Insurance Program Development for Poultry Business Interruption

Order Number: D15PD00545

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EXECUTIVE SUMMARY

The Statement of Work (SOW) for Order Number D15PD00545 identifies the objectives of the project as "…to obtain information; provide analyses; and produce a data gathering report that may support developing an insurance program covering business interruptions incurred by poultry growers[1] as a result of an integrator's bankruptcy" and if feasible under a contract option to develop an insurance pilot program consistent with the requirements of the United States Department of Agriculture (USDA) Risk Management Agency (RMA).

The agricultural economy is structured such that certain crop production is carried out by growers. In the poultry industry, growers produce birds and/or eggs under contract with integrators[2] in facilities[3] the growers own. Growers and integrators, as defined in the contract, are distinguished in this report from owner/producers, who own poultry and grow birds or eggs for sale into markets for human consumption or for release into the wild.

Much of the poultry meat industry is vertically integrated. Integrators typically control feed supply, grow-out requirements, transportation, slaughter, processing, and wholesale distribution and may control brood egg production and hatching. The integrators consequently have remarkable control of their products and vast market power relative to growers. There are many fewer growers in the layer and gamebird sectors than in the meat sectors.

Under the terms of the contract for this project[4] and the enabling legislation[5] for this study, the proposed insurance product would provide coverage for growers by paying an indemnity for a single cause of loss: the bankruptcy of the integrator. Insurance for business interruption is available for many businesses, including sectors of the poultry industry. The Contractor has identified insurance in the private sectors covering business interruption losses of a grower resulting from integrator bankruptcy. A determination would need to be made about whether this insurance is "generally available."

The proprietary nature of poultry industry data, especially those data maintained by integrators has made it particularly difficult to obtain industry data about potential integrator bankruptcies. This proprietary nature extends to poultry industry contracts, which has made it difficult to obtain grower data. Such data are important for development of an actuarially-sound crop insurance product as well as appropriate measures of the potential liability under such products. Poultry industry data, including estimates derived by the USDA National Agricultural Statistics Service (NASS) from surveys, are available for the larger sectors of the industry: chickens

[1] The contract on page 22 defines grower as: "Individual(s) who raise poultry under a production contract for an integrator." For the purpose of this report, the term "growers" will be used to identify persons (in the legal sense) retained under contract by the owner of poultry or an agent of that owner to manage the growth of poultry for delivery of mature birds or eggs to the owner.

[2] The contract on page 22 defines an integrator as: "An individual or company that owns poultry that is raised by a contracted grower/producer or that is involved with harvesting, processing and marketing goods from poultry (may include slaughter and processing).

[3] Generally called houses.

[4] USDA, RMA, 2015, SOW, Order Number D15PD00545, page 25 of 39, Section 2.2., Section 2.2.

[5] 75-30 - Agricultural Adjustment Act of 1938 & Federal Crop Insurance Act as amended through P.L. 113–79 enacted February 7, 2014, Subsection 522(c)(22)(C)(i) and (ii).

(including layers and the eggs they produce), ducks, and turkeys. Production data on other sectors of the poultry industry are geographically limited, sporadic, and in many cases anecdotal. Over the course of 6 telephone listening sessions, the Contractor gathered feedback from more than 50 stakeholders, although it is challenging to determine a precise number of participants on a telephone listening session. There were several common themes in the stakeholder feedback. Growers frequently have heavily leveraged operations and an integrator bankruptcy that results in the loss of even a single production cycle can cause bankruptcy. Growers are in fact interested in business interruption insurance and would like that insurance to be incorporated into the Federal Crop Insurance Corporation (FCIC) portfolio. However, the causes of loss for which growers expressed interest was catastrophic disease and the subsequent down times required to address the potential of contamination in their houses. Insurance for business interruption caused by integrator bankruptcy was not a topic growers considered vital to their management of risk. Consequently, if the FCIC were to add insurance for business interruption caused by integrator bankruptcy to its portfolio, the Contractor believes marketing the insurance would be unusually difficult when compared to other insurance products offered. Bankruptcy of the integrator is not the risk of greatest concern to these persons.[6]

Insurance for the interruption of a grower's business caused by integrator bankruptcy does not meet all the FCIC insurance program criteria outlined by RMA in the Work Statement (SOW) for the contract.[7] Substantial barriers would exist during a development effort in establishing acceptable risk as defined in the contract.[8] In the whole Farm Revenue Protection (WFRP) program, the insurance precludes provision of insurance for rent and labor payments to growers because the authority for indemnities is limited to "… losses of the insured commodity…"[9]

Due to the sporadic nature of the proposed cause of loss, traditional quantitative rating approaches would be ineffective and most likely rates would need to be established based on the financial condition and business plan of the integrator. The necessary data are considered proprietary. The lack of a market for the proposed insurance makes it particularly difficult to assure a development meet the FCIC insurance program criteria.

From RMA's perspective, there are the fundamental questions regarding the insurability of the grower's interest, and non-trivial questions regarding identification, measurement, and tracking of the value of a grower's business. The two contracts the Contractor was able to obtain from the thousands that exist provides no basis for demonstrating the contract language would be sufficient for establishing an appropriate liability to be insured under a business interruption policy as described in the contract for this study. Furthermore, the existing reinsurance agreements with Approved Insurance Providers (AIPs) may not be appropriate for an insurance program covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy. However, an appropriate reinsurance agreement could no doubt be developed. In light of the many issues identified in this study, including the failure of the proposed insurance product for the poultry industry to meet the FCIC insurance program criteria, the Contractor

[6] The term person is used in the context of the Common Crop Insurance Policy Basic Provisions: any entity with an insurable interest.
[7] USDA, RMA, 2015, *Op. cit.*, page 25 and 26 of 39.
[8] *Ibid*., page 20 of 39.
[9] Title V—Crop Insurance, Subtitle A—Federal Crop Insurance Act, 7 U.S.C. 1508(a)(1).

believes it is not currently feasible to develop a FCIC insurance program covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy.

I. INSURANCE PRODUCT DESCRIPTION

The SOW identifies the objectives of the contracted effort as "…to obtain information; provide analyses; and produce a data gathering report that may support developing an insurance program covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy."[10] To address this objective, the Contractor is required to provide a description of an insurance product covering business interruptions incurred by poultry growers with the sole insurable cause of loss being an integrator's bankruptcy. Providing a policy[11] is beyond the scope of this element of the contract. Product development is an option under the contract that has yet to be exercised the RMA on behalf of the FCIC.

The product description in this section of the report is intended to assist the reader in understanding the logical construct of an insurance product within the FCIC portfolio covering a poultry grower's losses resulting from business interruption caused by an integrator's bankruptcy. Details about poultry production and the prevalence of growers and integrators within poultry industry sectors are provided elsewhere in this report.

The FCIC "promotes the economic stability of agriculture through a sound system of crop insurance."[12] The Federal Crop Insurance Act (Act) establishes a Board of Directors to manage the FCIC subject to supervision by the Secretary of Agriculture. "The Board delegates to the manager of the FCIC (RMA Administrator) certain authorities and powers."[13] RMA "operates and manages the FCIC… Private-sector insurance companies sell and service the policies. RMA develops and/or approves the premium rates, administers premium and expense subsidies, approves and supports products, and reinsures the companies."[14] The Federal Crop Insurance Act[15] provides the legislative authority for the Federal Crop Insurance program. The general administrative regulations of the FCIC are codified at 7 CFR Part 400. Crop is defined in the contract for this report as "An agricultural commodity insured under the authority of the [Crop Insurance] Act."[16] The FCIC portfolio covers a wide variety of crops and covers losses of production and, in some cases, of revenue.

The contract for this report provides essential definitions for a business interruption policy within the FCIC portfolio. A grower is defined as: "Individual(s) who raise poultry under a production contract for an integrator."[17] The contract defines producer using exactly the same language. Integrator is defined in the contract as: "An individual or company that owns poultry that is raised by a contracted grower/producer or that is involved with harvesting, processing and

[10] USDA, RMA, 2015, SOW, Order Number D15PD00545, page 25 of 39.
[11] A formal contract issued by an insurance company to an insured that identifies coverage limit, serves as legal evidence of the conditions of the insurance agreement, sets precise terms of the coverage provides, and states information such as the specific perils covered, duration of coverage, amount of premium, mode of payment, and deductibles/co-pay structure.
[12] USDA, RMA, 2015, Federal Crop Insurance Corporation, http://www.rma.usda.gov/fcic/, accessed July 2015.
[13] *Ibid.*
[14] USDA, RMA, 2013, About the Risk Management Agency, http://www.rma.usda.gov/pubs/rme/aboutrma.pdf, accessed July 2015.
[15] 75-30 - Agricultural Adjustment Act Of 1938 & Federal Crop Insurance Act as amended through P.L. 113–79, enacted February 7, 2014, accessed July 2015.
[16] USDA, RMA, 2015, SOW, *Op. cit*., page 21 of 39.
[17] USDA, RMA, 2015, SOW, Order Number D15PD00545, page 22 of 39.

marketing goods from poultry (may include slaughter and processing)."[18] The growers who raise poultry under a production contract for an integrator are the potential insureds.

The contract for this report does not define a production contract or bankruptcy. However, production contracts are defined in many FCIC policies. A typical definition for a production contract in a crop insurance policy includes the requirement the contract be a written agreement between the insured and the buyer, signed by both parties on or before the date specified in the crop insurance policy, containing at a minimum:

- The insured's commitment to grow the crop;
- The buyer's commitment to purchase all the production that meets the quality standards identified in the contract; and
- Generally states there is a price for production, such as a fixed price, or a method to determine such price based on published information compiled by a third party, that will be paid to the insured for the production.

Generally, the requirement is that the contract be submitted on or before the acreage reporting date. Insurance attaches at "planting," which in the case of poultry would likely be population of the house.

In the case of a poultry production contract, because there are such limited spot markets, the Contractor expects a FCIC product would require a poultry production contract to commit the buyer to a mechanism to determine the price at which all production meeting the quality standards identified in the contract will be purchased.

Mechanisms exist in existing policies to address cases where an owner/producer who is an integrator and processes its own production would fit the contract definition of grower. Similar terms could be drafted for a poultry policy.

Bankruptcy has a precise legal definition. It is a federally-authorized procedure by which a debtor, be it an individual, corporation, or municipality, is relieved of most liability for its debts by making court-approved arrangements for the partial repayment of those debts. Further discussion of bankruptcy is found in the risk management section.

The liability for the product would be the potential uncontrollable losses to the net income of the grower. While fixed costs would be included in calculation of the net income, variable costs that can be avoided would not. Indemnities would be calculated by loss adjustment procedures that determine both actual insurable losses to the grower's net income and verify the cause of those losses was exclusively the bankruptcy of the integrator. If there were additional causes of loss, adjustments to the indemnities would reflect the impact of each cause on the loss, and only that portion of the loss that could be attributed to the integrator's bankruptcy would be indemnified.

[18] *Ibid.*

II. MARKETING ENVIRONMENT

The SOW requires the Contractor to describe how prices are impacted or how monetary changes occur in the poultry industry. Furthermore, the SOW instructs the Contractor to provide copies of entire contracts if prices are determined by contract and establish the insurable interest of the potential insured. Finally, the SOW instructs the Contractor to identify critical time periods impacting marketing in the poultry industry for a given region. The Contractor examined those aspects of the poultry industry directly impacted by the grower/integrator relationship and investigated the financial character of those relationships. The results of those investigations are discussed in this section.

II.A. Background

The U.S. commercial poultry industry includes production of more than 15 species of domesticated fowl and commercial game-birds, production of eggs from these species for hatching, and production of eggs from a limited number of these species for direct consumption by humans. Production of all poultry and eggs comprises approximately $43 billion of the U.S. agricultural economy. [19] The financial impact of the three major commercial poultry sectors (broilers, layers, and turkeys) collectively in the U.S. agricultural economy is comparable to the financial impact of soybeans. There is also a large processing added-value component in all poultry sectors.

Much of the poultry industry is vertically integrated. A small number of very large firms have "integrated" many elements of production, marketing, and sales. Integrators for poultry meat production may control feed production, brood egg production, hatching, grow-out, transportation, slaughter, initial processing (preparation of a marketable whole bird), further processing to retail products such as lunch meat, and wholesale distribution. Although integrators play a smaller role in egg production, they may control feed production, layer hatching and grow-out, transportation, processing, and wholesale distribution. Furthermore, this same level of integration characterizes many egg producers, including most of the larger producers. Even relatively small egg and poultry producers/integrators may own and manage many aspects of their businesses (e.g., rearing of birds, feeding, housing, husbandry, and marketing of their product) and are capable of managing many elements of the process. Consequently, the major sector stakeholders have a tremendous amount of control of their products and vast market power relative to their growers.

II.B. Poultry Industry Production and Value

The report "Poultry - Production and Value Summary (Summary)" issued annually by NASS provides a view into the poultry industry for the previous year. These reports are released at the end of April each year beginning 1986. The Summary reports replaced the Poultry Production, Disposition, and Income reports released in 1984 and 1985. The Poultry Production, Disposition, and Income reports replaced the Poultry: Production, Disposition & Income reports of 1977 through 1983.

[19] USDA, NASS, 2012 Census of Agriculture, Table 2, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_002_002.pdf, accessed April 2015.

Though poultry is raised in every state in the Union, the Summary only reports broiler production data from a selected grouping of states: the top 20 production states, Other States (California, Illinois, Indiana, Iowa, Louisiana, Michigan, Nebraska, New York, Oregon, and Washington), and a 19 State Total (Alabama, Arkansas, California, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and West Virginia). The data for the Other States category is aggregated to avoid disclosing individual operations. Of the 20 states reported individually, Wisconsin, Minnesota, and Ohio are not included in the 19 state aggregated total and California and Louisiana are added.[20] The U.S. poultry industry produced 8.5 billion broilers in 2014 resulting in 51.4 billion pounds live weight. The average value of broilers, as reported in the Summary report, can be extrapolated by head or pound by dividing the total value of production by either the total number produced or the total pounds produced. In 2014 the average value per bird for broilers was $3.83 and the average value per pound was $0.64 as compared to $3.60 and $0.61 in 2013. Broiler production makes up about 68 percent of the total value of poultry production in the United States.

For turkeys, the Summary reports production data from the top 14 production states and then combines all other production under the aggregated Other States category. The U.S. poultry industry produced 237.5 million turkeys in 2014 resulting in 7.2 billion pounds live weight (an average of 30.4 pounds of meat per bird). Turkey value per bird in 2014, on average, was $22.33 as compared to $20.16 in 2013. Per pound, turkey meat was valued at $0.74 in 2014 as compared to $0.67 in 2013. Turkey production makes up about 11 percent of the value of poultry production in the United States.

Egg production occurs and is tracked in every state. The Summary reports individual state-level data for 37 states and aggregates the other 13 under the heading Other States. The other states in the 2014 report included Alaska, Arizona, Delaware, Hawaii, Idaho, Kansas, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, Rhode Island, and Wyoming. These 13 states account for less than 3 percent of the total value of egg sales in the United States in 2014. The U.S. poultry industry produced 99.7 billion eggs in 2014 valued at more than $10.1 billion or $0.82 per dozen. This value includes all eggs for sale, both broken for processing and shell eggs (table eggs). Egg production makes up about 21 percent of the value of poultry production in the United States.

As can be seen in the tables from the USDA NASS 2012 Census of Agriculture, poultry is produced in every state. However, there are very distinct regions where production of certain segments within the poultry industry is highly concentrated. Broiler production is concentrated in the southeastern United States, stretching from Arkansas to the south and east through Mississippi, Alabama, Georgia, and North Carolina. Turkeys have two primary production regions, the Midwest (Minnesota, Arkansas, Missouri, Indiana, Iowa, and Wisconsin) and the Southeast (North Carolina, South Carolina, and Virginia). Layer production is also centered primarily in the Midwest (Iowa, Ohio, Indiana, Michigan, and Arkansas). Due to the fact that poultry production is geographically dispersed, even in the concentrated regions, the Contractor

[20] USDA, NASS, April 2015, Poultry – Production and Value 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed May 2015.

does not believe an insurance product covering losses associated with integrator bankruptcy will adversely affect the market for poultry.

Table 1. 2012 Top Ten Broiler Production States

State	Farms	Number Sold
Georgia	2,743	1,369,162,943
Alabama	2,356	1,001,776,907
Arkansas	2,109	975,950,973
North Carolina	1,969	801,883,037
Mississippi	1,430	761,180,486
Texas	1,566	600,353,797
Kentucky	826	305,383,434
Maryland	854	304,729,435
California	421	273,277,272
Missouri	784	272,389,497

Source: USDA, NASS, 2012 Census of Agriculture, Volume 1, Chapter 2, US State Level, Table 19, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_US_State_Level/st99_2_019_019.pdf, accessed July 2015.

Table 2. 2012 Top Ten Turkey Production States

State	Farms	Number of Birds
Minnesota	559	19,449,992
North Carolina	829	17,191,277
Arkansas	458	8,821,769
Missouri	885	7,572,505
South Carolina	430	6,999,565
Virginia	663	5,160,805
Indiana	663	5,084,794
California	682	4,532,307
Iowa	402	4,383,172
Wisconsin	631	3,468,522

Source: USDA, NASS, 2012 Census of Agriculture, Volume 1, Chapter 2, US State Level, Table 19, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_US_State_Level/st99_2_019_019.pdf, accessed July 2015.

Table 3. 2012 Top Ten Layer Production States

State	Farms	Number of Birds
Iowa	3,821	52,218,870
Ohio	8,548	28,312,692
Indiana	5,584	25,587,222
Pennsylvania	9,539	25,147,630
Texas	19,748	20,902,244
California	6,744	19,000,779
Georgia	3,483	17,445,067
North Carolina	4,996	13,091,384
Michigan	6,783	12,676,021
Arkansas	3,549	12,545,952

Source: USDA, NASS, 2012 Census of Agriculture, Volume 1, Chapter 2, US State Level, Table 19, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_US_State_Level/st99_2_019_019.pdf, accessed July 2015.

Inasmuch as this project is geared toward integrator business interruption; the number of birds on a particular operation or within a particular region may only serve to indicate a small part of the risk associated with such focused coverage. The state with the highest percentage of poultry farms is Texas with nine percent of the total poultry operations in the United States. The number two state is Pennsylvania with 4.73 percent. Texas has at least nine integrators operating in the state and Pennsylvania has seven. Should an integrator declare bankruptcy in either of these states, there are multiple integrator companies with whom the affected operators might contract.

The Contractor researched integrator geographical dispersion to determine how many states are only served by one integrator. There are multiple small integrators which service smaller niche markets throughout the United States. As these are generally regional or local in their focus, the Contractor focused this research on 47 top integrators as identified by Watt Poultry USA. The Contractor identified 15 broiler integrators, 11 layer integrators and 21 turkey integrators (See Table 4).

Table 4. Top Integrators

Processor	Bird	Processor	Bird	Processor	Bird
Butterball, LLC	Turkey	House of Raeford Farms Inc.	Broilers	Prestage Foods	Turkey
Cal-Maine Foods	Layers	Jennie-O Turkey Store	Turkey	Rembrandt Enterprises	Layers
Cargill Turkey & Cooked Meats	Turkey	Keystone Foods LLC	Broilers	Rose Acre Farms	Layers
Center Fresh Group	Layers	Koch Foods Inc.	Broilers	Sanderson Farms Inc.	Broilers
Centrum Valley Farms LP	Layers	Kraft Foods, Inc. (Oscar Mayer)	Turkey	Simmons Foods Inc.	Broilers
Cooper Farms	Turkey	Michael Foods	Layers	Trillium Farm Holdings	Layers
Dakota Provisions	Turkey	Michigan Turkey Producers	Turkey	Turkey Valley Farms	Turkey
Daybreak Foods	Layers	Midwest Poultry Services LP	Layers	Tyson Foods	Turkey / Broilers
Empire Kosher Poultry Inc.	Turkey	Mountaire Farms Inc.	Broilers	Virginia Poultry Growers Coop.	Turkey
Farbest Foods, Inc.	Turkey	Norbest, Inc. (Moroni Feed Co)	Turkey	Wayne Farms LLC	Broilers
Fieldale Farms	Broilers	Northern Pride Inc.	Turkey	Weaver Brothers	Layers
Foster Farms	Turkey / Broilers	O.K. Industries	Broilers	West Liberty Foods	Turkey
George's Inc.	Broilers	Peco Foods	Broilers	Whitewater Processing	Turkey
Hain Pure Protein Corp.	Turkey	Perdue Farms Inc.	Turkey / Broilers	Zacky Farms, LLC	Turkey
Hillandale Farms	Layers	Pilgrim's	Broilers		

Source: Broilers – After WATTAgNet.com, 2015, Top Poultry Companies, The world's leading broiler, turkey and egg producers, http://www.wattagnet.com/worldtoppoultry.html, accessed July 2015.

The Contractor assigned each state to one of three categories: 1) states where poultry value amounted to less than 2 percent of the total agricultural production value for that state; 2) states with only one integrator identified as operating in that state; and 3) states where multiple integrators were identified as operating in that state. There were 15 states which were identified as being in category 1, 6 states with a single integrator, and 30 states with multiple integrators. The state with the most identified integrators was North Carolina with 15, followed closely by Arkansas with 14. The Contractor believes the number of integrators, particularly in highly populated poultry production states, is such that risk associated with a bankruptcy by one integrator would be lessened by the affected grower having relatively quick access to another integrator for future contracts.

Private insurance is available for business interruption resulting from integrator bankruptcy through HUB International. These insurance brokers and consultants work with contractors in many industries to address financial risks in contractual agreements. The liability covered is generally tied to potential lost revenues and to existing credit obligations of the insured. Rating is based on integrator finances when available (from public sources such as annual financial reports of publicly traded integrators) and from additional information identified by underwriters in drafting one-off contracts. Some of these policies are offered as standard policies while others are on offer as surplus line policies.

II.C. Broiler Sector

The term 'broiler' is the poultry industry name for a young chicken raised for meat. With the value of broiler production in 2014 totaling almost $33 billion,[21] broilers account for about two thirds of the farm-level value of production and sales of poultry products in the United States.[7,22] The broiler sector is dominated by vertically-integrated agribusiness firms. People in the industry refer to these firms as either broiler companies or integrators. In the government literature they are occasionally called "dealers" or "contractors." In 2015, 15 vertically integrated firms controlled almost 90 percent of U.S. broiler production (Table 5).[23] Consolidation in the industry has resulted in "…significant structural change in recent decades…the industry has evolved to a structure including vertical integrators that contract with producers to raise their animals under strict specifications." Under this integrated structure, "Vertically integrated companies in a supply chain are united through a common owner. Usually each member of the supply chain produces a different product or service, and the products combine to satisfy a common need…"[24] To avoid confusion in the discussions in this report, the Contractor will avoid using the term "producer" except in quotations and will generally refer to either integrators, growers, or owner/producers.

[21] USDA, NASS, 2015, Poultry Production and Value, 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015

[22] The Poultry Site, Poultry News, "Value of US Poultry Production Has Doubled in 14 Years", http://www.thepoultrysite.com/poultrynews/33264/value-of-us-poultry-production-has-doubled-in-14-years, accessed July 2015.

[23] WATT Poultry USA, 2015, Top Broiler Producing Companies, http://www.wattagnet.com/Worldtoppoultry/US_broiler_producers.html, accessed July 2015.

[24] National Chicken Council, Vertical Integration, http://www.nationalchickencouncil.org/industry-issues/vertical-integration/, accessed July 2015.

Table 5. Top Broiler Integrators, United States, Through July 2015

Integrator	Percent of Market	Head Processed
Tyson Foods	25.30%	1,862.10
Pilgrim's Pride	17.50%	1,493.40
Perdue Farms	7.60%	644.80
Koch Foods	7.30%	624.00
Sanderson Farms	5.30%	451.90
Wayne Farms	3.90%	335.40
Mountaire Farms	3.80%	322.40
Foster Farms	3.40%	293.80
George's	3.40%	286.00
Peco Farms	2.30%	194.50
Keystone Farms	2.20%	188.80
Simmons Foods	2.20%	189.80
House of Raeford Farms	2.10%	177.80
O.K. Foods	1.80%	150.80
Fieldale Farms	1.80%	150.80

Source: After WATT Poultry USA, 2015, Top Broiler Producing Companies, http://www.wattagnet.com/Worldtoppoultry/US_broiler_producers.html, accessed July 2015.
The Contractor converted weekly numbers in that report to annual processed numbers.

The Crop

Modern commercial broilers, typically known as Cornish crosses or Cornish-Rocks, are specially bred for large-scale, efficient meat production and grow much faster than egg or traditional dual purpose breeds. Modern commercial broilers are noted for having very fast growth rates, a high feed conversion ratio, and low levels of activity. Broilers often reach a harvest weight in only eight weeks. Commercial broilers have white feathers and yellowish skin. These birds also lack the typical "hair"[25] characterizing many breeds that requires singeing after plucking. Both male and female broilers are slaughtered for their meat. The genetic lines for most broilers produced in the United States are managed by three companies: Aviagen Inc., Hubbard LLC (Americas), and Avian Technology Intl LLC.[26] These companies also have substantial international sales of chicks and parent stock (e.g., Aviagen reports sales in 130 countries).

Growers own the broiler houses, provide labor, and generally have the responsibility to manage biosecurity, house preparations, and litter. The vast majority of broiler production operations are managed under a contractual structure that dictates both the manner in which the enterprise is managed and how returns are distributed. The impact of these contracts on grower enterprises is the central focus of literature regarding risk management in the poultry industry.

