To: Byron Anderson, Secretary to the Board September 13, 2003 FCIC/Risk Management Agency
Room 6621, Stop 0801
South Agriculture Building

1400 Independence Avenue S.W. Washington, DC 20250-0801

From: John Pierce

Subject: Review by John Pierce Consulting Actuary of the re-filed FCIC Cost of Production Insurance Plan for Cotton, as Proposed by the RMA and AgriLogic Order #45-RMA1-3-0026 Work Order RMA-03-0002 Due September 15, 2003

Attached are the findings from our review of the RMA's and AgriLogic's proposed FCIC Cost of Production insurance plan for Cotton. The attachments are:

- 1. Summary of Review by John Pierce Consulting Actuary (2 pages)
- 2. Reviewer's Report by John Pierce Consulting Actuary (11 pages)
- 3. Exhibit 1 and Exhibit 1 Version 2 (2 pages)
- 4. Response to Supplemental Questions from the RMA (4 pages)
- 5. Response to Supplemental Questions from the Board (3 pages)
- 6. Background of John Pierce (1 page)
- 7. Background of Janice Cutler (1 page)

I have also e-mailed you a copy of these files.

Sincerely yours,

John Pierce F.C.A.S. M.A.A.A. M.B.A.

Copy: Vondie O'Conner

Summary

Our analysis of this proposed FCIC Cotton Cost of Production (COP) policy began with a review of the binder of material submitted to the RMA by AgriLogic ("the submission".) We next attended AgriLogic's 8/13/03 presentation about this COP product at the RMA offices in Kansas City. We reviewed the various Excel files provided by AgriLogic which illustrate the various steps of their COP rating model. We discussed these Excel files with Cliff Parks of AgriLogic. (We also reviewed our analysis of the previous version of this Cotton COP policy. That previous analysis had been prepared in September 2002.)

After this research, we concluded that the calculations underlying the AgriLogic model were technically correct, and in fact were often quite sophisticated. The procedure used for determining catastrophe years and the NATMOD model for predicting market prices are examples of this sophistication.

However, we have remaining questions about some portions of the model. Specifically, we have questions about:

- 1. The credibility assigned to an individual producer. We believe the AgriLogic rating procedure assigns too much credibility to individual producers. Overstating an individual producer's credibility would in turn result in overstating the credits or surcharges applied to that individual producer's rate.
- 2. The coefficient of variation (CV) factor used in the individual producer rate calculations. The CV's of individual producer yields will generally be larger than the CV of the county yields, resulting in a bias towards surcharges of individual producer rates from this CV component. We therefore believe AgriLogic's CV adjustment will result in overall COP premiums which are higher than can be justified from the COP county base rates. We believe this portion of the calculations overstates the COP rates.
- 3. The calculation of indemnity for the hypothetical producers in the model. The Harvested Acres/Planted Acres ratio in this portion of the AgriLogic calculations does not vary by producer within any given year. We believe this portion of the methodology understates the Loss Cost Ratio (LCR) and therefore the rates of the COP policy.
- 4. On the other hand, the AgriLogic model assumes that COP claims occur either at harvest, or just before harvest at a point where 85% of the covered expenses have been incurred. In fact, COP claims can occur at any point in the growing season. We believe this portion of AgriLogic's methodology overstates the LCR and therefore the rates of the COP policy.
- 5. The procedure for credibility-weighting the county LCR with the District and Region LCR's. (I have suggested some additional tests in the attached Reviewer's Report.)
- 6. We continue to recommend a comparison of county base rates for this FCIC Cotton COP product with rates from related MPCI products.

These 6 remaining questions are discussed in greater detail in Answers 2C and 2D of the attached "Reviewer's Report". In addition, we raised questions about the wording of the policy (see Answer 1B in the Reviewer's Report) and about the need for some special treatment of producers heavily impacted by the 60% T-yield adjustment (see Answer 1H in the Reviewer's Report).

AgriLogic's model for pricing the FCIC Cotton COP product is quite sophisticated. The component parts of the calculations generally are reasonable. I would recommend conditional approval of this proposed product -- after AgriLogic addresses the remaining concerns raised in my review and listed in the previous paragraphs.

1. Protection of producers' interests.

A. Does the policy provide meaningful coverage that is of use to producers, and provide it in a cost-efficient manner?

Answer 1A: We have read the FCIC Cotton Cost of Production (COP) policy and the related materials in the submission. From this reading, it appears this proposed COP policy provides coverage, which is similar to (but somewhat less extensive than) the coverage provided by the current MPCI and CRC products. It would therefore appear this proposed policy provides meaningful coverage.

The policy appears to be cost-efficient (but we are not experts in the administration of Crop Insurance policies).

B. Is the policy clearly written such that producers will be able to understand the coverage they are being offered? Does the policy language permit actuaries to form a clear understanding of the payment contingencies for which they will set rates? Is it likely that an excessive number of disputes or legal actions will rise from misunderstandings over policy language?

Answer 1B: Our firm is not expert in the wording of policies for MPCI, CRC and similar products -- products such as this Cotton COP insurance. We therefore did not review the policy wording in depth.

We would however suggest one minor change to the wording of the Cotton Crop Provisions portion of the policy. In these provisions, Expected Gross Income is defined as:

In lieu of section 1 (Definitions) of the Basic Provisions, expected gross income (per acre) is determined by multiplying the approved yield per acre by the applicable conversion factor for non-irrigated skip-row cotton patterns, and multiplying the result by the expected market price times your share.

Instead, we would suggest the following definition:

For producers using skip-row cotton patterns, in lieu of section 1 (Definitions) of the Basic provisions, expected gross income (per acre) is determined by multiplying the approved yield per acre by the applicable conversion factor for non-irrigated skip-row cotton patterns, and multiplying the result by the expected market price times your share.

This change in wording would make it clear that the definition of Expected Gross Income is changed only for farmers using skip-row farming.

Based on the policy wording and on the other material in the submission, I believe we have a clear understanding of the payment contingencies involved with this policy.

C. Is the mechanism for determining liability (i.e. the amount of coverage) clearly stated and supported by an example?

Answer 1C: Yes. The "Covered Expenses (per acre)" are defined in various portions of Sections 1 and 4 of the policy (on pages 1-5 and 7 of 17). Covered expenses at the time of a claim could be less than the original covered expenses, because a claim can occur at any point in the season -- before all the farmer's expenses are actually incurred.

