The Future Viability of U.S. Federal Crop Insurance

Ross J. Davidson, Jr.
Administrator, Risk Management Agency
CEO and Manager, Federal Crop Insurance Corporation
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Background

The Risk Management Agency (RMA) administers the Federal Crop Insurance Program of the United States Department of Agriculture. The Federal Crop Insurance Program was established in 1938 to help stabilize U.S. agricultural producers by providing insurance protection for declining crop yields. Initially, the insurance was available for major row crops. However, in recent decades, U.S. policymakers have mandated and funded expansion of federal crop insurance to cover a broader range of agricultural commodities, including, among others, specialty crops, nursery, livestock, forage and rangeland, and aquaculture.

In the 1990s, the envisioned policy role of U.S. federal crop insurance was expanded to become the primary means by which U.S. agricultural producers would obtain protection from the effects of natural disasters. Congress hoped to significantly reduce, if not eliminate, ad hoc federal disaster payments to farmers by encouraging them to purchase higher coverage levels of crop insurance, and by providing insurance and other risk management tools for heretofore un-served and underserved commodities, areas, risks and producer market segments. The Agricultural Risk Protection Act (ARPA) passed by the U.S. Congress in 2000 provided authority, funding, procedures and direction to RMA to achieve significant gains in insurance product availability, usage and effectiveness. New product development activities were required to be outsourced to the private sector and substantial funding was provided to reimburse private sector product developers for their costs. Additionally, Congress provided incentives to producers to buy insurance through higher premium subsidies. In addition, ARPA cast RMA in a more expansive regulatory role to safeguard the safety, soundness and effectiveness of products and the delivery system, and direction and funding was provided to RMA to enhance program integrity and effectiveness.

The method by which crop insurance is sold and serviced also has evolved over time. Originally, the program was administered and its products sold and serviced exclusively by federal employees. However, in the 1980s, the direct responsibility for sales and service of insurance products was transferred exclusively to the private sector. Delivery of crop insurance products is now accomplished through a system of privately owned and operated insurance companies that employ, or contract with, independent insurance agents, loss adjusters and administrative service providers. The insurance companies (Approved Insurance Providers or AIPs) assume part of the risk of loss generated from the products they sell and service. They are also provided an expense reimbursement

based on a percentage of the premium as well as federal reinsurance (principally for non-commercial risks) and administrative support from RMA.

The program has grown considerably in this supportive environment. Approximately $39 billion of risk coverage is provided for over 100 commodity types covering over 218 million agricultural acres. The current pace of product development also mirrors that support. RMA is overseeing nearly 30 feasibility studies and development programs for new or improved products and 32 insurance programs are in pilot phase. New coverages are either available or in development or pilot for livestock, aquaculture, forage and rangeland and an array of specialty crops. And new insurance coverage types such as adjusted gross revenue insurance, indexed insurance products and cost of production insurance are under evaluation and development. The following table presents existing insurance plans available under the program.

Current U.S. Federal Crop Insurance Plans	
Actual Production History (APH)	Group Risk Protection Income Protection (GRIP)
Adjusted Gross Revenue (AGR)	Income Protection (IP)
Adjusted Gross Revenue Lite (AGR-Lite)	Indexed Income Protection (IIP)
Aquaculture Dollar	Livestock Gross Margin (LGM)
Avocado Revenue Coverage	Livestock Risk Protection (LRP)
Crop Revenue Coverage (CRC)	Pecan Revenue
Dollar Amount of Insurance	Revenue Assurance (RA)
Fixed Dollar	Tobacco - Guaranteed Production
Grower Yield Certification (GYC)	Tobacco - Quota
Grower Yield Certification Span (GYC Span)	Tree Based Dollar Amount of Insurance
Group Risk Plan (GRP)	Yield Based Dollar Amount of Insurance

The appendix includes a complete listing of eligible commodities under these plans and a representative list of products under development or in pilot.

The total value of agricultural commodities in the U.S. approximates $200 billion. This is roughly equally split between crops and livestock related commodities. Through its AIPs, RMA insures approximately 57 percent of the $100 billion crop market with an average deductible of 30 percent. A fledgling set of coverages and products are in various stages of feasibility, development or pilot for the livestock segment.

By law, in aggregate, the program must be actuarially sound – that is, premiums (not including an expense load) must be sufficient to produce at most, a 1.075 long term, program wide loss cost ratio.

Program Governance and Administration

ARPA established the Risk Management Agency to oversee and manage the Federal Crop Insurance Corporation under the direction of the Secretary of Agriculture who designates and oversees the function of the agency administrator and a Board of Directors. The ten-member Board is comprised of six outside members, four of which are producers from various segments of the agricultural sector, one with reinsurance or regulatory experience and one from the insurance industry. The remaining members are from the Department of Agriculture including the Manager of the FCIC (a non-voting member), the Undersecretary for Farm and Foreign Agricultural Services and the USDA Chief Economist who has been elected by the Board to serve as chair. One position remains to be filled.

RMA's mission is to promote, support and regulate sound risk management solutions to preserve and strengthen the economic stability of America's agricultural producers. Its primary objectives are:

1. widely available and effective risk management tools;
2. a fair and effective delivery system;
3. informed customers and stakeholders;
4. program integrity; and
5. excellent service.

RMA's involvement in the system includes:

1. Understanding the evolving risk management needs of the agricultural producer market and facilitating and regulating the development, delivery and use of risk management tools to address identified needs;
2. Maintaining and updating FCIC owned products and overseeing the maintenance of private sector products.
3. Qualifying and expanding availability of programs and products to appropriate areas, to include product adaptation and applicability to the local agricultural environment.
4. Providing product and program information and training to approved insurance providers and other stakeholders and general risk management education and outreach to program participants;
5. Promoting the appropriate and effective use of crop insurance and other risk management tools to address producers' risk management needs;
6. Facilitating and overseeing a sound, effective delivery system, to include financially and operationally viable approved insurance providers and knowledgeable and skilled agents and loss adjusters.
7. Qualifying program participants for continuing involvement in the program and identifying and removing those who do not qualify;
8. Providing policy and procedural standards, guidance and oversight to participating agricultural producers and to delivery system participants;

9. Reinsuring program risk and administering program disbursements and collections;
10. Ensuring that the program is operated in accordance with federal standards, laws and regulations, to include deterrence, detection, prosecution and sanction of fraud, waste and abuse in coordination with other federal and state agencies, actuarial soundness, program integrity, and the safety, soundness and effectiveness of the delivery system.