At the outset, it is important to clarify that farm-level broiler prices, receipts, and values reported by various agencies, including NASS, are calculated or estimated values. They are not the values received by broiler growers which are dictated by the contractual agreement entered into between the grower and integrator. The published "prices received" values are live-weight-equivalent prices calculated by subtracting processing costs from ready-to-cook wholesale prices and multiplying that result by the dressing percentage. These values are useful primarily as

[25] A filoplumes consists primarily of the rachis, the main shaft of a feather. In some breeds filoplumes lie under the contour (surface) feathers providing support.
[26] WattAgNet, 2014, Who's Who.

industry-wide indicators of the relative price trends. The revenue contract growers actually receive is a contracted payment for capital and labor services rendered. Payment is based on pounds of bird delivered multiplied by the contract price, which is derived from a two-part, piece-rate tournament scheme, i.e., a base rate plus an incentive determined by the grower's performance relative to others in the tournament. Under the tournament system, the integrator sets an average price for raising the chickens (e.g., 5 cents per pound live weight). The contract growers are ranked. The top-ranking contract growers can be paid a premium of up to 25 percent. Since the contract price is a tournament average, the poorest performing contract growers will receive less than the average. The grower's ranking is largely based on feed conversion rates: how much weight the broilers gained compared to how much feed the birds have consumed.

Enterprise Structure

An analysis of broiler operations reported by the USDA Economic Research Service (ERS) in 2014 provides the best snapshot of broiler production.[27] Grower contracts dominate the industry, with only about 0.4 percent of birds produced by independent poultry owner/producers and 0.3 percent produced on integrator-operated farms. Few details about the contracts themselves are available. In spite of repeated requests for redacted copies of contracts from growers, integrators, and crop experts, the Contractor obtained only two contracts (Appendix A). ERS reports that almost 94 percent of the contracts contain performance-based payment incentives; however, most of these broiler contracts have tournament or similar competitor-comparison-based incentive payments. The contracts obtained by the Contractor contain language providing the grower with performance-based incentives coupled with tournament-based performance payments.

The turnover in farms producing broilers is relatively low. About one third of all broiler operations have been in business for at least 20 years. These older operations tend to be smaller and to have lower levels of technology. Only 4.5 percent of farms (6.6 percent of production by weight) produced broilers for 5 years or less. Interestingly, these newer operations have houses that are 11 years old on average, suggesting turnover in the grower cohort or farm-level economic restructuring. Just under half of the new operations had new houses. Newer operations tend to incorporate a larger number of houses. New operations with new houses also tend to carry a higher debt load compared to new operations using older houses.[28]

Newer operations tend to be larger and also tend to have more substantial investment in housing and technology. These newer operations are more reliant on income from the poultry operations rather than from a range of "crops" and are more sensitive to changes in energy prices and contract settlement terms. New large operations typically receive longer term contracts.[29] Furthermore, in at least one of the contracts reviewed by the Contractor, the integrator offered a minimum guaranteed payment for new house construction based on dollars per 1,000 birds placed and the type of the new construction. Additionally, integrators search for and more

[27] MacDonald, J.M., USDA, ERS, 2014, Technology, Organization, and Financial Performance in U.S. Broiler Production, Economic Information Bulletin No. 126., http://www.ers.usda.gov/media/1487788/eib126.pdf, accessed July 2015.
[28] *Ibid.*
[29] *Ibid.*

readily offer contracts to operations with newer facilities and updated technology when they expand into new areas or contract with growers.

The Industry

While the agricultural segment of the U.S. economy has grown slightly on a relative percentage basis from 1999 to 2014, the broiler sector share of the total U.S. agricultural economy declined from 8.04 percent to 8.02 percent (Table 6). This decline occurred in spite of increases in production, consumption, and exports of meat from broiler chickens.

Table 6. Economic Indicators–Broiler, United States ($ Billions)

Year	Gross Domestic Product[1]	Agricultural Cash Receipts[2]	Value of Broilers[3]
1999	9,660.6	187.8	15.1
2000	10,284.8	192.1	14.0
2001	10,621.8	200.0	16.7
2002	10,977.5	194.6	13.4
2003	11,510.7	216.0	15.2
2004	12,274.9	237.9	20.4
2005	13,093.7	240.9	20.9
2006	13,855.9	240.6	17.7
2007	14,477.6	288.5	21.5
2008	14,718.6	316.1	23.2
2009	14,418.7	291.4	21.8
2010	14,964.4	322.2	23.7
2011	15,517.9	368.7	23.0
2012	16,163.2	404.8	24.8
2013	16,768.1	401.3	30.8
2014	17,418.9	407.4	32.7

Source: [1] Bureau of Economic Analysis, 2015, National Income and Product Accounts Table 1.1.5, Gross Domestic Product, http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=1&isuri=1, accessed July 2015.
[2] In Nominal dollars, USDA, ERS, 2015, Farm and Income Wealth Statistics, Annual cash receipts by commodity, http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/cash-receipts-by-commodity.aspx#.VFutk_nF9qW, accessed July 2015.
[3] USDA, ERS, 2015, Poultry Production and Value, http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1130, accessed July 2015.

The southern and mid-Atlantic states form the major broiler producing areas of the United States (Table 7). Although number of head, pounds produced, and value all track relatively closely, variations in the harvest weight of birds lead to modest differences between percent of head produced and of pounds produced. The ERS estimated value produced is based on a constant price.

Table 7. Broiler Production by States, 2014[1]

State	Number Produced (1,000 Head)	Percent of Number Head Produced	Pounds Produced (1,000 Pounds)	Value of Production[2] (1,000 Dollars)	Percent of Pounds/Value Produced
Georgia	1,324,200	15.50%	7,547,900	4,808,012	14.69
Alabama	1,061,500	12.42%	6,050,600	3,854,232	11.78
Arkansas	969,800	11.35%	6,012,800	3,830,154	11.70
North Carolina	795,200	9.31%	6,043,500	3,849,710	11.76
Mississippi	727,200	8.51%	4,508,600	2,871,978	8.78
Texas	591,800	6.93%	3,550,800	2,261,860	6.91
Kentucky	308,000	3.60%	1,724,800	1,098,698	3.36
Missouri	288,500	3.38%	1,384,800	882,118	2.70
Maryland	287,800	3.37%	1,554,100	989,962	3.03
Virginia	262,000	3.07%	1,441,000	917,917	2.80
Delaware	244,100	2.86%	1,733,100	1,103,985	3.37
South Carolina	232,500	2.72%	1,650,800	1,051,560	3.21
Oklahoma	205,300	2.40%	1,334,500	850,077	2.60
Pennsylvania	181,300	2.12%	997,200	635,216	1.94
Tennessee	180,600	2.11%	939,100	598,207	1.83
West Virginia	95,300	1.12%	371,700	236,773	0.72
Ohio	75,600	0.88%	430,900	274,483	0.84
Florida	66,700	0.78%	386,900	246,455	0.75
Wisconsin	53,400	0.62%	224,300	142,879	0.44
Minnesota	46,800	0.55%	280,800	178,870	0.55
Other States[3]	546,500	6.40%	3,204,900	2,041,521	6.24
United States Total	8,544,100		51,373,100	32,724,667	

Source: USDA, ERS. April 2015, Poultry - Production and Value 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015

[1] Broiler production including other domestic meat-type strains.

[2] Live weight equivalent price, derived from ready-to-cook prices minus processing costs, then multiplied by a dressing percentage.

[3] California, Illinois, Indiana, Iowa, Louisiana, Michigan, Nebraska, New York, Oregon, and Washington combined to avoid disclosing individual operations.

Nationally, broiler production decreased 5.5 percent from 2008 to 2014, from 9.01 billion birds in 2008 to 8.54 billion birds in 2014. Over the same time, weight per bird increased by 7.5 percent, from 5.594 pounds to 6.013 pounds. The combined decrease in bird numbers and increase in bird weight resulted in a 1.98 percent increase in total weight produced, from 50.4 billion pounds in 2008 to 51.4 billion pounds in 2014.

Alabama, Arkansas, and Georgia accounted for nearly 40 percent of the U.S. production in 2014 when two of these states (Georgia and Alabama) produced more than 1 billion birds. Mississippi, North Carolina, and Texas comprise a second production tier, with harvests of over half a billion birds. Some states, primarily in the northeast and mountain states, reported little or no commercial broiler production in 2014.[30]

Despite substantial research, the Contractor was unable to identify national data other than the USDA NASS Census of Agriculture (Census) data at the county level for broilers. NASS annual statistics do not include number of growers or county-level statistics in estimates derived from its annual surveys. There are fragmented data available from a few state and county agencies and

[30] USDA, NASS, 2015, Broiler Production by State Million Head, 2014, http://www.nass.usda.gov/Charts_and_Maps/Poultry/brlmap.asp, accessed July 2015.

industry associations. Farm-level data have not been obtained despite requests of people who attended the listening sessions. Integrators, who have the most complete farm-level records for substantial grower populations, consider all their data proprietary.

The 2012 Census reported 32,935 farms with "Broiler and other meat-type chickens sold," a 21.5 percent increase over the 2007 reported 27,091 farms. NASS reported that 15,334 growers produced more than 100,000 birds in 2012, and 41 percent of those growers produced more than 500,000 birds. A total of 7,183 farms were located in the 3 states ranked highest in broiler production, and 42 percent of farms with reported sales over 100,000 birds were located in the same 3 states. Commercial broiler production is organized and operated around broiler houses, the major farm-level capital investment. No consistent national dataset that reported the number of houses or houses per farm was identified.

Under the integrator/grower contract structure, the broiler enterprise might seem a safe haven for the grower. However, this is not the case; growers must be concerned about performance of the birds they are raising under contract. Broiler production is influenced by disease, weather, equipment, building environment, and the quality of feed provided by the integrator. Also, growers are not free from domestic and international market outcomes, even with a contracted payment. The potential of subsequent contracts, and, to a lesser extent, the payment and incentive provisions of the production contracts depend upon the integrator's inventory of processed meat and short- and intermediate-run market forecasts.

II.D. Turkey Sector

The United States is the world's largest producer of turkeys. U.S. turkey production was reported at 7.2 billion pounds in 2014, with a total estimated farm-gate value of almost $5.3 billion. [31] The average estimated price received by U.S. turkey producers during 2014 was almost 74 cents per live-weight pound.[32] The structure of the turkey sector, with a wide variety of processed products, has made turkey production a year round, rather than a seasonal, activity. Smoked and roasted turkey lunchmeats; ground breast meat; pre-roasted and ready to roast turkey rolls; heat-and-eat turkey dinners; and turkey sausage, hot dogs, "bacon," "pastrami," and "ham" illustrate the breadth of turkey products currently available. These products have a substantial impact on total integrator revenues, but have limited effects on prices received by growers.

The Crop

The domesticated turkey is a descendant of the wild turkey, *Meleagris gallopavo*. The dominant commercial breed of turkeys in the United States is the Broad-breasted White (similar to "White Holland," but a distinct breed). Most commercial breeds have been selected for size as well as meat types and distribution.

[31] USDA, RMA, 2015, Poultry - Production and Value, 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015.
[32] USDA, RMA, 2015, Poultry - Production and Value, 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015.

Most turkey grow-out facilities raise 50,000 to 75,000 birds with 2.5 to 3.5 "turns" per year. Many of the larger facilities have a single structure (the brood house) with the capacity to house as many as 100 thousand poults. Poults are raised with an average density of one square foot per bird. Each of these brood houses generally serves two grow-out houses. Consequently, seven broods may be raised in a year to produce the livestock for 3.5 grow-out production cycles per year in each of the grow-out houses. On larger farms, multiple houses may be stocked, although normally all the birds on the farm are the same age.

The majority of U.S. turkeys are grown in controlled-environment confinement houses or in pole barns. The windowless confinement houses use modern systems of environmental control (heating, ventilation, and lighting). Ventilation systems provide sufficient oxygen for the normal growth and development and remove ammonia, carbon dioxide, dust, moisture, and heat. Confinement houses may contain as many as 50,000 birds. Depending on the degree of automation of the environmental control, feeding, and drinking systems, a single employee may provide all the necessary labor for a confinement house.

Environmental control within pole barns is more rudimentary. Consequently, labor requirements are greater and stocking densities are lower. Turkey poults reared in pole barns are generally raised in environmentally-controlled houses to 5 or 6 weeks of age. In the pole barns, the birds are raised in natural light, supplemented during the winter months with electric light. In the North, there is often limited control of temperature or ventilation in pole barns. The floor area of turkey pole barns ranges from 10,000 to more than 20,000 square feet. Automated feeders and watering systems maximize production, although the cost of such systems may limit their use. Turkeys in the pole barns are raised on litter (wood shavings) and allowed to move freely within the barn.

After removal of a flock, a two- to four-week period is allowed before a new flock is placed in turkey brood and grow-out houses. During this time, the house is cleaned and disinfected. Old litter is generally replaced after a flock is removed from turkey brood houses; however, wastes may be removed from turkey grow-out houses just once each year. The decision on the timing of cleaning of the grow-out houses is driven largely by the cost of labor and bedding.

Hens in grow-out houses are raised at a density of one per 2.5 square feet. Turkey hens consume about 40 pounds of feed in their lifetime with a feed conversion rate (pounds of feed per pound of weight gain) of about 2.5. Ten percent mortality during brooding and grow-out is assumed for planning the size of the houses and the initial population. For harvest, the hens are collected in "modules" or small cages, which are generally loaded onto flatbed trailers. Some additional mortality occurs during transportation. Those losses are generally not considered when an integrator evaluates a grower's rank. However, the long-term trends of such losses may impact an integrator's decisions about levels of restocking. Slaughter and processing are mechanized to minimize processing time.

Toms are raised at a density of 3 to 4 square feet per bird in the grow-out houses. Stocking densities in grower operations are generally based on the recommendations of the integrator. Toms consume about 90 pounds of feed during their lifetime with a feed conversion rate of about 2.9. Commercial toms, which are more aggressive than hens, have a higher mortality than the

hens. Toms are harvested at about 18 weeks (i.e., somewhat less than 3 production cycles each year). Some growers and producers reduce the density of older toms by moving a portion of the birds into houses vacated by the hens when they are harvested. This may reduce mortality marginally as the large birds compete for space and feed. The harvest process for toms is essentially the same as that for hens.

Free-range birds represent a small niche market in the turkey sector. The only requirement for labeling with the term 'free-range' is the birds have access to the outdoors.[33] Housing for free-range birds is usually of the pole barn type. Natural daylight and green food may be available on the range, but some source of food is generally provided in the barn. Slower growing strains, low nutrient density feed, low stocking density, and longer production cycles characterize this minor sector of the crop.

Growers furnish the land, facilities, and labor under contract. They are paid based on the grade, live weight, and feed conversion ratios of the birds delivered to the processing plant. Each integrator contract is reported to be unique; and contracts between an integrator and individual growers may also be quite different, taking into consideration such things as the physical services available at a facility, mortality experience, and historic and current feed conversion ratios. If the grower realizes a return of $7 to $8 per bird, the facility described as "typical" may generate a cash flow of $1.25 million to $2.5 million per year. Cost of production is more difficult to assess under the current integrator/grower industry structure. In many cases, the integrator owns the turkeys, supplies feed, medicine, vaccines, and pays a grow-out supervisor. The grow-out supervisor monitors the turkeys' health and growth and decides when veterinary attention, primarily medications or vaccinations, are required.

During the course of this and other poultry related projects, the Contractor spoke with representatives of several operations that were not typical growers. These operations own the turkeys produced under a contract with an integrator and bear all the associated financial risks in regard to losses, price fluctuations, and poor weight gain. These owner/producer operations would have differing incentives to participate in a business interruption insurance product depending on their individual agreements and contracts with the integrators.

The Industry

The U.S. turkey sector is dominated by vertically integrated agribusiness firms. In the second half of the 20th Century, after a period of decline in the sector, turkey hatcheries began providing financing for the purchase of poults, while feed companies provided financing for both feed and poults as a means to stimulate feed sales. These financial arrangements eventually evolved into production contracts that shifted risk from grower to integrator. Under contract, the grower provides the buildings, equipment, and labor; the integrator, who is usually involved in a variety of post-harvest processing activities, provides poults, feed, veterinary services, and managerial assistance. Most growers receive a fee per bird or per pound and contracts may provide performance incentives for feed conversion and reduced mortality rates. Most, but not all,

[33] USDA, Food Safety and Inspection Service, 2014, Food Labeling: Meat and poultry Labeling Terms, http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/food-labeling/meat-and-poultry-labeling-terms/meat-and-poultry-labeling-terms, accessed April 2015.

integrators produce both whole bodied and further processed turkey products. The major turkey integrators and their associated production for 2013 are documented in Table 8.

Table 8. Top U.S. Turkey Processors in 2013

Processor	Live Weight Processed (million pounds)
Butterball, LLC	1,300.0
Jennie-O Turkey Store	1,250.0
Cargill Value Added Meats	1,071.0
Farbest Foods, Inc.	411.0
Hillshire Brands Company (formerly Sara Lee)	402.0
Kraft Foods, Inc. (Oscar Mayer)	280.0
Perdue Farms, Inc.	277.0
Foster Farms	270.7
Virginia Poultry Growers Coop.	239.0
West Liberty Foods	216.3
Cooper Farms	205.0
Michigan Turkey Producers	190.0
Dakota Provisions	179.0
Hain Pure Protein Corp.	172.0
Turkey Valley Farms	145.0
Prestage Foods	140.0
Norbest, Inc. (Western Sales LLC)	82.0
Zacky Farms, LLC	68.3
Northern Pride Inc.	40.0
Whitewater Processing	30.0
Empire Kosher Poultry, Inc.	25.2
Koch's Turkey Farm	15.2
Jaindl Turkey Sales, Inc.	11.0

Source: The Contractor's Research Department after Watt Poultry USA, 2015

Turkey production is scattered throughout the United States. However, over half of all the turkeys raised for slaughter in the United States in 2014 were raised in four states: Minnesota, Arkansas, North Carolina, and Indiana (Table 9). While U.S. consumers eat more turkey per capita and as a population than any other national consumer population, the U.S. turkey industry is also more reliant on exports than most U.S. agricultural sectors.[34]

[34] USDA, NASS, 2014, Highlights, Turkey Industry Overview, http://www.nass.usda.gov/Publications/Highlights/2013_Turkey_Industry/, accessed December 2014; USDA, NASS, 2015, Quick Stats, http://quickstats.nass.usda.gov/results/5487DA7B-D988-3DF0-8884-2E407CE067F6, accessed June 2015.

Table 9. Geographic Distribution of 2014 Turkey Production in the United States

State	Number Raised (1,000 head)	Pounds Produced (1,000 lbs.)	Value of Production ($1,000)
Minnesota	45,500	1,178,450	866,161
Arkansas	30,000	612,000	449,820
North Carolina	28,500	997,500	733,163
Indiana	19,000	754,300	554,411
Missouri	17,000	544,000	399,840
Virginia	16,800	443,520	325,987
California	11,000	310,200	227,997
Iowa	10,500	435,750	320,276
Pennsylvania	7,000	175,700	129,140
Ohio	5,100	209,100	153,689
Michigan	5,100	205,530	151,065
South Dakota	4,500	188,550	138,584
Utah	4,000	96,800	71,148
West Virginia	3,100	81,840	60,152
Other States[1]	30,400	983,816	723,104
United States	237,500	7,217,056	5,304,537

Source: USDA, NASS, 2015, Poultry - Production and Value - 2014 Summary, April 2015, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015.
[1] Includes State estimates not shown and States withheld to avoid disclosing data for individual operations.

By 1961, feed company contracts for production accounted for almost two-thirds of all turkey production. Subsequently, processors became increasingly involved in production decisions and began raising turkeys themselves to better ensure supplies. With the involvement of large feed and processing firms, the share of turkeys sold on the U.S. spot market decreased substantially. In 2011, turkey production contracts accounted for more than two-thirds of U.S. production.[35] Vertically integrated operations, in which the processor (both integrators and owner/processors) owns the production facilities and hires labor to care for the birds, accounted for almost one-third of turkey production. With 2014 farm-level cash receipts of just over $5.3 billion (Table 10), turkeys accounted for approximately 11 percent of cash receipts for poultry in the United States.[36]

[35] USDA, NASS, 2012, Census of Agriculture, Volume 1, Tables 32 and 45, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/, accessed January 2015.
[36] USDA, NASS, April 2015, Poultry - Production and Value 2014 Summary http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015.

Table 10. Economic Indicators – Turkeys, United States ($ Billions)

Year	Gross Domestic Product[1]	Agricultural Cash Receipts[2]	Value of Turkeys[3]
1999	9,660.6	187.8	2.8
2000	10,284.8	192.1	2.8
2001	10,621.8	200.0	2.8
2002	10,977.5	194.6	2.7
2003	11,510.7	216.0	2.7
2004	12,274.9	237.9	3.1
2005	13,093.7	240.9	3.2
2006	13,855.9	240.6	3.6
2007	14,477.6	288.5	4
2008	14,718.6	316.1	4.5
2009	14,418.7	291.4	3.6
2010	14,964.4	322.2	4.4
2011	15,517.9	368.7	4.9
2012	16,163.2	404.8	5.4
2013	16,768.1	401.3	4.8
2014	17,418.9	407.4	5.3

Source: 1/ Bureau of Economic Analysis, 2015, National Income and Product Accounts Table 1.1.5, Gross Domestic Product, http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=1&isuri=1, accessed July 2015.
2/ In Nominal dollars, USDA, ERS, 2015, Farm and Income Wealth Statistics, Annual cash receipts by commodity, http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/cash-receipts-by-commodity.aspx#.VFutk_nF9qW, accessed July 2015.
3/ USDA, ERS, 2015, Poultry Production and Value, http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1130, accessed July 2015.

On farms either owned by the integrators or managed under grower contracts, the integrator generally provides the stock, feed, veterinary services, production technical support, and transportation. The grower provides the growing facilities and day-to-day care and management of the birds. The impact of production contracts on turkey enterprises are not as well documented as are the impacts of production contracts on broiler enterprises.

The relative importance of direct production in the turkey sector to the U.S. agricultural and overall economies is approximately one-fifth that of the broiler sector (see Tables 6 and 9). However, it should be noted there are considerably more value-added processing activities in the turkey sector than in the broiler sector. This amplifies the financial effects of turkey production in the general economy.

Substantial research by the Contractor identified the NASS Census as the only source of national turkey data at the county level. The 2012 Census documents some commercial turkey production in every state.[37] NASS annual statistics do not include number of growers or county-level statistics in its annual surveys because there are insufficient numbers of growers in most counties to allow reporting of results under the disclosure rules followed by NASS. There are fragmentary data available from a few state and county agencies and industry associations.

Commercial turkey production is organized and operated around turkey houses, the major farm-level capital investment. No dataset documenting the total number of houses by county or

[37] USDA, RMA, NASS Census of Agriculture, 2012 Census Volume 1, Chapter 2: State Level Data, Table 19, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_US_State_Level/st99_2_019_019.pdf, accessed July 2015.

houses per farm was identified. The 2014 Census reported 19,956 farms growing turkeys, a 15.8 percent increase over the 17,226 farms reported in the 2007 Census. The NASS Census reported 833 growers produced more than 100,000 birds in 2012.[38] NASS reports 1,903 operations grew turkeys under contract, producing slightly more than two-thirds of the turkeys reported to have been sold.[39]

The turkey sector has evolved to fewer than 25 highly specialized, vertically integrated agribusiness firms. Under the grower/integrator structure, the turkey growers must be concerned about performance of the contracted birds. Both turkey growers and integrators have benefited from economies of scale associated with the industry's horizontal and vertical structure, but projected gains in efficiency over the next decade are anticipated to be less than historical gains. Trade restrictions have slowed growth in many U.S. animal product exports. Continuing concerns with AI and Exotic Newcastle Disease (END) have affected trade.[40]

II.E. Layer Sector

The term 'layer' is the poultry industry name for a hen maintained for egg production. Hens from all varieties (breeds) of chickens lay eggs, but hens from only a few breeds consistently lay eggs of appropriate size. The egg laying breeds of chickens have been genetically selected for high egg productivity. Hens of laying breeds produce up to 300 eggs a year; however they usually have small bodies that make them undesirable as meat producers. The small bodies benefit laying breeds because the hens use fewer nutrients to produce and support body mass. Instead, layers direct much of their energy into the egg production. After approximately 12 months of age, the hen's egg-laying declines. Hormonal changes resulting from changes in diet and photoperiod can be used to stimulate further egg production. After the layer reaches age one and a half to two and a half years, commercial hens are typically slaughtered (culled). However, laying can be stimulated by forcing the hen to molt. During the molt, laying stops completely. Following the molt, the frequency of laying is increased relative to the pre-molt frequency. Meat from culled layers is used in pet foods, soup, pot pies, and other processed foods.

Commercial chicken eggs include two categories of "table" eggs for human consumption, as well as hatching eggs. "Shell" eggs are table eggs sold at retail, generally by the dozen. "Breaking" or processed eggs are table eggs broken in specialized plants that transform the eggs into liquid eggs or further process the liquid eggs into products, such as powdered eggs, that have a longer shelf life. Production of processing eggs is generally a conscious output decision, rather than a salvage activity. Operators of table egg production facilities do not generally produce hatching

[38] USDA, RMA, NASS Census of Agriculture, 2012 Census Volume 1, Chapter 1: U.S. National Level Data, Table 32, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_032_033.pdf, accessed July 2015.