An example showing a calculation of Covered Expenses is not included in the policy. However, any such calculation example – which would need to include Variable Costs, Fixed Cost Expenses, and Land Fee Expenses, and which also would need to be compared to Expected Gross Income – could be rather involved. It may not be reasonable to include such an example in the policy.

D. Is the mechanism for determining the amount of premium clearly stated and supported by an example?

Answer 1D: Yes. The mechanism for determining the premium is clearly stated on page 9 of 17 of the policy, in Section 8(d). An example is included as well.

E. Are the mechanisms for calculating indemnities clearly stated and supported by an example?

Answer 1E: Yes. Section 9 on page 3 of 3 of the Cotton Crop Provisions describes how a claim payment will be calculated. The example, however, does not illustrate how the covered expenses could vary over the term of the policy. Expanding the example to reflect this aspect of the policy might be worthwhile. (Recall that only those expenses that have actually been incurred at the time of the claim will be included as Covered Expense.)

F. In the case of price or revenue policies, are the mechanisms for establishing price clearly stated and supported by an example?

Answer 1F: Yes. The policy uses an "Expected Market Price" and a "Price per Pound".

The Expected Market Price is used in establishing a maximum liability for the policy. Insurance for more than the expected value of the crop is not allowed. The Expected Market Price is defined on page 4 of 17 of the policy and again on page 1 of 3 of the Cotton Crop Provisions, as "the higher of the applicable county FSA loan rate, the FCIC issued established, or additional price election, whichever is applicable, or a contract price if requested and approved by us ..."

The Price per Pound is defined on page 1 of 3 of the Cotton Crop Provisions as "the price per pound received for sold production ..." or in terms of price quotations "in the Daily Spot Quotations published by the USDA Agricultural Marketing Service" if no product is sold.

G. Is adequate, credible, and reliable data available for establishing expected market prices for insured commodities? Is it likely that the data will continue to be available? Is the data vulnerable to tampering if the proposed policy is approved? Is the data likely to be available when needed? Is the proposed system for publishing prices feasible?

Answer 1G: The prices are from U.S. government sources, except in the situation where a price from a contract which the farmer has made with a buyer is used. In that case, the policy (in Section 1 on page 1 of 3 of the Cotton Crop Provisions) allows for prior approval of the contract price by the insurer.

It therefore appears the various prices in the policy will be available when needed, and are not vulnerable to tampering.

H. Does the policy avoid providing coverage in excess of the expected value of the insured crop?

Answer 1H: The amount of coverage available in the actuarial documents is limited to the lesser of the Covered Expenses or the Expected Gross Income (per acre). The Expected Gross Income depends on the farmer's APH. In general, then, the proposed Cotton COP policy would not provide coverage in excess of the expected value of the insured crop.

There are exceptional situations in which the COP policy could provide coverage in excess of the expected value of the insured crop. These exceptional situations are identified by AgriLogic in Appendix T of the submission's "Cost of Production Insurance Rating Methodology White Paper". These exceptions are cases where a producer's actual average yield is extremely low and the 60% T-yield substitution increases that producer's yield dramatically. Appendix T contains an example of a producer with an average yield of 38 pounds per acre whose APH yield after the 60% T-yield substitution is 354 pounds per acre. The APH yield is in turn used to determine the allowable Covered Expenses.

In Appendix T AgriLogic suggests the following "temporary solution":

the percentage difference in the producer's actual yield from the covered portion of his APH could be used to adjust the producer's premium up to a 99% rate.

(I understand from Cliff Parks of AgriLogic that a 99% rate is a rate of 99 cents for every dollar of insurance.)

We agree that a procedure such as AgriLogic is proposing should be used for those producers whose average yield is extremely low and is increased dramatically by the 60% T-yield substitution.

I. Does the policy contain indemnity or other provisions that cannot be objectively verified by loss adjusters, underwriters, or auditors?

Answer 11: It does not appear there are provisions of the policy which cannot be verified by loss adjusters, underwriters, or auditors – but we are not experts in these disciplines.

J. Is the policy likely to treat all similarly-situated producers the same?

Answer 1J: Yes. It appears that the policy will treat similarly-situated producers the same.

K. Will insureds be able to comply with all requirements of the policy?

Answer 1K: It would appear that insureds would be able to comply with the requirements of the policy. However, we are not experts on the wording of Crop Insurance policies.

L. Does the policy create vulnerabilities to waste, fraud, or abuse?

Answer 1L: It does not appear that the policy creates vulnerabilities to waste, fraud or abuse. However, we are not experts in the wording of Crop Insurance polices.

M. Is the product likely to adversely affect the agricultural economy of the crop that is proposed for coverage, or of other crops or areas?

Answer 1M: The product may encourage producers to plant more land in Cotton. However, we are unaware if this result would adversely affect the agricultural economy of this crop or other crops.

2. Actuarial soundness.

A. Is adequate, credible, and reliable rate-making data available? Is it likely that the data will continue to be available? Is the data vulnerable to tampering if the proposed policy is approved?

Answer 2A: The rate-making data is not based on actual insurance experience. The rate calculations are based on an involved model. The model uses NASS summary data for certain counties for the 1997 year, and RMA data by producer. The data is split into producer groupings based on yield per acre. Producers are grouped into 5 groups – the lowest 20% of yields, the next lowest 20% of yields, and so forth. Mean acres per farm, yield per acre, and the standard deviation of these values is available for each of these 5 groups.

If this Cotton COP product were to be approved, policy-level detail data would be collected on this new policy. During the 8/13/03 presentation in Kansas City, the AgriLogic staff confirmed that this data from actual COP insurance experience would be used in revising the COP rates as soon as practical. The limited NASS and RMA data from which the AgriLogic model was developed would be phased out as more actual COP data became available.

B. Are the explicit and implicit assumptions used in the rating process reasonable?

Answer 2B. The model produced by AgriLogic is quite complex, and quite sophisticated

in many aspects. In general, the model appears reasonable. However, as indicated in Answer 2C below, there do not appear to be adequate tests of the overall reasonableness of certain steps in the model.

C. Are the technical analyses (e.g. stochastic and other simulations) technically correct? Do they provide credible, relevant results?

Answer 2C: We reviewed the technical analysis in AgriLogic's "Cost of Production Insurance Rating Methodology White Paper". We also reviewed the actual calculations in the Excel files provided by AgriLogic at their 8/13/03 presentation in Kansas City. The calculations appear to be technically correct, and are often quite elegant mathematically.