An administrator and two associate administrators who are political appointees lead RMA. It is divided into three operating groups – product research and development, insurance services and compliance and administrative staff. RMA currently has approximately 530 employees. It contracts for the delivery of the program with private sector delivery system comprised of fourteen primary insurance writers who, in turn, employ or contract with approximately 25,000 sales, service and administrative personnel nationwide. The AIPs have also engaged approximately 50 policy-issuing companies to assist in writing business in all 50 states and the Commonwealth of Puerto Rico. The primary companies also reinsure their retained business to commercial reinsurers under various quota share and stop loss reinsurance contracts. The system services over 1 million active insurance policies covering 218 million acres with total liability of $39 billion U.S. and total premium of $ 3.2 billion. To give some perspective to the growth of the program, in 1990 there were 894 thousand active policies covering 101 million acres with total liability of $12 billion and total premium of $836 million. Producers have generally increased the level of insurance coverage they elect under the program. For example, in 2002 over 50 percent of covered acres elected coverage in excess of 65 percent. In 1990 that percentage was 18.

With the expansion of coverage and higher levels of participation, the total cost of delivering and administering the program has grown over time. In 1990, the total delivery cost of the program to the government (insurer expense reimbursement, producer premium subsidy, agency operating budget and ARPA product development expense) was $554 million compared to $2,516 million in 2002, which reflects the dramatic growth of the program and to a lesser extent, inflation. Government costs, in total and on a unit basis, for 1990 and 2002 are shown below. It should be noted that underwriting losses and gains are not included in the measurement of government cost, as they tend to cancel each other out over the long run.

ARPA provided for an increase in the premium subsidy rate – especially at the higher levels of coverage. Growers have responded by increasing their coverage levels. This has led to a higher average premium per policy, and, consequently, a greater expense reimbursement and premium subsidy amount per policy. The higher premium subsidy rates also lead to an increase in cost on a per premium dollar and per liability dollar basis.

Government Total Cost of Providing Federal Crop Insurance ($US)		
Category	**1990**	**2002**
Expense Reimbursement	271.6	655.9
Premium Subsidy	215.6	1,743.7
Agency Operating Budget	66.3	74.2
ARPA Product Development	-	42.2
Total	553.5	2,516.0

Government Unit Cost of Providing Federal Crop Insurance ($US)		
Unit Measure	**1990**	**2002**
Per Policy	619	1998
Per Premium Dollar	.66	.86
Per Liability Dollar	.04	.07

The Need for, and Role of, Crop Insurance

Production agriculture operates in an environment of increasing sophistication and complexity in all its dimensions: operations, labor/resources, markets, legal/regulatory and financial. The resultant demands on farm risk management are enormous and the ability of various market segments to address those demands varies widely. Evolving farming practices, new drought, freeze, disease and insect resistant varieties of crops, crop rotations, the ever expanding list of chemical applications, increasingly complex marketing arrangements, and an ever expanding set of options for farm ownership and structure all play an important role in producers' risk management plans. RMA products protect producers primarily from price, production and revenue risks that result from natural disasters or other natural risks. Those substantial risks which are strongly influenced by temperature and moisture patterns are interrelated and complicated by the effects of world commodity price competition, trade policy and practices, governmental and inter-governmental policies, programs and actions, technology developments, market structure, legal, labor, general economic and other such societal and economic developments that are not a result of a natural event in the first order. Accordingly, risks must of necessity be considered, balanced and managed in an integrated and holistic fashion.

U.S. production agriculture can be divided into three main economic segments: 1) large corporate farms; 2) farms the owners of which depend primarily on farm income for their livelihood; and 3) small farming operations that rely heavily on off-farm earnings for income adequacy and stability. Each of these major segments of production agriculture faces its own unique challenges in meeting its risk management needs and resource requirements varying access to technical and managerial resources.

The ability to optimize the use of insurance in the matrix of farm risk management options is essential to continued success of each segment of production agriculture –but

especially the self-reliant family farm. This segment relies on the year-to-year success of the farming operation for its livelihood, but is constrained by generally smaller scale operations and relatively less ability for commodity and geographic diversification than large agribusinesses. This segment also has fewer options for off-farm income diversification. The capacity to survive several years of poor farming conditions can depend on the availability and adequacy of insurance and other risk management tools.

In the United States, federal crop insurance is a crucial element of financial stability and an integral part of a holistic risk management program for many agricultural producers. Moreover, protection against adverse production or price developments is essential not only to the producer but also to those institutions that provide operating and fixed asset financing and services. Thus, an increasing number of suppliers and financial creditors require crop insurance as a condition for extending or expanding farm credit.

Factors Affecting the Future Form and Function of Crop Insurance

Just as the current form and function of the U. S. federal crop insurance system has been shaped by many forces, so will its long-term viability and functional structure be determined by the evolving dynamics of the industry it seeks to serve as well as the market and political environment in which it will operate. Ten of the major factors that will shape the destiny of the federal crop insurance program are:

1. The ongoing adequacy and suitability of risk management tools provided
2. The integrity of product design, underwriting, rating and administration
3. The relative complexity of the program
4. The continuity and support of private sector risk bearers
5. The needs of agricultural credit institutions
6. The viability of the private sector sale and servicing system
7. The evolution and effectiveness of private agricultural risk management markets
8. The viability, relative value, and complimentarity of alternative public risk management options
9. The evolving structure and resultant needs of U.S. agriculture
10. U.S. public policy and federal budget considerations

The following discussion attempts to provide context for considering the potential impact on the federal crop insurance program of each of these factors.

1. The adequacy and suitability of risk management tools provided.

A crucial element of the continued success of the federal crop insurance program is the effectiveness of the products provided by the system to meet the risk management needs of the American agricultural producer. While this may seem an obvious statement, there is significant debate over the ability of current products to meet producers' risk management needs in all conditions but a concurrent recognition of the essential nature of those products to protect the financial viability of producers in times of general or

individual disaster. It should be noted that this discussion relates to the ability of RMA products affordably and adequately to protect producers from yield and price declines in an actuarially sound manner while keeping moral hazard and adverse selection in check. Some areas of current concern include:

- **Commodity Coverage –** Not all commodities are covered and some that are covered do not have protection from key risks. Examples include livestock, forage and rangeland, smaller specialty crops, organic practices, and aquaculture.

- **Risk Coverage –** The extent to which major uncovered risks are effectively covered is an important measure of the responsiveness and effectiveness of the program. Some risks that are not currently covered or are not administered to the satisfaction of producers include production declines due to long-term drought, irrigation water diversion, prevented planting, disease, quarantine and terrorist action. Some of these risks may not be able to be covered under the current limitation that products must cover natural risks. Nonetheless, such man-made risks are significant risks to producers for which no effective insurance exists.

  ARPA contemplated that the RMA would also begin to develop other risk management tools to address risks outside of the traditional insurance context. This is similar to the factory mutual concept in the industrial insurance market in which insurers work with insureds to reduce the incidence of adverse developments through manufacturing process, physical plant and management improvements. It also employs improved risk prediction tools and incorporates risk management considerations into every aspect of the operation. In return for this proactive approach, insureds are often accorded a lower risk charge for their insurance.

