experience**

**Table B1. Data Extracted from Experience Database for all Eligible Crops  
and Counties, North Dakota: By Year**

**Table B2. Data Extracted from Experience Database for all Eligible Crops  
and Counties, North Dakota: By Crop and Year**

**Table B3. Data Extracted from Experience Database for all Eligible Crops  
and Counties, North Dakota: By County and Year**

**Table B1. Data Extracted from Experience Database for all Eligible Crops and Counties,  
North Dakota: By Year**

Crop Year	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using PTY								
2007	6,432	19,020	2,096	3,662	1,978,894	342,769,304	58,250,505	26,656,640
2008	8,657	25,330	4,245	9,739	2,656,020	785,250,341	143,485,490	119,416,390
2009	9,230	22,201	3,909	5,856	2,673,514	556,593,809	99,332,445	61,207,463
Units Using T-yield								
2007	32,618	71,460	9,942	15,490	6,250,874	857,290,653	155,734,427	86,717,246
2008	29,131	63,514	13,257	24,594	5,694,444	1,388,028,315	271,232,710	235,094,739
2009	28,445	55,361	8,560	11,899	5,338,138	901,212,454	171,063,918	86,220,886
Unclassified Units								
2007	23,501	75,088	8,268	16,117	7,824,171	1,201,843,000	201,631,578	112,545,798
2008	23,481	76,218	10,998	28,137	8,242,951	2,331,010,058	438,117,399	344,220,129
2009	23,756	68,269	8,514	13,995	8,555,982	1,613,708,583	280,609,701	124,520,518
All Actuals								
2007	17,098	39,576	5,800	9,544	3,477,387	524,662,050	83,681,569	54,163,377
2008	16,721	39,654	6,924	13,786	3,640,133	1,023,225,242	182,797,730	132,918,392
2009	16,373	34,576	5,171	7,128	3,666,036	687,109,260	114,452,245	51,278,514

**Table B2. Data Extracted from Experience Database for all Counties, North Dakota: By Crop and Year**

Crop Year	Crop ID	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using PTY									
2007	11	1,436	5,050	413	765	540,060	69,216,723	10,845,395	4,904,086
2008	11	2,064	7,170	923	2,576	766,212	212,237,760	40,205,795	38,171,938
2009	11	2,177	6,533	774	1,157	787,023	133,595,291	20,123,884	7,168,241
2007	15	688	1,826	308	537	174,382	27,701,540	4,130,317	3,607,778
2008	15	695	1,738	366	714	169,290	52,517,741	8,301,930	9,195,159
2009	15	704	1,599	360	605	158,248	30,221,198	4,499,955	5,577,056
2007	16	84	144	20	29	8,832	710,733	116,346	57,331
2008	16	75	107	21	30	6,156	886,451	153,000	116,520
2009	16	123	177	21	22	8,739	956,671	159,030	49,175
2007	17	0	0	0	0	0	0	0	0
2008	17	0	0	0	0	0	0	0	0
2009	17	0	0	0	0	0	0	0	0
2007	31	214	467	60	94	39,412	4,037,260	463,697	283,717
2008	31	290	643	105	171	56,119	12,643,245	1,505,374	1,424,815
2009	31	282	637	135	211	54,902	9,760,825	1,325,665	1,372,142
2007	41	1,226	3,767	406	729	414,685	128,264,876	24,938,662	8,378,358
2008	41	1,766	4,991	864	1,732	533,915	222,128,601	44,053,371	21,623,210
2009	41	1,952	3,623	1,064	1,553	550,414	172,375,060	37,743,031	30,816,166
2007	47	377	1,056	174	297	90,619	19,304,780	3,524,727	2,248,976
2008	47	411	1,132	126	223	104,404	31,551,797	5,632,236	2,332,447
2009	47	515	1,399	224	354	124,376	36,192,549	6,860,798	4,164,267
2007	49	19	52	1	1	4,670	331,548	53,951	2,675
2008	49	16	27	13	17	2,598	344,958	55,551	128,479
2009	49	11	25	0	0	1,858	308,677	55,618	0
2007	51	0	0	0	0	0	0	0	0
2007	67	384	1,024	41	60	103,506	9,030,676	1,243,196	268,607
2008	67	536	1,363	157	352	138,004	27,308,150	3,582,078	2,846,209
2009	67	507	1,167	141	200	117,505	22,263,294	3,223,700	1,263,404
2007	69	8	16	4	9	3,045	383,771	45,822	65,863
2008	69	5	7	3	5	1,462	482,422	63,825	181,416
2009	69	3	10	0	0	1,245	263,367	35,306	0
2007	78	456	1,181	147	253	137,400	21,039,981	3,217,415	1,793,736
2008	78	557	1,437	363	778	165,465	55,216,586	10,563,044	12,699,266
2009	78	652	1,376	277	386	162,098	32,327,406	6,106,489	3,080,437
2007	81	968	2,933	384	674	287,719	46,827,008	7,694,604	4,137,824
2008	81	1,403	4,408	1,068	2,608	441,657	124,010,747	22,918,484	26,228,792
2009	81	1,490	3,989	646	1,042	454,618	86,310,885	15,150,115	6,464,342
2007	91	570	1,498	136	210	174,449	15,904,468	1,973,943	903,109
2008	91	838	2,300	235	528	270,502	45,901,509	6,445,576	4,454,816
2009	91	806	1,648	267	326	250,866	31,831,675	4,020,722	1,252,233
2007	94	2	6	2	4	115	15,940	2,430	4,580
2008	94	1	7	1	5	236	20,374	5,226	13,323
2009	94	8	18	0	0	1,622	186,911	28,132	0

Crop Year	Crop ID	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using T-yield									
2007	11	7,905	20,324	2,330	3,875	1,911,806	210,477,098	36,899,859	19,206,872
2008	11	7,363	18,559	3,152	7,048	1,763,038	416,349,962	85,850,473	78,347,201
2009	11	7,200	16,272	1,678	2,347	1,709,322	247,662,735	41,058,533	12,753,268
2007	15	2,673	5,647	1,005	1,606	511,294	71,667,854	12,098,084	10,852,501
2008	15	2,019	4,025	917	1,462	362,329	99,647,761	17,530,121	14,726,860
2009	15	2,054	3,765	946	1,397	346,102	59,662,825	9,731,064	10,609,938
2007	16	1,298	1,978	264	347	99,647	5,642,846	1,283,993	528,657
2008	16	876	1,246	401	543	53,559	5,261,328	1,218,413	1,699,955
2009	16	1,109	1,638	107	122	73,115	5,612,514	1,351,097	286,645
2007	17	6	8	2	2	307	12,812	3,206	2,886
2008	17	5	6	0	0	327	21,262	4,819	0
2009	17	3	3	0	0	117	5,663	1,056	0
2007	31	1,522	2,694	581	853	181,955	14,926,697	2,014,098	1,842,024
2008	31	1,302	2,256	513	757	162,105	29,831,767	4,054,976	4,441,469
2009	31	1,488	2,479	570	761	174,161	25,181,403	3,803,914	3,847,820
2007	41	4,752	10,037	1,090	1,690	869,550	220,942,800	47,204,755	17,160,267
2008	41	3,907	7,950	1,452	2,393	679,971	235,260,283	51,046,807	25,622,931
2009	41	3,671	5,859	1,340	1,875	609,758	154,767,824	39,146,769	25,374,506
2007	47	1,548	3,682	592	945	285,033	51,658,562	10,730,962	5,539,622
2008	47	1,197	2,787	315	495	237,273	61,613,349	12,279,778	4,965,705
2009	47	1,300	2,819	496	720	228,941	56,830,132	12,442,290	6,844,896
2007	49	177	332	38	67	28,574	1,738,471	336,696	149,079
2008	49	99	170	45	70	13,720	1,472,888	330,290	371,479
2009	49	89	147	11	17	13,307	1,783,710	374,853	120,385
2007	51	0	0	0	0	0	0	0	0
2007	67	1,754	3,977	330	553	323,178	22,834,208	3,706,589	1,582,059
2008	67	1,417	3,234	543	1,081	262,603	39,594,714	6,215,044	6,372,428
2009	67	1,541	3,485	323	453	298,787	45,184,760	7,740,660	2,325,115
2007	69	107	154	58	79	23,698	2,490,920	359,790	546,476
2008	69	143	219	94	144	28,801	7,832,435	1,179,202	2,787,492
2009	69	54	106	14	22	12,574	2,167,416	386,370	230,007
2007	78	3,100	6,124	1,143	1,696	548,141	70,817,484	13,141,176	9,541,496
2008	78	2,790	5,724	1,601	2,851	534,046	143,601,637	31,381,018	35,717,599
2009	78	2,640	4,582	1,038	1,399	461,716	77,249,347	17,508,789	10,750,609
2007	81	4,592	10,124	1,657	2,521	874,340	137,927,543	21,300,703	15,319,072
2008	81	4,887	11,037	3,248	6,187	988,773	261,410,800	47,067,877	50,508,900
2009	81	4,896	10,109	1,449	2,076	1,000,174	181,835,874	31,176,811	10,661,251
2007	91	3,141	6,298	837	1,234	588,906	45,822,984	6,599,285	4,343,668
2008	91	3,089	6,238	965	1,548	604,560	85,853,450	13,032,263	9,500,125
2009	91	2,308	3,938	567	681	400,356	42,466,185	6,208,035	2,326,488
2007	94	43	81	15	22	4,444	330,374	55,231	102,567
2008	94	37	63	11	15	3,337	276,679	41,629	32,595
2009	94	92	159	21	29	9,708	802,066	133,677	89,958