For example, AgriLogic's procedure in determining the catastrophic years to remove from the experience balances the reduction in variance versus the amount of loss data eliminated from the model. In the Excel file examples provided to us, this procedure leads to capping at the year equal to the 85% value for LA District 30 versus capping at the year equal to the 80% value for LA District 50. After reviewing these examples in the Excel files, we believe this customized procedure is superior to a mechanical capping approach.

AgriLogic's NATMOD model for predicting prices also appears to be quite sophisticated. This model predicts prices for individual crops based on interactions between various crops and between other economic factors.

While each step of the calculations is quite nicely done, I question whether there has been adequate review of the reasonableness of some steps in the model. Some issues which I believe should have been considered are discussed below:

Issue 1. Credibility of an Individual Producer The Excel file "COP Final LA 30 CRD 85%.xls" ["COP Final"] illustrates the individual rating portion of the COP program. This individual rating calculation begins with the county COP rate and ends up with an individual producer COP rate. This calculation includes a credibility procedure. We believe this credibility procedure assigns too much weight to an individual producer's data.

We have several reasons for our concern about this credibility procedure:

Reason 1. The procedure assumes 100% credibility for 10 years of experience, and 100% credibility for 4200 acres. The Year credibility is defined as (actual years/10) and the Acre credibility is defined as (actual acres/4200). The Year credibility factor and the Acres credibility factor are then combined using a weighting of 5/6 for Acres and 1/6 for Years. The square root of this value is the resulting credibility. In one example in "COP Final", the Year credibility of 70% and the Acres credibility of 67% combine to produce an 82% overall credibility.

In classical credibility theory, credibility would be based on the number of expected claims in the experience period. Let's assume 3 claims were to occur in the 10 year experience period. The classical credibility formula would give:

Credibility = square root of (3 divided by 1084) Credibility = square root of 0.00276 = 5.3%

Classical credibility theory gives a drastically lower credibility than the 82% in the example (and that example assumes only 7 years of experience.)

Reason 2. One could argue that crop insurance is different than the types of insurance considered by classical credibility theory. In Crop Insurance there usually can only be one claim per year, so it may be unreasonable to use the classical credibility approach. In addition, the crop insurance policy premiums are relatively large. Perhaps this large policy size should justify greater credibility.

In one of the examples in "COP Final", the annual COP premium is \$16,567 per year. Over 10 years the premium would be \$165,670. This COP premium does not include the perhaps 25% of expenses which a typical Commercial Auto, Workers Compensation or General Liability policy would include. Including 25% of expenses to make the COP premium more comparable to Commercial Auto, Workers Compensation and General Liability premiums would result in about \$220,000 of COP premiums over 10 years.

In the "COP Final" exhibit, this policy with 220,000 of premium over ten years is 82% credible. Would comparably sized Commercial Auto, Workers Compensation or General Liability policies be 82% credible? I believe the credibility of comparable commercial policies would be much less than 82%.

Reason 3. The "COP Final" procedure includes an additional credibility load for extreme results. If the producer's average profit margin is significantly different than the county average, additional loads of up to 3.0 are applied to the Acres/Years credibility. In other words, a 30% Acres/Years credibility for a COP insured could theoretically increase to a 90% credibility (30% * 3) for an individual producer with profit margin significantly different than the county average.

Actuarial credibility theory does not give any justification for additional credibility for extreme values.

Reason 4. From discussions at the 8/13/03 meeting in Kansas City, I understand that an individual producer's results are impacted by:

- a) Management practices (whether or not this producer is a good farmer)
- b) Random events (hail can hit Producer X, but miss Producer Y)

Assigning a high degree of credibility to individual farmers implies that management practices are more important in farming than are random events.

Conclusion for Issue 1. Possibly the COP Cotton program's actual experience over a number of years will support a high degree of credibility for an individual producer's data. However, the submission does not contain any such support.

<u>Issue 2. Factors Used in Individual Producer Rate Calculations</u> One of the three factors used in the individual producer rate calculation is the coefficient of variation (CV) of the producer's yield and the coefficient of variation (CV) of the county's yield. (The other two factors in the individual producer calculation are the mean of the yield, and the mean of the profit margin.) The individual producer values are compared to the county values to determine an adjustment to the county base rate.

If the producer has a higher CV, then the CV portion of his/her rate is increased. At first this approach may seem reasonable -- greater variability in yield would lead to a higher probability of a COP loss. However, consider that the variability measured by the CV is both positive and negative variability. For example, in one of the "COP Final" examples the individual producer's yields range from 473 pounds/acre to 918 pounds/acre. That producer's rate is 11.4 cents. Increasing the year with a 473 pounds/acre value to 1,000 pounds/acre increases the producer's rate to 11.6 cents. Improving the producer's results increases the rate (because improving the results also increased the variability in those results, albeit on the "good" side). This result is counter-intuitive.

Consider also that the county rates reflect the actual loss experience produced by the model. The CV component of the individual producer rate compares the producer's CV with the county CV. The CV of the part (the individual producer) will generally be higher than the CV of the whole (the county). Comparing the CV of the individual producer to the average of the CV's of all the county's producers would have been a more reasonable approach (but the individual producer CV's would not be available.)

When summed over all producers, we believe the CV component of the individual rating procedure will usually increase the producer rates. The result will be that the sum of the premiums generated by the individual producer rates will be higher than the premium generated if the county base rates were used to calculate premium for each individual producer. (Cliff Parks of AgriLogic verified that the individual producer rates are higher in total than the county rates. There are also indirect references to this result in other parts of the submission.)

If the individual producer rates result in a higher premium for the COP program than the premium which would have been generated by the county rates, and if the county rates reflect the overall loss experience produced by the model – then the individual producer adjustment will result in COP rates which are too high overall.

Issue 3. Calculation of Indemnity for Hypothetical Producers

The AgriLogic model considers results by hypothetical individual producer over 47 years to calculate a Loss Cost Ratio (LCR) for each producer by year. These individual producer results are then summed to produce the county results. In calculating the indemnity for the hypothetical producers in the file "Prod LCR Calc(3).xls", it is assumed that the ratio for Harvested Acres (HA) to Planted Acres (PA) for that producer is the same as the county HA/PA ratio. In fact, we believe it is more likely that producers with COP claims would also have a lower proportion of Harvested Acres. At the very least, we believe that the HA/PA ratio will vary by producer within a county.

(This HA/PA ratio is important, because the AgriLogic calculation of indemnity assumes that the producer incurs 100% of expected expenses on the Harvested Acres but only 85% of expected expenses on the non-harvested acres.)