[39] USDA, RMA, NASS Census of Agriculture, 2012 Census Volume 1, Chapter 1: U.S. National Level Data, Table 45, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_045_048.pdf, accessed July 2015.

[40] Iowa State University, 2013, AgMRC, Turkey Profile, http://www.agmrc.org/commodities__products/livestock/poultry/turkey_profile.cfm, accessed July 2015.

eggs.[41] Instead hatching eggs are raised by niche market poultry owner/producers including some subsidiaries operations of integrators.

Table eggs are produced by single-site independent poultry owner/producers, contract operators, and vertically integrated companies. Integrated production sites often have more than one million birds, a feed mill, and an in-line processing plant. The vertically integrated companies generally operate on multiple sites, which are distributed either regionally or nationally. In-line breaking operations are located at the farm. Generally, eggs from one to five million hens are processed in a breaking operation. While some in-line operations produce shell eggs with undersized, oversized, and under-grade eggs diverted for breaking, most large facilities break all the eggs produced at that location. Some in-line operations receive eggs from other locations for processing.[42] Recent trends of decreasing per capita shell egg consumption and increasing per capita processed egg product consumption reflect both consumer lifestyle and industry changes.

Substantial consolidation occurred in the layer sector during the last 25 years. The layer sector has exhibited substantial changes toward a vertically integrated system. Modern in-line production, technologically advanced processing complexes, and lower feed cost has led to increased egg production in the Midwest. In 2013, Iowa, Ohio, Indiana, Pennsylvania, and California (in order of dominance in the number of eggs produced) accounted for 45 percent of all table eggs produced.

There are 172 egg-producing companies with flocks of 75,000 layers or more, 63 companies with more than 1 million layers, and 16 companies with more than 5 million layers. Companies with at least 75,000 layers account for approximately 99 percent of all egg production in the United States. [43] In contrast, in 1987, there were approximately 2,500 operations comprising the top 95 percent of egg production.[44] Diseconomies of scale at a single facility are apparently not realized until output exceeds that of the largest production sites, with more than six houses and more than one million hens.

It should be noted that new regulations in California, Standards for Confining Farm Animals, went into effect on January 1, 2015. These regulations have had a large impact on the layer industry and may impact the average size (number of hens in a house) on a production site. Proposition 2, as it is called in California, requires all eggs **sold** in California to come from

[41] Perdue University maintains a Website devoted to avian sciences, including a PowerPoint presentation (http://ag.ansc.purdue.edu/poultry/publication/commegg/) documenting most on-farm aspects of shell and breaker egg production.

[42] The Egg Sector Working Group (an industry committee primarily staffed by grower association representatives); the University of Minnesota's Center for Animal Health and Food Safety; and USDA, APHIS, 2009 (draft), An Assessment of the Risk Associated with the Movement of Nonpasteurized Liquid Egg (NPLE)and Its Products Into, Within, and Outside of a Control Area during a Highly Pathogenic Avian Influenza Outbreak, http://secureeggsupply.com/wp-content/uploads/RANonPasteurLiquidEggs.pdf, accessed July 2015.

[43] American Egg Board, 2010, Egg Industry Fact Sheet, http://www.aeb.org/egg-industry/industry-facts/egg-industry-facts-sheet, accessed July 2015.

[44] Watts and Associates, 2010, Final Feasibility Report, Feasibility Research Report for Insuring Commercial Poultry Production, http://www.rma.usda.gov/pubs/2011/poultryfeasibility.pdf, accessed July 2015.

chickens that have enough room to fully extend their limbs and turn around freely.[45] Missouri, Nebraska, Oklahoma, Alabama and Kentucky, and Iowa filed legal challenges to the California regulations. The initial federal court decision in October 2014 was in favor of California, but the six states have carried the challenge to the U.S. Ninth Circuit Court of Appeals.[46]

The Crop

Eggs are the crop from layer operations. The layers are the capital asset producing the eggs.[47] Shell eggs are usually sold by the carton at retail, while breaking eggs are subjected to a variety of value-added processing. While the nature of the retail product has changed, since 2001 there have been only modest changes in the number of eggs produced. In 2001, 334.9 million layers produced 85.7 billion eggs, an average of 256 eggs per hen, with 85 percent of the eggs used for the table (i.e., breaking or shell eggs). In 2013, 346.4 million layers produced 95.2 billion eggs, an average of 275 eggs per hen, with 87 percent of the eggs used for the table.[48] Price and consumer lifestyle changes are key factors reducing per capita shell egg consumption while increasing per capita consumption of broken (processing) eggs.

Egg production in the United States is widely dispersed (Table 11). Commercial egg production is reported in all 50 states; minor production areas are combined in NASS reports to avoid disclosure of data concerning individual operations. Changes in technology and demand are driving regional concentration of production. These, along with differences in use and proximity to markets, drive differences in price.

[45] National Public Radio, December 29, 2014, Dan Charles, How California's New Rules Are Scrambling The Egg Industry, http://www.npr.org/blogs/thesalt/2014/12/29/373802858/how-californias-new-rules-are-scrambling-the-egg-industry, accessed July 2015.

[46] Dan Flynn, Egg Safety News, 2015, Egg-Producing States File Appeal Over California's Proposition 2, http://www.foodsafetynews.com/2015/03/six-egg-producing-states-file-appeal-over-californias-proposition-2/#.VZVkw_lViko, accessed July 2015.

[47] Some parallels with the production of fruits from trees in orchards and groves have been noted in the layer/egg relationship.

[48] USDA, NASS, 2014, Chickens and Eggs 2013 Summary, February 2014, http://usda.mannlib.cornell.edu/usda/current/ChickEgg/ChickEgg-02-27-2014.pdf, accessed January 2015.

Table 11. 2014 United States Egg Production by State

State	Eggs Produced (million eggs)	Value of Production (1,000 dollars)	State	Eggs Produced (million eggs)	Value of Production (1,000 dollars)
Alabama	2,148	400,702	Nebraska	2,860	240,418
Arkansas	2,962	482,351	New York	1,493	133,257
California	4,551	419,135	North Carolina	3,381	500,989
Colorado	1,450	130,584	Ohio	8,731	744,317
Connecticut	669	61,646	Oklahoma	712	102,226
Florida	2,390	218,994	Oregon	727	65,781
Georgia	4,723	665,866	Pennsylvania	7,570	715,299
Illinois	1,409	124,258	South Carolina	1,117	130,060
Indiana	7,747	674,076	South Dakota	752	63,293
Iowa	16,449	1,403,504	Tennessee	341	67,997
Kentucky	1,219	154,849	Texas	5,109	526,459
Louisiana	541	72,828	Utah	1,180	106,640
Maine	989	86,266	Vermont	36	4,275
Maryland	785	70,753	Virginia	765	114,346
Massachusetts	44	3,844	Washington	1,950	176,805
Michigan	3,867	325,322	West Virginia	270	55,886
Minnesota	3,071	265,908	Wisconsin	1,449	129,890
Mississippi	1,351	234,653	Other States 1	2,410	227,573
Missouri	2,407	252,305			
Montana	143	12,966	United States	99,768	10,166,321

Source: USDA, NASS, April 2015, Poultry - Production and Value Summary, 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015.
[1] Alaska, Arizona, Delaware, Hawaii, Idaho, Kansas, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, Rhode Island, and Wyoming combined to avoid disclosing individual operations.

The Industry

The two primary types of operating arrangements within the layer sector are farms owned by growers and producer-owned farms. Growers own or control the land, buildings, and labor inputs used to produce eggs under contract to integrators, who process the eggs for retail sales or for breaking. On producer-owned farms, independent operators own farm assets, own and manage the flock. Many producer-owned operations are large, vertically integrated, regional and national firms.[49] The large integrated firms were formed primarily in the 1970s and early 1980s. Consolidation has continued as some owner/producer firms incorporated processing into their operations and some processing firms acquire ownership of layer operations. Compared to large, integrated companies with a national presence, smaller independent egg owner/producers are at a disadvantage when dealing with the rapidly consolidating wholesale-food industry.

The Census reported 3,144 farms produced eggs under contract in 2012 (a 5.61 percent decrease from 2007). In 2012, almost 22 billion eggs were produced under contract.[50] More than 97 percent of the table eggs were produced by producer-owned operations. The layer segment accounts for approximately 2 percent of the U.S. agriculture economy (Table 12). In 1995, egg production in California, Georgia, Indiana, Ohio, and Pennsylvania, the top five egg producing states (by number of eggs produced), accounted for 37 percent of U.S. table egg production. By

[49] Paul Aho, personal communication.
[50] USDA, NASS, 2012 Census of Agriculture, Table 45, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_045_048.pdf, accessed July 2015.

2001, the top 5 egg producing states accounted for 41 percent of table egg production and Georgia had dropped out of the top five egg producing states. By 2001, egg production in Iowa had doubled, increasing from 4.3 billion eggs in 1995 to 8.7 billion eggs. By 2013, the top five states accounted for 45 percent of egg production, and included (in order of number of eggs produced) Iowa, Ohio, Indiana, Pennsylvania, and California. It is interesting to note that the top five states in order of total value of egg production in 2013 were, in order: Iowa, Georgia, Pennsylvania, Ohio, and Indiana. NASS publishes less complete data on hatching egg production because of the requirements for confidentiality. Over a billion hatching eggs were produced in 2014. Major production states included Alabama, Arkansas, Georgia, Mississippi, and North Carolina. Other substantial production occurred on very large operations whose location could not be disclosed.[51]

Table 12. Economic Indicators – Layer Segment United States ($Billions)

Year	Gross Domestic Product[1]	Agricultural Cash Receipts[2]	Value of Egg Production[3]
1999	9,660.6	187.8	4.3
2000	10,284.8	192.1	4.3
2001	10,621.8	200.0	4.4
2002	10,977.5	194.6	4.3
2003	11,510.7	216.0	5.3
2004	12,274.9	237.9	5.3
2005	13,093.7	240.9	4
2006	13,855.9	240.6	4.4
2007	14,477.6	288.5	6.7
2008	14,718.6	316.1	8.2
2009	14,418.7	291.4	6.2
2010	14,964.4	322.2	6.5
2011	15,517.9	368.7	7.3
2012	16,163.2	404.8	7.9
2013	16,768.1	401.3	8.7
2014	17,418.9	407.4	10.2

Source: 1/ Bureau of Economic Analysis, 2015, National Income and Product Accounts Table 1.1.5, Gross Domestic Product, http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=1&isuri=1, accessed July 2015.
2/ In Nominal dollars, USDA, ERS, 2015, Farm and Income Wealth Statistics, Annual cash receipts by commodity, http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/cash-receipts-by-commodity.aspx#.VFutk_nF9qW, accessed July 2015.
3/ USDA, ERS, 2015, Poultry Production and Value, http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1130, accessed July 2015.

The 2012 Census reported 198,272 farms with an inventory of layers – a 36 percent increase over the 2007 Census numbers. However, 174,211 (88 percent) of the reported farms had fewer than 50 hens, and only 4,719 operations (2.4 percent) had more than 400 hens. Fewer than 400 operations had more than 100,000 hens. [52] The American Egg Board reported 176 egg producing owner/producers owned approximately 95 percent of all U.S. layers in 2014.[53]

[51] USDA, NASS, 2015, Chickens and Eggs, http://www.usda.gov/nass/PUBS/TODAYRPT/ckeg0215.pdf, accessed July 2015.
[52] USDA, NASS, 2012 Census of Agriculture, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_US_State_Level/st99_2_019_019.pdf, accessed July 2015.
[53] American Egg Board, 2014, U.S. Egg Industry Egg Facts – Q1 2014, http://www.aeb.org/search/result-item/69-farmers-marketers/market-data-trends/231-u-s-egg-industry-egg-facts, accessed July 2015.

Cal-Maine Foods of Mississippi is the largest shell egg producer (Table 13). Cal-Maine is a "pure" shell egg producer without any breaking facilities. National and regional supermarket chains buy directly from this company, generally with packaging under each retailer's brand name. The second-largest producer, Rose Acre, is a privately owned company with both shell and breaking egg production. Moark, LLC, the third-ranked firm, produces eggs for processing and sells egg products and other food items.

Table 13. Top Ten Egg Production Companies: 2013

Company	Layers in Production (million)
Cal-Maine Foods	33.0
Rose Acre Farms	24.6
Moark LLC	16.0
Rembrandt Enterprises	13.6
Daybreak Foods	13.0
Michael Foods	11.3
Trillium Farm Holdings	9.9
Midwest Poultry Services	8.5
Centrum Valley Farms	7.5
Hillandale Farms	7.5
Weaver Brothers	7.5

Source: The Contractors Research Department after WATT Poultry.

Many of the largest operations producing shell eggs are in the Midwest (Table 14). The upper Midwest also currently dominates in the production of processing eggs. Many in-line production and processing complexes with on-site feed preparation facilities were constructed during the last quarter of the 20th Century. These complexes are now operated by low cost owner/producers with large markets for processed egg products.

Table 14. Top Ten States (in order of Value Sold): Number of Farms Reporting Layers 2012 Census of Agriculture

Number of Layers	Iowa	Georgia	Pennsylvania	Ohio	Indiana	Arkansas	Texas	North Carolina	Alabama	California	Total	U.S.	Percent of U.S.
1 to 49	3,246	2,672	7,921	7,313	4,910	2,818	18,058	4,070	2,587	6,069	59,664	174,211	34%
50 to 99	283	266	683	679	400	211	1,055	350	324	339	4,590	13,074	35%
100 to 399	147	106	465	372	158	76	403	185	173	245	2,330	6,268	37%
400 to 3,199	31	24	123	36	25	6	71	40	31	39	426	1,103	39%
3,200 to 9,999	40	37	83	9	2	54	9	74	25	4	337	482	70%
10,000 to 19,999	18	112	81	40	12	187	22	101	175	4	752	1,199	63%
20,000 to 49,999	8	229	64	29	41	180	89	148	138	5	931	1,292	72%
50,000 to 99,999	8	14	68	33	7	10	17	23	7	8	195	256	76%
100,000 or more	40	23	51	37	29	7	24	5	9	31	256	387	66%
Total	3,821	3,483	9,539	8,548	5,584	3,549	19,748	4,996	3,469	6,744	69,481	198,272	35%

Source: USDA, NASS, 2012 Census of Agriculture, Table 19, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf, Accessed July 2015.

Although the feed cost differences between the Midwest and other parts of the country are well understood, production cost differences from west to east within the Midwest are often overlooked.[54] These have influenced the concentration of production among the Midwestern states and within individual states. The North Atlantic region, with high grain, labor, and land costs, has imported a large percentage of its eggs during the last 50 years. More recently, compliance with environmental guidelines, urban encroachment into rural areas, and food safety issues have further increased that region's relative costs. However, as a result of its proximity to large population centers, the North Atlantic region will continue to produce a substantial quantity of shell eggs. In the North Atlantic states, only under-grade eggs are likely to be broken.[55]

Market Structure

Both shell eggs and liquid eggs can be transported long distances using refrigerated trucks. Owner/producers typically sell to a variety of markets, including both local and national prepared food industry buyers, national supermarket chains, smaller regional grocery stores, independent egg product processors, and institutional buyers. Given the vertical integration of large firms and contract egg production, egg buyers at the "farm gate" are frequently the integrators themselves. The estimated 229 million cases of eggs produced in 2013 were distributed as follows:

- 73.3 million cases (32.0 percent) were further processed;
- 122.1 million cases (53.3 percent) were sold at retail;
- 22.9 million cases (10.0 percent) were used in food services; and
- 10.7 million cases (4.7 percent) were exported.[56]

Independent poultry owner/producers have incentive to increase in size or to act jointly to achieve a more equal bargaining position with the large, national firms which are potential buyers of their products. Consequently, bargaining associations and marketing cooperatives are active in the industry. Urner Barry's Market Price Reports serves as a basis for establishing the price for many contract sales. Contract length and settlement terms are extremely varied. While contracts are common, spot market transactions for some egg output are a matter of routine for nearly all firms as a way to deal with inventory fluctuations.

To the layperson, eggs are produced in "chicken houses." However, these houses are extremely sophisticated, controlled-environment facilities. The environment is regulated with thorough and strict sanitary practices and disease prevention and security regimens. Thus, competent managers of very large firms are confident in their perception of the "things that could go wrong," analysis of alternatives to prevent occurrence of those events (or at least mitigate the effects), and ability to implement the "best" strategy. Under such tightly managed conditions, there are few risks for which contingency plans do not exist. As large consolidated firms have grown to increasingly dominate the market, the fraction of total production under less intensive management schemes has grown very small.

[54] Aho, P. Updated 2000. "Regional Egg Production Trends, Poultry Science and Technology Facts." Cornell University, Department of Poultry and Avian Sciences.
[55] *Ibid.*
[56] American Egg Board, 2015, U.S. Egg Industry Egg Facts – Q1 2014, http://www.aeb.org/search/result-item/69-farmers-marketers/market-data-trends/231-u-s-egg-industry-egg-facts, accessed July 2015.

State regulations regarding egg handling generally align with USDA Egg Grading Standards[57] and Shell Egg Surveillance Inspections.[58] Environmental standards address manure and dead bird disposal. Thirteen states prohibit repacking shell eggs to limit the spread of *Salmonella*.[59] Pennsylvania requires all eggs be refrigerated throughout the distribution chain. Brand names must be registered by California egg handlers. Ohio poultry farms that discharge waste water into waterways are required to have a National Pollutant Discharge Elimination System (NPDES) permit, regardless of federal requirements for such a permit. This complex regulatory environment has been perceived by some growers and owner/producers to add substantially to production costs.

II.F. Game Birds

Game birds are raised primarily for specialty food markets, restaurants, and for release into the wild for sport hunting. Private individuals in the United States have been raising game birds for more than 100 years for meat and hunting. Game bird owner/producers and hunting preserves are licensed and regulated in all 50 states by state conservation departments. The game bird sector has experienced dramatic growth since 2000. As early as 2003, the game bird sector contributed more than $1.5 billion to the U.S. economy. A majority of this income was from sales of adult birds. A majority of the sector expenses was labor.[60] In 2013, the game bird industry in the United States produced nearly 52 million birds of various species for meat and sport hunting.[61]

The Crop

"Game birds are native or non-native birds that historically were wild game … but are now raised commercially for their meat or egg production or as 'flight-ready' birds for release on hunting preserves or by state wildlife agencies. Game birds may include guinea fowl, partridges, peacocks, pheasants, pigeons and doves, quail or squab (a young pigeon), swans, wild turkeys and some ducks, such as mallards or wood ducks. Only a few species of pheasants, partridges and quail are raised as flight-ready birds; an extremely large number of species and variants are raised for the 'decorative pet' exhibit or hobby market."[62] Game birds are raised by individual owner/producers, in many cases as a side or hobby business. The commercial production of game birds requires specialized housing, netting or fencing systems, knowledge of common diseases of game birds, and an identified market. Game birds may be raised for use in the specialty food markets (ethnic cuisine specifically), as exotic pets (peafowl, guinea hens) or as

[57] USDA, AMS, 2000, United States Standards, Grades, and Weight Classes for Shell Eggs, http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3004376, accessed July 2015.
[58] USDA, AMS, 2006, Regulations Governing the Inspection of Eggs, http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3004691, accessed July 2015.
[59] Eskin, S.B., 2004, "Putting All Your Eggs in One Basket: Egg Safety and the Case for a Single Food-Safety Agency," Food and Drug Law Journal, 59: 441-452.
[60] North American Gamebird Association and North American Gamebird Foundation, 2004, Hunting Preserves and Gamebird Farms, Preserving Wildlife and Rural America, https://www.mynaga.org/wp-content/assets/2012/07/Preserves_Wildlife_America.pdf, accessed July 2015.
[61] Dan Burden, AgMRC, 20154, Game Birds Profile, http://www.agmrc.org/commodities__products/agritourism/game-birds-profile/, accessed July 2015.
[62] AgMRC, Game Birds Profile, Dan Burden, Iowa State University, http://www.agmrc.org/commodities__products/agritourism/game-birds-profile/, accessed July 2015.

flight-ready birds for release and restocking on game preserves. The U.S. government also purchases game birds for repopulation and reintroduction on federal lands.

The Industry

Homeowners and hobbyists make up the bulk of the industry. These owner/producers have contacts in the local markets who purchase the game bird from the owner/producer through direct marketing or under a contractual agreement. Replacement chicks are either produced on the operation or are purchased through catalogs and online supply venues. In the late 1990's, the game bird industry was focused on repopulation and reintroducing game birds to regions where populations had declined. Since that period, game bird production has expanded to include ethnic food markets and exotic pet markets.

The 2012 Census reported Georgia as having the highest population of production game birds in the nation with 2.52 million birds, followed closely by California (2.39 million), Indiana (2.37 million), Pennsylvania (2.18 million), and Alabama (2.14 million). Texas, with 8,435 game bird farms, had the highest number of game bird operations in 2012 followed distantly by Pennsylvania (3,324), Wisconsin (3,300), Missouri (2,868), and Michigan (2,809).[63]

Besides broilers, turkeys and layers, NASS gathers information on 14 additional types of poultry production for the 2012 Census report (Table 15). The U.S. game bird inventory included more than 16 million birds on almost 64 thousand operations.

Table 15. Game Birds Reported in 2012 Census of Agriculture by Inventory

Type	Inventory	Operations	Top Production State
Roosters	7,564,783	13,399	Arkansas
Quail	6,304,956	2,310	Georgia
Ducks	5,018,661	21,115	Indiana
Pheasants	2,436,570	2,322	Wisconsin
Chukars	805,552	604	Pennsylvania
Guineas	460,932	14,694	Pennsylvania
Pigeons or squabs	415,365	2,149	California
Other poultry	372,483	2,213	Pennsylvania
Geese	106,462	10,286	Texas
Hungarian partridge	52,245	44	Pennsylvania
Peacocks or peahens	46,998	6,076	Texas
Emus	13,281	1,550	Texas
Ostriches	6,540	258	Texas
Rheas	1,424	218	Texas
Total	23,606,252	77,238	

Source: after USDA NASS, 2012 Census of Agriculture, 2012 Census Volume 1, Chapter 1: U.S. National Level Data, Table 32, Desktop Data Query Tool 2.0, accessed July 2015.

II.G. Summary

While the broiler industry is characterized primarily by production by growers, turkeys are produced on both grower and owner/producer operations. In contrast, only a small fraction of layers and game birds are produced under contract between growers and integrators.

[63] USDA NASS 2012 Census of Agriculture, 2012 Census Volume 1, Chapter 1: U.S. National Level Data, Table 32, Desktop Data Query Tool 2.0, accessed July 2015.

III. STATUTORY AUTHORITY PARAMETERS

The SOW requires the Contractor to identify what statutory authority changes would be required for RMA to provide coverage for poultry business interruption due to an integrator's bankruptcy. To this end, the Contractor reviewed 7 U.S. Code Chapter 36, Subchapter I – Federal Crop Insurance with special attention to Sections 1502, 1508 and 1522. Section 1502(a) defines the purpose of Subchapter I of Chapter 36 of 7 U.S.C. as "to promote the national welfare by improving the economic stability of agriculture through a sound system of crop insurance and providing the means for the research and experience helpful in devising and establishing such insurance." Inasmuch as the poultry industry provides important sources of animal protein to the diet of U.S. citizens, sound insurance for this agricultural sector could improve the economic stability of the sector and support the national welfare by maintaining an important source of nutrition for the public.

Section 1522(b)(21) of 7 U.S.C. Chapter 36, Subchapter I provides the statutory authority for this study. It states:

"(21) Poultry business interruption insurance policy

(A) Definitions

In this paragraph, the terms "poultry" and "poultry grower" have the meanings given those terms in section 182 of this title.

(B) Authority

The Corporation shall offer to enter into a contract or cooperative agreement with an institution of higher education or other legal entity to carry out research and development regarding a policy to insure the commercial production of poultry against business interruptions caused by integrator bankruptcy.

(C) Research and development

As part of the research and development conducted pursuant to a contract or cooperative agreement entered into under subparagraph (B), the entity shall—

(i) evaluate the market place for business interruption insurance that is available to poultry growers;

(ii) determine what statutory authority would be necessary to implement a business interruption insurance through the Corporation;

(iii) assess the feasibility of a policy or plan of insurance offered under this subchapter to insure against a portion of losses due to business interruption or to the bankruptcy of an business integrator; and

(iv) analyze the costs to the Federal Government of a Federal business interruption insurance program for poultry growers or producers."

Section 182(6) of 7 U.S.C. defines "poultry" as "chickens, turkeys, ducks, geese, and other domestic fowl." "Poultry grower" is defined in Section 182(8) as "any person engaged in the business of raising and caring for live poultry for slaughter by another, whether the poultry is owned by such person or by another, but not an employee of the owner of such poultry." This definition differs from the definition for "grower" in the SOW, which is: "Individual(s) who raise poultry under a production contract for an integrator." However, this difference can be explained by the language of 7 U.S. Code Chapter 36, Subchapter I, Subsection 1522(b)(21)

where the focus in on "a policy to insure the commercial production of poultry against business interruptions caused by integrator bankruptcy." Since the policy is to protect against a business interruption resulting from an integrator bankruptcy, a person selling poultry on the spot market, though a grower as defined under 7 U.S.C. Chapter 9 Subchapter 1 Paragraph 182 , can logically be excluded from the class of individuals for whom such business interruption insurance is considered.

The layer industry might also be excluded since the poultry grower definition in paragraph 182 focuses on "raising and caring for live poultry for slaughter by another." While the primary crop of the layer industry is eggs, and eggs are not "**slaughtered** by others," eggs constitute an important part of the poultry industry both economically and nutritionally. Consequently, in the interest of providing the Government with a comprehensive report, the Contractor included the layer sector in its study and the report.