  Although RMA has introduced few non-insurance tools to date, a number of feasibility and development projects have been funded and are under way to identify alternative risk management tools to address such divergent subjects as apiculture, controlled burn, limited resource producer marketing, risk modeling, etc. The viability and shape of this part of the Agency's risk management services to producers will depend on future development and funding of the delivery and service system for these tools as well as prioritization of personnel and information technology resources to support their evolution and application.

- **Regional Coverage** - Certain regions of the U.S. have been viewed as underserved by crop insurance. Various reasons are given for the low participation, including low numbers of crop insurance agents, relatively small farm populations, high livestock content, inadequate or unsuitable crop coverage, the prevalence of other risk management tools, low perceived risks, lack of awareness of crop insurance, affordability issues, and cultural barriers. Congress and the agency have made specific efforts to address some of these barriers by increasing funding for and the effectiveness of education and outreach, developing new products to cover underserved areas, practices and commodities

and providing additional temporary premium subsidies to spur participation in certain targeted areas.

- **Producer Coverage –** Some producer segments are perceived to be underserved by the program, particularly small, limited resource and socially disadvantaged farmers. The agency has made an extensive effort to increase outreach to small, diversified farmers and to limited resource or socially disadvantaged farmers. However, the agency is hampered by federal restrictions on collecting information on the ethnic origin of its customers. Therefore its ability to evaluate the degree to which certain market segments are served has been limited**.** Efforts are currently underway to remediate this constraint.

  The agency's charge is to make available risk management tools to all U.S. producers. However, the marginal cost of delivering the program increases as every last producer is reached and served. In small producer populations or in areas of relatively low value production, it has been difficult for the approved insurance providers to recruit and retain as many agents and loss adjusters as in the high volume areas. However, aside from entry into new markets such as livestock coverage, the remaining growth of the program is largely left to serving such higher delivery cost areas. As RMA seeks ways to fulfill its inclusive mission under its current delivery arrangements, the marginal cost of delivery will increase or alternative means of more efficiently reaching and serving under-served producers will need to be developed.

- **Market Adaptation** - U.S. agriculture is changing rapidly with a priority on value-added production and cost efficient operations. This results in constant change to practices, production patterns and volumes, and shifts in structural and agronomic risks. Growing crops with specific features for particular end uses and development of temperature and disease resistant varieties are two examples. RMA must constantly adjust its products, procedures and underwriting standards to adapt to this changing environment.

- **Producer Expectations -** Producers and policy makers have varying expectations of insurance. Some producers seek an effective replacement for lost income in times of adverse price movements or production declines. Some recognize the risk reduction value of insurance to keep them from ruin during difficult times but do not expect to be made whole or to earn a return year to year. Federal Crop Insurance is built upon a program of shared risks, with enough self-insurance to encourage responsible behavior and discourage fraud and enough coverage to provide effective downside protection from ruin. Deductibles for production loss and price declines start at 15 percent and, at the election of the producer, can go as high as 50 percent for catastrophic coverage, with concomitant rate adjustments. While there has been an emphasis on encouraging producers to buy higher coverage, some producers complain about the affordability of the upper layers and the high minimum deductibles in relation to other forms of personal insurance such as homeowners or auto coverage. The agency is evaluating the rating

structures of some of the program's revenue products to address rate relativity issues in the context of actuarial soundness and program integrity.

Some of the debate over the adequacy of crop insurance coverage is also fueled by misconceptions about the program (e.g. is it an insurance program or price support program?). It is clear that the intent of Congress has been and will likely continue to be that this is an insurance program. However, Congress is not insensitive to the need for adequate coverage and as such, the sensitivity of balancing having enough self-insurance in the mix with adequate coverage levels will continue.

2. The integrity of product design, underwriting, rating and administration

The design of federal crop insurance products seeks an appropriate balance of market responsiveness and fiscal responsiblility. RMA serves three basic customers – the American consumer of agricultural products, the American agricultural producer and the American taxpayer. Products must not only be effective in covering risk but they must perform as represented, be fairly administered and minimize the potential for improper payments (e.g. fraud, waste and abuse).

- **Product Integrity** - Maintaining an effective balance between market responsiveness, administrative efficiency and fraud deterrence is a continuing challenge in the federal crop insurance program. Significant resources and attention are dedicated to fraud deterrence, detection and prosecution. Recent congressional mandates and funding to help address such vulnerabilities, employment of tools like data mining, GIS and remote sensing technologies, additional administrative oversight from field spot inspections and high profile fraud convictions appear to be effective fraud deterrents. While it appears that such efforts are increasingly effective, there is still no foolproof way to know how much fraud exists in the program or to finally eliminate the potential for program abuse. As with other areas of insurance, fraud deterrence, detection and prosecution is and will continue to be a constant vigil.

  Some methods of preventing and deterring fraud clash with the political and cultural environment or can introduce disincentives to market participation. Others are less directly intrusive but possibly less effective or more costly. Some popular product features open the door for possible abuse (such as the optional unit structure or prevented planting), but are viewed as market responsive. Appropriate risk rate loads and increased regulatory oversight may not be sufficient to address these concerns.

- **Underwriting and Rating Implications** - Appropriate risk classification and rating or restricting participation of high risk producers have proven to be politically sensitive and thus their usefulness in controlling improper payments has been measured. Pending initiatives for direct agency involvement in loss

adjustment for high value or sensitive claims, agency resolution of good farming practice disputes, preventive product design and enhanced reporting and monitoring efforts should continue to produce positive trends.

- **Administrative and Judicial Remediation -** While the agency is charged with identifying and validating allegations of fraud, it must rely on the Office of Inspector General and local United States Attorneys for the investigation and prosecution of the same. Those activities take so much time and proceed under such confidentiality that fraud perpetrators often continue their activities for years without being brought to justice. In the meantime, agency efforts at debarment and sanction are many times limited by the necessary due process and the necessity to not interfere in the ongoing investigations. It is also not uncommon for such white-collar crimes as crop insurance fraud to take a low priority for U.S Attorneys in high criminal activity areas. State court adjudication and arbitration of disputed claims often result in judgments and settlements that are excessive and are not consistent with program rules and regulations. While the agency has recently increased its efforts to impose sanctions and other remedial actions, it remains to be seen how effective these will be in the administrative reviews required for confirmation of such actions.

- **Product Sales and Servicing –** The accurate and consistent representation of product features in the sales and servicing activity is crucial to the perceived integrity and credibility of FCIC products. Agricultural producers must clearly understand what the products will and will not do, how they can be used in the context of other risk management tools, and what rights and responsibilities accrue to the producer. They must also be confident that the product will be consistently and fairly administered.