We tested Prod LCR Calc(3).xls in two ways. In our first approach, we assumed all the non-harvested acres were from producers with claims. In this Excel file, there were 13 years (out of 47 years) with COP claims. We then assumed that HA/PA was 100% for the 34 non-claim years and concentrated the non-harvested acres from the original calculation into the 13 claim years. This adjustment increased the Loss Cost Ratio for the hypothetical producer in this file from 0.40 to 0.53, or an increase of about 31%.

In our second approach, we simply varied the HA/PA ratio within each of the years. For example, if the HA/PA ratio was 97%, we conducted 10 trials for that year, in which the HA/PA ratio was selected randomly from a uniform distribution in the range [94% to 100%]. This adjustment increased the Loss Cost Ratio for this hypothetical producer from 0.40 to 0.42, or an increase of about 5%.

The AgriLogic model uses an average HA/PA value in the "Prod LCR Calc(3).xls" calculations, instead of a value which varies by producer. We feel AgriLogic's position taken in Appendix D of the "Cost of Production Insurance Rating Methodology White Paper" – for using producer level data rather than county averages – can apply to the HA/PA ratio as well.

The results of our two tests (LCR increasing from 0.40 to 0.53 in one, and increasing from 0.40 to 0.42 in the other) suggest this portion of the AgriLogic model understates the by-producer indemnity, which in turn understates the by-producer Loss Cost Ratio, which in turn understates the COP county base rates.

<u>Issue 4. When Do COP Claims Occur?</u> The AgriLogic model assumes that all claims occur either at harvest time, or – for those few acres which are not harvested – at a point when 85% of the covered expenses have been incurred. In fact, claims can happen throughout the crop year. If a claim occurs in the earliest part of the crop year,

considerably less than 85% of the covered expenses would be incurred. The resulting claim would therefore be lower than if a higher percentage of covered expenses had been expended.

We therefore believe this assumption in the AgriLogic model will result in an overstatement of the by-producer indemnity, which in turn overstates the by-producer Loss Cost Ratio, which in turn overstates the COP county rates.

Issue 5. Credibility in the District and Region Weighting The LCR for each county is credibility-weighted with the District LCR and the Region LCR. District and Region LCR's weighted by planted acreage and by distance from the original county are produced. Credibility-weighting is then based on both "Acre" and "Distance" values – weighted 60% and 40%. Also considered are the number of years of experience history, compared to a full-credibility standard of 30 years, and the planted acreage, compared to a full-credibility standard of 42,000,000 acres.

An example of this very complicated procedure was included in the AgriLogic Excel file "COP Insurance LA (Miss Portal).xls", and is summarized on the attached Exhibit 1. Starting with an East Carroll County LCR of 0.0313, the credibility procedure results in an LCR of 0.0482 for East Carroll County after reflecting the District and Region data.

Also attached is a Version #2 of this Exhibit 1, in which we assign credibility by the simpler formula of: square root (actual acres/42,000,000). This simpler procedure results in a credibility-weighted LCR of 0.0469 – about 3% lower than the original 0.0482. The submission provides no information as to why the more complicated credibility formula is preferable to a simpler formula (which in this example produces a noticeably lower rate.)

In discussions with Cliff Parks of AgriLogic, I did learn that they had reviewed the credibility procedure to assure that only the largest counties came close to full credibility. However, I am not aware of any other tests by them of this procedure.

For example, the following test might have been considered:

Combine the various county LCR's (0.0313 for East Carroll, 0.0555 for County X, 0.0444 for County Z, and so forth), based on planted acres. Call that Before-Average. Combine the various LCR's after credibility-weighting (0.0482 for East Carroll, 0.0483 for County X, 0.0490 for County Z, and so forth), again based on planted acres. Call that After-Average. Finally, consider the District LCR (0.0612 in the case of East Carroll County) and the Region LCR (0.0346 in the case of East Carroll County).

Compare the After-Average to the District LCR and to the Region LCR. If After-Average is significantly less than these broader averages, it would seem that some additional loading to bring the individual counties up to the District or Region level might be considered.

I am not aware if AgriLogic tested the overall impact of their credibility procedure in this way. (We do not have an opinion/prediction about the results of a test of this type.)

<u>Conclusion on Issues 1-5.</u> We believe Issues 2 and 4 result in an overstatement of the COP premium, and we believe Issue 3 results in an understatement of COP premium. We do not have an opinion on the premium impact of Issue 5. It is possible that these issues are unbiased in total (i.e. the plus and minus errors cancel out).

However, we are especially concerned about Issue 1, where we argue that the credibility procedure in the individual producer portion of the rating procedure overstates the true credibility of an individual producer. If individual producers are given inappropriate surcharges or credits, the COP program could be subject to an increased degree of antiselection.

D. Is the data used for the analyses appropriate, reliable, and the best available?

Answer 2D: The model produced by AgriLogic uses county-level NASS data, combined with some RMA by-producer data, as the model's data inputs. This data may well be the best available. On the other hand, results from MPCI and CRC policies could have been used as a double-check.

In AgriLogic's file "Prod LCR Calc(3).xls" for the hypothetical producer 215, we included a calculation of indemnity under the CRC program. The COP indemnity was 58% of the CRC indemnity for the 47 year period, and 71% of the CRC indemnity for the latest 10 year period. Combining these results with the results of similar calculations for all other producers in the AgriLogic database would have provided a reasonable ratio of COP indemnity to CRC indemnity. A similar set of calculations could have been made to compare COP indemnities and MPCI indemnities.

The COP county base rates could then have been compared to CRC and MPCI county base rates, to determine whether the CRC/COP and MPCI/COP premium ratios were generally consistent with the CRC/COP and MPCI/COP indemnity ratios calculated as described in the previous paragraph.

AgriLogic disagrees with any comparison of county base rates, because these base rates are subject to variation by individual producer. They point out that the impact of the individual producer portion of the COP rating procedure is especially significant.

We disagree with AgriLogic's position for two reasons:

Reason 1. Even though county base rates will change after individual producer adjustments, it is still important in testing the COP rating model to compare the starting points of the process – the COP county base rates with the CRC or MPCI county base rates.

Reason 2. It is possible that the Board may approve the overall COP rating structure, but suggest changes to the individual producer portion of the COP rating procedures. In that case, the comparison of COP with CRC or MPCI rates would be of increased importance.