The Federal Crop Insurance Act (7 U.S. C. Chapter 36, Subchapter I (hereafter "Act")) is the enabling legislation for the offer of insurance by the FCIC. The Act introduces substantial barriers for any approach to develop a successful insurance policy or program "covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy." Some of these issues might be addressed by determinations made by the Secretary of Agriculture (Secretary) or by an appropriate authority within the USDA Office of General Counsel related to the interpretation of existing language within the Act. For example, poultry growers could be determined to be "producers" as that construct is used in the Act. Growers of several crops, such as sesame and grass seed, are offered such status. However, the Contractor notes that "Revenue earned as an animal grower" is specifically excluded from the revenue insurable under the Whole Farm Revenue Program. The basis of this exclusion needs to be considered.

Section 1508(a)(1) provides that if "sufficient actuarial data are available (as determined by the Corporation), the Corporation may insure, or provide reinsurance for insurers of, producers of agricultural commodities grown in the United States under 1 or more plans of insurance determined by the Corporation to be adapted to the agricultural commodity concerned." While a determination that growers are "producers of agricultural commodities" could be made, the paragraph continues: "To qualify for coverage under a plan of insurance, the losses of the insured commodity must be due to drought, flood, or other natural disaster (as determined by the Secretary)." The Contractor found no evidence of integrator bankruptcies caused by natural disaster. However, the possibility does exist that an integrator bankruptcy could be caused in whole or in part by a natural disaster. The Contractor believes the bankruptcy of an integrator *per se* cannot be considered a natural disaster, although the Secretary has the authority to make such a determination. A legislative solution to this issue would be to add integrator bankruptcies to the causes of loss covered under crop insurance. However, as the Contractor has noted, other crops are sold under contract. Adding integrator bankruptcy as a covered cause of loss would potentially cause producers of contract crops to request this peril be covered under their products, especially when the products address loss or revenue.

Section 1508(a)(2) of the Act states that FCIC insurance shall not "extend beyond the period during which the insured commodity is in the field," except in the cases of tobacco, potatoes, and sweet potatoes. Clearly a similar exception could be made for poultry by amendment of the Act.

In some ways, not being able to populate a house would be analogous to prevented planting. The possibility of covering the business interruption as a "prevented planting" event would require clarification of this concept at the regulatory level if not in the language of the Act itself or by determination of the General Counsel of the USDA.

The idiosyncratic nature of bankruptcies in general and of integrator bankruptcies specifically would likely require development of premium rates based upon informed judgment and the very limited data that might be accessed. While the Act requires any insurance to have actuarially sound rates (7 U.S.C. 1508(d)(1)), there are many precedents for rating crop insurance products with limited data. None have attempted to rate the losses that would be associated with the bankruptcy of a contractee, bailee or payee. However, the Contractor believes this is an actuarial rather than a statutory issue.

The Act includes language directing the FCIC to limit competition with private insurance that is generally available. This includes statements about the administration of the insurance: "In the administration of this subtitle [Title V— Crop Insurance; Subtitle A—Federal Crop Insurance Act of 75-30 - Agricultural Adjustment Act of 1938 & Federal Crop Insurance Act as amended through P.L. 113–79, enacted February 7, 2014, the FCIC Board] shall, to the maximum extent possible, … contract with private insurance companies… avoid duplication by the Federal Government of services that are or may readily be available in the private sector …" (7 U.S.C. 1507(c)(2)). More important are the constraints on FCIC insurance products competing directly with private products. The Act states offers of additional coverage under the Federal Crop Insurance program are appropriate only if "additional coverage is unavailable privately." (7 U.S.C. (c)(1)(B)) Similar, though less constraining, restrictions apply to FCIC catastrophic coverage offers as the Board must consider "the availability of private insurance carriers" in offering such products (7 U.S.C. (b)(4)(B)). Finally, for optional coverage "… no program may be undertaken if insurance for the specific risk involved is generally available from private companies." (7 U.S.C. (l)).

Finally, Subsection 1523(b)(10)(C) of the Act limits expected costs of conducting all livestock programs in the Crop Insurance program as follows: "The Corporation shall conduct all livestock programs under this subchapter so that, to the maximum extent practicable, all costs associated with conducting the livestock programs (other than research and development costs covered by section 1522 of this title) **are not expected to exceed**..." [emphasis added] $20,000,000 for fiscal year 2004 and each subsequent fiscal year." The issue about whether or not poultry business interruption coverage for losses due to integrator bankruptcy fits within this guideline cannot be established until the premium rate and the potential liability of a pilot are known. At the very least, the exposure must be limited to a portion of the available funds in the same manner as capacity presently is allocated among dairy and other livestock programs. A poultry business interruption program would compete with other existing livestock programs for funds within this limit. The expected costs of a poultry business interruption program covering losses due to integrator bankruptcy then need to be coordinated with expected costs for the other livestock programs to determine if the limitation needs to be modified by congressional action. However, it appears interest in a poultry business interruption program covering losses due to integrator bankruptcy, if any, is minimal. Consequently, the effect of this statutory issue on development and implementation of a pilot is *de minimis*.

IV. DATA COLLECTION AND PRICING

This section of the report discusses both the data collection efforts conducted by the Contractor and the pricing analysis. Much of the poultry industry is vertically integrated. A small number of very large firms have "integrated" many elements of production, marketing, and sales. Development of insurance typically is driven by data. Diverse and comprehensive data, or appropriate judgments about what such data would reveal, are required to assess the appropriate rates for an actuarially-sound business interruption insurance product.

IV.A. Data Collection

The SOW calls for the Contractor "to conduct a search to identify viable data series." The SOW further requires the data series identified to be from acceptable data sources. Acceptable data sources are defined as "Publications and data of the ERS, RMA, FSA, NIFA, NASS, WASDE and other agencies of the USDA; marketing and promotion organizations, supported by public funds or a check-off system; State Departments of Agriculture; any grower organization or association, whose membership represents 15 percent of growers in the area the organization or association serves; any generally recognized authoritative or professional journal or magazine; any other source approved by RMA, such as schools of higher education, international agencies, (FAO or the World Bank; growers' organizations or associations whose membership is representative of growers in one or more areas); and farm level data subject to review by qualified crop insurance experts."[64]

Development of insurance typically is driven by data. Diverse and comprehensive data, or appropriate judgments about what such data would reveal, are required to assess the appropriate rates for an actuarially-sound business interruption insurance product. For the product to be meaningful to the insured, it must address the appropriate risks and be rated to address the insured's risk. The Contractor notes that the private insurance industry has developed products for grower business interruption resulting from integrator bankruptcy. However, their availability may be limited if demand is great. These products address financial risks in contractual agreements. For livestock growers, the liability covered is generally tied to potential lost revenues and to existing credit obligations of the insured. Rating is based on integrator finances when available (from public sources such as annual financial reports of publicly traded integrators) and from additional information identified by underwriters in drafting one-off contracts. Some of these policies are offered as standard policies while others are on offer as surplus line policies.

The most comprehensive insurance dataset would include data on total production, production cycle, and inventory by poultry species, location, characteristics of the production facility (e.g., pole barn versus enclosed climate controlled facility), and management practices (e.g., conventional, organic, free-range, etc.). It would also include data on the contracting integrator and on other integrators serving the same production region. Finally, a comprehensive insurance database will address information on insurable interest by integrator, grower, and owner/producer, although it may be sufficient to define the insurable risk of the potential insured in terms of a contract that states no birds will be placed on my property for a certain number

[64] USDA, RMA, 2015, SOW, Order Number D15PD00545, page 20 of 39.

weeks after an integrator bankruptcy. This may be important because growers, especially of turkeys, and independent owner/producers, indicated their contractual arrangements included a range of distribution of risk among the parties.

The Contractor conducted a detailed review of the available data, including review of summary statistics and metadata from acceptable data sources concerning the grower revenue and integrator bankruptcies. Primary agricultural data are collected directly from the data source. In the case of agricultural production, primary data come from the person responsible for the crop (including livestock and livestock products such as eggs). Primary data can be provided by growers, owner/producers, and integrators, although the integrators have substantial data from growers and/or owner/producers. The granularity of primary data supports an analysis that limits uncertainty. This in turn allows risk premiums to be minimized. For most crop insurance products, the risk premium and the subsidies provided by the government for the purchase of insurance are important elements in a potential insured's decision to purchase the insurance. The Contractor heard repeatedly from stakeholders in the poultry segment of the agricultural economy that the thin margins in the industry will make the cost a critical factor in these decisions.

NASS is the principal repository of primary agricultural data for the United States. NASS conducts numerous surveys each year and prepares reports covering most aspects of U.S. agriculture. The most comprehensive survey is the Census of Agriculture (Census). The Census, conducted every five years, is especially valuable because its methods are transparent; furthermore, it is conducted using a relatively consistent methodology. While farm-level data are only available under limited circumstances that protect the anonymity of the data sources, the Census reports provide detailed aggregate information about many aspects of U.S. agriculture. It is the only source of comprehensive agricultural data for every state and county in the United States collected using a consistent and uniform methodology. Participation by owner/producer, regardless of the size or type of operation, is expected and NASS makes every effort to encourage such participation. However, it should be noted that access to many county level data are restricted by NASS's confidentiality requirements.

The Census reports inventory and sales of 14 species of domesticated fowl and commercial game-birds as well as poultry from other species under the category "other poultry" (Table 16). The Census reports on inventory, farms with inventory, and numbers sold for these species. For the major species there is a breakdown to identify these quantities by industry sector and by size of operation in the published Census report.

Table 16. Census of Agriculture Poultry Species for which Data are Collected and Reported

Chickens	Peafowl
Chukars	Pheasants
Ducks	Pigeons/squabs
Emus	Quail
Geese	Rheas
Guineas	Turkeys
Hungarian partridge	Other poultry
Ostriches	

Source: The Contractor's Research Department after USDA, NASS 2012 Census of Agriculture Table 32.

Many production and inventory data from the Census are also available at the state level in both the published and online versions of that report. The online version allows preparation of customized reports for limited areas of significance to the analysis. However, NASS does not report comprehensive data on integrator-contractor relations; a review of the questionnaire shows these data are not collected.[65]

In published reports, in "keeping with the provisions of Title 7 of the United States Code, no data are published [by NASS] that would disclose information about the operations of an individual farm or ranch. All tabulated data are subjected to an extensive disclosure review prior to publication. Any tabulated item that identifies data reported by a respondent or allows a respondent's data to be accurately estimated or derived, was suppressed and coded with a 'D'. However, the number of farms reporting an item is not considered confidential information and is provided even though other information is withheld."[66] Furthermore, the infrequent distribution of the wide-ranging Census surveys (i.e., once every five years) limits their utility for insurance development.

More poultry industry data, including annual estimates derived by NASS from annual surveys, are available for the larger sectors of the industry: chickens (including egg production), ducks, and turkeys. NASS carefully documents its Census[67] and survey methods[68] for use in data analysis by third parties. The survey analyses extrapolate from the responses from limited populations surveyed using standard sample survey methods. The extrapolations build on patterns identified in the Census. However, the limited number of large poultry operations and the large number of small operations reported in the Census survey limit the utility for the detailed quantitative analysis essential for development of an insurance product meaningful to growers and appropriately addressing their risks related to integrator bankruptcy.

[65] USDA, NASS 2012 Census of Agriculture Questionnaire. The Contractor would note information about production under contract are collected, but this information is limited and addresses primarily the amount of crop sold under contract.
[66] USDA, NASS 2012 Census of Agriculture, Introduction IX.
[67] USDA, NASS, 2009, Surveys: Census of Agriculture, http://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Census_of_Agriculture/index.asp, accessed April 2015; USDA, NASS 2012 Census of Agriculture, Appendix A http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf, accessed April 2015.
[68] See for example: USDA, NASS, 2015, Poultry - Production and Value 2014 Summary, http://usda.mannlib.cornell.edu/usda/current/PoulProdVa/PoulProdVa-04-30-2015.pdf, accessed July 2015.

As reported previously, data from NASS on contractual production in the major poultry sectors are limited. Data on the other sectors of the poultry industry are even more geographically limited, sporadic, and in many cases anecdotal.

The Contractor identified thousands of academic research articles addressing poultry contracts. The Contractor found no subset of these articles focused on the data required for crop insurance development for a business interruption product specific to integrator bankruptcy. Most of the research articles addressed single incident case studies. Inasmuch as the methods used for data collection were not consistent, consolidating the data available in different articles would by no means produce the comprehensive dataset required for insurance development. Furthermore, it was not possible in many cases to be sure that the data in different articles was not replicated. The precision of the data presented in different articles suggested that some used rounding to facilitate comparison between dissimilar events. The search for data with which to construct a comprehensive poultry integrator bankruptcy insurance dataset, more than anything else, convinced the Contractor that, even with extraordinary efforts, construction of such a database from disparate sources of historical data would be fraught with problems.

The Contractor notes, for the private insurance available for business interruption resulting from integrator bankruptcy, brokers work with contractors to obtain the data required by the insurer to underwrite and rate the distinctive policies for each insured. The liability covered is generally tied to potential lost revenues based on both historical experience of the grower and the contract terms. Rating is based on integrator financial data, when available from public sources such as annual financial reports of publicly traded companies and from additional information identified by underwriters in drafting one-off contracts. This approach generally results in products whose premiums are idiosyncratic and likely to carry a substantial load. The Contractor identified no data series from acceptable sources that could be used to replicate these policy development processes for an FCIC product.

IV.B. Pricing Analyses

The SOW calls for the Contractor to "formulate reasonable methods for pricing or determining dollar amounts of insurance for a potential insurance program." As a term of art for crop insurance, "price" refers to the value per unit of the insured crop. Generally, price is used in the calculation of liability by multiplying the approved yield by the price published by RMA or by a lower price elected by the insured (yield-based policies only). For revenue-based policies, RMA publishes two prices: projected price and harvest price. The projected price or a lower price election is multiplied by the approved yield and coverage level to establish a guarantee for the purpose of establishing the premium amount. The higher of the projected price or the harvest price multiplied by the approved yield and the coverage level establishes the final guarantee for revenue-based policies. The harvest price (or the value established by the insured for yield protection) is multiplied by the production to count to establish the quantity to count.

Business interruption insurance is a purchased risk management tool in which one party (the insurer) agrees to pay another party (the insured) all or a portion of business income lost after a disaster. The "disaster" posited as the sole cause of loss for the insurance under study is an integrator bankruptcy. Therefore for the purpose of this potential product, the logical construct for establishing the liability is a dollar amount of insurance reflecting the net lost business

income. Furthermore, since each grower operation is characterized by unique financial attributes defined by its normal contractual terms, it is more logical that the dollar amount of insurance not be fixed.

The Contractor has identified two potential methods for quantifying the loss of income and consequently a cap for each insured's liability. The first is to use cost of production budgets to establish a per bird income value. This value could be multiplied by a grower's average number of birds per production cycle and by the number of production cycles lost to establish a net income lost value.

Numerous cost of production budgets are available for sectors of the poultry industry, by crop and location.[69] While the details of the approach used in development of each of these budgets vary, ultimately the calculations use prospective costs and potential gross income to establish the potential net income from the enterprise. In a development effort, where pricing for business interruption were established using cost of production budgets, appropriate decisions would need to be made by the developer on which costs among the prospective costs were covered by the insurance. An appropriate standard would likely be "unavoidable" prospective costs. Costs not incurred because of the business interruption should not be insurable under a crop insurance program. This would create the possibility of beneficial gain.

There is the potential for differences between the actual costs incurred by an enterprise and the theoretical costs captured in a cost of production approach used to establish the insurance "pricing." However, this situation is no different from that for any crops.

The best way to describe the "price" received by a broiler sector grower would be to document contract prices over time. However, the secrecy around tournament pricing in these contracts makes it difficult to establish precisely the individual grower's price received from the contract itself. Reliable longitudinal datasets recording contract payments are not publicly available. In fact, no report of prices actually received by the growers by state is available. Despite efforts by the Contractor to obtain these data from growers or integrators, these data were considered proprietary. NASS and ERS publish estimates of prices received. These would be the best estimates for establishing potential gross income, which in turn could be used with appropriate adjustments to establish a dollar amount of insurance.

[69] For example, for the broiler sector: Cunningham, D.L., and B.D. Fairchild, 2011, Broiler Production Systems in Georgia, Costs and Returns Analysis, University of Georgia Cooperative Extension, http://www.agecon.uga.edu/extension/pubs/documents/B1240_3.PDF, accessed July 2015; Rhodes, J.L., J. Timmons, J.R. Nottingham, and W. Musser, 2011, Broiler Production Management for Potential and Existing Growers, University of Maryland, https://extension.umd.edu/sites/default/files/_docs/POULTRY_BroilerProductionManagement_final1.pdf, accessed July 2015.

For the turkey sector: Penn State Cooperative Extension, 2014, Sample Turkeys Budget - Hens, hehttp://extension.psu.edu/business/ag-alternatives/livestock/files/budgets/small-flock-turkey-production/sample-turkey-budget-hens, accessed July 2015 and Sample Turkeys Budget – Toms, http://extension.psu.edu/business/ag-alternatives/livestock/files/budgets/small-flock-turkey-production/sample-turkey-budget-toms, accessed July 2015.

For the layer sector, Menon, D. 2009, Economics Of Layer Farming, http://www.slideshare.net/drdgmmrm/economics-of-layer-farming, accessed May 2015; and Ibarburu, M. and D. Bell, 2014, U.S. and Regional Estimates of Layer Feed Prices, Cost of Producing Eggs, and Egg Prices, http://www.ans.iastate.edu/EIC/newsletters/LayerFeb2014.pdf, accessed May 2015.

For substantially more than half of production, turkey growers generally receive a contracted price per pound of live bird and frequently have contracts that include incentive payments for feed conversion rates and survival to harvest. The best way to establish prices received by growers would be to document contract prices over time. Reliable datasets recording contract payments over time are not publicly available; the integrators consider these data proprietary. Many growers also consider these data proprietary. Payment is based on numbers and pounds of birds delivered times the contract price. Once again, NASS and ERS publish estimates of prices received. In the absence of contract prices received data, these would be the best estimates for establishing potential gross income, which in turn could be used with appropriate adjustments to establish a dollar amount of insurance.

Establishing an estimate for losses of potential gross income in the layer sector is complex. It is important to understand eggs are the crop from a layer operation. The eggs are produced *seriatim*, rather than in a single production event, the length of potential laying becomes an issue in establishing lost income. In many cases, this production could occur in more than one calendar year and likely more than one crop year (however that is defined). After the layer reaches age one and a half to two and a half years, commercial hens are typically slaughtered (culled). The larger the operation, the more likely culling will occur early. However, laying can be stimulated by forcing the hen to molt. Following the molt, the frequency of laying is increased relative to the frequency immediately prior to molting. There are similarities to this pattern and the patter of trees in a grove or orchard. Nonetheless, for layers there is a definite end to the productive life of a layer and a logical financial end to that productive life which occurs earlier than the biological end of productivity. Grower concern with the APHIS model to establish values for depopulated birds suggests how challenging development of a price structure for the layer sector will be.

The game birds include several species of ducks, geese, guinea hens, pheasant and quail. As difficult as it would be to establish prices received by growers for broilers, turkeys, and eggs (i.e., layers), the challenges facing the insurance industry for establishing game bird prices received are substantially greater. In the first place there are the numerous species involved. Furthermore, individuals within a species are sold at different ages. The birds may pass through the hands of several agricultural producers before being sold for slaughter or release. Finally, it appears there are differences in price regionally, reflecting both where the birds are raised and transportation costs. There are no time series data available for the farm-level value of birds in this class. In fact, there are no data for a single point in time that captures farm-level value for game birds generally.

In many ways the challenges related to establishing game bird prices are analogous to the challenges related to establishing the prices of nursery stock. In that industry, catalog prices (subject to a maximum) for wholesale stock are used in lieu of a survey to establish maximum prices for individual species and size (equivalent to poultry age) classes. The Contractor believes pricing with caps set based on industry prices patterns is the only viable approach for game bird prices received for a crop insurance product.

Regardless of the decision made during development to identify appropriate net income losses to be covered (i.e., both the appropriate gross income to include the appropriate prospective costs to

include and exclude from the calculations), the developer would also need to determine the appropriate period for coverage. The insurance period could be as short as a production cycle or as long as a year or more. Since a production cycle is much shorter for broilers and some game birds than for turkeys and other game birds, and the meat bird cycles are much shorter than the layer sectors, an equitable determination of the appropriate insurance period would need to be made during development.

The Contractor heard testimony that following some broiler integrator bankruptcies, most growers had been "picked up" by another integrator within one or two production cycles, some had been picked up after a longer period, and some had never been picked up. A factor like a price election for a yield-based product could be applied to the insurance period price so the insured could manage the liability (and consequently the premium) to reflect their individual concern about the potential length of a business interruption. However, this creates issues with the actuarial basis of the premiums, since the risk of not being picked up is higher for some regions, sectors, and insureds (based on their experience and the quality of their facilities) than for others.

Consequently, although establishing a price using cost of production budgets potentially is feasible, the Contractor prefers an alternate pricing approach. The preferred approach is the adjusted revenue approach used in the Whole Farm Revenue Protection (WFRP) product. The Contractor is not suggesting the WFRP product itself is appropriate for poultry growers as defined in the SOW. The WFRP product does not provide meaningful coverage for a poultry grower because of geographic exclusions and specific exclusions of contract livestock growers. Information about issues that limit the utility of the product is found in the Existing Program Review section. However, the approved revenue construct from that product could be adjusted to establish a dollar amount of insurance for a potential business interruption product for growers who experience losses because of an integrator's bankruptcy.

In the WFRP program, the approved revenue amount is determined on a Farm Operation Report and is the lower of the expected revenue or the whole-farm historic average revenue. The dollar amount of insurance is determined by multiplying the approved revenue amount by a coverage level. Total revenue is established using data from tax documents. Generally, five years of historic Schedule F farm tax records are required. If the potential insured hasn't filed Schedule F, the tax forms filed documenting the grower's income is used to create a Substitute Schedule F. Specific entries on the income tax returns are used but with adjustments to remove items that are not allowed to establish 'allowable revenue' and 'allowable expenses' for each tax year.

Post production costs for activities such as packing and packaging, as well as any added value operations, are excluded from the expected revenue and allowable revenue as well as from the allowable expenses. Non poultry income and expenses would also be excluded as are government agricultural payments, such as disaster payments. Government payments are excluded because these are not earned as part of the farming operation. The dollar amount of insurance would appropriately be based on actual historical crop production.

RMA has already developed procedures to establish a dollar amount of insurance unique to each insured based on this approach. In a development effort, it would be appropriate to start with the

existing RMA procedures for WFRP and make appropriate adjustments to reflect the revenue and expenses associated with contract growing of poultry.

V. REVIEW OF OTHER PROGRAMS

In this section the Contractor provides information regarding programs offering financial support for the poultry industry identified during the course of the project. The Contractor reviewed programs offered through the Federal government, state governments, and from the private insurance industry. Numerous support programs are available from governmental agencies, although the Contractor found the risk management products exclude many poultry industry stakeholders. The WFRP Pilot Program specifically excludes growers, operations with large gross revenues, and operations whose primary revenue source is livestock (including poultry). Furthermore, WFRP was not available in 2015 in certain major geographic areas including counties and states with substantial poultry production (such as Arkansas). This may change for subsequent crop years. WFRP may be available and useful for smaller, diverse operations with poultry production. This could include some niche market operations.

APHIS provides compensation to the owner of the poultry for animals the government destroys as part of the service's disease control programs ("takings"). Payments are not made for disease related death, only for animals destroyed (depopulation). The APHIS compensation is only available to owners of the birds taken (i.e., owner/producers, integrators and growers who have an ownership interest in the birds they raise). The compensation addresses lost costs, but not total lost value. This contrasts significantly with most crop insurance which compensates the insured for total lost value (based on historical averages) less a deductible. Furthermore, the APHIS program does not compensate growers for business interruption related expenses. Private catastrophic loss coverage is available for poultry operations and does provide some measure of compensation for losses associated with business interruption. The Contractor was able to identify only one private product which covered losses associated with loss of contracts. Details of the various support programs available to poultry industry stakeholders follow.

Federal Programs

Federal programs supporting poultry growers are offered primarily by agencies and services of the USDA. USDA programs supporting poultry growers are described by the agencies or services within the USDA offering the program. These agencies and services are listed alphabetically.

<u>Agricultural Marketing Service (AMS)</u>

Poultry growers benefit from general services of AMS including the following programs:

- The Agricultural Analytics Division: Provides economic, scientific, statistical, mathematical, and market analysis.
- The Country of Origin Labeling Division: Ensures that poultry sold at retail are labeled by their country of origin (COOL). The recent World Trade Organization ruling regarding COOL labeling for beef may force changes in this program.
- The Food Safety and Commodity Specification Division: Develops and maintains specifications for poultry and eggs purchased by USDA for distribution through the various Federal food and nutrition assistance programs. Relevant standards include:
  - Poultry Carcass Grading and Standards (AMS 70.200 et seq.).
  - Egg Grading and Standards (AMS 56, 7 CFR Part 56, 7 CFR Part 57).
- Grading Division, Poultry Program: Monitors the Shell Egg Surveillance Program. Shell eggs that are not of the best quality for human consumption are called "restricted eggs."

Restricted eggs include checked eggs, dirty eggs, leaking eggs, incubator rejects, and inedible eggs. The program also provides mandatory procedures for the disposition of restricted eggs. The Shell Egg Surveillance Program limits the number and types of restricted eggs permitted in consumer channels and specifies the approaches appropriate for different restricted egg types.