Crop Year	Crop ID	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Unclassified Units									
2007	11	8,775	37,103	2,982	6,156	4,030,688	500,203,007	84,066,193	34,265,098
2008	11	8,770	37,867	3,903	12,417	4,274,462	1,138,084,590	226,496,082	186,547,648
2009	11	8,695	33,434	2,774	5,025	4,362,822	694,342,029	113,295,108	29,480,754
2007	15	1,497	3,353	653	1,172	328,141	53,680,938	8,760,041	10,883,572
2008	15	1,372	2,933	636	1,036	299,882	95,848,780	16,284,142	12,238,226
2009	15	1,405	3,140	661	1,150	326,803	63,717,123	10,345,367	11,996,218
2007	16	805	1,346	145	211	65,496	4,145,356	1,052,390	337,297
2008	16	651	1,075	285	468	48,347	5,234,301	1,363,268	1,423,707
2009	16	716	1,141	58	67	51,285	4,468,064	1,192,836	145,494
2007	17	2	2	1	1	72	3,759	958	1,721
2008	17	1	1	0	0	24	1,518	278	0
2009	17	1	1	0	0	61	5,486	641	0
2007	31	584	950	205	307	65,188	5,649,725	779,789	633,039
2008	31	595	982	212	305	72,943	14,519,985	1,979,318	1,844,949
2009	31	651	1,133	243	319	84,903	13,430,379	2,073,827	2,209,179
2007	41	2,801	7,976	866	1,802	823,425	246,243,248	48,496,181	20,767,556
2008	41	2,920	8,126	1,139	2,242	863,619	353,824,712	71,879,030	27,164,455
2009	41	3,121	6,255	1,437	2,256	902,343	280,979,680	62,187,276	44,677,297
2007	47	1,103	2,953	411	695	262,602	54,456,728	10,086,330	5,493,878
2008	47	997	2,626	270	435	232,628	68,692,119	12,077,961	4,427,500
2009	47	1,081	2,934	410	656	269,898	76,652,545	14,394,020	7,832,430
2007	49	22	30	2	3	3,086	188,971	34,460	3,284
2008	49	17	29	9	16	2,937	355,976	62,124	40,780
2009	49	10	17	0	0	1,520	226,082	44,425	0
2007	51	0	0	0	0	0	0	0	0
2007	67	176	326	25	44	23,456	1,999,383	302,445	98,978
2008	67	193	356	60	112	31,021	5,642,677	853,315	839,961
2009	67	237	419	38	55	37,430	6,681,629	1,171,055	319,651
2007	69	7	8	4	5	878	102,370	16,330	19,020
2008	69	7	11	4	4	1,038	310,820	33,749	60,211
2009	69	8	10	0	0	994	151,947	28,574	0
2007	78	1,680	3,291	649	978	300,463	41,286,572	7,512,537	6,106,907
2008	78	1,504	2,999	823	1,381	275,753	80,360,524	16,903,713	15,309,535
2009	78	1,588	2,736	658	940	277,545	50,449,169	10,962,129	6,564,215
2007	81	3,455	11,488	1,576	3,567	1,296,781	239,437,239	32,918,270	29,368,260
2008	81	3,709	12,695	2,894	8,512	1,468,169	461,797,551	74,368,844	86,352,392
2009	81	3,931	12,463	1,532	2,606	1,683,994	355,723,440	55,687,972	17,397,533
2007	91	2,591	6,258	749	1,176	623,723	54,427,606	7,602,683	4,567,188
2008	91	2,740	6,509	760	1,202	671,656	106,289,588	15,805,847	7,939,876
2009	91	2,308	4,580	702	920	556,128	66,852,951	9,219,602	3,895,260
2007	94	3	4	0	0	171	18,098	2,971	0
2008	94	5	9	3	7	471	46,917	9,728	30,889
2009	94	4	6	1	1	255	28,059	6,869	2,487

Crop Year	Crop ID	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
All Actuals									
2007	11	8,476	21,060	2,570	4,386	1,826,511	222,405,256	37,460,199	17,246,041
2008	11	8,243	20,964	2,789	5,635	1,900,791	500,131,757	98,632,862	63,518,865
2009	11	7,847	17,554	2,199	3,149	1,829,273	286,633,991	48,080,160	14,938,792
2007	15	526	1,005	221	352	79,071	12,791,423	2,035,051	2,869,027
2008	15	469	868	175	258	70,924	22,421,050	3,699,162	2,305,863
2009	15	489	916	219	322	80,813	15,857,373	2,483,441	2,656,423
2007	16	546	830	105	142	42,651	2,526,556	623,257	200,963
2008	16	418	615	187	267	29,833	3,072,874	796,610	803,786
2009	16	412	617	39	45	30,425	2,539,571	674,600	79,489
2007	17	3	4	1	2	68	3,463	562	993
2008	17	0	0	0	0	0	0	0	0
2009	17	0	0	0	0	0	0	0	0
2007	31	195	280	62	91	14,639	1,133,612	160,235	128,629
2008	31	196	270	58	70	16,387	2,969,741	401,513	285,532
2009	31	214	280	71	77	16,093	2,221,690	364,711	389,476
2007	41	1,539	3,262	600	947	329,409	97,376,485	18,085,566	10,371,203
2008	41	1,452	3,185	541	894	310,566	127,312,484	23,913,771	9,414,484
2009	41	1,482	2,329	715	930	308,860	95,349,544	20,251,913	18,461,646
2007	47	474	959	144	226	70,541	14,340,438	2,499,689	1,704,205
2008	47	414	858	89	118	67,952	20,639,805	3,483,694	1,449,089
2009	47	396	781	119	163	60,892	17,036,996	3,025,246	1,861,674
2007	49	6	8	1	1	964	72,764	10,446	567
2008	49	5	6	3	3	540	58,416	11,885	7,945
2009	49	7	9	1	1	920	126,088	23,708	27,895
2007	51	1	3	0	0	92	2,075	1,329	0
2007	67	347	1,181	49	90	113,535	10,249,527	1,265,694	492,837
2008	67	377	1,283	170	471	127,525	25,778,449	3,212,453	3,732,374
2009	67	429	1,583	88	131	172,617	33,866,474	4,424,176	819,374
2007	69	3	3	2	2	495	63,285	10,356	15,912
2008	69	6	7	3	4	3,394	904,439	138,704	575,176
2009	69	5	9	0	0	1,056	151,815	38,448	0
2007	78	786	1,216	323	409	89,005	12,361,674	2,209,376	2,303,283
2008	78	707	1,108	342	512	83,962	24,071,817	4,982,755	5,191,238
2009	78	747	1,061	289	350	78,508	14,295,968	2,987,267	2,141,148
2007	81	2,746	7,013	1,304	2,298	701,504	132,961,019	16,704,161	17,025,029
2008	81	3,017	7,798	2,280	5,169	805,091	259,755,925	38,238,994	43,440,260
2009	81	3,181	7,539	1,109	1,588	915,864	198,811,953	29,345,364	8,894,813
2007	91	1,448	2,749	416	596	208,530	18,350,730	2,609,218	1,792,600
2008	91	1,415	2,689	286	384	222,716	36,073,943	5,275,006	2,188,106
2009	91	1,156	1,885	318	367	169,822	20,145,122	2,739,723	992,119
2007	94	2	3	2	2	374	23,743	6,430	12,088
2008	94	2	3	1	1	452	34,542	10,321	5,674
2009	94	8	13	4	5	892	72,675	13,488	15,665