  Maintaining well-trained, competent agents, loss adjusters and agency employees is critical to the ongoing success of the program. This is a constant effort. As the program becomes more complex, the demand for more effective validation of agent, loss adjuster skill, knowledge and ethical behavior grow. In addition, it is increasingly important that producers understand product features and their responsibilities under the program. Coordination of efforts to shore up these areas is critical to continued program success.

These and many more program administration challenges are being addressed, but they remain a vulnerability to program integrity. Unless consistent progress is demonstrated, these vulnerabilities can combine with other factors to challenge the viability and current arrangements for crop insurance delivery and administration. Achieving market sensitive, efficient and effective fraud deterrence and prevention is crucial to the ongoing viability of the program, not only to federal officials but to capital providers and honest and efficient agricultural producers who must pay for these additional costs in actuarially sound premium rates.

3. The relative complexity of the program

Through ARPA, Congress removed the authority of the agency to be directly involved in insurance product development and instituted two ways in which new product development projects could be initiated and pursued.

The first is authorized by Section 508h of the Federal Crop Insurance Act (FCIA). This section of the Act provides for private sector initiation and development of products and grants the Board of Directors, as assisted by RMA and expert reviewers, the authority to review their viability and approve them for federal reinsurance, subsidy, administrative expense reimbursement to the delivering companies and reimbursement of development costs to the private developer. Most new product development ideas that have been considered and approved by the FCIC Board of Directors in the past year have come through the 508h venue.

Section 522 of the FCIA authorizes the second method of introducing and developing products. This section allows for the identification of product development needs by the agency – through market demand, and the contracting for feasibility studies, and subsequent development and piloting testing of insurance products with private sector contractors. The FCIC Board also must approve these products.

Under the authority of Section 508h, the FCIC Board has piloted or approved 8 products submitted by private parties. Another 5 products are currently under consideration. There are approximately 90 projects in various stages of feasibility, development and completion under Section 522 authority.

- **Market Issues** - The demands for coverage of additional commodities, areas, producers and risks and for specific types of coverage have created a sense of urgency in developing new products and revising existing risk management tools to address these needs. However, the length of time for a product idea to be evaluated, developed, tested and fully implemented is extremely long – up to eight to ten years in some cases. While care must be taken to ensure that products are not introduced that interfere with market forces or add risk, the current lengthy product development cycle results in frustration among producers, agents, and legislators. While much of the time it takes to develop and introduce products is dictated by due process and statute, the perceived market responsiveness of the program depends on RMA's success in keeping development time to a minimum while guarding program integrity.

- **Delivery System** - The complexity introduced to the program with so many products available and in development is beginning to stretch the capacity of the delivery system to absorb and the ability of the agency to maintain those products. Agents and loss adjusters must master an ever-increasing body of knowledge about products. In some instances, products are duplicated or are evolving to become very similar in feature to each other. This has resulted in

market confusion and inefficiency. The complexity created by the expansion of the product portfolio and the resultant administrative demands on the agency and delivery system participants must be addressed in the near term. The agency has initiated an evaluation of the possible combination of four revenue products and is considering other ways to simplify product introductions and the existing portfolio of products.

- **FCIC Administrative Issues –** The product development and maintenance process requires significant resources and time for the agency to ensure that products that are being developed meet federal specifications for actuarial appropriateness, insurability, market responsiveness and program integrity. In addition, the resources (e.g. information system, administrative and skilled personnel) needed to maintain and support these products, once implemented, are significant and long lasting. While Congress provides funding for the development and implementation of new products, sufficient resources have not been provided for the agency to support and maintain the expanding product portfolio over the long term. In fact, Congressional appropriators appear to be poised to remove requested funding to revise aging computer support systems and implement technology-assisted efficiencies that had been planned to address some of these challenges.

The Agency has started an effort to address some of these issues. For example, it is currently evaluating the consolidation of some of the revenue products offered. The Board of Directors is reviewing the product portfolio and product development process toward establishing a strategic framework for future product introductions.

4. The continuity and support of private sector risk bearers

The continued participation by private risk bearers of the program is an essential influence on its current and future form. Although the government could efficiently bear all of the risk in the program, Congress has mandated that private sector delivery participants take on risk as well. The Standard Reinsurance Agreement (SRA) is the instrument that creates the arrangement of sharing of risk between the government and the approved insurance providers. .

- **Extent of private risk taking -** Under the current SRA, the federal government retains essentially the residual risk tranch and private insurers underwrite the more commercial tranches of risk. Some private sector insurers have adequate capital to support a portion of that risk; some do not. For every company in the system, commercial reinsurance provides a substantial and critical source of risk bearing capital both at the working layers and the excess loss layers of risk. AIPs rely on the reinsurance market for that supplemental capital needed to support business volumes and to protect them from catastrophic loss developments. The relative balance of direct risk bearing capital and that provided from the reinsurance market is an important indicator of financial viability of the market.

The continued efficient access by primary insurers to the reinsurance market is a major consideration in the future shape and administration of the federal crop insurance program. Recently some capacity has exited or evinced less enthusiasm for the market citing political uncertainties, lower relative returns from the crop insurance market and financial weakness of specific players. However, additional capacity has also entered (and is poised to enter) the market, citing new opportunities, the leveraging of operational efficiencies of larger or more efficient players, and the correlation benefits of crop insurance with other risks in an efficient portfolio management context. Continued interest among and capacity and financial terms of reinsurance depends on the size, diversity and profitability of the book of business and the ability of reinsurers to hedge their risks on unique, market sensitive products, such as livestock price risk insurance.

- **Market Requirements** - In traditional insurance markets, direct capital tends to be slow to flee in times of market weakness (such as extended droughts). Reinsurance capital however, moves quickly from one market to another depending on the relative attractiveness of the market and the risk-adjusted returns available. External factors such as trends in the rest of the property casualty market and the capital markets in general have a potentially large and uncontrollable impact on the relative attractiveness of crop insurance to other competing opportunities for reinsurers.

- **Industry Structure and Arrangements** - Some point with concern to the long-term decline in the number of AIPs in the federal crop insurance program and suggest that the industry is weak due to inadequate and uncertain reimbursement scheme for the costs of selling and servicing policies. Another perspective is that the trends of late are indicative of a market rationalization and recognition that operational economies of scale are essential to success. This trend has been ongoing in all financial services sectors for years. The crop insurance market is no exception. It is clear that companies are employing two basic strategies 1) larger books of business or 2) small niche market companies. Both appear to be effective approaches and neither is necessarily more sound or cost effective. The ability of primary insurers to achieve operating efficiencies either through scale or technology or both will continue to shape the delivery system.