E. Does the certification from an actuary or similar person provide adequate support for the certification?

Answer 2E: A certification dated 6/20/03 has been provided by Mr. Dominic Weber. Mr. Weber is a Fellow of the Casualty Actuarial Society.

I asked Dominic Weber if there was an actuarial report supporting this certification, and I asked him for a copy of any such report. Mr. Weber responded that he did not have a formal actuarial report, but he did have the "addendum" mentioned in the last sentence of his 6/20/03 certification. I received a copy of that addendum, and found it to be helpful.

Mr. Weber's 6/20/03 certification mentions comparisons of COP rates and APH rates. However, his addendum did not provide any additional information on rate comparisons. (Cliff Parks of AgriLogic provided me with a small amount of rate comparison information, including some information which had been presented at AgriLogic's 8/13/03 presentation in Kansas City.)

F. Does experience from prior years and relevant crops and areas support the validity of the proposed rates?

Answer 2F: As discussed in the previous answer, we were not provided with much information on comparisons of the proposed rates to rates of other RMA products.

The 8/13/03 presentation in Kansas City contained a comparison of rates from a single policy. The COP rates before the individual producer adjustment were lower than the rates

for the more extensive MPCI and CRC policies. After the individual producer adjustment, the COP rates generally moved closer to the MPCI and CRC rates. This result might lend support to our belief that the individual producer adjustments in the COP policy are too large.

In any event, a broader comparison in this submission of COP rates with rates for MPCI and CRC would have been helpful.

G. Is the product likely to be sold in a sufficient number such that actuarial projections would be credible?

Answer 2G: Section A of the submission considers potential sales in pilot counties in eight states -- Alabama, Arizona, California, Georgia, Louisiana, Mississippi, North Carolina, and Texas. The pilot counties in each state range from a low of 10.92% of the state's total cotton acreage (in Georgia) to a high of 90.86% of the state's total cotton acreage (in California). The pilot counties in total represent about 29% of the countrywide cotton acreage.

Based on a 20% market share (and 85% coverage level) in the pilot counties for this Cotton COP product, the submission projects an initial annual premium of \$26.000 million. Based on this projected volume in the pilot counties alone, it would appear that the proposed Cotton COP product would generate sufficient volume over time to allow credible actuarial projections.

However, I am not aware of the market conditions in either the pilot counties or in the other cotton-growing areas where this policy will be sold. I therefore cannot offer an opinion on the validity of the volume projections in Section A of this submission.

- H. Does the submission increase or shift risk to another FCIC-reinsured policy? Answer 2H: This Cotton COP policy will be sold as an alternative to other FCIC-reinsured policies. (The policy states on page 12 of 14 "you must not obtain any other crop insurance issued under the authority of the Act ...".) It would therefore not appear that this FCIC Cotton COP policy will impact those other policies.
 - I. Does the submission create potential excessive adverse selection, either by itself or in the presence of any other risk management product, whether reinsured by FCIC or not?

Answer 2I: To the extent that the rating for this proposed Cotton COP policy were to produce rates which did not cover expected losses, then there would be the potential for adverse selection due to increased numbers of farmers who will purchase this product. We do not believe this is the case with this product.

On the other hand, to the extent that the rating for this proposed Cotton COP policy were to produce <u>individual producer</u> rates which are either too high or too low, then there would be the potential for adverse selection due to overpriced producers moving to other FCIC products and underpriced producers moving to this COP product.

J. Are the proposed premium rates likely to cover anticipated losses and a reasonable reserve?

Answer 2J: The calculations of the proposed COP rates – before the individual producer adjustments – appear to include several potential problem areas. However, the net effect of these potential problems may well be minimal, because some overstate premium while others understate premium.

On the other hand, we believe the individual producer adjustment in the COP rating procedures may result in an excessive overall surcharge to the rates. These individual producer adjustments could result in the overall premium for the COP program being

higher than the premium which would have been generated by the original county rates. This result could suggest that the COP rates are excessive.

- 3. Other review areas.
 - A. Does this policy provide coverage that, in whole or part, is generally available from the private sector?

Answer 3A: We are not aware of marketplace conditions in the areas where this policy will be sold.

B. Does the policy propose to insure a peril that is not authorized by the Act?

Answer 3B: This FCIC COP policy provides coverage that is similar in some ways to the MPCI and CRC policies. We would therefore assume that the insureds perils are in compliance with the Act. However, our firm is not an expert in Crop Insurance policy wording.

C. Does the policy place an unreasonable administrative burden on the insured, the AIP's, or the Federal crop insurance program?

Answer 3C: It does not appear that the proposed FCIC COP policy would place unreasonable administrative burdens on insureds, AIP's or the Federal crop insurance program.

Unlike the current MPCI and CRC insurance products which focus on records of crop production, this new COP policy also requires the producer to maintain records of production expenses, and this new COP policy would require loss adjusters and/or auditors to examine those production expense records. It would not appear that these requirements of this new policy are an unreasonable burden. However, we are not experts in farming and cannot provide an expert answer on the extent of this new administrative burden.

D. To the extent of the reviewer's knowledge, does the policy comply with all requirements of the Act and the public policy goals of the Corporation?

Answer 3D: In various answers to Question 2 above, I have suggested additional questions which AgriLogic should address to determine the reasonableness of some of the steps in their rating procedure. In most cases the potential errors involved may well be unbiased (some overstating the COP rate and some understating that rate), so the proposed overall COP rate may be accurate.

However, certain aspects of the individual producer rate calculation are based on a credibility procedure which we believe assigns too much weight to an individual producer's data. Overstating the credits or debits to individual producers may not comply with the requirements of the Act and the public policy goals of the Corporation.

- 4. Review Issues Specific to the Cost of Production Cotton plan of insurance.
- A. Would it be likely that this product would affect crop selection decisions?

 Answer 4A: Perhaps the availability of this new product would result in land being shifted from other crops to cotton.
 - B. Would it be likely that this product would affect the Extension crop budget preparation process?

Answer 4B: We are not knowledgeable in Extension crop budget preparation.

C. Are existing Extension crop budgets reliable and accurate for insurance purposes? Answer 4C: We are not knowledgeable in Extension crop budgets.