**Table B3. Data Extracted from Experience Database for all Eligible Crops, North Dakota:  
By County and Year**

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using PTY									
2007	001	15	56	1	2	8,487	857,535	168,227	25,192
2007	003	206	622	79	142	72,140	20,099,825	3,919,552	1,062,277
2007	005	262	774	112	191	69,004	10,634,383	2,034,577	1,088,651
2007	007	3	3	0	0	556	66,041	11,572	0
2007	009	340	984	54	80	117,615	14,596,569	2,176,935	508,205
2007	011	25	64	6	12	6,181	568,764	97,091	36,478
2007	013	106	418	20	30	41,207	4,605,113	730,844	235,291
2007	015	66	192	11	17	23,714	3,328,316	619,141	121,812
2007	017	149	488	80	149	63,859	22,394,073	3,391,826	2,274,835
2007	019	166	458	74	124	41,523	6,917,597	1,211,260	917,888
2007	021	145	412	99	177	41,150	11,511,474	2,283,589	2,128,498
2007	023	77	254	23	35	21,307	2,276,277	322,215	192,752
2007	025	16	80	8	27	14,392	1,749,119	296,226	208,339
2007	027	94	216	22	29	18,015	2,593,794	429,073	123,536
2007	029	66	196	4	6	26,905	5,148,145	1,702,138	47,127
2007	031	211	479	62	93	67,131	10,465,907	1,712,955	659,981
2007	033	14	49	2	4	7,626	853,852	149,523	79,354
2007	035	123	338	16	19	30,518	7,056,856	1,317,579	108,482
2007	037	26	80	6	11	9,250	906,216	171,334	159,569
2007	039	67	137	24	30	18,187	3,984,001	785,243	131,711
2007	041	43	154	8	12	21,301	2,631,198	402,205	79,563
2007	043	80	161	16	22	17,875	2,628,486	393,401	151,531
2007	045	166	382	84	134	38,408	11,530,672	2,269,219	1,073,020
2007	047	126	359	43	80	33,102	4,625,332	859,551	551,789
2007	049	198	491	55	89	44,274	6,287,806	971,899	405,173
2007	051	54	179	24	47	15,606	2,224,776	423,569	126,957
2007	053	19	72	6	14	7,550	649,038	108,119	33,618
2007	055	353	1,263	112	212	119,922	15,776,910	2,086,110	1,225,943
2007	057	28	188	10	61	20,965	2,493,665	413,596	350,924
2007	059	34	107	7	9	11,432	1,382,203	263,599	71,876
2007	061	204	686	53	90	66,928	7,938,379	1,119,730	392,618
2007	063	160	442	76	145	37,641	5,958,402	1,180,410	847,370
2007	065	18	54	3	3	3,643	468,911	78,773	14,953
2007	067	99	251	29	41	22,849	4,550,231	775,662	439,874
2007	069	201	524	78	157	35,900	5,192,224	968,487	758,511
2007	071	181	409	94	145	35,088	5,921,684	1,250,833	880,151
2007	073	76	183	39	64	19,142	5,906,084	909,357	450,177
2007	075	297	773	36	55	103,529	13,728,158	1,932,315	509,919
2007	077	69	177	47	90	19,106	6,590,263	915,809	738,957
2007	079	75	166	16	20	14,156	1,841,904	313,638	49,660
2007	081	116	355	68	164	26,415	8,848,391	1,569,934	1,356,106
2007	083	97	308	15	26	28,407	3,473,215	554,288	93,867
2007	085	8	21	3	8	3,511	618,392	136,405	46,380
2007	087	19	48	1	1	8,775	912,354	141,513	2,080
2007	089	31	103	3	15	15,237	2,178,019	358,514	89,120

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using PTY									
2007	091	43	97	12	16	8,840	2,503,047	508,157	218,904
2007	093	305	1,018	121	204	114,537	25,532,012	4,297,809	1,624,152
2007	095	120	424	65	97	28,998	4,099,171	802,784	486,561
2007	097	53	144	16	23	16,818	5,719,098	896,349	249,074
2007	099	121	340	33	48	28,264	6,498,313	1,153,912	377,320
2007	101	447	1,371	145	278	142,913	19,193,322	2,695,979	1,993,452
2007	103	306	957	60	85	106,427	18,127,464	3,089,674	593,231
2007	105	108	513	15	29	62,567	6,126,323	878,005	263,831
2008	001	35	126	25	76	18,000	3,554,493	803,929	1,279,170
2008	003	295	811	146	302	99,032	39,177,320	7,800,750	3,195,985
2008	005	328	1,093	163	397	98,244	26,165,261	5,519,054	4,811,345
2008	007	5	16	5	16	2,014	519,574	116,025	425,986
2008	009	439	1,253	159	337	152,127	39,813,371	6,967,267	4,501,248
2008	011	40	139	32	98	17,285	3,573,482	768,158	1,397,698
2008	013	162	593	43	104	62,142	14,430,568	2,430,999	897,685
2008	015	94	246	48	95	27,924	7,659,480	1,518,904	1,406,586
2008	017	186	580	73	147	79,285	37,498,674	6,075,464	2,260,912
2008	019	223	582	83	142	57,881	18,342,114	3,558,128	1,869,652
2008	021	182	479	135	289	45,167	18,612,354	3,807,530	3,066,600
2008	023	95	266	31	62	23,937	5,497,911	890,061	334,429
2008	025	27	118	26	114	19,114	4,903,579	1,083,207	3,529,405
2008	027	149	369	55	112	32,681	8,125,708	1,437,831	789,958
2008	029	100	249	57	113	30,668	8,145,581	2,138,784	1,686,218
2008	031	232	581	126	245	82,870	23,094,515	4,102,036	4,121,640
2008	033	33	120	29	93	16,656	3,900,404	820,610	1,830,698
2008	035	153	459	60	126	47,388	17,847,935	3,245,782	1,371,529
2008	037	40	117	22	61	13,395	2,667,858	621,758	669,672
2008	039	95	222	54	100	29,852	9,769,861	1,866,035	1,030,491
2008	041	78	240	60	168	33,935	9,044,209	1,731,867	3,636,778
2008	043	131	290	53	82	30,637	7,449,029	1,426,284	914,389
2008	045	185	455	116	217	47,508	20,339,570	3,942,536	2,201,411
2008	047	157	444	88	214	37,990	10,234,655	2,269,324	2,261,625
2008	049	293	679	94	159	63,478	16,981,072	2,806,958	1,492,536
2008	051	79	218	40	90	19,829	5,529,170	1,184,498	978,010
2008	053	45	211	39	182	20,085	3,534,567	639,399	1,995,395
2008	055	410	1,429	301	886	131,481	33,960,640	5,219,902	10,387,617
2008	057	36	272	32	202	29,561	7,315,547	1,345,483	3,124,260
2008	059	60	209	33	79	18,877	4,544,837	1,006,599	1,821,136
2008	061	285	1,098	171	549	112,535	26,687,405	4,201,172	6,090,940
2008	063	175	480	115	246	40,061	11,489,270	2,418,966	1,954,157
2008	065	23	62	16	36	7,136	1,873,984	344,138	549,701
2008	067	164	461	45	71	49,032	16,759,664	3,105,299	1,026,385
2008	069	269	743	126	217	54,347	13,768,382	2,652,522	1,809,330
2008	071	217	593	141	269	48,992	13,947,946	3,064,128	2,591,726
2008	073	109	246	53	93	24,738	10,617,344	1,883,087	794,568
2008	075	356	878	100	170	118,361	30,924,733	4,985,380	1,867,491
2008	077	111	260	53	81	23,018	10,708,277	1,629,923	718,207
2008	079	90	185	39	61	16,016	4,246,655	811,602	573,625



Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using PTY									
2008	081	139	413	89	185	30,655	14,242,583	2,584,919	1,701,639
2008	083	147	413	66	97	39,171	9,704,282	1,653,127	812,305
2008	085	7	35	4	8	5,669	1,667,715	350,353	362,296
2008	087	38	107	37	97	15,324	3,356,077	595,367	1,804,562
2008	089	58	156	58	150	16,939	4,354,371	835,535	3,153,220
2008	091	76	176	25	43	15,675	6,354,946	1,222,949	408,427
2008	093	453	1,371	291	746	162,246	56,123,756	10,029,069	9,605,051
2008	095	174	470	46	81	39,983	10,124,713	1,945,761	742,168
2008	097	98	219	29	41	24,072	10,638,997	1,762,969	362,328
2008	099	155	426	58	123	37,627	14,314,927	2,794,015	1,930,700
2008	101	598	1,857	197	372	178,602	48,963,977	7,895,814	2,979,691
2008	103	387	1,194	170	426	134,244	37,238,297	7,031,003	4,818,483
2008	105	141	621	88	269	72,532	14,908,701	2,543,230	3,469,326
2009	001	43	121	7	10	22,042	2,675,286	516,845	71,540
2009	003	320	595	167	248	89,462	26,925,332	5,515,709	2,402,061
2009	005	373	1,007	239	401	104,437	19,568,803	4,254,480	4,126,784
2009	007	1	2	0	0	205	28,043	6,389	0
2009	009	462	1,012	190	230	164,715	27,428,699	4,064,006	979,313
2009	011	40	129	6	12	19,312	2,364,750	426,423	55,028
2009	013	163	530	37	48	64,921	10,895,375	1,448,331	212,688
2009	015	89	246	11	13	35,137	6,037,260	1,102,719	91,981
2009	017	221	473	83	107	77,487	26,978,487	4,859,307	3,466,502
2009	019	248	636	150	301	66,863	13,457,126	2,650,258	4,393,510
2009	021	188	354	121	161	47,376	14,351,066	3,127,117	3,148,950
2009	023	81	221	1	1	19,004	3,265,512	392,844	660
2009	025	26	92	2	2	17,703	2,188,090	437,044	4,811
2009	027	151	336	72	114	32,840	5,814,150	1,061,284	859,176
2009	029	104	143	11	12	30,574	6,365,883	1,530,386	55,983
2009	031	275	584	168	286	92,694	17,231,096	2,921,350	2,172,561
2009	033	25	106	2	5	15,462	2,322,180	473,112	33,161
2009	035	197	482	72	134	52,610	15,411,745	2,879,153	2,556,289
2009	037	54	130	5	7	15,890	2,055,288	433,972	65,028
2009	039	103	231	53	89	32,437	7,474,240	1,324,608	767,147
2009	041	82	256	7	14	40,540	6,658,476	1,050,759	109,037
2009	043	135	246	31	40	34,444	5,968,025	1,075,920	208,292
2009	045	222	430	117	180	55,292	17,104,497	3,506,884	1,919,397
2009	047	156	336	31	35	33,266	6,282,713	1,397,202	88,082
2009	049	310	600	174	275	63,218	11,215,881	1,822,764	1,738,843
2009	051	84	180	20	23	17,619	3,450,696	759,630	160,905
2009	053	31	128	1	2	10,271	1,363,605	223,672	9,454
2009	055	333	1,133	73	112	113,493	20,404,760	2,764,566	359,639
2009	057	33	223	3	3	28,200	4,184,526	712,714	8,306
2009	059	75	211	5	5	20,456	3,186,964	699,380	31,670
2009	061	281	974	36	45	108,154	18,188,672	2,342,780	166,413
2009	063	162	433	90	144	43,255	8,248,023	1,678,322	1,373,034
2009	065	26	89	0	0	9,671	1,626,177	331,205	0
2009	067	196	540	87	179	59,410	15,203,450	2,852,165	3,610,657
2009	069	282	613	143	206	50,865	9,155,408	1,760,169	1,042,812