  New entrants into the business are not uncommon, but many start small and seek to enter either by serving hard-to-serve markets or by seeking some competitive edge. Entry strategies of necessity either require substantial capital or capital backing or employ some other niche approach. For example, a recent entrant sought and obtained Board approval to use a Congressionally allowed authority to provide premium reductions to the degree it could demonstrate that it could deliver the program for a cost less than the federal cost reimbursement. This approach was controversial among existing agents because part of the savings that generated the premium reduction was achieved through direct delivery over the Internet and part was achieved through reduced agent commissions. The rest of

the agent force challenged this entrant legally and politically, but the approach may foreshadow a gradual change in delivery methods and competition in the industry.

- **Future Developments** - Possible future developments include continuing consolidation of the industry into small, efficient niche firms and very large firms based on scale economies and market dominance. Since the FCIC has capacity for risk bearing, especially in the more profitable segments, it may be an offset to waning private sector reinsurance interest. Pooling of risks by smaller firms, distribution system changes, specialization of functions and other efficiency strategies may also proliferate.

5. The needs of agricultural credit institutions:

Many American agricultural producers live and die on the availability of credit, not only for financing inputs but for fixed and operating assets as well. The increased desire of debt capital providers for security and lending leverage has resulted in crop insurance being a favored element of credit approval and expansion.

- **Collateral** - Agricultural credit is largely a secured debt market. Creditors increasingly view crop insurance as supplemental, and, for certain market segments, primary collateral. The certainty of the amount and timing of crop insurance payments and the fit with underlying loan obligations is becoming an important element of credit evaluations.

- **Credit Risk Management** - Credit institutions have come to rely on crop insurance as an essential tool for managing farm credit and operating risk. Today, many lenders require crop insurance as a condition of making operating loans. To the extent that certain segments of the market experience a decline of their farm equity, crop insurance becomes even more important as a downside risk mitigator.

- **Marketing** - The presence of crop insurance allows Ag lenders to provide credit more assertively knowing that crop insurance provides a floor for price and yield-based portfolio risk.

- **Markets/Product Design** - Ag lenders have begun to seek product innovations in crop insurance (such as cost of production coverage). Lenders are playing a more prominent role in the sale and servicing of crop insurance as evidenced by the large sponsorship of lending institutions in the private agent force. Through that agent force, lending institutions can and will play a more proactive role in shaping the program.

6. The viability of the private sector sale and servicing system:

Various delivery systems have been employed over time to sell and service crop insurance, including direct sales and service by government employed personnel, a combination of private and public sector using privately owned marketing organizations to sell but public loss adjusting, and the current largely private system. A mild debate continues as to the most efficient and effective roles of the private and public sector in the delivery system.

Although the private sector sales and service approach is relatively well established and enjoys substantial political support, there are, nonetheless, areas of concern that must be positively addressed. For example, market and congressional demands for coverage of a broad range of agricultural commodities, areas, practices and risks has necessarily resulted in a complex array of insurance products that require specific design, administration, oversight and a considerable and growing level of knowledge and expertise to properly sell and service the products.

The private sector delivery system plays two important, but distinct roles in the crop insurance program 1) delivery (sales, loss adjustment and administration) and 2) underwriting and funding risk. Each of these roles is undertaken within complex federal guidelines and oversight.

- **Sales and Loss Adjustment –** Insurance companies employ the services of professional sales and servicing agents and loss adjusters in delivering the products. Sales agents must be licensed under state law to qualify for the program. With some exceptions, loss adjusters do not generally obtain state licenses to perform their service. The training of sales and service personnel is currently relegated to the approved insurance providers under the SRA. The large, diverse agent force and lack of uniformity in licensing requirements across the states and the regular introduction of new products or product modifications present a challenge in maintaining adequate training and validation of required agent and loss adjuster skills and knowledge. Concerns regarding the current arrangement include producer complaints and disputes arising out of a lack of agent knowledge of program requirements, alleged agent misunderstanding or misrepresentation of the program, and specific product requirements and benefits; perpetration of fraud and abuse; lack of physical presence in, or proximity of agents and adjusters to, underserved areas, inconsistent interpretation and application of policy provisions, etc. Despite significant efforts by AIPs and the agency to address these issues, challenges persist.

  There is a growing sentiment that additional resources need to be dedicated to ensuring that agents and loss adjusters have adequate skill and knowledge to sell and service crop insurance policies and that such a system is uniformly administered and overseen.

- **Financial and Operational Stability and Effectiveness -** The financial stability and operational effectiveness of the insurance companies that comprise the private sector crop insurance delivery system is essential to public confidence and the

effective administration of the program. Recently a large crop insurer failed financially. Although the transition of policies and agent relationships to other insurers and the adjustment of claims of the failed company have progressed very smoothly, nonetheless concerns persist regarding the public cost of the cleanup effort and the ability of the program to absorb future failures. The federal government supports the integrity of the program and the obligations under agricultural producers' contracts. As such, the possibility of producers losing their insurance coverage or not getting timely paid is minimal. However, the cost to the government, confidence in the program and pressure on the agency's resources presented by the workout of a failed insurer are significant. The concentration of business into a few AIPs and the uncertainty of the system's ability to absorb or adjust to the failure of another large insurer at some future date will continue to shape program administration, structure and regulation.

RMA has increased its scrutiny of all companies in the industry and has expanded its regulatory role to ensure appropriate actions are taken to promptly and effectively deal with emerging financial or operational issues.

- **Industry Competition and Concentration –** Opportunities for competitive differentiation in the crop insurance program are limited due to the requirements that all companies must sell the same products, at rates dictated by the government, under the same administrative rules. Companies are required to take all comers. Moreover, crop insurers are provided expense reimbursement at specified levels that have been decreasing over the past decade. This has driven many companies to consolidate for efficiencies.

  To develop and maintain the returns required by their owners, crop insurers pursue a strategy of amassing a book of business that is concentrated in low risk areas, or to be very efficient, or both. As a result, an intense competition has ensued for sales agents that can bring an attractive book of business to the company and companies are seeking either to grow very large to achieve scale economies or to remain small and efficient. Many companies vie for profitable books of business controlled by attractively postured independent insurance agents and thus insurance commissions rise in accordance with market demand.

  Conflicting challenges grow out of this industry dynamic – a drive for efficiency and a need to spend money to attract good business. Companies have experienced varied success in dealing with these issues by exerting fiscal discipline in their operations, sales and marketing activities. Some have succeeded in achieving that balance and discipline and are running their operations at or below the current administrative expense reimbursement level. A significant number are not. More can and should be done to seek such operational efficiencies.

The private sector has also participated in the development of new products, either by providing working capital for their development, technical expertise, political support or all three. The current method of proposing and developing new products has received

mixed reaction from private sector delivery participants. Some bemoan the lack of transparency of the 508(h) system in which competitive confidentiality protects a private developer until the Board approves the product for delivery. Those who make such observations are concerned about the lack of broad industry participation in development and the risks of introducing new products before they are vetted to the industry.