- The Livestock, Poultry and Grain Market News Division: Collects price and volume information for the sale and purchase of poultry and eggs reported in the Weekly Livestock, Poultry, & Grain Market Highlights.
- The Quality Assessment Division: Develops and maintains Federal standards for egg and poultry quality and nomenclature. Participates in development of national and international standards.
- The Research and Promotion Division: Oversees industry-funded egg research and promotion programs, commonly called the checkoff programs.
- Animal Protein Free Certification Program (APFC): This program provides third-party verification that poultry have never been fed animal protein, animal fats, or animal by-products.

Animal and Plant Health Inspection Service (APHIS)

APHIS is responsible for protecting and promoting U.S. agricultural health, administering the Animal Welfare Act, and carrying out wildlife damage management activities. APHIS has been tasked with greater responsibility for enforcing the obligations of the United States under phytosanitary rules such as the *Codex Alimentarius* and responds to other countries' animal and plant health import requirements and assists in negotiating science-based trade restrictions.

APHIS, under authority of the Secretary of Agriculture granted by the Code of Federal Regulations, Title 9: Animals and Animal Products, Chapter I: Animal and Plant Health Inspection Service, Department of Agriculture, has been given the task of responding to poultry disease outbreaks. APHIS may seize, quarantine, and, if necessary, order the destruction of poultry affected by any one of several identified diseases. Furthermore, the Secretary of Agriculture has authority to ascertain the value of animals destroyed and provide compensation; this task has also been assigned to APHIS. The poultry diseases named in 9 CFR are Newcastle disease, HPAI, and chlamydiosis. APHIS relies heavily on the NPIP program standards as the foundation of their poultry disease monitoring activities.[70] One of the constraints on APHIS programs compensating owners is that payments are generally limited to those animals alive at the time a (Veterinary Service) VS 1-23 form is submitted to APHIS. Confirmation of infection is required for submission. Consequently, animals lost to the disease prior to submission of the VS 1-23 to APHIS are generally not covered under the compensation program.[71]

[70] USDA, APHIS, Veterinary Services, August 2014, National Poultry Improvement Plan Program Standards, http://www.poultryimprovement.org/documents/ProgramStandardsAugust2014.pdf, accessed April 2015.

[71] USDA, 2015, HPAI Outbreak 2014-2015 Indemnity Procedures, http://www.aphis.usda.gov/animal_health/emergency_management/downloads/hpai/indemnity_procedures.pdf, accessed July 2015.

Other APHIS programs important to the poultry industry include:

- Animal Welfare,
- Import and Export Services:
  - Animal and Animal Product Import and Export Information,
  - International Trade,
  - Sanitary and Phytosanitary Management (Trade Facilitation),
- Veterinary Services:
  - Animal Diseases by Species,
  - Animal Health Report,
  - Laboratory Information and Services,
  - Monitoring and Surveillance,
  - Professional Development Training,
  - Veterinarian Accreditation,
  - Veterinary Biologics,
  - Veterinary Services Process Streamlining (VSPS),
  - Veterinary Services, Office of the Chief Information Officer (VS OCIO), and
- Wildlife Service.

Economic Research Service (ERS)

ERS provides data and analysis on poultry product supply and demand, as well as information on industry structure, pricing, trade, farm policies, production systems, and processing. ERS reports of particular interest include:

- Animal Production and Marketing Issues Briefing Room,
- Livestock, Dairy, and Poultry Outlook: Tables,
- Livestock and Meat Trade Data, and
- Meat Price Spreads Data.

Farm Service Agency (FSA)

FSA provides financial assistance to assist producers facing losses from natural disaster (i.e., drought, flood, fire, freeze, tornadoes, pest infestation, and other "calamities"). FSA's Noninsured Crop Disaster Assistance Program (NAP) provides payments to producers of non-insurable crops when low yields, loss of inventory, or prevented planting occur due to a natural disaster. Eligible producers include landowners, tenants, or sharecroppers who share in the risk of producing an eligible crop. The annual gross revenue of the eligible producer cannot exceed $2 million. The natural disaster causing the loss must occur before or during harvest and must directly affect the eligible crop. There is a requirement that disaster caused by weather, earthquake, volcano, or flood be declared or that losses result from disease or insect infestations arising because of such a declared disaster.

In the 2014 Farm Bill, FSA's Supplemental Revenue Assistance Payments (SURE) Program underwent some modifications. Four disaster programs were extended indefinitely: Livestock Forage Disaster Program (LFP), Livestock Indemnity Program (LIP), Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish (ELAP), and Tree Assistance Program (TAP). Furthermore, the 2014 Farm Bill removed the requirement that producers purchase crop insurance or NAP coverage to qualify for these payments. Of these programs, only LIP and ELAP apply to the poultry industry.

The Livestock Indemnity Program (LIP) provides "benefits to livestock producers for livestock deaths in excess of normal mortality caused by adverse weather. In addition, LIP covers attacks by animals reintroduced into the wild by the Federal government or protected by Federal law, including wolves and avian predators. LIP payments are equal to 75 percent of the market value of the applicable livestock on the day before the date of death of the livestock as determined by the Secretary."[72] Eligible poultry for this program include broilers, pullets, chicks, layers, Cornish hens, ducks, ducklings, geese, goslings, and turkeys. Those persons whose average adjusted gross income is greater than $900,000 are ineligible for payment under this program. This program does not provide compensation for business interruption.

Poultry owner/producers may also qualify for disaster payments under ELAP. ELAP provides emergency assistance to eligible owner/producers of livestock (including contract poultry growers), honeybees and farm-raised fish. "ELAP covers losses due to an eligible adverse weather or eligible loss condition, including blizzards, disease (including cattle tick fever), water shortages and wildfires, as determined by the Secretary, that occurs on or after Oct. 1, 2011."[73] The payments for death losses are the only benefit for which poultry is eligible to participate. Eligible loss conditions for this program do not include business interruption.

Food Safety and Inspection Service (FSIS)

FSIS is the agency responsible for ensuring the safety, wholesomeness, labelling, and packaging of the commercial supply of meat, poultry, and egg products. Both the Federal Meat Inspection Act (FMIA) and the Poultry Products Inspection Act (PPIA) require the Secretary of Agriculture to consult with an advisory committee before issuing product standards, labeling changes, or statements on matters affecting Federal and state meat inspection programs.[74] The National Advisory Committee on Meat and Poultry Inspection (NACMPI) was created to serve that end, and FSIS employees are responsible for scheduling and facilitating the work, actions, and meetings of the committee. Agency employees also identify, assess, and define emerging and standing issues affecting procedures, policies, activities, or resources for consideration by the committee.

Foreign Agricultural Service (FAS)

Poultry growers benefit from FAS general services and programs. Due to the growing importance of foreign markets to the poultry sectors, FAS export development and promotion programs are of particular importance. The FAS poultry data includes:

- Dairy, Livestock and Poultry Division (DLP),
- Data series, analysis of world markets, buyer lists, etc., and
- Export Program Data.

[72] USDA, FSA, Program Fact Sheets, April 2014, Livestock Indemnity Program, http://www.fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=pfs&newstype=prfactsheet&type=detail&item=pf_20140415_distr_en_lip.html, accessed April 2015.

[73] USDA, FSA, 2014 Farm Bill Fact Sheet, November 2014, Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program (ELAP) – Livestock Assistance, http://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdafiles/Disaster-Assist/elap_livestk_fact_sht1114.pdf, accessed April 2015

[74] USDA, FSIS, 2015, FSIS History, http://www.fsis.usda.gov/wps/portal/informational/aboutfsis/history/history, accessed April 2015.

National Agricultural Statistics Service (NASS)

NASS is the primary data collection and publication service of the USDA. Its continuous, consistent data series are widely used by growers, integrators, and owner/producers and researchers. Some poultry industry data are collected and summarized by NASS. The two principal data collection approaches are census and survey. All commercial producers are expected to respond to the census questionnaires which are distributed every five years. NASS extrapolates from survey responses to report state and national poultry data.

National Institute of Food and Agriculture (formerly Cooperative State Research, Education, and Extension Service) (NIFA)

The NIFA is the Federal administrative authority for the State Land Grant Agricultural Experiment Stations and the Cooperative Extension Service. Extension and education programs provide important educational and consultancy resources for producers in all areas, including poultry growers.

NIFA funds research leading to a better understanding of the financial strength of the poultry industry. Fairly recent NIFA-funded research has addressed agricultural and rural finance markets.[75]

Risk Management Agency

The WFRP Pilot Program provides a risk management safety net for essentially all revenue on the farm under one insurance policy. WFRP replaces the previous Adjusted Gross Revenue (AGR) and Adjusted Gross Revenue-Lite (AGR-Lite) policies. This new insurance plan is available for farms with up to $8.5 million in insured revenue. Due to the effective deductible in the coverage level, the total gross revenue of the insured operation can be larger. WFRP is available for farms with specialty or organic commodities (both crops and livestock), or those marketing to local, regional, farm-identity preserved, specialty, or direct markets.

WFRP is designed to meet the needs of highly diverse farms that are growing a wide range of commodities, and for farms selling commodities to wholesale markets. The WFRP policy was specifically developed for farms that tend to sell to direct, local or regional, and farm-identity preserved markets and grow specialty crops and animals and animal products. All commodities produced by the farm are covered under WFRP except timber, forest, and forest products, and animals for sport, show or pets.

The insured must have filed five consecutive years of Schedule F (or equivalent) tax forms as the same tax entity; unless an appropriate change in the tax entity is approved by the insurance provider under the terms of the policy. The farm operation will be ineligible for insurance under this policy if expected revenue from animals and/or animal products is more than $1 million or 35 percent of the total expected revenue or if the operation derives more than 50 percent of allowable revenue from commodities purchased for resale. Revenue from contract production of livestock is specifically excluded from coverage. The amount of farm revenue a producer can

[75] Ahrendsen, B. L.; Dixon, B. L., 2009, AGRICULTURAL AND RURAL FINANCE MARKETS IN TRANSITION, USDA Research, Education & Economics Information System, http://www.reeis.usda.gov/web/crisprojectpages/0202932-agricultural-and-rural-finance-markets-in-transition.html, accessed July 2015.

protect with WFRP insurance is based on the lower of the revenue expected on the current year's farm plan or the producer's five-year historic income adjusted for growth. WFRP provides whole-farm revenue protection coverage levels from 50 to 85 percent of insured revenue described above. These coverage levels are available in 5 percent increments and a farm must have diversification of at least three (3) commodities in order to qualify for the 80 and 85 percent coverage levels.

At the end of the insurance period and after the insured has filed farm income tax forms for the insurance year, a loss adjuster will complete an Allowable Revenue and Allowable Expense Worksheet for the insurance year using the insured's farm tax forms. The allowable revenue will be adjusted for inventory adjustments, unharvested or unsold production, and production lost for uninsured causes of loss to determine the revenue-to-count for the year. A loss is paid when the total revenue-to-count for the insurance year falls below the insured amount of revenue, multiplied by the expense reduction factor, if applicable.

There are limits and qualifications under WFRP that may impact a poultry operation. First, the operation will not qualify for WFRP if: "The expected revenue from animals and animal products on the farm is greater than $1 million or more than 35 percent of the expected revenue as determined on the sales closing date."[76] "Animals" is defined in the WFRP Pilot Handbook as: "living organisms other than plants or fungi that are produced or raised in farm operations, including, but not limited to, cattle, horses, swine, sheep, goats, poultry, aquaculture species, bees, and fur bearing animals. For the purposes of WFRP, animals must be propagated or reared in a controlled environment."[77] [emphasis added]

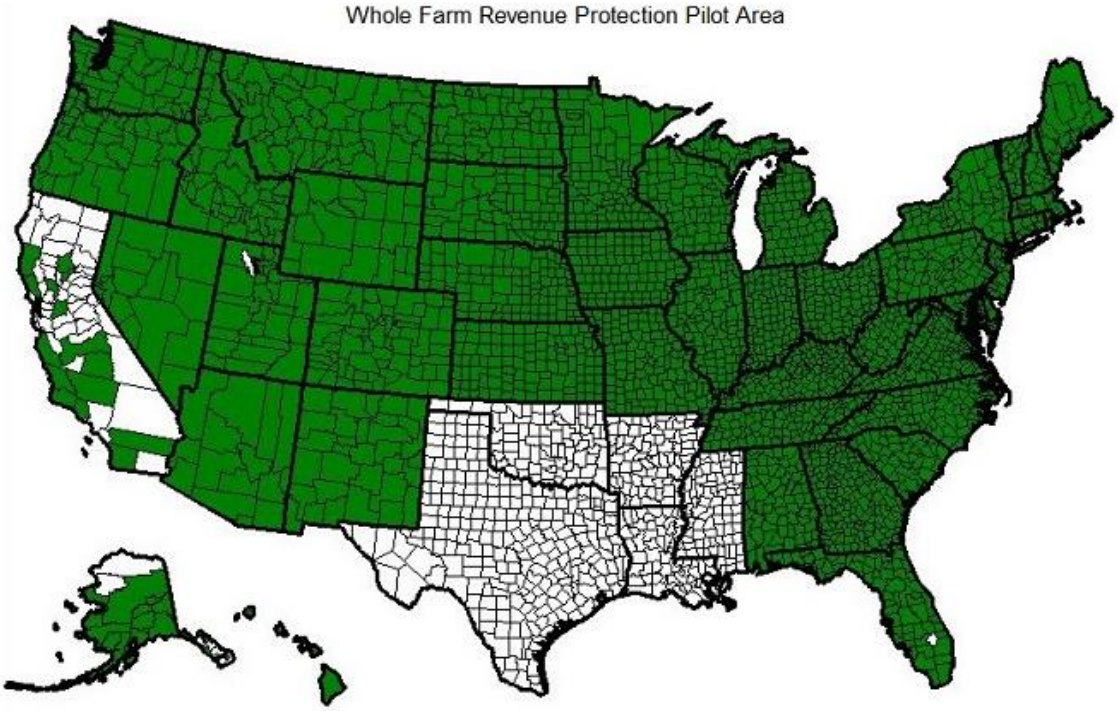
In addition, the following are excluded from the allowable revenue in each year of the whole-farm history period, expected revenue for the insurance year, and revenue-to-count for claims:

- "Revenue from commodities in which the insured does not have an insurable interest;"
- "Revenue earned as an animal contract grower"[78] [emphasis added]

Contract grower means a person retained under contract to manage the growth of a commodity owned by another person. Integrators, contract with independent farmers, commonly called growers, to raise birds until ready for processing. The grower provides the facility and the labor, and then cares for the poultry until the birds are ready for processing and are picked up by the integrator. The revenue earned by the "grower" in these cases is excluded from the WFRP program. WFRP is available in most states for the 2015 crop year as shown in the following figure.

[76] USDA, RMA 2015, Whole Farm Revenue Protection Pilot Handbook: 2015 and Succeeding Crop Years (FCIC 18160-1 (01-2015), page 10.
[77] *Ibid*., page 78.
[78] *Ibid*., page 20.

Figure 1. Whole Farm Revenue Protection Pilot Area



Source: http://www.rma.usda.gov/policies/2015/wfrpareamap.pdf, accessed July 22, 2015.

Rural Business–Cooperative Service (RBS)

RBS is a small agency with limited funding and staff whose purpose is to finance and facilitate development of small and emerging private business enterprises, and promote sustainable economic development in rural communities.[79] While this agency could potentially serve poultry growers and integrators, the industry structure will limit the impact of RBS services to many in the poultry industry.

Environmental Protection Agency (EPA)

Poultry operations are affected by EPA rules administered primarily by the Office of Water Management under the heading "Animal Feeding Operations" (AFO). Relevant reports may be found through linked topics such as water, waste, and waste management and by reviewing the EPA Website for AFOs (http://www.epa.gov/oecaagct/anafoidx.html). The rules regulate the discharge of pollutants from point sources to waters of the United States. As a point source, some operations require a National Pollutant Discharge Elimination System (NPDES) permit. Application for the permit includes development of a nutrient management plan ensuring litter is properly managed.[80] Many stakeholders expressed concern that EPA regulations introduce economic barriers to profitable management of poultry operations.

[79] USDA, Rural Development (RD), 2015, About RD, http://www.rd.usda.gov/about-rd, and Rural Business–Cooperative Service, http://www.rd.usda.gov/about-rd/agencies/rural-business-cooperative-service, accessed July 2015.
[80] EPA, 2015, Animal Feeding Operations Overview, http://water.epa.gov/polwaste/npdes/afo/index.cfm, accessed July 2015.

State Government Programs

State programs and regulations affect poultry production. State statutes or codes generally define an administrative office and/or an administrator responsible for licensing and enforcing minimum husbandry, sanitary, and environmental standards for poultry operations. Some states have poultry regulations that replace or complement Federal sanitary or environmental standards. The various regulations are similar to Federal standards, often referencing them as minima. Several states use their legislative bodies to regulate the oversight and construct of business entities within the state including poultry production facilities. Some states use legislative force to address business relationships between integrators and growers.

The Contractor conducted research into 9 key poultry producing states and discovered, since 2011, no fewer than 50 state-level bills considered by the respective legislative bodies which would have, if passed into law, impacted poultry business operations and/or relationships in those states. Arkansas considered at least ten bills which would have impacted the poultry industry in that state. Arkansas legislators considered topics such as protecting livestock and poultry operations from interference.

States oversee and regulate integrators' slaughter, processing, and distribution activities. Regulations governing slaughter and processing procedures generally follow the FMIA and the PPIA, which control operations and transactions affecting interstate commerce.[81]

While integrator regulation not associated with "crop" production is outside the scope of this feasibility assessment, it contributes to institutional risks that may impact grower wellbeing. These regulations ultimately affect growers. For example, compliant poultry operation management plans in Maryland must ensure proper storage, handling, and land application of excess poultry waste. Until the current regulations were set, manure disposal was the responsibility of the growers; now it is the integrator who must bear this cost.[82]

Private Insurance Inventory

Private insurance companies offer coverage to commercial poultry operations, family farm poultry operations, private hatchery operations, and growers. Policies and the coverage provided are described herein.

<u>Bankruptcy Coverage</u>

During the course of the research the Contractor ascertained that at least one private insurance company, H.U.B. International, offered poultry growers and owner/producers the opportunity to purchase business interruption coverage for some bankruptcy related losses. These insurance brokers and consultants work with contractors in many industries to address financial risks in contractual agreements. The liability covered is generally tied to potential lost revenues and to existing credit obligations of the insured. Rating is based on integrator finances when available (from public sources such as annual financial reports of publicly traded integrators) and from

[81] Poultry products are sold under provisions of the Federal Meat Inspection Act, the Federal Poultry Products Inspection Act, or the Federal Food, Drug and Cosmetic Act.

[82] State of Maryland. 1998, BILL INFO-1998 Regular Session-SB 41.

additional information identified by underwriters in drafting one-off contracts. Some of these policies are offered as standard policies while others are on offer as surplus line policies.

Other business interruption riders are written on an individual basis and negotiated individually. In email correspondence, a representative of such a company indicated that coverage could be extended, on a case by case basis. The Contractor believes this one-off nature of these policies and the individually established premiums will limit access to these products to highly motivated (risk averse) insureds.

Building Coverage

Although coverage varies by company, "All Risk Coverage" insurance is available for farm buildings. These policies indemnify losses from fire, weather, damage due to snow and ice load, or impact by a farm-owned vehicle. Replacement cost coverage is available for farm buildings. Typically, no depreciation is calculated in establishing indemnities. Building policies tend to cover the repair or replacement of fixed equipment. Replacement cost coverage is also available for all on farm dwellings including the replacement cost of contents. Business interruption riders may be available on these policies, although integrator bankruptcy would not be an insured cause of loss for all risk building coverage.

Companies writing poultry insurance building coverage have various underwriting requirements based on the age of the poultry house. Policies are generally contingent on a favorable inspection of the poultry house. Although insurance companies tend to have a limited range of premium rates regardless of house construction materials (i.e., the premium rate on all-metal houses may be the same as the premium rate on wood frame houses), there is a movement toward differentiating the rates, with all-metal housing receiving discounts.

Flock Insurance Coverage

Most insurers offering coverage for the poultry industry do not typically cover animal mortality or loss of business income resulting from loss of birds. However, several carriers and/or agencies are aggressively seeking customers through online sales.[83] Some insurance is available to cover the value of lost poultry as well as the loss of business income resulting from the inability to complete a production cycle. Covered losses include losses to livestock due to contaminated feeds, smoke, failure of environmental controls, suffocation of the livestock, biosecurity issues (terrorism and quarantine), and certain defaults by integrators.[84] These product lines are offered in at least 19 states, including most, but not all of the major poultry production locations[85] and are offered by carriers who underwrite insurance in the United States.[86] The terms of the policies are considered proprietary. Agents at three agencies indicated they had not yet seen a policy covering feed conversion (the best measure of production). However, two agents indicated individual policies are negotiated with terms defined by the

[83] e.g., The Hartford, http://www.thehartford.com/business-insurance/poultry-insurance, accessed April 2015.
[84] TGA Cross Insurance, http://www.thomasgregory.com/property-casualty/poultry/, accessed April 2015, Alabama Farm Insurance, http://alabamafarminsurance.com/, Westfield Insurance, http://www.westfieldinsurance.com/farm/farm_insurance.jsp/, accessed April 2015
[85] Westfield Insurance, http://www.westfieldinsurance.com/farm/farm_insurance.jsp/, accessed April 2015
[86] Nationwide Agribusiness, the agricultural arm of the Nationwide Insurance, and its affiliates Allied Insurance offer this insurance and are the largest underwriter of farmowners' property and casualty insurance in the United States.

insured and underwriting and premium defined by the insurer. Most of the existing policies cover catastrophic losses.

Flock insurance coverage is available for heat prostration due to power interruption (both on and off premises) from any cause including mechanical breakdown and fuse breakage. Some policies require a back-up system or alarm system warranty in order to offer power interruption coverage. Policies may provide schedules to value types and ages of birds differently within the same policy or may value poultry using a simple formula based on both the age at which birds are typically marketed and different values for various types of birds. Coverage is available for full mortality and theft, specific perils and theft, major medical, loss of use, and infertility. Programs are available for insurance under an "agreed value endorsement," wherein the value of breeding stock is insured for a predetermined value regardless of market forces. There is also a "market value endorsement" option where the market value acts as an adjustment increasing the value of the poultry when the market value increases. Coverage available in Canada through mutual insurance arrangements appears to be even more extensive,[87] suggesting that demand over time may drive the development of additional available coverage options in U.S. markets.

Loss of Income Coverage

Loss of income coverage is available to poultry operations from the private insurance industry. Profits insurance is also available with a 12 month loss of income agreement. Some companies offer policies for loss of egg income or income from meat birds. Within these policies, growers may be allowed to choose a dollar limit per bird. Typically, loss of income coverage for poultry houses is included in the Farm Owner's Policy, which stipulates coverage of the entire farm (i.e., house, tractor, barn, and poultry houses). Loss of income coverage for the broiler house growers and owner/producers is generally based on structural and/or mechanical risks. Loss of income insurance is available as a result of damage to the covered poultry houses, generators, freezers, feed equipment, etc. Coverage may not be available for older houses (12 to 15 years old) or the premium for older houses may be prohibitive. Loss of income coverage for the poultry industry is less common than for some other industries due to the limited loss exposure and reduced amount of risk.

TGA Cross Insurance, Alabama Farm Insurance, Westfield Insurance, the Livestock Department of Hartford Insurance, and Nationwide Agribusiness (the agricultural arm of the Nationwide Insurance) offer loss of income and flock insurance. According to industry representatives, Nationwide Insurance, Hartford Insurance, and a third unnamed major company (although this is most likely the Lloyds consortium) carry much of the poultry liability. Nationwide Insurance and its affiliates Allied Insurance are the largest underwriter of farm owners' property and casualty insurance in the United States. They appear to be aggressively targeting poultry markets with policies customized through negotiations to reflect the risk borne by growers, owner/producers, and integrators. The Contractor found mortality coverage for extreme weather conditions is available from a variety of sources, along with corollary business interruption insurance. Several agents indicated a willingness to talk about such coverages, but none had had experience negotiating policies for these perils.

[87] North Blenheimual Mutual Insurance, http://www.northblenheim.ca/products/farm/poultry-coverage/, accessed April 2015.

Coverage in Transportation

Some policies are available to provide coverage for growers, owner/producers, and integrators requiring transportation of poultry or eggs from one listed location to another, if the vehicle is owned by the policy holder.

Basic Farm Liability

Basic Farm Liability is available for all but the smallest operations.

Employers Contingent Liability

Employers Contingent Liability is available with the ability to add employees as insureds.