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using PTY									
2009	071	226	562	139	199	52,957	10,691,877	2,605,256	2,267,558
2009	073	121	219	79	99	27,053	8,546,987	1,648,754	1,215,857
2009	075	394	832	183	278	126,168	22,136,679	3,045,120	1,376,713
2009	077	112	198	35	42	22,637	7,930,036	1,336,604	602,538
2009	079	131	299	62	90	24,124	4,405,660	804,808	416,902
2009	081	151	284	102	136	31,236	10,667,851	2,129,992	2,084,723
2009	083	161	432	69	99	39,718	7,112,697	1,008,480	431,164
2009	085	10	38	2	2	7,613	1,157,388	269,688	2,004
2009	087	30	83	1	1	12,302	1,660,382	268,256	6,780
2009	089	46	143	5	5	15,232	2,383,905	432,821	15,291
2009	091	91	134	40	47	16,862	5,835,041	1,115,281	640,625
2009	093	527	1,138	296	413	146,159	34,895,950	6,487,780	4,529,039
2009	095	213	469	101	132	44,089	8,551,685	1,612,220	1,298,574
2009	097	124	181	43	55	28,741	9,594,880	1,703,964	1,866,171
2009	099	214	490	92	144	48,593	12,926,426	2,363,924	2,990,699
2009	101	613	1,522	225	347	162,920	30,142,837	4,397,723	2,771,126
2009	103	402	1,017	209	303	131,989	26,061,349	4,748,754	2,238,471
2009	105	92	338	11	20	45,794	6,811,895	949,551	163,514
Units Using T-yield									
2007	001	281	689	74	126	78,240	6,607,529	1,462,386	812,802
2007	003	765	1,513	321	444	136,166	27,061,193	4,915,087	2,330,619
2007	005	999	2,291	384	629	177,735	24,043,786	4,918,102	3,057,485
2007	007	86	168	17	24	16,962	1,500,131	298,826	75,297
2007	009	1,046	2,236	125	194	217,232	24,473,955	3,932,056	800,459
2007	011	223	531	64	117	61,238	5,286,005	1,002,353	532,853
2007	013	727	1,600	160	241	143,735	13,937,284	2,463,843	856,373
2007	015	503	1,047	115	180	92,525	9,657,147	2,097,733	766,741
2007	017	805	1,460	384	567	175,859	43,780,172	6,484,601	7,403,739
2007	019	1,006	2,272	403	643	231,519	34,048,378	6,536,798	5,981,215
2007	021	451	911	238	356	87,193	18,665,043	3,573,097	3,099,764
2007	023	801	1,978	201	344	164,371	14,268,316	2,362,150	1,021,645
2007	025	316	699	112	187	68,614	6,248,700	1,104,876	787,951
2007	027	395	761	109	136	59,438	7,352,115	1,316,215	553,450
2007	029	674	1,376	94	128	115,590	14,177,016	3,693,664	591,959
2007	031	345	590	90	114	76,825	12,131,292	2,132,479	611,201
2007	033	203	507	38	56	48,726	4,154,913	894,515	163,606
2007	035	1,116	2,530	178	261	212,434	38,391,539	7,105,218	1,823,893
2007	037	463	992	107	165	77,631	5,910,407	1,403,577	733,181
2007	039	452	858	124	162	82,962	13,688,918	2,580,423	750,246
2007	041	420	956	62	108	115,296	12,810,726	2,361,868	599,398
2007	043	373	754	128	192	57,250	6,033,213	1,283,188	704,120
2007	045	553	1,116	296	448	104,223	23,258,447	4,237,042	3,681,315
2007	047	333	680	114	169	63,628	7,910,395	1,929,203	1,078,096
2007	049	870	1,732	203	318	129,809	13,958,211	2,120,493	951,475
2007	051	499	1,042	150	220	86,300	10,828,520	2,601,554	1,244,384
2007	053	427	1,530	155	434	122,582	10,087,543	1,767,719	1,460,241
2007	055	1,141	2,580	335	539	191,682	19,840,291	2,709,250	1,946,255
2007	057	262	634	86	142	53,999	4,859,396	804,774	481,036

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using T-yield									
2007	059	588	1,232	111	180	86,898	7,836,244	1,811,435	685,028
2007	061	936	2,450	259	441	214,346	19,930,667	3,061,898	1,489,909
2007	063	772	1,610	353	566	118,784	15,737,058	3,493,995	2,321,610
2007	065	248	603	54	100	41,832	4,329,723	774,085	414,263
2007	067	675	1,808	208	355	167,835	28,803,453	5,667,080	2,924,061
2007	069	715	1,440	262	406	94,484	11,167,026	2,048,028	1,626,317
2007	071	1,166	2,712	622	1,000	219,205	32,430,969	7,918,201	5,189,698
2007	073	386	739	212	307	55,656	11,850,783	1,820,053	2,077,400
2007	075	647	1,260	108	136	137,465	14,954,473	2,226,971	726,872
2007	077	683	1,216	348	507	99,335	26,489,682	3,824,876	3,639,984
2007	079	557	1,084	119	148	79,399	9,946,628	1,830,076	591,446
2007	081	380	641	212	284	46,523	10,477,558	1,694,604	2,057,033
2007	083	446	1,021	96	188	76,364	7,793,393	1,230,605	539,522
2007	085	89	182	17	26	20,055	1,564,949	386,882	76,876
2007	087	208	411	52	72	47,245	4,165,802	709,205	414,430
2007	089	383	926	52	81	79,895	7,856,706	1,378,030	282,792
2007	091	562	1,201	125	173	106,466	25,164,623	4,806,671	1,667,462
2007	093	893	1,989	343	543	188,053	32,544,281	5,659,007	2,838,912
2007	095	938	2,011	321	502	179,191	22,043,578	4,417,665	3,079,775
2007	097	587	1,240	92	109	117,747	29,919,364	4,822,431	898,284
2007	099	1,041	2,169	364	551	169,321	28,044,974	5,052,965	3,473,529
2007	101	1,385	2,758	364	562	246,411	26,977,791	3,790,718	2,445,568
2007	103	774	1,615	156	188	136,107	19,239,164	3,319,784	753,821
2007	105	1,024	3,109	225	421	272,491	23,051,183	3,896,072	1,601,855
2008	001	262	640	141	304	75,414	13,049,839	3,287,622	3,830,880
2008	003	592	1,187	316	562	115,125	36,447,692	6,585,385	4,558,349
2008	005	877	1,981	416	690	161,308	36,598,332	8,036,367	6,149,536
2008	007	98	170	94	164	19,441	3,479,316	806,132	2,883,007
2008	009	909	1,964	333	548	194,065	44,571,732	8,274,574	5,019,001
2008	011	206	504	139	328	57,141	9,582,047	2,117,843	3,464,663
2008	013	557	1,251	144	212	111,606	22,588,954	4,102,665	1,714,344
2008	015	513	1,122	205	367	101,606	20,444,051	4,436,786	3,786,439
2008	017	780	1,406	274	379	173,306	64,090,366	10,265,070	4,316,154
2008	019	914	2,022	348	528	204,240	58,534,617	12,145,337	6,177,831
2008	021	425	928	251	461	88,647	28,930,557	5,887,069	3,998,025
2008	023	761	1,888	280	530	161,538	29,622,243	5,370,851	2,827,855
2008	025	283	689	238	555	69,166	12,625,770	2,757,553	7,382,088
2008	027	329	604	128	195	50,664	10,576,528	2,094,328	1,526,974
2008	029	657	1,359	217	370	125,232	29,954,134	7,927,165	4,788,238
2008	031	247	442	90	132	60,888	15,436,031	2,872,980	1,483,800
2008	033	173	415	140	296	41,269	6,842,784	1,533,949	2,524,450
2008	035	1,072	2,387	328	520	203,732	59,366,053	11,148,428	4,582,005
2008	037	443	989	208	364	80,821	12,128,458	3,126,094	2,523,094
2008	039	395	799	206	383	76,975	20,072,996	4,039,770	2,989,599
2008	041	356	794	280	558	101,905	23,125,483	4,803,272	8,552,734
2008	043	367	748	190	325	61,657	12,073,003	2,882,608	2,925,839
2008	045	486	949	303	545	91,902	31,865,531	5,980,189	4,912,336
2008	047	336	679	167	334	60,052	13,812,668	3,328,935	3,805,603