Exhibit 1 FCIC Cotton Cost of Production Proposed by AgriLogic

file = test of credibility update.xls

tab = Sheet 1

East Carroll 0.0313

Weighted <---- Weights ---->
Total Acres Distance

0.6 0.4

District LCR 0.05475 0.07098

0.0612

Region LCR 0.03718 0.03073

0.0346

	County [District F	Region
Acres	1140400	10921500	63946040
Years	21	21	30
Full Credibility Acres	42000000	42000000	42000000
Full Credibility Years	30	30	30
%A	0.02715	0.23288	1.00000 5
%Y	0.70000	0.70000	1.00000
Z	0.37322	0.55744	1.00000
	0.37322	0.55744	0.06934

Rate before 0.0482 Prevented Planting and Other Loads

Exhibit 1 -- Version #2 **FCIC Cotton Cost of Production Proposed by John Pierce Consulting Actuary**

file = test of credibility update.xls sheet = Version 2

Weighted <----> Weights ----> Total Acres Distance 0.4

0.6

District LCR 0.0548 0.0710

0.0612

Region LCR 0.0372 0.0307

0.0346

County District Region Acres 1140400 10921500 63946040 Years

Full Credibility Acres 42000000 42000000 42000000

Full Credibility Years

%A 0.02715 0.23288 1.00000 5

%Y Ζ

> 0.16478 0.48258 0.35264

Rate before 0.0469 Prevented Planting and Other Loads

Background for Questions 1-3:

The proposed COP plan reduces indemnities to the extent that production expenses are not incurred. This is substantially similar to the feature called "stages," which is found in some crop insurance plans.

- 1. Could the proposed COP incorporate stages that are not based on production-expense data?
- 2. How would this affect the insurance plan in terms of ease of administration?
- 3. Are producers likely to react positively or negatively to the presence of stages in the proposed COP plan?

Answer 1. If I understand the term correctly, a "stages" procedure might be designed to calculate the covered expenses in each month of the growing season as a percentage of the total covered expenses. Information in Appendix O in AgriLogic's "Cost of Production Insurance Rating Methodology White Paper" could provide the basis for calculating this "stages" procedure. For example, Appendix O tells us that in Northeastern Louisiana the average is that 30% of cotton grower expenses have been incurred by the end of January, 46% of these expenses have been incurred by the end of April, and so forth.

Claim payment under a "stages" procedure could depend only on the initial estimate of covered expenses in the COP Covered Expense Worksheet and on the month of the claim. For example, if a claim in Northeastern Louisiana occurred in January and the total expenses in the COP Covered Expense Worksheet were \$300, a January claim would be based on \$138 of covered expenses (\$300 * 46%). Claim payment would in effect be based on the average pattern of expense outlays over the growing season rather than on the producer's actual expenses.

- Answer 2. This type of procedure would be administratively easier for the farmer, who would not need to maintain records of actual expenses. It would be administratively easier for auditors and loss adjustors, who would not need to verify records of actual expenses. However, use of this type of procedure would appear to increase the possibility of fraud because the producer would not need to spend any expense dollars to be eligible for a COP claim payment.
- Answer 3. Producers may find the decreased record keeping of a "stages" procedure to be attractive. On the other hand, those producers whose actual expenses were higher than the expenses implied by the average pattern of expense outlays would respond negatively.
- 4. Would the premium rates produced by the individualized rating system for COP versus the APH-based rating system for other plans have any negative effect on the actuarial performance of the other plans or FCIC in general?
- Answer 4. The individualized rating portion of the COP policy places a lot of weight on individual producer values of APH, profit margin and coefficient of variation of APH. COP rates for individual producers can vary widely from the county average COP rate.

Individual producers with higher COP rates might avoid this COP product, and instead purchase MPCI or CRC coverages. Producers with lower COP rates might be more likely to purchase the COP policy.

To the extent that the individualized rating system for COP is effective in identifying poorer producers and surcharging those producers, then those producers would be likely to move to other coverages such as MPCI or CRC. At first, it may appear that this movement would have an adverse impact on the MPCI and CRC loss ratios. However, there are two factors which would diminish this potentially adverse impact:

- Factor 1. It is possible that a poor risk for COP would not be a poor risk for MPCI or CRC. For example, a producer with a very low profit margin would be a poor COP risk, but would not necessarily be a poor MPCI or CRC risk.
- Factor 2. As will be discussed in our responses to other questions, we are not convinced that the credibility procedure in the individual producer portion of AgriLogic's rating structure is valid. We are not convinced that the surcharged producers actually have a higher probability of COP loss in the future (nor are we convinced that the lower rated producers have a lower probability of COP loss in the future).
- 5. Are the individualized rates produced by the proposed COP rating model credible? Answer 5. We believe the credibility formulas in the individual producer portion of the rating model assign too much credibility to the individual producer. Our comments on this issue will be included in our responses to the standard Question 2C.
- 6. Production-expense data is used in the proposed COP plan for the following purposes:
- a) Insurance Guarantee -- Limit the maximum amount of insurance available when reported production expenses are less than the expected gross income (EGI).
- b) Insurance Indemnity -- Reduce loss payments when actual production expenses are less than the Approved Expenses.

Does the incorporation of production-expense data serve any other function or provide any other benefit in the proposed COP plan?

- Answer 6. Production expense data is also used in the individual producer rating portion of this program. In addition to its use in calculating the credibility-weighted final rates by producer, production expenses for Irrigated versus Non-Irrigated acres are used in calculating rates for a producer who has both Irrigated and Non-Irrigated acres.
- 7. When its pilot programs contain unusual or controversial features, FCIC sometimes requires that applicants sign a "disclaimer" at the time of purchase. These disclaimers contain a statement whereby the producer acknowledges that the unusual/controversial features exist and that she/he understands and accepts them. Such forms are used to promote a thorough discussion between the agent and the producer before the sale is completed, thereby reducing the probability of angry feelings at loss time. A draft disclaimer for COP, which highlights 4 features, is included at the end of this Appendix. Should FCIC require COP applicants to sign this or a similar disclaimer? If so, are there other components that should be included in the Disclaimer?
- Answer 7. It would make sense to include a Disclaimer for this unique COP product. Based on the Supplemental Questions from the Board, it appears that the most important item to include in this Disclaimer would be a statement about allowable expenses. That statement would mention:
- a) there are caps in the allowable expenses (Variable Costs are capped at 125% of county average, and the sum of Fixed Costs and Land Fees are capped at 50% of EGI) and
- b) if the producer does not have records to support his/her expenses, a claim could be denied. This policy requires the maintenance of good expense records.
- c) if expenses in any category increase during the year by more than +20% of the original estimate, a report must be made to the agent.

To keep the material in the Disclaimer to a manageable amount (i.e. 1 page), perhaps the statement in the proposed Disclaimer – item #2 on Premiums -- could be eliminated.