VI. STAKEHOLDER SESSIONS

The SOW required the Contractor to "contact leaders representing poultry businesses at the state and national levels to determine the potential interest in an insurance program. Assess the impact to poultry growers as a result of integrator bankruptcy. …[D]etermine why they are interested in insurance, identify the types of insurance programs that would meet their risk management needs and would best suit their type of operation, and what they are willing to pay to manage their risk. …[R]eview their perceptions of any potential conflicts and difficulties with an insurance program and implementing said program. The Contractor shall analyze, summarize, and interpret the data gathered." Additionally, the SOW stated that "RMA anticipates five (5) listening sessions."[88]

The Contractor gathered stakeholder input during discussions with growers, integrators, owner/producers, industry organization representatives, insurance industry representatives, state and federal legislators and their staff, extension agents, and USDA staff. See Appendix B, Exhibit 1 for a sample listening session agenda. The Contractor collected this input during six listening sessions focused on business interruption with the cause of loss being integrator bankruptcy in the four primary sectors of the poultry industry: broiler, layer, turkey, and game bird. With the approval of USDA RMA, all six sessions were conducted as teleconference listening sessions in recognition of the threat posed by the 2015 Highly Pathogenic Avian Influenza outbreak affecting the poultry industry nationwide. Several contacts and the Contractor's livestock segment expert recommended this forum for these discussions. Additionally, the Contractor conducted numerous personal and telephonic conversations outside these more structured stakeholder input gathering activities. The Contractor had proposed listening sessions be conducted to cover industry stakeholders in the upper and lower Midwest regions of the United States, the northeast and southeast regions of the United States, and the west coast region of the United States. While the sessions and the advertising were designed to maximize exposure to diverse sectors, regions, and stakeholder types.

The Contractor contacted 15 grower associations in the 5 regions by telephone and through email correspondence. The Contractor asked each grower group to convey listening session invitations to their membership. The Contractor's livestock segment specialist contacted more than 100 individuals within the poultry industry to invite them to participate in the sessions. Three weeks before the first two teleconference listening sessions the Contractor sent the RMA-approved Press Release (Appendix B, Exhibit 2) to local papers and regional agricultural publications. These advertisements and announcements were available to run for two weeks in each region and contained a brief synopsis of the topic for the listening session. The press releases also invited email communication directly with the Contractor concerning the research topic. Finally, the Contractor contacted university extension specialists in six states and requested both their presence at the listening sessions and that they convey the information to poultry industry stakeholders with whom they worked directly.

[88] USDA, RMA, Order Number: D15D00545, Insurance Program Development for Poultry Business Interruption, Listening Sessions, page 27.

Those who participated in the listening sessions were provided a very brief summary of the crop insurance development process and encouraged to express their opinions concerning the value and feasibility of insuring business interruption resulting from integrator bankruptcy.

Northeast Region

The first teleconference was conducted from 10:30 am to 11:30 am Eastern time on July 8, 2015. The Contractor advertised this teleconference to the northeast region of the United States. There were 16 participants in attendance during this teleconference. Of these 16 participating stakeholders who provided demographic information, there were three growers, five representatives from congressional offices, one representative of a poultry industry association, four insurance representatives, and two representatives of RMA. Stakeholders from five states were represented during this teleconference. Participants in this session expressed very little interest in a business interruption insurance based on potential losses associated with integrator bankruptcy. One participant summed the discussion fairly succinctly, stating that the industry has developed response protocols for instances of integrators going out of business which virtually assure most growers will be without a contract for a relatively short period of time; usually no longer than one production cycle. The stakeholders did voice a fair amount of interest in business interruption insurance based on losses associated with downtime following a disease outbreak response event.

Southeast Region I

The second teleconference was advertised to and focused on gathering information from stakeholders in the southeast region of the United States. The second teleconference was also held on July 8, 2015 and began at 12:30 pm Eastern time and concluded at 1:30 pm Eastern time. A single poultry industry representative from North Carolina attended this session along with two representatives from RMA. The poultry association representative stated that their membership was not interested in a bankruptcy-related business interruption insurance product. Furthermore, this representative also suggested their conversations with the national poultry association offices also indicated very little interest in this type of product nationally. The Contractor notes these conversations occurred while these national organizations were also immersed in addressing the concerns related to the worst catastrophic poultry disease event in modern U.S. history.

Lower Midwest Region

On July 20, 2015 from 11:30 am to 12:30 pm Central time, the Contractor conducted the third teleconference for this project. Eleven poultry industry representatives from the lower Midwest (Arkansas, Louisiana, Mississippi, Missouri, Oklahoma, and Texas) participated in the discussion. The most revealing statement regarding interest on the part of the poultry industry in the lower Midwest came from an association representative who stated the growers in their organization were not interested in government getting involved in their insurance options. Comments similar to those heard during the first teleconference regarding disease clean up assistance and disease related business interruption insurance were also collected from this group.

West Coast Region
The teleconference conducted for the west coast region and advertised through personal contacts, extension service agents, local and regional media outlets, and the RMA Regional Office, resulted in no stakeholders from that region participating. The Contractor heard from our livestock segment specialist that this session may have been overshadowed by another government agency conducting a poultry-disease-related meeting in Salt Lake City, Utah on the same day.

Upper Midwest Region
The fifth teleconference, conducted on July 21, 2015 from 12:30 to 1:30 pm Central time, was attended by 23 stakeholders from the upper Midwest. Insurance industry, owner/producers, integrators, growers, poultry associations, and the government were each represented during the discussion. The discussion primarily revolved around interest in business interruption insurance stemming from a disease related loss rather than an integrator bankruptcy.

Southeast Region II
The final teleconference was scheduled at the request of interested stakeholders in the southeast region who had been unable to attend the earlier teleconference. After notifying the RMA COTR for this project, the Contractor scheduled this call to occur on July 22, 2015 from 10:00 am to 11:00 am Eastern time. Six stakeholders participated in the discussion, including insurance representatives, farm credit representatives, government representatives, and industry representatives. The insurance representative told the participants that business interruption insurance based on integrator bankruptcy was a policy that an insurance company already offered and sold in the United States. Several comments were then collected regarding the construct of the available insurance and the method by which the company addressed the underwriting concerns for the product.

<u>Themes Raised During Listening Sessions:</u>
The following comments gleaned from the listening sessions are categorized by theme. The Contractor identifies the commenter by the segment of the industry represented in accordance with the following descriptors:

A = Association Representative
C = Company or Integrator Representative
E = University Extension Representative
G = Government Representative
I = Insurance Industry Representative
P = Owner/producer or Grower

Theme 1: Industry level of concern

- The hesitancy in the industry to involve government in their insurance might change once the growers get a better understanding of what kind of insurance this might be and who would be responsible for paying for it. (A)
- I have heard no one say anything about being concerned about integrator bankruptcy. (A)
- If you can set this up like crop insurance where you can purchase different levels based on what financial position you are in…that would be helpful. (P)
- We haven't heard of anyone being interested in this type of insurance. (G)

- We have gotten less than half a dozen calls from folks that have either heard about the possibility of the product or heard that a study being done and want to know where we are in that process. That is why we reached out a few weeks ago to ascertain the status on this study. However, this was at about the same time that AI was hitting the Delmarva Farmer newspaper and was likely truly driven by the AI. (G)
- On the producer side - there should be a concern of bankruptcy on the producer side. (P)
- In purchasing a subsidized product from the government would we be subject to the current approach the government uses to determine net present value? (C)
- I don't think a program like that would be very valuable to the egg industry in particular. (C)
- I haven't heard much. (A)
- I checked with the National Chicken council, National Turkey Federation, US Poultry Ag Association in Atlanta, and I got very little feedback or understanding or anything at all from the National Organizations related to the 2014 Farm Bill mandate of doing this study. (A)
- I am sure there are some growers who didn't get picked up with other integrators that are still left out here that caught by the nature of the bankruptcy and now there is interest in some kind of insurance that they could buy to protect against bankruptcy. (A)
- As far as a type of insurance for an integrator going bankrupt, right now, I can't think of anyone [i.e., integrator] on the edge of bankruptcy. (A)

Theme 2: Industry practices already in place to manage integrator bankruptcies

- Some of the growers with Lady Forest did get picked up by other integrators. (C)
- Some of the better ones with newer houses picked up contracts from other integrators. (C)
- Some other farms were not able to get feed, they went under. (C)
- Those that were growing chickens with the old company got picked up by another company or by the new company. (A)
- When the second bankruptcy occurred in this area, every operation got picked up by another chicken company or by a replacement chicken company. (A)
- It was pretty much that everyone had a place where they could grow chickens. (A)
- When you talk about the subject of bankruptcy for an integrator, there is coverage for that through the trade credit industry. They underwrite the financials of the integrator, and the underwriters put up a limit based on the sales volume or the receivable volume that they can get for that integrator. (I)
- The bankruptcy business interruption insurance value is tied to the loan value of the grower. (I)

Theme 3: Industry experiences with integrator bankruptcies

- We had an integrator bankruptcy in about 2010, Lady Forest Farms, which went under. (C)
- That bankruptcy was almost completely attributable to fluctuations in the corn price. (C)
- That [integrator] company got in a hole and were never able to climb out. (C)
- The company just stopped taking delivery of chickens at farms and then the chickens had to be euthanized. (C)

- The state board of animal health had to work with the local fire departments to euthanize those birds. (C)
- The company just hadn't been reinvesting for years. (C)
- We were fortunate that when there were bankruptcies about 5 or 6 years ago, while there were disruption when one went bankrupt, another [integrator] was coming in. (A)
- We had two companies a few years back, one of them was Pilgrim's Pride out of Texas and Townsends declared bankruptcy for a variety of reasons and because of that a few growers were caught without contracts. (A)
- Pilgrim's Pride got out of bankruptcy by selling to a company out of Brazil and Townsend never recovered. (A)
- Some of the Townsend growers weren't close enough to another integrator to be picked up and to have birds provided to them. (A)

Theme 4: Thoughts on business interruption indemnity calculation

- I believe current loss of income insurance is about 60% of gross income, but for a disaster not covered for depopulation or long lay-up. (I)
- Generally what I see in the policies is a stated dollar amount that the farmer purchases. So the farmer can control their premium and how much reimbursement they get for a covered loss. (I)
- We are finding that with turkeys, once the [avian influenza] disease has stopped they have been able to repopulate quite quickly. (C)
- With the egg laying industry it might take up to two years to repopulate a population of ten million birds. So the indemnity can't just be the loss of egg production for the birds you don't have...you lost them as well as the future production [from new birds]. That might make this thing too expensive. I don't know, but it is significant. (C)
- For this [business interruption insurance] to be a viable option you will need producers in California, Texas, the Southeast, and East Coast to sign up for it. How do you make this a national program…I don't think it can work as a regional program. (C)
- The definition of business income and an indemnity period and what might be reasonable limits is necessary because a $20 million limit number as the entire bucket [for Federal livestock insurance] would make this product not meaningful. (I)
- The APHIS program was focused on birds that had to be depopulated, those that had to be killed versus those that simply died and didn't take into account the associated cleanup costs. A business interruption plan - one that would be meaningful - would have to consider all of that, not just a portion. (P)
- If you can come up with something like insurance for bankruptcy, I guess it would be nice to know that if a grower wanted to sign up for it, it would be affordable. Not some kind of "way out of reach" plan. (A)

Theme 5: Obstacles to developing insurance product

- A fear of government involvement in the everyday lives of growers. (A)
- Are you looking at provisions in the policy for cleanup of a catastrophic incident, not necessarily AI, where the State steps in? (I)
- If you ultimately receive payments through an insurance program, does that kick you out of future payments through the federal government? (P)

- [You need to i]nclude the revenue from future projected egg production. (P)
- There seems to be a lot of reluctance to come up with a[n APHIS indemnification] plan that is consistent with what is already in the code. (P)
- I am curious if crop insurance would consider that kind of [comprehensive] indemnification if we could not already achieve it in the [APHIS] code of the federal register? (P)
- The duration or length of the insurance "crop year" needs to be considered heavily because in this [layer sector of the poultry] industry that could be two or three years to repopulate to the [economic situation] where you were before the loss. (P)
- If one wants to participate in some kind of a subsidized insurance program then there would be some kind of requirement to perform good risk management and some incentive. (I)

Theme 6: Other issues raised by stakeholders

- The time factor for developing a product seems awful long for the disease problems we are having right now. We don't have [2 to] 12 years to deal with this, we are on a short time range. (P)
- There is enough historical data for cost of production through the National Chicken Council, the National Turkey Federation, etc. [to establish business valuations] (P)
- [A developer c]ould get information about egg production cost from large egg integrators. (P)
- The $20 million [livestock insurance cost cap]would be a drop in the bucket compared to what APHIS owes people if they paid based on the indemnity that we should have expected from the code. (P)
- We, as a poultry industry, have a responsibility to get to Congress and get these [indemnification calculations] cleaned up in the APHIS indemnity program. (P)
- We don't have 6 months to two years to wait if we get another AI break. (P)
- We can't vaccinate to protect our birds. (P)

VII. RISK ANALYSES

The SOW requires the Contractor to identify "any production perils; define the economic perils; report and supply the data identifying and quantifying these perils; and estimate the frequency and severity of the peril that currently is uninsured." The Contractor is also required in the risk analysis to report on any available data history of disaster program payments, including Livestock Indemnity Program (LIP) payments, to poultry growers.

This contractually required risk assessment has a broader scope than the risks to growers due to integrator bankruptcy. To provide a concise and relevant report, the Contractor has provided an analysis of the proposed insurable risk in the context of the more encompassing description of risk in the poultry industry sectors.

Growers are sensitive to the difference between systemic risk and idiosyncratic risk due to their contractual relationship with integrators. Both broiler price and feed price are subject to market forces. Together, these risks may lead to considerable income variability. Output and input price changes may also be manifested through changes in the number of contracts fulfilled each year based on integrator financial decisions, contract prices, and/or incentive clauses.

Production risks have not changed substantively over the past several decades. However, changes in the relationship between growers and integrators have resulted in shifts in risk management responsibility. Production risks facing growers include weather, disease, feed quality, and chick quality. Weather-related risk in broiler production is minor compared to similar risks in crop production with severe weather affecting a small portion of flocks each year.[89] Disease risk includes both catastrophic losses, such as losses to avian influenza, and chronic disease losses, which more slowly erode profits. Growers are also impacted by the competence of integrators who control feed and chick quality.[90]

Under the current contract system, growers often cede control of marketing and production management decisions to the integrator in return for a guaranteed price floor. With payments based on relative production performance, price risk and the common portion of production risk are transferred from individual growers to integrators. By some estimates, as much as 97 percent of the risk borne by broiler growers is shifted from the growers to integrators through the typical contract arrangement.[91]

Growers perceive some of the production-related risks they face as disadvantages of the contract system. Growers are concerned with a system where their payment can be affected by production inputs, all of which may be under the exclusive control of integrators.[92] Some grower contracts provide additional grower security through casualty clauses. These clauses indemnify

[89] Aho, P. and D. Reid, 1988, "Risks and Returns," Broiler Industry, May, 14-16.
[90] Ibid; Taylor, C.R. and D. A. Domina, 2010, Restoring Economic Health to Contract Poultry Production, http://www.dominalaw.com/documents/Restoring-Economic-Health-to-Contract-Poultry-Production.pdf, accessed January 2015.
[91] Knoeber, C.R., and W.N. Thurman. 1995. "Don't Count Your Chickens…": Risk and Risk Shifting in the Broiler Industry. American Journal of Agricultural Economics, 486-496.
[92] Tsoulouhas, T. and T. Vukina, 2001, "Regulating Broiler Contracts: Tournaments versus Fixed Performance Standards," American Agricultural Economics Association: 1063-1072.

losses arising from natural disaster such as a flood, excessive heat, fire, or losses of potential production. The casualty clauses in contracts vary by integrator and region.[93]

Input quality, including the quality of chicks supplied by the integrator, is considered as a peril by some growers. Chick quality refers to the flock-to-flock variation in the growth rate and performance of company owned chicks being fed company supplied feedstuffs and medication while in a grower-owned house, under the grower's daily care. No quantifiable estimates of variation are available. Risks arising from Environmental Protection Agency (EPA) regulations, litter and dead bird disposal, energy cost, cost of operation, and banned antibiotics are elements of management that would not be insurable under conventional production (yield) insurance structure.

Disease prevention and control are given continual management attention. Growers and experts offered very general qualitative statements regarding frequency and severity of disease perils. The only statements made regarding the frequency of disease perils were generic statements such as "rare." Discussions with APHIS staff indicate that APHIS does not maintain a disease occurrence database appropriate for insurance development inclusive of frequency (time and location) and severity (number of birds affected, depopulated, cost of depopulation activities, etc.) for any of the NPIP identified poultry diseases.

During the listening sessions, growers identified two weather events – severe storms and extended periods of extreme weather – as the "weather" perils of greatest concern. In the South, hurricanes and tornados may damage or destroy houses. In Mid-Atlantic States, snow storms resulting in accumulations that exceed roof load limits and cause building collapse are the most damaging. A storm event results in lost revenue from the flock in grow-out, incurred expenses that will not generate any return, unplanned building repair or replacement costs, and, possibly, additional lost revenue from interruption of the annual production cycle during repairs or reconstruction. With the data currently available, questions concerning identification and measurement of losses tied to specific weather events seem problematic. Growers and lenders generally considered available property and casualty coverage for house damage adequate though costly. Weather related property losses would be indemnified under the grower's usual coverage for catastrophic events such as fire and building collapse, and some loss of income coverage is available. Participation is this coverage is highly variable, but is distinctly higher in highly leveraged/low equity operations.

Many growers considered power loss a peril to production. For some, power loss is the peril of greatest concern because they do not have back-up systems. With existing technology and building design, heat and moisture build-up following the loss of ventilating and cooling systems measurably affects flock well-being and consequently production. It is an area event, whose frequency is influenced primarily by the delivery system for commercial power and secondarily by weather affecting that system. It should be noted that "Failure of, or reduction in, the power supply" is a covered cause of loss in the Nursery Crop Provisions. Hence, procedures to adjust losses claimed due to this event already exist. The insurability of electric power loss from the

[93] MacDonald, J.M., USDA, ERS, 2008, The Economic Organization of U.S. Broiler Production, Economic Information Bulletin No. 38. http://www.ers.usda.gov/Publications/EIB38/EIB38.pdf, accessed January 2015.

RMA perspective revolves primarily around the failure of the electrical supply outside the control of the grower. This is similar to the terms for causes of loss that affect irrigated acreage. The loss of the irrigation water supply must be due to an insurable cause that occurs during the insurance period.

Equipment failure is very similar to power loss. The difference is a matter of degree. If a piece of bird watering or feeding equipment breaks down there may not be the same urgency to complete repairs as with a loss of power, or for that matter, a controller malfunction. However, given the inventory of replacement equipment and parts that growers keep as a means of self-insuring, the Contractor would conclude the events are not trivial, as lack of attention would transform these situations into catastrophic events. Conversely, if the failed piece of equipment were an integral part of the environmental control system, then failure could be catastrophic in a very short time. Insurability issues would be similar to those for weather related power loss. Failure of the irrigation water supply is a comparable event covered by other crop insurance policies.

Bankruptcy

As noted earlier, the SOW identifies the objective of this contract as: "…to obtain information; provide analyses; and produce a data gathering report that may support developing an insurance program covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy."[94] Integrators are defined in the contract SOW as an "individual or company that owns poultry that is raised by a contracted grower/producer or that is involved with harvesting, processing and marketing goods from poultry (may include slaughter and processing)", while a grower is defined as "[i]ndividual(s) who raise poultry under a production contract for an integrator."[95] The reader should note, this study is focused by legislative mandate (2014 Farm Bill, P,L. 113–79, Title XI, Section 11022, paragraph (a)(7) and 75-30 Agricultural Adjustment Act Of 1938 & Federal Crop Insurance Act amended February 7, 2014, Section 522, paragraph 22) and contract on a single named peril: integrator bankruptcy. This peril is currently uninsured under the Federal Crop Insurance program. Private insurance is available for business interruption resulting from integrator bankruptcy through H.U.B. International. Brokers for contract-based business interruption insurance work with contractors in many industries to address financial risks in contractual agreements. The liability covered is generally tied to potential lost revenues and to existing credit obligations of the insured. Rating is based on integrator finances that are likely to affect bankruptcy. These may be available in public sources, such as annual financial reports of publicly traded integrators. The underwriters also collect additional information in drafting one-off contracts. While some of these policies are offered as standard policies or riders to standard policies, most are on offer as surplus line policies.

There are five types of bankruptcy. Each type is identified by the chapter of the United States Bankruptcy Code in which it is described. Four types are available for individuals and/or corporate entities (Chapters 7, 11, 12, and 13) and one type for municipalities (Chapter 9). As this report addresses bankruptcies of poultry integrators, which are primarily corporate entities, the following discussion focuses on Chapters 7, 11, 12, and 13.

[94] Department of Interior, Interior Business Center, AQD, 2015, Order Number D15PD00545 page 25.
[95] Ibid., page 22..

Chapter 7 bankruptcy provides for "liquidation" (sale of a debtor's nonexempt property and the distribution of the proceeds to creditors) and a "fresh start" for the debtor. The debtor may be an individual or any business entity and, subject to a means test, relief is available irrespective of the amount of the debtor's debts or whether the debtor is solvent or insolvent. Chapter 7 bankruptcy results in the debtor retaining no liability for discharged debts. However, discharge is only available to individuals, not to partnerships or corporations (11 U.S.C. § 727(a)(1)).[96] Integrators are rarely individuals, although they may be privately held. Consequently, integrators generally avoid Chapter 7 bankruptcies to avoid going out of business.[97]

Chapter 11 bankruptcy is considered the most complex bankruptcy for corporate entities. Nonetheless it is the approach most businesses use when filing for bankruptcy. Chapter 11 bankruptcy allows the business (or in some cases an individual) to continue to function and maintain ownership of all the business assets. Chapter 11 bankruptcy allows a business in debt to develop a reorganization plan to pay off creditors. The debtor submits the reorganization and payment plan to the creditors for an approval. Unlike some other bankruptcy types which limit payment plans to a period of three to five years, Chapter 11 payment plan durations are contingent on judicial discretion and approval of creditors.[98] Depending on these third party decisions, the pay off period can be longer or shorter than the typical period under Chapters 7, 12, and 13. Unless there is a court order to the contrary, the debtor also must file among other documents a schedule of current income and expenditures and a schedule of executory contracts and unexpired leases (Federal Rules of Bankruptcy Procedure: Rule 1007(b)). An executory contract is an agreement where "the obligations of both the bankruptcy and the other party are so far unperformed that the failure of either to complete performance would constitute a material breach excusing performance of the other." (N.L.R.B. v. Bildisco & Bildisco, 456 US 513 (1984); Countryman, Executory License Agreements in Bankruptcy, 57 Minn. L. Rev. 439, 460 (1973)). While the requirement to list executory contracts in the bankruptcy filing assures that non-debtor parties to the contracts will receive appropriate notices, the underlying policy in the bankruptcy code is that debtors should have the ability to abandon burdensome contracts and retain contracts that are beneficial. This has the potential to impact growers in the poultry industry.

Bankruptcy under Chapter 12 was designed for the agricultural sector and allows financially challenged "family farmers" to create and propose a repayment plan for all or part of their debts. Similar to Chapter 11 and 13 filings, Chapter 12 sets the period for repayment at three years unless the court approves a longer period "for cause". Chapter 12 repayment plans are limited to a five year duration, although and most are approved for a three year duration. Chapter 12 procedures are designed to bring the benefits of a Chapter 11 filing together with the somewhat simpler Chapter 13 approach for the unique size of the debtor impacted under Chapter 12.

[96] Administrative Office of the U.S. Courts on behalf of the Federal Judiciary, undated, Chapter 7 - Bankruptcy Basics, http://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/Chapter-7-bankruptcy-basics, accessed June 2015.
[97] *Ibid*.; Silverman, Jacob, and Ed Grabianowski, 2005, How Bankruptcy Works, http://money.howstuffworks.com/personal-finance/debt-management/bankruptcy.htm, accessed May 2015.
[98] Administrative Office of the U.S. Courts on behalf of the Federal Judiciary, undated, Chapter 11 - Bankruptcy Basics, http://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/Chapter-11-bankruptcy-basics, accessed June 2015.

Chapter 12 proceedings tend to be less expensive than a Chapter 11 and more streamlined, while taking into account the "corporate" structure of many agricultural enterprises.[99]

The Bankruptcy Code stipulates that only a "family farmer" or "family fisherman" with "regular annual income" may file a petition for relief under Chapter 12.[100] The Code further defines "family farmer" and "family fisherman" into two categories: 1) an individual or individual and spouse and 2) a corporation or partnership. To be considered under the first category for Chapter 12 the farmer/fisherman or farmer/fisherman and spouse must meet four criteria:

1. The individual or husband and wife must be engaged in a farming operation or a commercial fishing operation.
2. The total debts (secured and unsecured) of the operation must not exceed $4,031,575 (if a farming operation) or $1,868,200 (if a commercial fishing operation).
3. If a family farmer, at least 50 percent of the total debts that are fixed in amount (exclusive of debt for the debtor's home) must be related to the farming or commercial fishing operation.
4. More than 50 percent of the gross income of the individual or the husband and wife for the preceding tax year (or, for family farmers only, for each of the 2nd and 3rd prior tax years) must have come from the farming or commercial fishing operation.