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using T-yield									
2008	049	721	1,445	212	335	112,874	24,276,038	4,135,622	2,342,531
2008	051	457	990	216	409	90,233	21,629,487	5,382,306	4,259,039
2008	053	415	1,305	353	1,048	110,521	18,659,870	3,715,061	10,071,574
2008	055	1,007	2,238	520	1,045	185,655	39,728,823	6,178,738	10,508,211
2008	057	267	684	221	500	60,848	11,348,181	2,241,706	4,919,665
2008	059	603	1,202	323	591	85,932	14,933,633	3,725,427	5,563,633
2008	061	758	1,810	390	796	156,798	30,184,826	5,313,339	6,598,354
2008	063	682	1,473	363	698	102,903	24,501,558	5,783,286	4,736,151
2008	065	239	541	178	380	39,075	7,900,132	1,546,119	3,048,164
2008	067	595	1,600	188	371	149,190	43,840,684	8,507,770	4,761,582
2008	069	637	1,287	303	460	83,828	18,368,800	3,623,528	2,853,374
2008	071	1,015	2,414	568	1,053	195,787	46,512,277	11,440,393	9,551,631
2008	073	391	735	215	366	57,362	19,771,479	3,306,911	2,676,499
2008	075	524	1,006	107	170	109,766	24,599,305	4,030,083	1,776,583
2008	077	678	1,230	286	452	99,463	38,352,208	5,880,993	3,884,399
2008	079	558	1,092	195	318	85,515	21,048,089	4,233,449	2,784,198
2008	081	360	672	243	434	48,459	17,478,673	3,089,453	3,282,630
2008	083	403	902	159	258	71,558	13,806,350	2,399,623	1,276,284
2008	085	109	229	47	76	25,440	4,160,121	1,099,239	969,825
2008	087	189	374	167	333	46,084	8,681,229	1,728,963	5,302,301
2008	089	344	775	321	719	76,020	15,178,291	3,049,076	11,272,579
2008	091	510	1,012	189	361	89,857	30,453,706	5,895,357	3,868,156
2008	093	733	1,606	368	722	155,598	43,354,432	7,992,736	6,993,924
2008	095	833	1,737	209	292	154,071	37,448,427	7,928,663	2,730,344
2008	097	540	1,116	184	325	104,873	37,252,594	6,228,667	2,880,920
2008	099	957	2,007	333	476	161,277	45,700,560	8,809,355	4,442,672
2008	101	1,102	2,179	257	370	198,953	45,349,938	7,149,889	2,538,729
2008	103	608	1,246	202	300	109,442	24,887,911	4,891,196	2,434,596
2008	105	858	2,690	504	1,286	239,362	42,801,508	8,114,790	10,043,347
2009	001	245	508	41	54	70,691	7,507,534	1,764,590	475,933
2009	003	562	960	235	342	95,568	20,087,333	3,626,264	1,718,383
2009	005	855	1,630	479	676	148,143	23,446,520	5,425,172	4,871,052
2009	007	118	197	5	11	22,505	2,517,542	520,506	26,808
2009	009	931	1,711	327	430	181,576	28,762,385	4,843,015	1,488,224
2009	011	196	490	22	24	57,711	6,353,979	1,240,809	118,045
2009	013	560	1,093	71	88	102,643	15,050,663	2,185,740	376,999
2009	015	491	937	86	110	93,033	12,424,497	2,541,872	540,087
2009	017	686	1,090	119	139	153,961	39,433,445	6,775,395	1,755,178
2009	019	886	1,850	503	822	188,422	34,473,201	7,006,725	9,717,689
2009	021	421	836	181	260	82,627	19,443,102	4,485,001	2,222,273
2009	023	678	1,728	79	113	153,037	23,077,580	3,559,079	427,477
2009	025	309	635	12	19	67,991	8,077,922	1,609,339	158,823
2009	027	332	591	159	222	48,539	7,197,373	1,529,978	1,249,097
2009	029	678	1,081	86	97	137,461	22,590,403	5,609,284	429,875
2009	031	226	355	128	169	40,784	7,229,418	1,425,921	930,326
2009	033	158	366	15	17	40,232	5,347,603	1,059,807	98,215
2009	035	986	2,162	243	380	182,669	38,763,053	6,986,037	3,809,552
2009	037	417	792	23	32	76,326	7,962,950	1,838,430	117,986

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Units Using T-yield									
2009	039	375	658	127	165	64,793	11,639,538	2,181,024	796,702
2009	041	359	702	6	6	102,013	14,434,923	2,686,370	23,877
2009	043	388	689	72	108	57,908	7,905,568	1,876,085	410,011
2009	045	478	790	195	264	81,982	19,742,123	4,045,649	1,886,543
2009	047	321	570	43	59	72,864	11,737,475	2,873,639	258,680
2009	049	811	1,443	361	461	113,897	15,593,651	2,539,747	1,917,094
2009	051	414	777	78	101	93,231	15,199,746	3,685,156	494,842
2009	053	387	1,012	60	99	97,680	12,053,737	2,052,045	578,936
2009	055	1,050	2,348	154	205	198,261	29,849,709	4,199,819	813,025
2009	057	288	688	23	46	65,737	8,259,399	1,422,754	227,220
2009	059	605	1,110	13	18	86,194	10,100,031	2,421,391	48,978
2009	061	669	1,576	63	73	147,660	20,847,703	3,051,282	445,029
2009	063	649	1,320	356	557	94,494	15,735,897	3,603,863	3,139,540
2009	065	228	447	13	17	37,517	5,053,553	952,547	50,418
2009	067	569	1,304	255	374	126,845	27,582,513	4,920,369	3,951,012
2009	069	684	1,259	292	400	85,718	13,121,267	2,554,287	1,615,605
2009	071	1,009	1,967	610	884	173,277	28,757,290	8,401,766	8,244,321
2009	073	368	612	197	248	54,821	13,126,636	2,198,573	1,785,679
2009	075	527	852	181	243	87,825	13,664,648	1,916,959	789,910
2009	077	690	1,130	238	297	104,035	28,852,626	4,582,096	2,869,478
2009	079	511	907	179	250	72,636	11,213,823	2,146,327	1,198,751
2009	081	347	562	171	223	42,439	10,770,847	2,075,478	1,732,582
2009	083	414	815	101	127	69,364	9,760,333	1,610,395	424,820
2009	085	88	181	10	10	25,203	2,576,132	647,334	182,094
2009	087	184	286	13	14	46,378	5,754,891	1,052,598	125,179
2009	089	417	714	8	11	78,765	9,562,792	1,815,012	42,561
2009	091	491	846	128	163	84,919	20,010,572	4,296,273	2,616,986
2009	093	681	1,248	273	364	141,597	26,948,264	4,719,559	2,293,912
2009	095	826	1,547	373	525	141,293	22,689,232	4,756,785	3,438,716
2009	097	503	832	97	140	91,047	23,634,211	4,326,651	3,348,811
2009	099	909	1,753	425	605	139,980	28,487,259	5,237,120	5,257,970
2009	101	1,101	1,988	334	456	182,347	28,070,599	3,789,048	2,602,171
2009	103	587	1,053	227	256	98,359	16,192,098	3,004,719	1,345,659
2009	105	782	2,363	70	125	233,142	32,536,865	5,388,234	731,752
Unclassified Units									
2007	001	162	608	43	102	84,296	8,050,830	1,730,434	880,570
2007	003	728	2,357	366	707	270,875	51,794,306	8,095,857	4,469,565
2007	005	586	1,754	238	366	175,314	23,460,411	4,683,544	1,867,302
2007	007	47	115	18	37	12,031	1,050,616	213,882	108,532
2007	009	724	2,075	69	93	238,125	27,859,157	4,416,321	336,277
2007	011	167	620	46	83	78,345	7,366,775	1,374,975	511,104
2007	013	350	1,105	82	141	114,036	12,843,138	2,197,896	829,226
2007	015	306	850	77	120	91,487	10,562,537	1,898,284	586,076
2007	017	777	2,717	466	1,106	346,764	77,471,643	10,194,245	13,238,143
2007	019	845	3,217	422	940	351,975	53,406,298	10,136,369	10,209,839
2007	021	413	1,524	248	561	167,194	41,896,114	8,300,587	6,551,940
2007	023	393	1,450	113	223	140,442	14,613,236	2,351,642	686,388
2007	025	219	740	79	215	95,701	9,966,018	1,573,215	1,199,431