Background for Questions 8-9:

The entire rating model is based on the set of data that was generated by combining various NASS and RMA data sets and statistics. The goal of the generation process was to create a set of producer level time series yield data. Part of the generation procedure involves using NASS 1997 Census of Agriculture Data. The NASS data were reported by county. Within that county NASS groups the producer yields into five segments. The lowest 20% of yields are quintile one and so on until the highest 20% of yields are quintile five. Each quintile has a set a statistics including number of producers (by definition the same amount in each segment) yield mean and

yield standard deviation. In order to generate a data set for 1997, the contractor assumes a normal distribution within each quintile. Then using the normal distribution (for each quintile) and its respective statistics a set of producer yields is generated.

- 8. Can this assumption of normality within a quintile in the NASS yield data be safely made?
- 9. Is there a more appropriate assumption that could be made to generate the set of producer data?

Answers 8 and 9. The statistics available from the NASS data are mean and standard deviation of the yields. AgriLogic's modeling using a truncated normal distribution produces a good match of these means and standard deviations (in the Excel file "Prod Yield Dist(1).xls").

Conceivably a distribution other than the normal distribution could also be made to reproduce the mean and standard deviation of the NASS data. Would that different distribution be a better fit? We cannot say, because the AgriLogic model has already made use of all the known statistical information about the data. (The normal distribution also has the advantage of familiarity and ease of use.)

Finally, we note that the submission includes graphs of the by-producer data for each quintile of the distribution, as modeled by AgriLogic, compared with graphs of RMA data by similar quintiles. The two sets of graphs do appear similar – which provides additional support that the AgriLogic model has produced results similar to actual producer data.

Background for Questions 10-13:

After the data set for 1997 is generated from the quintiles, yields are plotted relative to the county average. These 1997 yields are then plotted across time keeping the same relationship with the county average as was demonstrated in 1997. A random adjustment is then made to represent variability across years.

- 10. Is this adjustment reasonable?
- 11. Is this adjustment constrained by the spatial variability that existed in 1997?
- 12. This data set is the basis for all rate calculations. Do these data simulation and adjustment procedures generate a set of good data for the purposes of rating?
- 13. Is there a better data set that could be used for the rating of this product?

Answers 10 and 11. Appendix L of AgriLogic's "Cost of Production Insurance Rating Methodology White Paper" compares COP county rates based on RMA & NASS data with COP county rates based on RMA data only. Based on discussions with Cliff Parks of AgriLogic, I understand that the "RMA & NASS" rates in Appendix L include the random adjustment to introduce variability across years. This is the random adjustment which is the basis for these Questions 10 and 11. The "RMA only" rates are based on actual variability over time in the RMA data.

The RMA & NASS rates are similar to the RMA only rates in Appendix L – which suggests that the AgriLogic adjustment was reasonable. (We do not have any suggestions for additional tests in this area.)

Answer 12. As mentioned in our Answers 8 and 9 above, we believe the AgriLogic model arising from their data simulation and adjustment procedures is a good basis for rating of this COP product.

Answer 13. Our firm is not knowledgeable about the various data sources for Cotton yield at the by-producer level.

Background for Question 14:

The producer's premium rate is the weighted average of three functions,

Rate = a * f(PMcounty, PMproducer) + b * g(Ycounty, Yproducer) + c * h(CVcounty, CVproducer) where PM = profit margin, Y = average yield, CV = coefficient of variance, and a + b + c = 1. Each function compares the producer's variable to the county average and calculates a premium.

For example if a producer's average yield (Yproducer) is greater (lower) than the county average yield (Ycounty), then the function produces a yield premium rate that is lower (higher) than the county base yield premium rate.

The premium rate formula is the weighted sum of the three functions so that each function (and the variable it uses) is treated as being independent of the other functions. However, there would seem to be interaction between the functions.

For example, it seems that a producer's average yield should influence the degree to which his or her CV affects the probability of an indemnity.

This point is illustrated in Graphs 1 and 2. Graph 1 shows the crop yield probability distributions for two producers. They both have the same average yield but different variances. The yield at which the producers indemnify is I. The area labeled A shows the increase in the probability of indemnity for the producer with the greater yield variance. Graph 2 shows the same situation except that the two producers have a higher mean. In this case the difference in the probability of an indemnity (area A) for the two producers is much smaller. [Graph 1 and Graph 2 are not reproduced here.]

This illustrates that a higher mean reduces the effect of variance on the probability of an indemnity. However, the rate formula shown above does not allow for this. The effect of the coefficient of variance on the premium rate is the same no matter what the average yield is.

14. Is it appropriate to calculate the premium as the weighted average of three independent functions of profit margin, average yield, and coefficient of variance of yield? In other words, are these functions actually independent?

Answer 14. Appendix T of AgriLogic's "Cost of Production Insurance Rating Methodology White Paper" recognizes that

Ideally, the average profit margin and the variability of the profit margin would be the two criteria considered in adjusting the county base rate to the producer specific level. The rating paper recommended that, as actual experience is accumulated, more weight should be shifted to profit margin criteria. The final result would be having the producer specific adjustment calculated solely from the average and the coefficient of variation of the profit margin. The average yield was maintained in the producer specific adjustment as a result of the higher level of confidence [in that data]. Until a larger data set of producer specific cost information is accumulated, to calculate their profit margin, yield should be maintained to stabilize the producer specific adjustment process.

In this explanation, AgriLogic appears to recognize that yield and profit margin are not independent, but they conclude that these two variables should nevertheless be included in the calculation of the individual producer portion of the rating methodology.

We will discuss our criticisms of the individual producer portion of the methodology in our answer to Question 2C of the standard RMA questions.

1. Changes in itemized variable expenses more than 20% must be reported. During any given year, these expenses can vary greatly depending on climactic conditions and unexpected major mechanical problems. This is a severe handicap to make adjustments to the insurance policy with the agent who may be hundreds of miles away during a high stress time of the growing season. Failure to report in time may result in loss of insurance, which probably will be discovered only at claim times. Remember that this is the outline for future COPs for other crops. Cotton is a very low growing expense crop with limited expense items compared with many specialty crops. In specialty crops these numerous expenses can change very rapidly depending on the unique or unusual growing conditions in any one year. One wonders which agents and

companies are going to be able to keep track of all this extra paperwork and whether or not problems will rise during claim times.