To be considered under the corporate or partnership category for Chapter 12, a farming operation must meet six criteria:

1. More than one-half the outstanding stock or equity in the corporation or partnership must be owned by one family or by one family and its relatives.
2. The family or the family and its relatives must conduct the farming operation.
3. More than 80% of the value of the corporate or partnership assets must be related to the farming or fishing operation.
4. The total indebtedness of the farming operation must not exceed $4,031,575.
5. At least 50 percent of a farming operation's total debts that are fixed in amount (exclusive of debt for one home occupied by a shareholder) must be related to the farming operation.
6. If the corporation issues stock, the stock cannot be publicly traded.[101]

Chapter 13 proceedings enable an individual with regular income to adjust debts by allowing the debtor to keep property and pay debts over time. Similar to Chapter 11 for corporations and Chapter 12 for farmers and fishermen, Chapter 13 allows an individual debtor to propose a repayment plan to creditors over three to five years, with the actual timing subject to an assessment of the ratio of the debtor's income to the median applicable state income. If the debtor's current monthly income is less than the applicable state median, the plan will be for three years unless the court approves a longer period "for cause." If the debtor's current monthly income is greater than the applicable state median, the plan generally must be for five years. In no case may a plan provide for payments over a period longer than five years.[102] Chapter 13

[99] Administrative Office of the U.S. Courts on behalf of the Federal Judiciary, undated, Chapter 12 - Bankruptcy Basics, http://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/Chapter-12-bankruptcy-basics, accessed June 2015.
[100] 11 U.S.C. 101(18), 101(19A), 109(f).
[101] Administrative Office of the U.S. Courts on behalf of the Federal Judiciary, undated, Chapter 12 - Bankruptcy Basics, http://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/Chapter-12-bankruptcy-basics, accessed June 2015.
[102] 11 U.S.C. 1322(d).

relief is only available if the individual debtor's unsecured debts are less than $383,175 and secured debts are less than $1,149,525.[103] During the reorganization and repayment, the law forbids creditors from starting or continuing collection efforts.[104]

Most integrators are neither eligible individuals as defined under Chapter 13 nor family farms as defined under Chapter 12. Consequently integrator bankruptcies have been and are expected to be structured under Chapter 11. One complication affecting the impact of an integrator bankruptcy on growers is the sale of the debtor's assets as a part of the payment plan. Generally an integrator's poultry-related assets are only of use to another poultry integrator. Economies of scale may make a facility being sold attractive to one integrator while it contributed to the losses leading to bankruptcy of another. A second complication is that the grower-integrator contracts are structured to limit the responsibilities of the integrator to provide a consistent supply of birds to the grower. The bankruptcy of an integrator may allow either the bankrupt integrator or the new owner to walk away from the contract if it is deemed burdensome. This outcome was demonstrated by the 2008 bankruptcy of Pilgrim's Pride. In 2006, Gold Kist, the second largest poultry integrator in the United States at that time, was purchased by Pilgrim's Pride Corp., the largest integrator at the time of the mergers. Pilgrim's Pride then filed for reorganization under Chapter 11 in December 2008. The increased debt burden resulting from the merger, higher feed costs, and lower demand for poultry were cited as causes of the bankruptcy. In its restructuring plan, Pilgrim's Pride reduced production and cancelled more than 750 grower contracts. While the company tried to compensate growers for some portion of their losses, grower claims totaling more than $180 million were issued by 762 growers. Ultimately these claims were settled for pennies on the dollar.[105]

Insurable perils under the Federal Crop Insurance program typically include:

- Adverse weather conditions including natural perils such as hail, frost, freeze, wind, drought, and excess moisture;
- Earthquake;
- Failure of irrigation water supply, if caused by an insured peril during the insurance period; Fire, if caused by an insured peril during the insurance period;
- Insects, but not damage due to insufficient or improper application of control measures;
- Disease, but not damage due to insufficient or improper application of control measures;
- Volcanic eruption; or
- Wildlife.

Integrator bankruptcy does not cause loss to the amount of a crop that can be harvested, unless as in one case described in a listening session the unharvested birds are abandoned by the integrator. The integrator bankruptcy may represent a revenue risk to the grower if the crop must be sold at a discount or a financial risk to the grower if no market can be found for the crop. However, even these risks are complicated by the fact that the crop is almost always owned by

[103] 11 U.S.C. § 109(e).
[104] Administrative Office of the U.S. Courts on behalf of the Federal Judiciary, undated, Chapter 13 - Bankruptcy Basics, http://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/Chapter-13-bankruptcy-basics, accessed June 2015
[105] Snyder, W.K., 2010, Inside the Turnaround of Pilgrim's Pride, American Bankruptcy Institute Journal, Volume 32, http://www.docstoc.com/docs/80128244/Inside-the-Turnaround-of-Pilgrims-Pride#, accessed June 2015.

the integrator. In the case of integrator bankruptcy, the crop is most often an asset of the bankrupt party. The asset is held by a contractor who has a financial stake but no insurable interest in the crop. Furthermore in the case of meat birds, the asset will decrease in value after the crop has reached a marketable size. The integrator represents the primary market for the asset.

Integrator bankruptcy may result in circumstances similar to prevented planting. If there is only one integrator in a region, the bankruptcy of that integrator will likely mean the grower's poultry houses will not be stocked with young birds. If the houses could be considered "fields," the lack of repopulation would be comparable to the field not being planted. However, for the purpose of crop insurance, this comparison breaks down. While the term "field" is not defined in the Act, no use of the term "field" in the Act can be construed to mean a poultry house. Furthermore, growers generally provide services and facilities and only a small number have contracts that are structured on a share basis. Therefore, the lack of repopulation is comparable to a cash tenant not renewing a lease rather than to prevented planting events insurable under any section of the Act. Finally, prevented planting causes of loss are limited to catastrophic natural conditions. Consequently, under the terms of the Act, integrator bankruptcy does not result in insurable "prevented planting" of the poultry house as a field.

Similarly, integrator bankruptcy may result in circumstances for a grower similar to those faced by an orchardist as a result of tree loss. Trees are a capital asset of the orchardist. Similarly, poultry houses are a capital asset of the poultry grower. Tree loss is insurable under several insurance products (e.g., the Tree Based Dollar amount of Insurance Plan) for certain fruit and nut types. As noted above, if there is only one integrator in a region, the bankruptcy of that integrator will likely mean the grower's poultry houses will not be stocked with young birds. Without being stocked, no crop harvest can be anticipated. If the houses could be considered "trees," the lack of repopulation would in some ways be comparable to trees becoming barren. However, for the purpose of crop insurance, this comparison breaks down. While the term "tree" is not defined in the Act, insurance for trees is authorized under section 508(l). The insurable causes of loss are damage and disease. The lack of repopulation because of integrator bankruptcy cannot be construed to be either damage or disease. Likewise, the house cannot be construed to be a tree.

Testimonial data shows the most important risk for the grower in the event of integrator bankruptcy is not the revenue risk tied to a single production cycle, but rather the economic peril that the substantial facilities the grower has built to support poultry production will be left idle. The Contractor found no database from an acceptable source documenting the frequency and severity data necessary to establish these risks of poultry industry bankruptcies. Integrator bankruptcies are sporadic and idiosyncratic events. During a search of the literature, the Contractor identified six poultry integrator bankruptcies between 2009 and 2012 (Table 16). The reader should note, Custom Processors Inc. was a division of P&C Poultry Distributors Inc. When the frequency of these reorganizations and the number of growers contracting with each integrator are considered, the impact of these events on growers is obviously substantial.

Table 16. Historical Integrator Bankruptcies – 2009 - 2015

Year of Bankruptcy	States Affected	Bankrupt Party
2009	Arkansas and North Carolina	Pilgrim's Pride
2010	California	P&C Poultry Distributors Inc.
2010	California	Custom Processors Inc.
2011	Georgia and North Carolina	Townsends, Inc. (Division)
2011	Georgia	Cagle's
2012	California	Zacky Farms LLC

Source: The Contractor's Research Department based of reports in the press.

The assets, liabilities, and cash flow of the smallest integrators can be measured in the millions of dollars; those of the largest are measure in billions of dollars. The corporate structure of each integrator is unique. The grower-integrator contracts are not at all transparent. The lack of transparency protects the unique nature of the relationships between the two parties in the contract. It appears that even within a cohort of growers providing facilities and services for an integrator, the terms of the contracts may be different. The singular nature of each integrator bankruptcy makes it difficult to identify any patterns quantifying the risk to growers of integrator bankruptcy and estimate the frequency and severity of the peril. Data identifying and quantifying integrator bankruptcy and resultant grower losses are anecdotal, sporadic, and not collected by a consistent method. Since the bankruptcies are a legal matter in public record, it might be possible to glean some useful information from the bankruptcy filings and settlements. However, such a search would be substantial; documenting the individual events this way is outside the scope of this contract. Furthermore, because of the nature of the integrator-grower contracts, it is possible the filings and settlements do not provide a complete picture of the potential interruption of grower businesses.

Disaster Payment History

The 2008 Farm Bill provided that the USDA make available $80 million in Section 32 Fiscal Year 2010 funds to assist the poultry industry in the form of grants to States. These funds were specifically targeted to address losses to growers due to an integrator's bankruptcy in the poultry industry. The Poultry Loss Contract Grant Assistance Program (PGAP), announced in 2010, provided up to $60 million in assistance to poultry growers whose poultry growing arrangements contracts with integrators were terminated because of the bankruptcy of the integrator. FSA was authorized to provide grants to the state departments of agriculture in Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina, Pennsylvania, Tennessee, and Texas. These states agreed to provide assistance to eligible poultry growers. The Contractor found no documentation of the specific use of PGAP funds to assist growers damaged by an integrator's bankruptcy.

The Contractor made a request of the FSA for information documenting disaster payments to the poultry industry or to growers specifically. FSA indicated their data cannot be sorted to provide useful data for this report. With RMA's permission, the Contractor withdrew the request.

VIII. FEASIBILITY RECOMMENDATIONS

The SOW requires the Contractor to report on the "feasibility and potential for developing a successful insurance policy or program…" covering… "business interruptions incurred by poultry growers as a result of an integrator's bankruptcy."[106] To address this requirement, the Contractor considered the FCIC's criteria for feasibility.[107] The Contractor identified no insurance approach to address business interruptions incurred by poultry growers as a result of an integrator's bankruptcy meeting all the feasibility criteria. This includes modification of the coverage under an existing insurance program. The impact of each of the feasibility requirements on this conclusion is discussed below.

The proposed insurance coverage must conform to RMA's enabling legislation, regulations, and procedures that cannot be changed. The Crop Insurance Act (Act) is the enabling legislation for the offer of insurance by the FCIC. The Act introduces substantial barriers for any approach to develop a successful insurance policy or program "covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy." Some of these issues could be addressed by determinations by the Secretary of Agriculture (Secretary) or by an appropriate authority within the USDA Office of General Counsel related to the interpretation of language within the Act. For example, poultry growers could be determined to be "producers" as that construct is used in the Act. Growers of sesame and grass seed are offered such status. However, the Contractor would note growers of livestock who provide only facilities and services under their contract are specifically excluded from including those revenues in the revenue insurable under the WFRP.

In the Act, 7 U.S.C. 1508(a)(1) further provides that if "sufficient actuarial data are available (as determined by the Corporation), the Corporation may insure, or provide reinsurance for insurers of, producers of agricultural commodities grown in the United States under 1 or more plans of insurance determined by the Corporation to be adapted to the agricultural commodity concerned." While a determination that growers are "producers of agricultural commodities" could be made, the paragraph continues: "To qualify for coverage under a plan of insurance, the losses of the insured commodity must be due to drought, flood, or other natural disaster (as determined by the Secretary)."

The Contractor found no evidence of integrator bankruptcies caused by natural disaster. However, the possibility does exist that an integrator bankruptcy could be caused in whole or in part by a natural disaster. The Contractor believes the bankruptcy of an integrator *per se* cannot be considered a natural disaster, although the Secretary has the authority to make such a determination. Such a determination might be expected if the bankruptcy was caused primarily by a natural disaster of the sort that has resulted in indemnities or other payments from the USDA in support of an affected industry.

Furthermore, 7 U.S.C. 1508(a)(2) states that FCIC insurance shall not "extend beyond the period during which the insured commodity is in the field," except in the cases of tobacco, potatoes, and sweet potatoes. Clearly a similar exception could be made for poultry by amendment of the

[106] USDA, RMA, 2015, SOW, Order Number D15PD00545, Sections 2.4 and 2.4.1, page 26 of 39.
[107] *Ibid*., Section 2.3, pages 25 and 26.

Act. In some ways, not being able to populate a house would be analogous to prevented planting. However, this analogy is only useful if the aforementioned restrictions to coverage for losses due to natural disaster can be addressed. The possibility of covering the business interruption as a "prevented planting" event would require clarification of this concept at the regulatory level if not in the language of the Act itself or by determination of the General Counsel of the USDA.

The Act requires any insurance to have actuarially sound rates (7 U.S.C. 1508(d)(1)). The idiosyncratic nature of bankruptcies in general and of integrator bankruptcies specifically would likely require development of premium rates based upon informed judgment and the very limited data that might be accessed. This is not unprecedented in rating for crop insurance policies, but none have attempted to rate the losses that would be associated with the bankruptcy of a principal (the status of the integrator in the contract).

The offer of additional coverage under the Federal Crop Insurance program is allowed under the Act only if "additional coverage is **unavailable** privately." (7 U.S.C. (c)(1)(B)) [emphasis added]. Similar, though less stringent, restrictions apply to FCIC catastrophic coverage offers as the Board must consider "the availability of private insurance carriers" in offering catastrophic products (7 U.S.C. (b)(4)(B)). Finally, for optional coverage "… no program may be undertaken if insurance for the specific risk involved is generally available from private companies." (7 U.S.C. (l)). Historically, "generally available" has been interpreted by the Board to address the offer of such insurance rather than purchase by farmers of the insurance. This could be an important obstacle to the development of an FCIC product covering the risk of grower business interruption due to integrator bankruptcy, since such insurance is available from at least one private insurance source.

Finally, Subsection 523(b)(10)(C) limits expected costs of conducting livestock programs for fiscal year 2004 and each subsequent fiscal year to $20,000,000. A poultry business interruption program would compete with other existing livestock programs for funds within this limit. However, it is important to note the $20 million specified in Section 523(b)(10)(C) is not a cap on outlays for any particular year. The Subsection language is a guideline for expectations. So the issue about whether or not business interruption coverage fits under this limitation cannot be established until the premium rate and the potential liability of a pilot are known. The poultry business interruption expected costs then need to be coordinated with expected costs for the other livestock programs to determine if coverage of the nature described for this contract can be accommodated within this limitation or if Congressional action is needed.

Identify and appropriately categorize perils affecting production and/or revenue as insurable and non-insurable. The proposed insurance would have a single cause of loss. If the Act is interpreted to allow coverage for a poultry grower's business interruption as a result of an integrator's bankruptcy as an insurable cause of loss, either as a result of interpretation of existing language in the Act or as a result of an amendment to the Act, it would be easy to identify and categorize the peril as affecting revenue. The bankruptcy, as a legal action, would also be well documented.

Be ratable and operable in an actuarially sound manner. Rating insurance ideally requires access to historical data on the frequency and severity of losses. However, for crop insurance this ideal is rarely met. Poultry integrator bankruptcies are relatively infrequent events. The Contractor was unable to identify a long-term, time series database containing the necessary frequency and severity information concerning the financial impact of integrator bankruptcies on growers for use in constructing a data driven rating model. The best data to understand the risk of an integrator declaring bankruptcy are in the proprietary data of the integrator. For publicly traded integrators, some useful data are likely to be found in the annual financial statements of the entity. Nonetheless, the distinctive nature of each bankruptcy event makes it difficult to establish appropriate rates. Furthermore, the potential indemnities are appropriately tied to the uncontrollable losses the grower incurs as a result of the integrator bankruptcy. Yet these losses will also be idiosyncratic. They will be influenced by the location, age, technology, and contract performance history of the insured's operation. Another factor influencing the duration for assessing losses would be access to competing integrators. Consequently, both the frequency (governed primarily by the integrator's situation) and the severity (governed primarily by the grower's circumstances) are likely to be unique to each policy.

Charge a premium that the insureds must be willing to pay for the insurance. As noted earlier, the Contractor learned that growers are interested in insurance for business interruption insurance if the premium is appropriate. Many already have such insurance for business interruptions caused by natural causes that affect the integrity of their houses. However, the Contractor noted that interest in business interruption insurance for losses resulting from an integrator's bankruptcy is limited as reported by a broker offering such coverage.

Be an appropriate geographic distribution of production to ensure a sound financial insurance program. The Contractor understands this feasibility requirement applies to the RMA portfolio in its entirety. The geographic distribution of the risk for business interruption insurance losses resulting from an integrator's bankruptcy would mirror the geographic distribution of the growers. The risk of bankruptcy for each integrator is unique. Nonetheless, some risk would exist in all areas where poultry growers produce birds or eggs. While the Contractor would note the risk would vary from location to location (and contract to contract), this variation in risk is no different from the geographic variation of risk associated with weather. The assurance that the financial basis is sound cannot be made until the rating approach can be assessed. An appropriate rating approach would address numerous factors including appropriate geographic factors.

Avoid or mitigate moral hazards. It would be difficult to control integrator behavior involving risky activities. The integrators' behavior might be influenced by knowledge that effects of that behavior on losses by the grower are mitigated by the insurance. However, since a grower cannot engage in activities likely to trigger an integrator bankruptcy, moral hazards resulting from risky behavior of the insured are likely to be easily addressed by the underwriting for the product or program.

Not allow insureds to select insurance only when conditions are adverse. While the growers may have limited knowledge about the possibility of an integrator bankruptcy, it is unlikely their knowledge will be asymmetric with the insurer's knowledge. The asymmetry that could exist

would be between the integrator and the insurer and between the integrator and the grower. Consequently, potential insureds should not be able to insure inappropriately if the program is appropriately structured and rated to reflect the risk of integrator bankruptcy.

Produce enough interest for the risk to be spread over an acceptable pool of insureds. As noted earlier, growers are interested in insurance for business interruption insurance if the premium is appropriate, but generally not for business interruption insurance for losses resulting from an integrator's bankruptcy. The Contractor believes it is not possible to address this criterion for feasibility for development of an insurance product or program for growers with integrator bankruptcy as the sole cause of loss.

Not allow a change in market behavior or market distortions that change the quantity supplied or shift the supply curve. It is hard to predict how an insurance product or program for growers with integrator bankruptcy as the sole cause of loss might affect the markets. Currently the integrators and their growers are in competition with owner/producers. Insurance for growers might drive some owner/producers to change their business model. These changes are most likely in the turkey sector and layer sector where growers' production currently represent 69 percent and 23 percent[108] of the total sector production, respectively.

Be effective, meaningful and reflect the actual risks of the producers [i.e., growers]. The Contractor believes the very limited expression of interest in the proposed insurance indicates growers do not consider an insurance product or program with integrator bankruptcy as the sole cause of loss meaningful. This is not a peril risk that "keeps growers awake at night."

The perils affecting production must be identified and categorized as insurable and non-insurable. It is easy to identify the peril that affected the production: an integrator bankruptcy is a matter of public record. However, since many bankruptcies occur under Chapter 11, the actions of the integrator during the term of the bankruptcy may affect growers differently. This could create issues regarding eligibility for indemnities.

Contain underwriting, rating, pricing, loss measurement, and insurance contract terms and conditions. Terms and conditions are a matter of policy language and procedures. If other barriers to implementation of a poultry business interruption product covering losses due to integrator bankruptcy can be overcome, the Contractor believes appropriate contract terms and procedures can be developed.

Have best management practices that can be defined, required of an insured and be monitored. The Contractor believes this criterion can be met. The relevant management practices related to integrator bankruptcy will most likely focus on the terns and provision of the grower's production contract. Such conditions are already part of most policies RMA manages that address contracted production.

[108] USDA, NASS 2012 Census of Agriculture, Full Report, Volume 1, Chapter 1, US, Tables 32 and 48, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_032_033.pdf, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_045_048.pdf, and USDA, NASS, Quick Stats, accessed July 2015. Note: The USDA NASS Survey data reported in the NASS Quick Stats website are measured by "egg" while the USDA NASS Census of Agriculture data is reported in "dozens" of eggs.

Summary of Potential for Developing a Successful Insurance Policy or Program Covering Business Interruptions Incurred by Poultry Growers as a Result of an Integrator's Bankruptcy. The principal barriers to developing an insurance policy addressing business interruption covering losses due to integrator bankruptcy are private sector products already available on the market, the idiosyncratic nature of integrator bankruptcy events, the limited available data, and the lack of grower interest in the proposed cause of loss. The Act imposes important constraints on development of a successful insurance policy or program for the FCIC portfolio covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy. There are also important questions regarding identification, measurement, and tracking of the value of the interrupted business. However, in many ways these are similar to those that have been faced by the FCIC as it has provided crop insurance coverage for trees. The proprietary and closely guarded nature of integrators' financial data makes the prospect for development of meaningful premium rates without a significant uncertainty load unlikely. This in turn affects the issue of whether potential insureds would be willing to pay an appropriate premium. Furthermore, the Contractor heard little testimony to suggest that growers would be willing to pay any premium for business interruption insurance with an integrator's bankruptcy as the sole cause of loss. In light of these issues, the Contractor believes it is not feasible to develop insurance covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy for the FCIC portfolio.

Appendix A

Grower/Integrator Contracts

BROILER PRODUCTION AGREEMENT

This AGREEMENT, made and entered into this _____ day of _____, _____, by and between INTEGRATOR COMPANY hereinafter referred to as "Integrator" and _____ of _____, Party of the Second Part, with its address for notice at _____, hereinafter referred to as "Grower."

WITNESSETH

Additional Capital Investments Disclosure Statement:
ADDITIONAL LARGE CAPITAL INVESTMENTS MAY BE REQUIRED OF GROWER DURING THE TERM OF THIS AGREEMENT.

Integrator expressly intends that this Agreement and the independent services of Grower establish Grower as an independent, third party contractor grower. Grower is primarily responsible for the care, maintenance and growth of each flock to which it has custody. Grower shall use its own judgment and experience in finalizing all techniques and production methods, using the Broiler "Growing Program" Procedures Guide as guidelines only and reporting its successes and recommendations to Integrator.

In consideration of the agreements and covenants of each with the other herein contained, said parties hereby contract and agree as follows:

I. Integrator agrees:

A. To furnish the Grower with a flock ("Flock") of birds to raise for broiler production for Integrator. Integrator bears the cost of and **retains title to the birds** [emphasis added]. Integrator shall have the right to determine the placement density of the birds.

B. To provide and deliver to the Grower such feed, fuel, litter, medication, vaccine, and litter amendments as may deem necessary for the care of the Flock placed in the custody of the Grower under this Agreement. **Integrator retains title to any feed, medication, or other supplies remaining on the Grower's farm** [emphasis added].

C. **To determine and schedule when and where the Flock is to be removed for processing** [emphasis added] and shall or shall arrange for third parties to catch, load and transport the Flock at no cost to the Grower.

D. To provide the Grower all feed delivery and live poultry scale tickets that are used in the calculation of the Grower's compensation and furnish Grower with a copy of the final Flock settlement instrument calculating the payment due to Grower ("Final Flock Settlement"). Any feed picked up by or returned to Integrator shall be weighed and reported on the Final Flock Settlement.

E. To compensate the Grower for services rendered herein as provided for in the attached "Grower Payment Schedule," not later than fifteen days following the week in which the Flock is slaughtered.

II. Grower hereby commits himself to accept delivery or placement of the Flock, and in addition, agrees:

A. To furnish and provide, in accordance with Integrator's judgment, the necessary land, buildings, equipment, utilities (understanding that maintenance, management and environmental management are always Grower's responsibility and Integrator assumes no responsibility as to these or other Grower responsibilities) and further, to provide such labor (including hiring assistants, if any, as Grower may choose) as are necessary to properly care for the Flock.

B. To be present and assist in the preparation of the house(s) for the delivery of chicks and, also, for the removal of the Flock.

C. To adopt and follow sound poultry management practices that conform to practices of good animal husbandry that are at least comparable to Integrator's recommended practices.

D. To comply with applicable State, Federal and Local environmental laws, rules, regulations, codes and ordinances ("Laws"), including but not limited to, those governing environmental management, poultry litter management, and prompt and proper disposal of all litter and dead birds. Growers in the State of Oz shall be properly certified by the Oz Nutrient Management Commission, or its successor, and shall include within their Nutrient Management Plans or Animal Waste Management Plans (NMP/AWMP) accurate and required accounting for nitrogen and phosphorous applications, as required by Oz's nutrient management Laws.

E. To provide properly maintained roads, free of surface or overhead obstructions, from the nearest county or state maintained road to and around Grower's poultry house(s) and furthermore, to provide adequate space to turn vehicles where necessary and adequate loading areas for birds. Grower shall be liable for wrecker or towing charges incurred by Integrator due to insufficiently or improperly maintained roads.

F. To allow no other poultry, fowl, wild birds, exotic or domestic pet birds on the Grower's premises.

G. To secure all poultry house(s) to prohibit the entrance of unauthorized persons or wild and domestic animals and birds.

H. To insure that all hired labor or other authorized entrants to the poultry house(s) follow proper biosecurity procedures and have no contact with other fowl, wild birds, or exotic or domestic birds.

I. To keep accurate records (such as daily mortality) necessary for the efficient and proper care of the Flock.

J. To notify Integrator immediately if any situation develops that has an adverse effect on the health or well being of the Flock (such as increased mortality or other disease or abnormal conditions).

K. To not use or allow to be used during the period of this Agreement any feed, medication, herbicides, pesticides, rodenticides, insecticides or any other such item except as supplied or approved in writing by Integrator.

L. Within this framework, **Grower retains the exclusive power to control how the actual growing and care services are provided, by use of its own skills, labor, tools, ideas, manner, and judgment** [emphasis added].

M. To indemnify Integrator, its officers, employees, agents and representatives, defend and hold Integrator harmless from and against:

1. Any and all claims for damage or injury to persons or property arising out of or resulting from the Grower's operations or inactions under this Agreement, except to the extent such damage or injury is caused by the gross negligence or willful misconduct of Integrator.

2. Loss from theft or disappearance of birds, feed, medications, or other goods supplied by Integrator pursuant to this Agreement.