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Unclassified Units									
2007	027	250	609	61	80	64,078	7,678,862	1,259,297	372,048
2007	029	514	1,288	68	110	127,986	15,275,014	3,392,611	449,423
2007	031	324	809	112	177	107,568	15,077,591	2,380,645	895,869
2007	033	90	261	21	35	29,783	3,092,020	637,245	115,185
2007	035	826	2,531	109	148	225,796	38,345,064	6,580,762	793,064
2007	037	322	1,013	91	191	102,327	9,174,088	2,064,794	1,041,427
2007	039	343	827	103	157	80,174	12,455,026	2,038,156	554,441
2007	041	268	1,378	51	88	194,693	24,398,666	4,043,092	479,691
2007	043	233	480	61	94	41,308	4,754,698	917,115	315,964
2007	045	605	1,888	369	816	212,891	47,907,412	8,614,594	7,519,730
2007	047	259	567	81	128	57,104	6,831,302	1,309,246	762,940
2007	049	527	1,392	128	200	129,991	15,545,693	2,358,087	732,710
2007	051	369	981	112	172	98,100	11,984,884	2,561,848	1,036,731
2007	053	252	1,025	97	300	100,962	9,757,692	1,610,312	1,310,890
2007	055	754	2,561	234	474	241,834	29,390,216	3,801,449	2,571,342
2007	057	133	353	33	60	39,019	4,405,226	688,933	453,560
2007	059	486	1,706	114	225	143,119	14,443,277	3,120,430	1,145,426
2007	061	437	1,420	125	233	139,537	15,352,751	2,404,696	836,335
2007	063	499	1,480	229	424	140,412	19,596,890	3,929,847	1,884,743
2007	065	150	497	46	94	44,099	5,426,101	907,362	414,975
2007	067	521	1,941	177	289	197,204	34,760,027	5,826,100	2,044,394
2007	069	604	1,620	252	416	130,051	15,717,491	2,709,816	1,703,386
2007	071	771	2,365	420	791	235,938	33,054,954	7,454,199	4,743,764
2007	073	368	1,103	210	402	115,213	26,097,005	3,841,593	3,996,614
2007	075	460	1,179	75	111	135,221	16,153,271	2,375,436	723,581
2007	077	710	2,683	477	1,106	273,668	71,470,638	9,861,114	6,794,970
2007	079	390	1,026	83	123	87,340	11,234,109	2,066,377	459,586
2007	081	457	1,822	328	912	161,288	37,687,390	5,831,185	6,279,724
2007	083	320	948	60	93	85,601	9,423,660	1,367,196	297,067
2007	085	65	198	17	39	22,301	2,193,305	494,345	240,490
2007	087	135	583	39	120	95,280	10,045,085	1,593,192	1,036,379
2007	089	293	1,184	46	87	128,190	14,149,875	2,407,474	404,914
2007	091	498	1,576	119	177	151,084	31,034,488	4,992,506	2,052,749
2007	093	813	2,630	418	869	309,841	54,816,042	8,884,438	6,826,662
2007	095	598	1,752	227	360	168,430	22,578,565	4,475,097	2,297,789
2007	097	532	1,766	112	161	184,720	44,463,849	6,830,150	1,106,466
2007	099	657	2,152	210	351	195,395	33,591,431	5,820,444	2,168,827
2007	101	881	2,656	261	481	267,716	33,344,004	4,860,430	2,502,396
2007	103	615	1,863	134	175	195,257	28,290,968	4,750,011	1,134,931
2007	105	455	1,843	91	154	197,068	20,503,291	3,402,703	570,222
2008	001	157	610	114	370	88,234	17,296,136	4,356,498	6,195,637
2008	003	653	2,211	373	1,099	261,169	86,174,436	14,452,419	11,095,023
2008	005	611	1,751	257	427	171,267	42,544,389	9,308,720	5,006,861
2008	007	49	113	49	113	12,679	2,322,193	557,624	2,008,908
2008	009	716	2,008	228	443	242,495	56,740,035	10,345,872	4,110,026
2008	011	160	633	120	469	84,824	17,070,124	3,753,191	6,924,363
2008	013	335	1,213	102	209	131,663	30,668,676	5,756,859	1,703,455
2008	015	325	943	131	262	97,572	22,269,359	4,488,481	2,023,889

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Unclassified Units									
2008	017	762	2,684	310	918	345,087	128,319,977	19,747,701	8,786,253
2008	019	843	3,177	316	555	349,308	107,049,466	22,553,145	6,848,828
2008	021	439	1,586	299	864	187,222	72,096,845	14,794,737	10,154,455
2008	023	370	1,491	156	403	149,455	32,875,913	6,187,918	2,662,652
2008	025	205	702	186	648	96,663	20,820,632	4,072,174	15,201,670
2008	027	253	619	72	90	65,803	14,598,785	2,726,074	793,525
2008	029	525	1,325	157	314	139,964	33,800,222	8,089,084	3,072,411
2008	031	310	760	136	244	107,711	27,999,385	4,936,313	2,878,838
2008	033	87	274	73	200	36,978	8,696,501	1,944,820	3,256,199
2008	035	849	2,625	229	425	240,931	74,846,300	14,019,252	2,969,381
2008	037	320	1,059	168	436	107,174	19,683,752	4,874,458	4,654,931
2008	039	306	820	139	328	83,580	23,683,188	4,295,975	3,044,201
2008	041	274	1,346	237	1,072	195,805	51,613,446	10,030,473	21,664,677
2008	043	253	550	100	163	51,226	11,489,383	2,451,248	1,430,365
2008	045	611	1,998	392	1,164	227,371	83,300,595	15,472,779	13,382,691
2008	047	268	604	123	234	66,156	16,007,243	3,602,791	2,912,785
2008	049	582	1,590	173	277	149,899	35,906,012	6,249,122	2,211,594
2008	051	335	975	155	321	101,782	24,545,251	5,496,390	3,187,311
2008	053	253	1,112	224	951	113,313	23,318,079	4,659,157	14,200,652
2008	055	768	2,655	487	1,390	257,440	64,636,994	10,066,392	16,508,495
2008	057	132	351	109	265	36,772	8,073,069	1,530,491	4,141,032
2008	059	507	1,679	285	889	150,310	30,509,158	7,361,014	11,827,452
2008	061	491	1,587	292	838	168,438	38,443,557	7,129,228	8,531,462
2008	063	524	1,540	290	548	145,709	39,219,788	8,824,991	4,500,214
2008	065	149	519	109	373	48,311	11,977,550	2,315,648	4,125,053
2008	067	518	1,897	150	257	204,554	69,350,206	12,259,202	4,620,686
2008	069	552	1,528	235	405	124,137	29,979,645	5,608,553	2,757,375
2008	071	788	2,401	419	772	239,894	61,645,393	15,124,162	7,881,176
2008	073	397	1,139	225	537	126,438	48,635,823	8,018,548	4,488,350
2008	075	481	1,246	94	142	160,322	38,792,828	6,632,969	1,323,040
2008	077	691	2,633	335	786	272,496	109,270,416	16,490,895	8,015,353
2008	079	382	1,043	138	234	96,281	24,477,308	4,950,523	1,803,812
2008	081	454	1,775	342	1,146	162,400	61,728,484	10,493,433	9,795,519
2008	083	330	958	129	209	90,355	20,662,219	3,493,877	1,658,406
2008	085	52	169	20	35	20,551	4,079,471	978,852	381,061
2008	087	118	526	109	492	91,607	20,856,250	3,845,743	13,508,555
2008	089	288	1,253	270	1,205	144,924	34,503,866	6,852,327	25,530,701
2008	091	481	1,557	205	521	160,876	53,790,510	9,571,534	5,202,693
2008	093	801	2,761	459	1,344	334,176	105,887,211	19,143,636	17,472,665
2008	095	605	1,791	130	189	182,357	49,915,275	10,714,648	2,205,796
2008	097	547	1,746	208	494	181,927	67,284,278	10,830,969	4,316,248
2008	099	636	2,174	162	260	199,578	66,411,262	12,450,523	2,464,000
2008	101	878	2,801	267	462	291,144	78,091,284	13,477,929	3,491,395
2008	103	609	1,842	187	292	210,497	56,330,163	10,601,172	3,488,741
2008	105	451	1,868	323	1,053	236,126	50,721,727	10,126,865	11,799,268
2009	001	160	548	36	81	88,754	10,236,399	2,194,179	1,196,747
2009	003	680	1,926	368	600	293,697	67,889,063	11,734,585	4,776,023
2009	005	626	1,501	350	565	172,984	28,785,776	6,150,525	4,706,386