The future shape of the delivery system will largely be determined by the ability of companies to adapt to tight federal budgets, and to balance market growth with efficiency and to effectively and efficiently deliver and service the ever evolving product portfolio.

7. The evolution and effectiveness of private risk management markets.

Crop insurance functions in the broader market context of other private sector approaches to managing agricultural risk. Agricultural producers seek surety in their prices and production levels through contractual arrangements, commodity futures, traditional insurance products that build on federal products and traditional operational risk management techniques (crop diversification, irrigation, rotation, conservation, etc.) In addition, technology allows producers to plant earlier, harvest later, water less, specialize production for value-added, custom requirements, and avoid loss due to pest and disease to a degree not available in the past. To the extent that these alternative risk management tools and methods are effective, the role of crop insurance will change. At a minimum, crop insurance products must constantly be revised to account for new technologies that affect farming practice or change acceptable growing conditions or areas.

The market for private sector agricultural risk management tools is evolving through the integration of production, processing and distribution segments of the market. Some sectors of production agriculture are far more advanced in the stages of integration so that producers no longer own their commodities, but contract for their production under specific quality and volume requirements and guarantees. These arrangements can affect the eligibility of producers for crop insurance since the producer must own the insurable interest in the commodity to participate in the program. Complex ownership structures can also complicate issues such as substantial beneficial interest allocations of insurance, etc. Large agribusinesses are well positioned to deal with yield risks through geographic diversification, advanced farming technologies and expert management. Price risks frequently are handled through end market forward contracting and where available commodities market instruments. These instruments can be much more efficient than insurance structures in managing risks, but they also have their own brand of challenges. As the structure of industry relationships evolves, the producer may be insulated from direct risks and turn more into a fee for service industry that bears little financial and production risk. That would leave the larger agribusiness that can access many other tools than crop insurance to deal with the risk.

The continued role of crop insurance as an integral part of a holistic agricultural risk management portfolio will depend on the ability of crop insurance to adapt to, and complement, innovations in the rest of the market. The agency is funding research and

development of other risk management tools to complement and augment crop insurance and ultimately to develop a comprehensive risk management tool set.

8. The viability, relative value and complimentarity of alternative public risk management solutions.

Many crops and livestock qualify for benefits under other federal programs. In addition, the U. S. Congress regularly responds to agricultural disasters with ad-hoc federal assistance. The future viability of crop insurance depends on the relative value and certainty of those programs in relation to crop insurance. For example, recent disaster programs have required a reduction in payments to producers who had received crop insurance indemnities. When faced with a choice of paying for crop insurance or waiting to see if Congress will provide free benefits some producers tend to view crop insurance as less attractive. Federal requirements for producers to buy crop insurance if they receive disaster payments can ameliorate this concern. However, care is required to construct such requirements so that they do not displace or discourage crop insurance as a viable risk management tool or relegate it to no more than meeting a requirement for federal aid as opposed to a true risk management program.

Congress has acted in other federal disaster assistance programs to limit repetitive payments to beneficiaries who do not implement risk preventive methods and proactive risk management to include the purchase of insurance. The federal flood insurance program is a good example of how such program can be implemented.

Some question if both disaster payments and crop insurance can coexist over the long term in an environment of large budget deficits and competition for scarce resources for other programs. In other areas such as flood insurance federal assistance and private and public insurance coexist and work together to form an effective safety net for affected citizens. Despite the ready availability, high participation and relatively low deductibles for private property insurance, flood insurance and federal disaster aid also persist. Crop insurance and other governmental assistance program will likely continue to coexist. The discontinuance of either currently appears politically impractical. Policymakers will, over time, need to decide an appropriate balance.

9. The evolving structure and resultant needs of U.S. agriculture

Agriculture is changing rapidly. Farm size is increasing due to consolidation and technology is expanding to meet many heretofore-unmet demands. The ability of the program to keep pace with this evolution is essential to its future viability.

- **Trends and Implications –** The future role of federal crop insurance in agricultural risk management will vary by farm size and type. Larger, diversified and integrated farming operations may find more efficient means to

manage their risks and so their needs for crop insurance may diminish over time. Farms that rely on farm income for their livelihood and continuing availability of farm credit for their operating financing will continue to require this form of risk management. If crop insurance continues to evolve as an essential to credit approval, credit institutions' needs will begin more prominently to influence product development considerations in the future. Smaller hobby farms will take advantage of crop insurance to reduce their losses, but increasingly may find that their risk management is best achieved by off-farm income diversification.

- **Technology** - Advancing agricultural technology will place constant demands of the crop insurance to refresh everything from underwriting and loss adjustment standards, rating, and product development to coverage of new or modified risks.

- **Market Arrangements** - Various arrangements that may provide more stability in future marketing and production such as growing for specific commodity features, value added farming, direct selling to end markets, contract production, cooperative selling, integration, etc. will impact the need for and shape of crop insurance products and the delivery system.

- **Adaptability** - The ability of the crop insurance program to adapt to the evolving market dynamics is essential to its future viability. Current constraints on market responsiveness must be rationalized to realize the full potential of the program to deal with its dynamic markets and to avoid potential obsolescence or marginalization.

10. U.S. public policy considerations

Key policymakers have increasingly viewed crop insurance over the past decades as the principal means by which agricultural risk may be dealt with market principles. The hope has been that crop insurance or in a broader context "risk management tools" would eventually reduce to a minimum, if not altogether eliminate, the need for ad-hoc farm disaster appropriations. This view recognizes the commercial foundations of the program and the need to maintain discipline in the actuarial rating of products, the private sector delivery and risk sharing and the integrity of the insurance framework.

An alternative view held by some policymakers is that crop insurance has limited value except for major program crops, that it is not a viable alternative to federal farm support programs and that it is just another farm program with more strings attached.

The willingness and resolve of policymakers to stay the course of growing this system of risk management tools into the primary method of dealing with agricultural risk will determine the shape of the program over time. If free federal aid is designed and delivered so as to discourage participation in the program, then federal crop insurance will remain a lesser part of the risk management toolkit for farmers and political pressure

to redesign the system or eliminate it will grow. Disaster aid and other farm support programs are very attractive alternatives to crop insurance, but they can also be viewed as attractive in combination with crop insurance. Policymakers that are serious about maintaining and growing crop insurance into a the principal risk management tool will need to maintain a careful balance between dealing with disaster needs in the short term and supporting the growth of crop insurance and other risk management tools in the long term.

- **Public Expectations** - Congress has designed the federal crop insurance program to be carried forward on principles of insurance, to include actuarial soundness, sound underwriting and minimal fraud vulnerability. However, significant political pressure can be brought to bear to relax these parameters or make exceptions in sensitive cases. The discipline and moral courage to maintain integrity of the insurance framework in the face of these pressures is critical to the long-term viability of the program and the continued interest of the private sector to participate.