Answer 1. The purpose of requiring reports on +20% changes in any of the expense categories on the COP Covered Expense Worksheet is to control fraud. For example, if a producer noticed that his/her fertilizer expenses for Cotton were going to be less than the original estimate, that producer might in turn attempt to allocate more fuel expenses to the Cotton crop to maintain the total amount of covered expenses. This policy provision which requires reports of any large change in individual expense categories is designed to control this type of situation.

Assuming the possibility of fraud is a valid concern, eliminating this required reporting provision could create problems for the COP Cotton program. On the other hand, our firm does not have the knowledge of farming to understand the extent of the administrative burden this requirement will place on producers.

The RMA is considering the inclusion of a Disclaimer on each COP policy (see Supplemental Question 7 from RMA), in which potentially unusual or controversial aspects of this new product would be highlighted for the producer. The producer would be required to sign the Disclaimer after reading it. Perhaps this provision requiring the reporting of +20% changes in expenses could be mentioned in that Disclaimer.

- 2. Pay close attention to the APH x price ceiling cap. All farmers who have had a disaster year (or years) are heavily penalized with amount of coverage + higher premium rates. Will this cause economic micros shifts in production due to availability for operating loans when loans may be evaluated on coverage amounts? Remember that one bank controls the majority of operating loan funds.
- Answer 2. We do not have knowledge of the bank practices used for making operating loans available to cotton farmers. However, as will be discussed in our answers to other questions we believe the individual producer portion of the rating procedures (the portion of the procedures which heavily penalize farmers with a disaster year or years) assigns too much weight to an individual producer's data.
- 3. Does this insurance offer any more coverage than other plans already available? Previous studies show rare instances for this model to do as much. Usually recovery is less. Less insurance cost does not mean better coverage.
- Answer 3. It is our understanding that the proposed COP product is designed to offer less coverage than other RMA products, such as the current APH or CRC policies. While the COP coverage will be less, it is assumed that the COP premium will also be less which will in turn give producers the choice of a cheaper insurance plan.

(The only comparison of COP premiums with premiums from APH and CRC products was in the 8/13/03 presentation in Kansas City. Here two hypothetical producers were rated under APH, CRC and RA policies. However, AgriLogic did not include – either in the submission to the RMA or in the 8/13/03 presentation -- a comprehensive comparison across all the producers in their database of CRC or APH premiums versus COP premiums. We continue to believe that such a comparison would be useful to the review of this new insurance product.)

- 4. Due to data needed for policy to determine standard expense ceiling, the policy may be severely limited to few areas that will have adequate 3rd party (excluding banks with conflict of interest) information.
- Answer 4. In the information included with the submission, the Excel file "Variable Cost Caps for SPRVs.xls" contains variable cost data for all the pilot counties. The only information missing from this table is for some counties -- a split of variable costs between Irrigated and Dry Land (Non-Irrigated) variable costs. From discussions with Cliff Parks of AgriLogic, I understand that for some counties Irrigated versus Dry Land variable

cost information is not available. Differentials in COP rates between Irrigated and Dry Land are in any case handled in the individual producer portion of the rating process.

It may be that in other than the pilot counties there will be difficulties in obtaining variable cost information. The submission -- in Appendix Q of AgriLogic's "Cost of Production Insurance Rating Methodology White Paper" -- describes the process used to derive variable costs by county. It would appear this process would be useable in all counties. However, we do not know if there would be counties in which the information needed in this Appendix Q process would not be available.

- 5. The past 15 year history has shown sale price decline and inputs quickly increasing with overall production steady or rising ever so little. In the future will this insurance become less attractive than currently?
- Answer 5. The question points to trends which appear to be affecting cotton farming over time decline in the price per pound, increase in the costs of inputs, and production per acre remaining constant. It would appear that these trends will make cotton farming less attractive. These trends may also make the Cotton COP insurance product less attractive. However, this possible decline in attractiveness of the Cotton COP insurance appears to be the "fault" of adverse trends in cotton farming, rather than from any intrinsic flaw with the Cotton COP policy.
- 6. This cotton policy has failed earlier due to inadequate coverage. This version only begins to fulfill by inserting subsidies into price. As a model for future crops what happens with crops with no supports? Are we putting ourselves into favoritism or worse? Why not build a data bank on cost by region for crops and build the insurance around it? As it stands now are we defeating the purpose why the term Cost of Production is even stated because revenue is the governing factor.
- Answer 6. The most important factor in this COP policy is the cost of production. Revenue "trumps" cost of production only when expected revenue is less than the cost of production. It appears to us that this structure is definitely needed, because otherwise producers could insure for more than their expected revenues.

We do not have the knowledge of farming to address the portion of this question which asks about the interaction of price supports with COP, for crops other than cotton.

- 7. Is the cost worksheet misleading when it lists harvest costs which can be made up primarily of fixed equipment costs. Is this term meant to reference only custom harvest charges? Answer 7. We agree that this portion of the cost worksheet is misleading. It would seem that harvest charges are included in the other categories such as "Fuel, Lube and Utilities", "Hired Labor", or "Custom Operations".
- 8. Variable costs are supposed to be capped at 125% of county average. This is not explicitly included in the policy provisions, but rather is calculated and placed in the actuarial documents. Does it appear that producers will understand this 'implicit' cap?

Answer 8. In this Cotton COP insurance product, Variable Costs are capped at 125% of the county average. In addition, the sum of Fixed Costs and Land Fees are capped at 50% of the "approved yield for the unit times the expected market price". The caps on Variable Cost are explicitly shown in the Special Provisions. The caps on the Fixed Costs and Land Fees are also mentioned in the Special Provisions. (The submission includes as an example the Special Provisions for Franklin County Louisiana. Cliff Parks of AgriLogic provided us with a corrected version of these Special Provisions. This corrected version shows Variable Cost caps which are different for Irrigated and Non-Irrigated practices.)

The COP policy mentions the first of these caps on Page 1 of 17, by stating "The total amount of variable cost expenses, fixed cost expenses, and land fee expenses may be limited by the Special Provisions and cannot exceed the amount designated in the Special

Provisions". The COP policy mentions the second of these caps on Page 2 of 17, by stating "Maximum allowable land fee expenses and fixed cost expenses are provided in the Special Provisions".

This Question 8 in effect asks whether these statements in the policy and in the Special Provisions will adequately inform producers. The RMA (see Supplemental Question 7 from RMA) is asking whether a Disclaimer should be included with this policy. Including a statement about the limits on allowable expenses in this Disclaimer could address the concerns raised by this Supplemental Board question.