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
Unclassified Units									
2009	007	56	102	0	0	14,050	1,502,035	344,522	0
2009	009	724	1,659	290	433	261,510	40,194,165	6,027,614	1,818,645
2009	011	153	504	20	27	78,996	9,754,754	1,872,738	160,682
2009	013	350	1,095	62	88	131,240	20,579,620	2,994,161	362,307
2009	015	327	871	49	65	104,781	15,152,135	2,795,620	342,792
2009	017	715	2,287	163	232	370,006	93,594,907	14,844,133	3,856,772
2009	019	803	3,016	472	1,101	356,067	68,527,721	13,709,860	13,394,451
2009	021	440	1,211	253	423	185,610	51,740,829	11,382,977	10,159,978
2009	023	362	1,412	37	56	148,759	22,883,574	3,321,301	247,451
2009	025	212	638	8	9	102,930	12,919,431	2,306,297	99,560
2009	027	270	643	123	209	66,863	10,585,944	1,992,301	1,096,959
2009	029	559	1,039	75	90	157,835	24,232,467	5,319,481	407,654
2009	031	337	780	193	339	116,372	20,744,197	3,420,077	2,144,429
2009	033	85	247	8	11	32,740	4,386,954	955,480	36,697
2009	035	836	2,484	218	328	254,589	55,735,678	9,152,634	3,220,572
2009	037	307	907	14	19	109,070	11,921,619	2,732,711	55,978
2009	039	325	712	117	161	92,473	17,807,417	2,847,297	766,497
2009	041	281	1,231	9	15	184,493	28,373,943	4,541,359	79,057
2009	043	261	472	55	64	53,010	8,111,430	1,588,704	273,670
2009	045	616	1,700	333	545	222,214	55,797,225	10,845,129	5,541,918
2009	047	279	534	40	47	64,411	9,859,008	2,097,709	233,934
2009	049	613	1,373	322	494	153,940	23,643,011	3,741,402	2,518,057
2009	051	324	822	65	100	106,128	17,115,842	3,634,951	428,159
2009	053	245	940	32	52	123,226	15,641,523	2,716,315	164,330
2009	055	775	2,685	126	166	280,070	45,178,309	5,851,704	466,694
2009	057	148	355	12	14	39,563	5,220,795	908,640	131,109
2009	059	511	1,545	10	13	150,345	18,544,592	4,166,649	75,738
2009	061	454	1,433	51	62	166,980	25,548,658	3,628,196	207,365
2009	063	495	1,513	257	501	156,303	27,331,932	5,240,951	2,610,396
2009	065	153	400	13	13	45,322	6,407,377	1,103,244	26,520
2009	067	530	1,937	254	479	212,334	48,921,759	7,197,852	4,684,318
2009	069	614	1,481	303	473	134,310	20,872,517	3,817,387	2,078,443
2009	071	767	2,001	482	826	243,387	42,979,460	11,044,616	10,377,527
2009	073	392	938	244	350	123,461	32,447,688	5,397,685	4,324,634
2009	075	500	1,077	201	305	167,201	26,752,191	3,650,538	1,149,393
2009	077	734	2,224	336	553	290,105	83,478,661	12,827,551	6,662,248
2009	079	380	960	139	200	95,063	16,156,383	3,024,380	829,053
2009	081	459	1,449	291	586	167,644	45,241,754	8,357,515	5,515,339
2009	083	337	944	122	171	96,376	14,539,303	2,083,040	718,605
2009	085	47	162	5	6	19,927	2,669,101	679,861	25,992
2009	087	120	475	4	5	92,849	12,374,173	2,034,105	13,040
2009	089	297	935	12	20	151,096	20,821,190	3,732,090	67,624
2009	091	458	1,422	149	221	169,479	40,244,934	7,285,363	2,127,440
2009	093	841	2,354	437	701	358,530	75,246,463	12,755,263	5,957,561
2009	095	566	1,734	266	496	183,374	31,963,345	6,006,359	2,942,490
2009	097	533	1,390	113	157	182,632	48,291,023	7,911,400	4,953,367
2009	099	706	2,104	312	513	211,001	47,759,599	7,343,847	4,268,223
2009	101	940	2,744	364	573	311,735	51,775,499	7,217,892	3,689,513
2009	103	620	1,592	272	389	221,866	41,138,857	6,620,229	2,234,591
2009	105	433	1,761	27	48	238,282	34,086,353	5,459,282	293,590



Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
All Actuals									
2007	001	117	341	42	95	32,798	2,967,649	633,653	281,993
2007	003	714	1,722	360	583	150,009	24,813,352	3,491,939	2,930,004
2007	005	270	630	110	165	49,927	6,176,178	1,356,745	570,383
2007	007	42	79	12	24	7,705	714,251	128,655	53,894
2007	009	553	1,041	50	61	79,014	8,852,832	1,401,712	152,351
2007	011	93	180	30	48	14,522	1,313,942	236,126	167,787
2007	013	275	554	60	90	36,456	3,785,063	662,794	245,623
2007	015	163	321	28	45	27,503	2,532,838	512,303	141,579
2007	017	965	2,480	495	906	288,141	57,151,528	6,779,658	8,995,149
2007	019	542	1,604	252	437	165,442	23,283,617	4,542,173	3,270,303
2007	021	359	750	239	373	82,334	20,107,213	3,864,073	4,111,768
2007	023	397	1,078	95	165	74,978	7,438,390	1,092,803	389,736
2007	025	170	419	67	132	41,851	3,758,935	610,256	422,005
2007	027	131	241	22	30	20,706	2,524,823	465,467	149,573
2007	029	336	721	48	69	63,618	6,964,325	1,413,309	178,271
2007	031	204	435	67	103	44,568	5,673,777	929,185	386,025
2007	033	75	176	19	32	16,631	1,622,781	317,752	104,363
2007	035	449	1,113	50	62	85,092	14,041,606	2,351,692	245,220
2007	037	232	483	60	103	42,432	3,489,640	785,039	379,736
2007	039	291	596	93	124	47,349	7,039,713	1,190,919	384,832
2007	041	162	471	25	32	56,891	6,762,360	1,033,622	100,142
2007	043	151	279	51	77	22,645	2,548,210	492,545	188,417
2007	045	545	1,276	330	530	115,650	24,475,906	4,214,560	3,479,818
2007	047	139	234	54	72	20,732	2,232,438	448,205	201,143
2007	049	489	988	101	153	62,956	6,796,767	1,048,457	358,443
2007	051	138	273	39	56	23,465	2,374,562	452,919	205,570
2007	053	123	299	48	100	21,225	2,117,384	330,764	268,640
2007	055	582	1,380	132	226	107,081	11,948,442	1,499,435	802,487
2007	057	87	201	27	58	12,935	1,232,924	193,880	132,128
2007	059	260	612	36	50	52,238	4,919,198	1,045,122	151,088
2007	061	364	730	61	98	55,368	5,724,581	883,401	279,395
2007	063	256	557	97	149	44,516	6,194,948	1,233,559	631,873
2007	065	90	225	27	56	20,715	2,319,487	422,861	294,066
2007	067	230	547	63	76	49,227	8,270,339	1,321,587	332,003
2007	069	345	746	118	190	49,593	5,625,264	950,159	545,442
2007	071	349	795	176	267	81,311	10,632,334	2,462,247	1,285,090
2007	073	400	827	249	369	80,303	19,011,378	2,953,073	3,054,385
2007	075	285	531	30	48	43,713	4,831,650	666,650	187,056
2007	077	860	2,371	529	1,004	220,366	50,628,558	6,320,083	5,245,189
2007	079	259	545	58	89	38,171	4,388,342	858,411	318,219
2007	081	497	1,171	367	617	104,650	22,286,089	3,461,950	4,728,177
2007	083	197	368	34	57	27,134	2,880,479	431,863	139,486
2007	085	51	108	13	21	11,706	823,331	232,098	84,869
2007	087	123	292	36	63	30,111	2,818,832	452,768	264,790
2007	089	229	577	38	76	63,511	6,172,862	1,085,191	237,894
2007	091	471	1,059	84	137	75,993	14,354,717	2,107,120	1,135,557
2007	093	483	990	210	313	91,616	14,084,037	2,345,985	1,814,518