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- **Constraints –** Federal agencies are constantly under pressure to deliver their programs more cost effectively. Crop insurance is no exception. Congress controls the budget and authorization to continue programs. Priorities and related funding can change dramatically from year to year. While it appears that crop insurance has substantial political support and has been accorded some stability in funding to pay insurance claims, the agency's direct administrative and operating budget and staffing have remained static over time and in real terms have declined dramatically. This is in the face of fairly dramatic growth in the program and related support requirements. While the agency has identified needs for updating its IT support, Congress has not seen fit to honor those requests. However, each new product that is added requires incremental information system and staff resources to support. Eventually the current system and staffing will not be able to safely support the increasingly sophisticated and far reaching product portfolio and Congress may face a diminution of the quality and reach of the program.

  In addition to support for the agency's involvement in and oversight of the program, insurers that deliver the program rely on administrative and operating reimbursement to fund their sales, service and administration of insurance policies. The reimbursement rate has declined over time. The necessary cost of effectively providing these services varies by insurer. Some are able to deliver and service the products for less than the federal reimbursement rate and others are not. The ability of the agency and the delivery system to adapt to continued downward pressure on the reimbursement rate through increasing program efficiencies is crucial. There are various means of achieving cost efficiencies in the program, to include efficiencies in delivery, administration or capital acquisition. These may be achieved through economies of scale, technology, process redesign or program/product redesign. Any viable

solution will require up front investment, cooperation and patience from all parties.

- **International trade considerations –** As crop insurance grows in importance and scope, the degree to which it becomes a significant contributor to payments and programs that are constrained by WTO parameters could begin to influence the program.

Summary and Conclusions:

The solutions to the many challenges and opportunities facing crop insurance must be formulated and achieved within the constraints of actuarial soundness, program integrity and administrative efficiency if the program is to remain in its current commercial-based form. The ability of producers, program delivery system participants and agency officials to address these challenges constructively and economically will in large part determine the continued support of the program by producers, the U.S. Congress and the capital markets. The institutions and market segments that participate in the commercial delivery of the program will have a significant influence on maintaining and evolving the program from its current form. However, over time it is the effectiveness of the program in serving the risk management needs of producers, protecting taxpayers interests and providing an adequate/fair return to risk bearers that will determine its fate.

RMA is actively evaluating the effectiveness of current programs and seeking to address program development needs. The current approach to private sector product development has raised some challenges in maintaining a cogent and stable strategic direction as new products are submitted to the FCIC Board for consideration. Recently, the FCIC Board of Directors commissioned an expert review of existing products in light of market conditions and needs with the intent of establishing a strategic agenda for the development of new products and the evolution of the existing product portfolio. In addition, RMA regularly conducts producer listening sessions and evaluates the policy positions of agricultural lenders and national commodities groups. Any resultant product development strategy will take account of the priorities set forth by Congress and the Administration and the legitimate risk management needs of producers.

The future shape and viability of the program is dependent on many political, economic and societal factors that are beyond the ability of program participants to predict or control. However, based on current trends and interdependencies, crop insurance appears likely to continue in a substantial scale and with sufficient importance, clout and resilience to withstand any foreseeable assault on its continuance. The key question is how it will respond and be reshaped to address its evolving political, market and operating environments, the growing demand for its services and the needs and wants of its various stakeholders.

Appendix 1:
Current Crop Insurance Plans by Commodity

CROP NAME	INSURANCE PLAN NAME
WHEAT	Group Risk Protection Revenue Assurance Income Protection Crop Revenue Coverage APH
BLUEBERRIES	GYC
ONIONS	GYC
CANOLA	Revenue Assurance APH
OATS	APH
MILLET	APH
RICE	Revenue Assurance Crop Revenue Coverage APH
AVOCADOS	Avocado Revenue Coverage APH
PECANS	Pecan Revenue
COTTON	Group Risk Protection Revenue Assurance Income Protection Crop Revenue Coverage APH
COTTON EX LONG STAPLE	APH
MACADAMIA NUTS	GYC
MACADAMIA TREES	Dollar Amount of Insurance
ALMONDS	APH
WALNUTS	GYC
FLAX	APH
FORAGE SEEDING	Dollar Amount of Insurance
FORAGE PRODUCTION	Group Risk Protection GYC APH
PEACHES	GYC APH
PRUNES	GYC
RAISINS	Dollar Amount of Insurance
SUGARCANE	APH
SUGAR BEETS	APH

CROP NAME	INSURANCE PLAN NAME
CORN	Group Risk Protection Revenue Assurance Income Protection Crop Revenue Coverage Indexed Income Protection Group Risk Income Protection APH
SWEET CORN	APH
POPCORN	APH
FRESH MARKET SWEET CORN	Dollar Amount of Insurance
CHILE PEPPERS	Fixed Dollar
PROCESSING BEANS	GYC
DRY BEANS	GYC APH
RANGELAND	Group Risk Protection
SAFFLOWER	APH
HYBRID SORGHUM SEED	Yield Based Dollar Amount of Insurance
GRAIN SORGHUM	Group Risk Protection Income Protection Crop Revenue Coverage APH
TABLE GRAPES	GYC
GRAPES	GYC Span
	GYC
APPLES	GYC
CULTIVATED WILD RICE	GYC
CHERRIES	Fixed Dollar
CRANBERRIES	APH
FIGS	GYC
ADJUSTED GROSS REVENUE-LITE	Adjusted Gross Revenue - Lite
HYBRID CORN SEED	Yield Based Dollar Amount of Insurance
ADJUSTED GROSS REVENUE	Adjusted Gross Revenue
GREEN PEAS	GYC
WINTER SQUASH	Dollar Amount of Insurance
DRY PEAS	GYC APH
CRAMBE	APH
MUSTARD	APH
CABBAGE	GYC
NURSERY (FG&C)	Dollar Amount of Insurance
MINT	APH
PEANUTS	Group Risk Protection APH
SUNFLOWERS	Revenue Assurance APH

CROP NAME	INSURANCE PLAN NAME
SOYBEANS	Group Risk Protection Revenue Assurance Income Protection Crop Revenue Coverage Indexed Income Protection Group Risk Income Protection APH
PEPPERS	Dollar Amount of Insurance
POTATOES	GYC APH
SWEETPOTATOES	APH
FRESH MARKET TOMATO	Dollar Amount of Insurance APH
TOMATOES	APH
PEARS	GYC
BARLEY	Revenue Assurance Income Protection APH
PLUMS	GYC
RYE	APH
FRESH MARKET BEANS	Dollar Amount of Insurance
PROCESSING CUCUMBER	Fixed Dollar
ALFALFA SEED	APH
RASPBERRY AND BLACKBERRY	Fixed Dollar
STRAWBERRIES	Fixed Dollar
CLAMS	Aquaculture Dollar
GRAPEFRUIT	GYC
LEMONS	GYC
MANDARINS	GYC
MINNEOLA TANGELOS	GYC
ORANGE TREES	Tree Based Dollar Amount of Insurance
GRAPEFRUIT TREES	Tree Based Dollar Amount of Insurance
LEMON TREES	Tree Based Dollar Amount of Insurance
LIME TREES	Tree Based Dollar Amount of Insurance
ALL OTHER CITRUS TREES	Tree Based Dollar Amount of Insurance
AVOCADO TREES	Tree Based Dollar Amount of Insurance
CARAMBOLA TREES	Tree Based Dollar Amount of Insurance
MANGO TREES	Tree Based Dollar Amount of Insurance
NAVEL ORANGES	Fixed Dollar GYC
SWEET ORANGES	GYC
VALENCIA ORANGES	GYC
FRESH APRICOTS	GYC
PROCESSING APRICOTS	GYC
FRESH NECTARINES	GYC

CROP NAME	INSURANCE PLAN NAME
PROCESSING CLING PEACHES	GYC
PROCESSING FREESTONE	GYC
FRESH FREESTONE PEACHES	GYC
EARLY & MIDSEASON ORANGES	GYC
LATE ORANGES	GYC
ALL OTHER GRAPEFRUIT	GYC
RUBY RED GRAPEFRUIT	GYC
FLUE CURED TOBACCO	Tobacco (Guaranteed Production)
FIRE CURED TOBACCO	Tobacco (Guaranteed Production)
BURLEY TOBACCO	Tobacco (Quota)
MARYLAND TOBACCO	APH
DARK AIR TOBACCO	Tobacco (Guaranteed Production)
CIGAR FILLER TOBACCO	APH
CIGAR BINDER TOBACCO	Tobacco (Guaranteed Production) APH
CIGAR WRAPPER TOBACCO	APH
ORLANDO TANGELOS	GYC
RIO RED & STAR RUBY	GYC
CITRUS TREES I	Dollar Amount of Insurance
CITRUS TREES II	Dollar Amount of Insurance
CITRUS TREES III	Dollar Amount of Insurance
CITRUS TREES IV	Dollar Amount of Insurance
CITRUS TREES V	Dollar Amount of Insurance
CITRUS I	Dollar Amount of Insurance
CITRUS II	Dollar Amount of Insurance
CITRUS III	Dollar Amount of Insurance
CITRUS IV	Dollar Amount of Insurance
CITRUS V	Dollar Amount of Insurance
CITRUS VI	Dollar Amount of Insurance
CITRUS VII	Dollar Amount of Insurance
SWINE	Livestock Risk Protection Livestock Gross Margin
FEEDER CATTLE	Livestock Risk Protection
FED CATTLE	Livestock Risk Protection

Appendix 2:
Representative Current Crop Insurance Research and Development Projects

Insurance Plan	States	Commodities
Cost of Production	AL, AZ, CA, GA, LA, MD, NC & TX	Wheat, Onions, Corn, Soybeans, Rice, Sugarcane, Nectarines, Apricots, Cotton, Peaches, Almonds, Cranberries
Hawaii Tropical Fruits and Trees	Hawaii	Hawaii Tropical Fruits & Trees
Pasture and Rangeland Program	Nationwide	Pasture & Rangeland
Preferred Producer Discount Multi-Year Coverage	MI, NY, NC, ND, PA & WI	Corn, Corn Silage, Cotton, Processed Sweet Corn, Sweet Potatoes & Wheat
Cut Flowers and Cut Cultivated Floral Greens Pilot Program	N/A	Cut Flowers Cut Greens
Revenue Coverage Plans	NY, PA, OR, VT, WA, FL, CA, ID, ME, NH, VT, IA, IL & IN	Apples, Avocados, Grapefruit, Oranges, Dry Beans, Dry Peas, Lentils, Maple Syrup & Corn
Quarantine Crop Insurance Pilot Program Research and Program Design Report	CA, FL, AZ, TX & OK	Wheat, Avocados, Citrus
Perennial Pathogen Destruction	AZ, CA, FL, MI, OR, PA, TX & WA	Almonds, Hops, Avocados, Pears, Oranges, Apples, Walnuts, Grapes, Peaches, Citrus, Blueberries, Cherries, Pecans, Blackberries, & Hazelnuts,
Fresh Vegetables Pilot Program	CA, MI, WA, AZ, FL, TX, & WA	Asparagus, Broccoli, Celery Cauliflower, Head, Leaf, Romaine Lettuce & Spinach
Lawn Seed Pilot Program	CA, FL, ID, MO, OR & WA	Lawn Seed
Biomass	FL, IL, IN, IA, LA, MI, MN, ND & TX	Alfalfa, Corn, Gr. Sorg, Potatoes, Soybeans, Sugarbeets & Wheat
Melon Pilot Program		Melons
Hybrid Sunflower Seed, Sesame and Spelt Crop Insurance Programs	TX, CA, OK, TX, OH & MI	Hybrid Sunflower Seed, Sesame & Spelt

Vegetable and Flower Seed Pilot Program	CA, AZ, WA, OR, ID, IA & WI	Onions, Melons, Broccoli, Cauliflower, Asparagus, Carrots, Radish, Spinach, Cabbage, Sweet Corn, Dry Bean, Lettuce, Cucumber, Garlic, Wildflowers, Marigold, Alyssum Sweet, Sweet Pea & Other Flower Seeds
Christmas Tree Pilot Program	Northern States	Christmas Trees
Direct Marketing of Perishable Ag Crops	CA, CT, NC, OR, WI & WV	To be Determined
Livestock Insurance Program	PA, NY, WI, KE, FL, ID, CA, WV, TX, WY, OH, GA, AL, MD, VA & DE	Dairy, Sheep, Broiler & Layer Chickens
Tree, Vine, Bush Replacement Risk Management Program	CA, TX, NY, WA, GA, MA, WI, OR, WA, MI & NJ	Citrus, Apple & Pecan Trees: Cranberry & Grape Vines: Cultivated Blueberry Bushes
Partnership with APHIS for Research on Livestock Disease Risk Management	TBD	Livestock
Partnership for R&D for Revenue Insurance for Cattle and Hog Producers	TBD	Cattle & Hogs
Partnership for R&D for 4 Species of Aquaculture	TBD	Catfish, salmon, trout & baitfish
R&D for Triticale Risk Insurance Product	WA, OR, TX, KS & NE	Triticale
Apiculture Insurance Product	CA, TX, FL, NY, SD, HI	Bees