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
All Actuals									
2007	095	406	1,046	143	228	92,804	11,473,790	2,375,208	1,606,475
2007	097	485	1,158	74	122	113,511	23,621,694	3,258,278	626,873
2007	099	291	738	85	134	57,503	8,889,615	1,634,131	638,811
2007	101	617	1,254	125	193	94,399	10,590,005	1,537,538	570,420
2007	103	353	856	70	111	79,090	10,533,469	1,864,767	342,599
2007	105	403	1,108	71	125	85,179	8,845,605	1,296,879	351,719
2008	001	103	326	68	168	38,453	7,422,565	1,770,794	2,217,268
2008	003	705	1,733	327	759	161,123	50,988,592	8,130,663	5,707,165
2008	005	269	636	105	163	54,071	13,230,350	3,030,606	1,225,865
2008	007	44	87	44	85	9,129	1,674,262	390,621	1,391,041
2008	009	533	1,038	143	233	85,841	19,529,873	3,436,942	1,381,920
2008	011	92	176	62	103	15,472	2,723,193	600,641	877,383
2008	013	284	579	57	92	41,964	9,153,393	1,652,003	377,988
2008	015	163	316	41	64	29,862	5,872,291	1,273,267	822,298
2008	017	998	2,472	420	923	293,074	99,046,116	13,929,602	8,205,317
2008	019	518	1,542	163	276	170,024	49,865,757	10,748,016	2,500,007
2008	021	347	716	220	393	74,816	28,766,633	5,684,738	4,140,241
2008	023	367	1,001	130	246	78,916	16,878,731	2,817,963	932,124
2008	025	154	419	143	394	47,068	9,128,835	1,787,223	6,399,919
2008	027	124	249	22	35	19,243	4,379,868	864,174	278,419
2008	029	323	684	115	222	66,394	15,415,224	3,579,501	2,323,596
2008	031	203	414	71	105	43,263	11,000,669	2,064,725	925,718
2008	033	62	142	44	75	13,638	2,730,136	588,014	887,362
2008	035	430	1,095	100	158	82,337	25,101,484	4,654,173	1,073,486
2008	037	242	478	132	213	43,653	7,507,706	1,906,941	1,690,230
2008	039	257	551	89	160	40,403	11,600,291	2,169,273	961,536
2008	041	165	493	143	412	66,026	17,014,000	3,082,184	7,795,579
2008	043	137	236	53	69	20,170	4,520,582	914,737	360,781
2008	045	501	1,245	298	687	119,798	42,726,559	7,686,630	7,083,520
2008	047	135	233	53	70	21,668	5,096,744	1,134,299	973,105
2008	049	469	951	78	110	65,368	14,938,966	2,680,818	950,193
2008	051	140	270	42	61	22,636	4,879,983	1,019,755	469,047
2008	053	137	340	103	242	26,779	5,794,310	1,029,882	2,758,649
2008	055	555	1,336	273	622	108,290	26,053,709	3,780,626	6,008,384
2008	057	76	155	60	114	12,692	2,784,823	510,598	1,459,529
2008	059	261	669	129	302	56,201	10,726,364	2,581,679	3,500,680
2008	061	324	713	192	373	57,850	12,680,183	2,217,520	2,630,361
2008	063	247	554	82	120	47,070	12,586,883	2,771,199	601,998
2008	065	92	216	71	151	22,112	4,870,718	1,057,206	1,815,115
2008	067	225	642	45	58	56,739	18,942,071	3,384,132	814,084
2008	069	334	756	107	170	52,941	12,578,881	2,369,984	887,579
2008	071	343	788	151	240	79,888	18,783,370	4,823,809	2,406,902
2008	073	384	809	198	344	77,702	29,202,906	4,844,855	2,401,502
2008	075	303	587	37	48	57,716	13,420,424	2,178,531	311,062
2008	077	877	2,606	429	946	236,863	87,169,253	12,144,770	7,561,141
2008	079	280	577	53	78	41,461	10,230,098	2,063,768	475,566
2008	081	490	1,245	343	799	111,692	39,728,205	6,616,033	6,532,181
2008	083	185	360	48	68	26,543	6,019,080	1,068,203	361,391

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
All Actuals									
2008	085	56	128	18	32	12,320	2,140,061	543,824	395,790
2008	087	124	275	111	245	31,983	6,754,573	1,163,797	4,222,969
2008	089	214	563	211	547	64,280	13,490,803	2,831,153	10,023,507
2008	091	474	1,131	166	319	83,967	27,142,814	4,483,188	2,260,885
2008	093	451	968	177	322	95,106	27,805,019	5,101,349	3,617,506
2008	095	390	966	69	92	91,164	23,714,097	5,217,129	1,020,101
2008	097	499	1,214	200	374	125,091	43,614,282	6,645,784	2,872,857
2008	099	294	768	62	74	61,815	19,709,062	4,001,563	565,505
2008	101	632	1,311	115	196	107,976	26,246,972	4,324,959	773,985
2008	103	323	790	71	122	74,840	19,032,570	3,828,044	941,578
2008	105	386	1,105	240	512	94,642	20,810,908	3,615,842	3,746,477
2009	001	99	286	24	38	37,310	3,904,327	896,471	433,895
2009	003	729	1,609	352	524	171,380	34,776,544	5,409,284	2,212,488
2009	005	266	545	172	248	55,821	8,563,483	1,830,690	1,149,974
2009	007	38	61	0	0	7,983	830,721	203,622	0
2009	009	524	885	143	169	87,440	13,141,485	2,002,458	430,768
2009	011	83	135	5	6	16,088	1,892,377	353,020	8,389
2009	013	255	483	24	29	39,999	6,392,936	912,793	138,328
2009	015	164	290	26	28	30,987	4,189,615	759,530	87,116
2009	017	888	2,017	184	231	288,459	66,272,902	9,614,135	2,260,376
2009	019	473	1,277	266	496	158,943	28,219,099	5,706,012	5,114,126
2009	021	356	589	214	272	86,519	23,053,835	4,921,877	4,652,245
2009	023	367	1,023	35	48	83,200	13,506,726	1,864,765	121,538
2009	025	147	337	12	14	46,523	5,037,846	960,807	95,283
2009	027	124	216	64	85	16,844	2,664,977	579,279	366,039
2009	029	264	421	20	22	51,902	7,558,494	1,591,241	111,199
2009	031	212	387	107	141	44,828	7,128,983	1,177,592	675,694
2009	033	50	141	5	7	18,228	3,010,682	568,154	67,316
2009	035	424	1,031	95	114	85,804	17,406,484	2,724,300	728,123
2009	037	212	380	17	23	40,344	4,007,891	991,882	74,460
2009	039	285	556	90	124	47,872	8,766,817	1,549,672	394,444
2009	041	168	525	7	8	73,807	10,896,203	1,727,981	20,289
2009	043	136	223	30	34	22,122	3,354,807	650,429	149,751
2009	045	550	1,146	293	420	130,535	31,314,918	5,669,676	3,020,737
2009	047	128	181	17	19	18,918	2,964,867	634,559	90,532
2009	049	474	854	191	240	62,760	8,915,310	1,466,180	879,372
2009	051	149	278	22	24	26,635	3,827,806	766,147	107,989
2009	053	123	291	13	26	24,360	3,675,473	575,729	61,019
2009	055	487	1,064	72	95	90,494	14,961,984	1,882,259	331,603
2009	057	66	119	4	4	9,642	1,332,550	226,254	5,283
2009	059	254	531	7	7	50,752	5,854,590	1,300,740	19,071
2009	061	317	649	28	34	54,528	8,546,748	1,114,049	64,249
2009	063	263	514	111	162	42,855	7,549,264	1,454,520	586,903
2009	065	106	211	6	7	24,507	3,313,950	616,722	35,452
2009	067	215	557	93	157	54,381	11,995,063	1,677,782	1,312,597
2009	069	327	685	159	224	49,910	7,315,244	1,348,699	644,497
2009	071	335	684	187	263	80,394	12,419,187	3,134,024	3,092,154
2009	073	399	700	227	296	82,688	21,497,590	3,889,166	4,573,175

Crop Year	County FIPS	Policies Earning Premium	Units Earning Premium	Policies Indemnified	Units Indemnified	Net Insured Acres	Liability	Total Premium	Indemnity
All Actuals									
2009	075	311	520	105	128	58,009	9,566,573	1,199,052	322,695
2009	077	845	2,075	301	404	225,441	56,921,386	7,681,094	3,028,775
2009	079	252	489	78	122	40,148	6,320,436	1,258,961	784,721
2009	081	504	1,092	285	392	114,724	27,849,994	4,974,656	3,740,977
2009	083	178	320	53	65	25,215	3,546,003	573,323	310,577
2009	085	55	102	9	14	11,608	1,111,175	289,430	42,293
2009	087	120	244	1	1	36,479	4,622,391	767,662	11,135
2009	089	216	502	3	3	67,290	8,138,205	1,665,124	18,135
2009	091	480	984	129	173	82,874	18,078,956	3,007,630	875,356
2009	093	487	907	212	267	102,687	19,498,909	3,149,962	1,390,162
2009	095	377	852	157	228	88,305	14,468,633	2,831,182	1,007,632
2009	097	459	931	77	95	128,737	31,456,439	4,845,546	2,859,783
2009	099	284	676	116	164	59,479	12,510,638	1,908,842	788,459
2009	101	649	1,239	165	219	118,537	19,747,357	2,472,167	711,771
2009	103	318	657	134	173	76,592	13,601,882	2,320,826	899,148
2009	105	381	1,105	24	41	114,152	19,608,505	2,754,288	370,421