N. To indemnify, defend and hold Integrator, its officers, employees, agents and representatives harmless from and against any and all losses, claims, damages, and actions, including federal, state, or local administrative actions, rulings and all other actions of any nature whatsoever which are in any manner caused by or which result from the presence of the broilers on the premises of Grower, including, but not necessarily limited to matters involving emission complaints; disposal complaints; pollution complaints; violation of Laws and any negligent acts or omissions of Grower in the performance of its obligations under this Agreement.

O. To carry comprehensive general liability insurance with limits of not less than Five Hundred Thousand Dollars ($500,000.00) for death or bodily injury and/or property damage per occurrence. If possible without charge to Grower or Integrator, Integrator shall be named as an additional insured. In any event, a certificate of insurance shall be delivered to Integrator annually on or before the renewal date of the policy. All policies of insurance shall contain a provision that the insurer will not cancel or materially change the policy, except after thirty (30) days' prior written notice to Integrator.

P. To notify Integrator if Grower plans to significantly change its operations.

III. It is further understood and agreed that:

A. This is a service contract and not a contract of employment and Integrator and the Grower are independent contractors and neither their employees nor agents shall be considered to be employees of the other for any purpose whatsoever.

B. The Grower accepts full and exclusive liability for payment of any and all applicable local, state and federal taxes, taxes for workers' compensation insurance, unemployment compensation insurance, or old age benefits or annuities now or hereafter imposed by any governmental agency, as to Grower and all persons as Grower may engage in the performance of this Agreement.

C. Integrator shall not be held responsible or liable for damages to Grower caused by delay or failure to perform hereunder when such delay or failure is due to fire, labor strike, act of God, legal act of a public authority or a labor, feed or fuel shortage, disease, or other circumstances outside the reasonable control of Integrator.

D. Integrator shall have the right to immediately remove said birds from the Grower's premises at any time that any of the following events may occur:

1. The birds contract any disease that, in Integrator's sole reasonable judgment, renders the Flock to be unthrifty, poses a disease threat to other poultry, or as directed by federal, state, or local authorities.

2. Grower's management practices do not conform to Integrator's standards and/or do not conform to practices of good animal husbandry.

3. Failure of the Grower to comply with any provision of the Agreement.

4. Grower becomes insolvent or commits any act of bankruptcy.

5. The use of abusive language, threat of physical harm or in any manner prohibiting Integrator or its authorized representative from properly monitoring the Flock.

6. The Flock reaches a normal marketable age as determined by Integrator.

E. If in the judgment of Integrator, the Grower should fail to provide proper care, feeding or treatment under the terms of this Agreement, Integrator shall have the right to enter over and into the land and premises where the Flock is located and provide necessary care for and handling of the Flock and to charge the Grower with expenses incurred to accomplish this, which will be deducted from settlement before final payment is made.

F. Integrator shall have the right of access at all times to the premises in which the Flock shall be housed or otherwise located for the purpose of inspecting birds, delivering chicks, feed or supplies and removal of birds.

G. If a Grower's Flock performance as determined by either the Standard Cost (as defined in the Grower Payment Schedule) or the basic management practices of the Grower reaches an unacceptable level as determined by Integrator, then the following may occur:

1. Consultation with Integrator's Grow-Out Department management and placement of Grower on an action plan or performance improvement plan.

2. Action plans will be developed in writing with a Grower.

3. Action plans precede a notice of termination that will be issued concurrently with placing a Grower on a performance improvement plan so the Grower is advised that if the performance improvement plan is not met that the Grower will be terminated and the date of termination.

4. A copy of the current performance improvement plan standards are attached hereto as **Schedule I**. New contracts or new Flocks may have changed terms for performance improvement plans that will be provided to the Grower.

5. If the Grower fails to comply with the performance improvement plan to Integrator's satisfaction the contract will be terminated at the date specified in the initial notice.

H. INTEGRATOR DOES NOT WARRANT QUALITY, MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE OR OTHERWISE WARRANT ANY PRODUCT DELIVERED BY OR RECOMMENDED BY IT TO THE GROWER UNLESS MANUFACTURED BY INTEGRATOR. SUCH GOODS ARE DELIVERED AS IS, WHERE IS AND THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE FACE HEREOF.

I. Integrator may assign this Agreement at any time. The Grower may assign this Agreement only with the written consent of Integrator which consent may be withheld in Integrator's sole discretion.

J. TERMINATION PROVISIONS:

As a matter of convenience of not having to initiate a new contract for each Flock, this Agreement shall be continuous until terminated as follows:

Grower shall have a right to rescind this Agreement until 11:59 p.m. on the third business day after the day on which Grower signs the Agreement. Grower shall provide written notice of termination to the Integrator's Live Production Manager or Breeder Manager.

Grower may cancel this Agreement without cause and either party may cancel this Agreement with cause, but in all cases, upon first giving the other party written notice of such decision to terminate: provided, however, that such written notice on the part of the Grower or Integrator shall be given no less than ninety (90) days prior to the termination date. Any such notice of termination shall be personally delivered or sent by first class mail to the other party at

the address set forth below such party's signature line. The notice may be given at the date the party enters the performance improvement plan program if that program applies to the Grower. In any event, Integrator's termination notice shall specify the reasons and any appeal rights. The effective date of the termination shall be stated by the party giving notice.

Neither party shall incur any liability to the other party as a result of so electing to terminate this Agreement. Any claim that either party may have against the other party for sums loaned or indebtedness owed to the other party or for breach of this Agreement shall survive termination of this Agreement.

Termination during a Flock placement shall be in accordance with the other terms of this Agreement. Should such termination occur, Integrator agrees to pay the Grower for all services performed until termination of this Agreement, and the Grower agrees to perform all obligations until termination of this Agreement. Except for cause or economic necessity, such as Grower's gross negligence, Flock abandonment or material financial breach, hereinafter defined, Integrator will not terminate this Agreement without first providing Grower an opportunity to cure any deficiencies through a performance improvement plan or other written agreement reached by the parties.

Notwithstanding any provision in this Agreement to the contrary, in the event of Grower's gross negligence or Flock abandonment, Integrator shall have the right to remove the Flock and/or take over said work and complete it in any manner it sees fit, with any and all expenses incurred by Integrator being charged back to the Grower, and at Integrator's option this Agreement, at that time, may be terminated without notice.

Notwithstanding any provision in this Agreement to the contrary, Grower's default under any financing agreement and/or levy, seizure, or attachment of Integrator or Grower's property, Grower insolvency or bankruptcy, shall be considered a "material financial breach" of this Agreement and/or its Exhibits, and Integrator shall have the right to take over said work and complete it in any manner it sees fit, with any and all expenses incurred by Integrator being charged back to the Grower, and at Integrator's option this Agreement, at that time, may be terminated without notice.

IV. Miscellaneous:

A. This Agreement shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto, and shall supersede any previous agreements made between the said parties.

B. Further, this Agreement constitutes the sole and final agreement between the parties hereto and may be changed or modified only by an agreement in writing signed by each of the said parties.

C. The terms of this Agreement and any documents provided in conjunction herewith or pursuant hereto, including, but not limited to, any Final Flock Settlement and Grower Payment Schedule, shall be deemed confidential information and trade secrets and may

only be shared by Grower if or with: (i) required by applicable legal standards or processes to a federal or state governmental agency; (ii) provided to financial or legal advisers or lenders; (iii) Grower's hired accounting services representative; (iv) if Grower is an entity, Grower's executives or managers that agree in writing to maintain the confidential nature of the information; (v) Grower's landlords that agree in writing to maintain the confidential nature of the information; (vi) a member of Grower's immediate family or a business associate with whom the Grower has a valid business reason for consulting; or (vii) other Integrator. All such produced documents shall be marked COMPANY CONFIDENTIAL on each page. In addition, the Grower shall immediately provide to Integrator notice of any such legal requirement. Confidential information shall not include information which becomes generally available to the public other than as a result of any unauthorized disclosure by Grower. Grower agrees on behalf of it and its officers, directors, employees, agents and representatives, if any, not to disclose to any third party or appropriate for their own use any confidential information. Each party to whom or to which confidential information is shared will be asked to maintain the confidential nature of the information.

D. This Agreement shall be governed and interpreted by the laws of the State where Grower's operations under this Agreement are conducted.

E. As noted above, this Agreement may be canceled by Grower within three (3) business days after it is executed by Grower by delivery of a cancellation notice from Grower at the address referenced in the opening paragraph hereof.

IN WITNESS WHEREOF, the parties have hereunto set their hands the day and year first above written.

_____ INTEGRATOR

Grower

_____ By: _____

Social Security # or Federal ID #

SCHEDULE I

Criteria for placing Grower on PIP (Performance Improvement Plan):

1. Written action plan required:
    - When a grower's six Flock average reaches (-) minus $.0040 or worse.
    - The plan will be written in cooperation with the Grower and it will define steps the Grower should take to improve performance.

2. PIP required:
    - When a grower's six Flock average reaches (-) minus $.0065 or worse.
    - The Grower will be sent a certified letter notifying them that they are on the PIP and providing notice of termination if the PIP plan does not result in improved performance.
    - The certified letter will be sent prior to the placement of the Flock on the PIP.
    - The certified letter will inform the Grower that any Flock while on the PIP must settle better than (-) minus $.0030 or the contract with the Grower will be terminated.
    - If the termination Flock settles in less than ninety (90) days from the notification by certified letter, the Grower may place another Flock in order to meet the ninety (90) day notification.
    - If a grower's six Flock average improves to better than (-) minus $.0065 and does not have any Flocks worse than (-) minus $.0030 while on the PIP, the Grower will be removed from the PIP program.
    - In the case of **"Force Majeure"** meaning war, hostilities (whether declared or not), disasters, including as to individual farms, unforeseen natural catastrophe including but not limited to earthquake, flood, fire, and other causes beyond Grower's foreseeable control, such as labor strike, legal act of a public authority or a labor, feed or fuel shortage, then the PIP and notice of termination may be extended, in writing.

Schedule II
INTEGRATOR

ADDENDUM TO BROILER PRODUCTION AGREEMENT
MINIMUM PAYMENTS FOR NEW HOUSE CONSTRUCTION

This ADDENDUM, made and entered into this _____ day of _____, by and between INTEGRATOR., referred to as "Integrator" and _____ of _____, Party of the Second Part, hereinafter referred to as "Grower".

The Broiler Production Agreement (Grower Payment Schedule) is hereby amended as follows:

I Integrator agrees to pay the Grower for each flock of poultry placed in the Grower's care a guaranteed minimum payment for new house construction according to the following schedule:

House Class	Type	Dollar ($) Amount Per 1,000 Birds Placed*	Age of House – Period of Payment
AAA	Large Tunnel With Self Generation, Darkout With Dimmers, 6" Recirculating Pad, Approved Air Speed, Radiant Heat in Brood Chamber	$300 (Built after 12-31-02)	15 Year Term
AA**	Tunnel With Controller, Self Generation, Dimmers, 6" Recirculating Pad, Approved Air Speed	$245 (Built after 08-19-02)	15 Year Term
A	Tunnel With Controller and Dark-out	$230	15 Year Term

* Based on a placement density of one bird per .75 square foot of floor space.

II All house types must be constructed and equipped according to Integrator's requirements and specifications.

III Disaster Payment:

a. **A disastrous loss will be determined by Integrator and is the result of fire, windstorm, flood, or disease** [emphasis added], not resulting from any negligent act or omission on the part of the Grower.

b. In the event of a 100% disastrous loss of birds, Integrator will compensate the Grower $15.00 per 1,000 birds started for each week the birds are in the Grower's house until the date of the disaster.

c. In the event of a partial disastrous loss (less than 100% of the birds are lost), Integrator will compensate the Grower $15.00 per 1,000 birds lost for each week the birds are in the Grower's house based on the number of birds lost. The above payment schedule will be used to calculate the payment for the surviving birds with the exception that if any minimum payments apply, they will be paid on number of birds moved rather than number of birds started.

IV In the event there is an excessive amount of birds lost (greater than 4% of the birds housed) during a 24-hour period that is the result of the following event:

1. Birds are lost due to malfunction of the Grower's equipment (alarms, fans, curtain minders, generators, electrical boxes, etc.) that was preventable and within the control of the Grower,

Or

2. Birds are lost due to a caretaker not being present to respond to an emergency situation,

Then

all Minimum Payments, Disaster Payments, and New House Construction Minimum payments will not apply.

3. Birds are lost due to malfunction of the Grower's equipment (alarms, fans, curtain minders, generators, electrical boxes, etc.) that was not preventable and not within the control of the Grower, then all Minimum Payments, Disaster Payments, and New House Construction Minimum Payments will apply to the number of birds moved (Live Haul count).

IN WITNESS WHEREOF, the parties have hereunto set their hands the day and year first above written.

_____ INTEGRATOR

Grower

_____ By: _____

Date

Poultry House #	Class	Date Built
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GROWER PAYMENT SCHEDULE

A. Base Payment Rate: $.0450 per pound of poultry moved.

B. Feed Conversion Performance Rating:

- Will be determined by comparing each Grower's average weight per bird and feed conversion to the Weekly Average Weight / Feed Conversion of all flocks in the settlement week.
- The average weight will be adjusted using a ratio of .10 points of weight equal to .01 point of feed conversion.
- Average weight will be determined by dividing the pounds of poultry moved from the Grower's farm by the number of birds at movement as determined from the House Mortality Chart. The grower is required to keep an accurate record of flock mortality.

Example

Weekly Average		Grower #1	Grower #2	Grower #3
Avg. Weight	6.50	6.60	6.40	6.60
Avg. Feed Conversion	2.05	2.04	2.06	2.06
Rating	.00	+.02	-.02	.00

- The rating is then multiplied by $.0750 to determine the cents per pound adjustment to the Base Payment Rate.

Example

+.02 x $.0750 = + $.0015/ lb. Added to the Base Payment Rate

-.02 x $.0750 = - $.0015/ lb. Deducted from the Base Payment Rate

C. Fuel Performance Rating:

- Will be determined by comparing each Grower's fuel cost per pound to the Weekly Average Fuel Cost per pound of all flocks in the settlement week.
- An average unit cost of fuel for the settlement week will be calculated and will be applied to each Grower's actual units used during the flock.

Example

Grower	Actual Gal. Used	Total* Fuel $'s	Fuel Cost** / Pound	Avg. Wkly Fuel Cost	Base Pay Adjustment
#1	73	$58	$.0005	$.0010	=$.0005
#2	216	$173	$.0015	$.0010	-$.0005

* Average Weekly Fuel Cost/Gal. = $.80
** Pounds Moved = 115,000

D. Standard Cost:

- Defined as the cost of feed (using a fixed ingredient cost/ton) plus fuel (using the weekly average cost/gal.) calculated on a per pound of poultry moved.
- A minimum of ten flocks per growing program is required to calculate the Weekly Average Standard Cost. If less than 10 flocks are moved during the week, the Weekly Average Standard Cost for the previous week will be used for each flock until the 10 flock minimum requirement is obtained.
- Any flock with a Standard Cost that is either $.0150 per pound greater than (+) or less than (-) the Weekly Average Standard Cost will not be included when computing the final Weekly Average Standard Cost.

E. Top Six Growers Bonus Payment:

- A bonus payment per pound for each growing program will be added to the Base Payment for the top six Growers that have the lowest Standard Cost for the week's settlement period.
- The following per pound payment will be added to the Base Payment:

#1 Grower:	$.0050	#4 Grower:	$.0020
#2 Grower:	$.0040	#5 Grower:	$.0010
#3 Grower:	$.0030	#6 Grower:	$.0005

F. Tunnel Premium Payment

- Tunnel ventilated houses that are approved by Integrator will receive an additional payment per pound of $.0010.
- This "Tunnel Premium Payment" will be added to the Base Payment per pound.
- If a farm has a combination of "tunnel" housing and "conventional" housing on the same account, the premium pay per pound will be pro-rated based on percent of capacity placed in each style house.

  Example: 3-house farm --- 2 tunnel houses had 49,000 chicks placed and 1 conventional had 21,000 chicks placed.
  49,000 tunnel capacity divided by 70,000 total capacity = 70% tunnel housing
  70% x $.0010 = $.0007 per pound of poultry moved.

G. Insulated Sidewall Incentive Payment

- Houses with at least one sidewall that is closed in, insulated to minimum R-8 and sealed properly to Integrator approval will receive an additional payment per pound of $.0005.
- This "Insulated Sidewall Incentive Payment" will be added to the Base Payment per pound.
- If a farm has a combination of solid sidewall and open sidewall housing, then "Insulated Sidewall Incentive Payment" will be pro-rated based on the percent of capacity placed in each style house. (See tunnel pro-rate formula in Section F.)

H. Performance Payment

- Growers who have a previous Six-Flock Average that is better than average will have 50% of their previous Six-Flock Average added to their base payment.
- Six-Flock Average is defined as the simple average of the Grower's most recent six flocks' Standard Cost. A grower with less than six flocks, but more than three flocks, will have a partial flock average of those flocks. A Grower with three flocks or less will be assigned the average six flock (i.e., zero).

  Example: Growers previous Six-Flock Average is +.0020 than .0010 will be added to their base payment.

I. Minimum Payment:

- A minimum payment per 1,000 birds started (at .75 density) is based upon a Grower's Six-Flock Average as follows:

Six Flock Average	Minimum Payment
+$.0026 or above	$160.00 per 1,000 birds
+$.0011 to + $.0025	$155.00 per 1,000 birds
+$.0010 or below	$150.00 per 1,000 birds

J. Growers who install, maintain and continuously operate the following equipment to Integrator's specifications will be paid an additional payment based on the square footage of the house(s) so equipped.

1. Equipment required:
   a. Six (6) inch pad with recirculating water system.
   b. Tunnel ventilation with a calculated wind speed of 600 feet per minute or 100 feet per minute more than the length of the house; whichever is greater. (400 foot or less houses must have a minimum of 500 feet per minute.)
   c. Controllers
   d. Dark out sidewalls with light dimmers.
   e. Cross-over fogger lines inside house to specifications.
   f. Generator with automatic switch-on capable of operating all poultry houses.

2. Payment per square footage of house per flock produced: $.0100

3. The Minimum Payment referenced in Item H above will be $165.00 per 1,000 birds placed (at .75 density).

K. **Disaster Payment:**

- **A disastrous loss will be determined by Integrator and is the result of fire, windstorm, flood, or disease, not resulting from any negligent act or omission on the part of the Grower.**

- **In the event of a 100% disastrous loss of birds, Integrator will compensate the Grower at the rate of $15.00 per 1,000 birds started for each week the birds are in the Grower's house until the date of the disaster.**

- **In the event of a partial disastrous loss (less than 100% of the birds are lost), Integrator will compensate the Grower at the rate of $15.00 per 1,000 birds lost for each week the birds are in the Grower's house based on the number of birds lost. The above payment schedule will be used to calculate the payment for the surviving birds with the exception that if any minimum payments apply; the calculation will be based upon the number of birds moved rather than number of birds started** [emphasis added].

L. In the event there is an excessive amount of birds lost (greater than 4% of the birds housed) during a 24-hour period that is the result of the following event:

1. Birds are lost due to malfunction of the Grower's equipment (alarms, fans, curtain minders, generators, electrical boxes, etc.) that was preventable and within the control of the Grower,

   Or

2. Birds are lost due to a caretaker not being present to respond to an emergency situation,

   Then all Minimum Payments, Disaster Payments, and New House Construction Minimum Payments will not apply.

3. Birds are lost due to malfunction of the Grower's equipment (alarms, fans, curtain minders, generators, electrical boxes, etc.) that was not preventable and not within the control of the Grower, then all Minimum Payments, Disaster Payments, and New House Construction Minimum Payments will apply to the number of birds moved (Live Haul count).

M. Any additional bedding deemed necessary by Integrator, because of Grower's mismanagement or omissions, will be supplied by Integrator at Grower's expense, as determined by Integrator based on standard use and practices. Grower remains responsible for handling bedding in accordance with all Laws as defined in the Broiler Production Agreement.

N. All flocks moved each week from Saturday midnight through the following Saturday midnight constitute a payment period.

O. Payment to the Grower will be made within fifteen (15) days of the date of the final movement of the flock from the farm. Any Federal or state holiday shall extend this time period accordingly.

IN WITNESS WHEREOF, the parties have hereunto set their hands the day and year first above written.

_____ INTEGRATOR

Grower

_____ By: _____

Date

INTEGRATOR'S
POULTRY GROWER AGREEMENT AND COMPENSATION SCHEDULE

This AGREEMENT, made this day _____, by and between _____, _____, a Delaware corporation with an address of _____, hereinafter referred to as _____, _____, and _____of _____ hereafter referred to as GROWER.

In consideration of the premises and the mutual agreements of each other herein contained, said parties hereby contract and agree as follows:

WISTNESSETH

Additional Capital Investments Disclosure Statement:

Additional Large capital investments may be requires of GROWER during the term of this AGREEMENT.

I. _____, AGREES:

A. To cosign and deliver chicks to GROWER to be raised exclusively for _____, _____, _____ has the right to determine placement density.

B. To provide and deliver to GROWER, or arrange to have provided and delivered to GROWER, all feed, medication, vaccines, fuel and other flock supplies. _____, _____ retain titles to any flock supplies remaining on GROWER'S farm.

C. To provide GROWER with an accounting of chicks consigned and supplies provided under the terms of this Agreement.

D. To determine, at tis sole option and discretion, the time each flock will be delivered to GROWER, removed from GROWER for processing and which processing plant will be utilized and shall arrange for the catching and hauling of the flock at no cost to the GROWER.

E. To compensate the GROWER in accordance with the terms set forth in the attached compensation schedule.

II. GROWER AGREES:

A. To accept the chicks when cosigned by _____, _____ and to raise the chicks until removed at _____, _____ sole direction form the GROWER'S farm.

B. To furnish the necessary housing, equipment, supplies to maintain equipment and housing, utilities, alarms, labor and management to properly care for the flock in accordance with _____, _____ requirements, which Grower agrees may change from time to time.

C. To be present or represented when chicks are delivered and during the catching and movement of each flock by _____, _____ and be responsible for proper house preparation to include to chick delivery/placement and chicken catching and movement, such preparation to include adequately raising or moving of equipment.

D. To use only the feed, medication, vaccines, fuel and other flock supplies, which _____, _____ has provided or has arranged to be provided to the GROWER for the raising of the chicks cosigned.

E. To use only pesticides, rodenticides, or insecticides supplied or approved in writing by _____.

F. To allow no other poultry, fowl. Wild birds, exotic or domestic pet birds on the GROWER'S premises and to promptly rid the farm of any birds left on the farms same day of the final movement of birds.
G. To keep accurate records of mortality and other information for the efficient and proper care of cosigned chicks.
H. To adhere to the National Chicken Animal Welfare Guidelines implemented on April 5, 2005 (which are adopted and incorporated herein) and any revisions of said Guidelines.
J. To assure that no birds are sold or removed from the GROWER'S premises except by _____, _____ or with its prior written consent.
K. To provided properly maintained roads, free of surface or overhead obstructions, from the nearest country or state maintained road to and around GROWER'S poultry house(s) and furthermore, to provide adequate space to turn vehicles where necessary and adequate loading for birds. GROWER shall be responsible for all costs incurred by _____, _____ if roads are not maintained properly or free from obstructions.
L. To insure that all hired labor or other authorized entrants to the poultry house(s) follow all bio-security procedures and have no contact with other fowl, wild birds, or exotic or domestic birds.
M. To properly secure all poultry house(s) to prohibit the entrance of unauthorized persons or wild and domestic animals and birds.
N. To follow, adhere, perform and maintain all bio-security procedures and programs recommended by _____, _____ at all times.
O. To provide for prompt and proper disposal of all dead and cull poultry resulting from normal moralities and/or catastrophic loss in a manner meeting the requirements of federal, state, and local laws, regulations and codes.
P. To comply with all applicable federal, state and local laws, regulations, rules or codes applicable to GROWER, the services provided, the chicks consigned, and/or the properly or equipment utilized in the performance of this AGREEMENT.
Q. To comply with all applicable federal, state, and local laws, regulations, rules or codes applicable to GROWER'S environmental management, including, without limitation, nutrient management plans, operating permits, birds mortality, waste, disposal, water quality and air quality.
R. To indemnify _____, _____, its officers, employees, agents and representative and hold them harmless from and against:
    i. Any and all claims for damage or injury to persons or property arising out if resulting from the GROWER'S operations, acts or inactions under this AGREEMENT, except to the extent such damage or injury is caused by the gross negligence or willful misconduct of _____, _____.
    ii. Loss from theft or disappearance of birds, feed, medications, or other flock consigned herein. GROWER shall use their own judgment, skills labor, tools ideas and experience in caring for each flock.

III. IT IS FURTHER UNDERSTOOD AND AGREED THAT:

A. The GROWER is and shall in all circumstances remain and independent contractor and shall not be an agent, servant, or employee of, or a joint venture with _____, _____. Each party hereto shall employ and supervise exclusively its own servants, agents, and employees. The GROWER shall be solely responsible for the performance of

its obligation under this AGREEMENT, and all costs incurred by the GROWER in the performance of its obligations hereunder are the GROWER'S exclusive any debts, liabilities or other obligations in the name of _____, _____.

B. GROWER represents and warrants that Grower is the owner of the land, buildings, and equipment utilized for this AGREEMENT or GROWER is in legal possession of said real property, buildings and equipment and has the right and authority to use the same for the purposes of this AGREEMENT.

C. GROWER or their agene/designee, shall have the right to be present at the weight by _____, _____ of any birds raised by GROWER under this AGREEMENT, be present at the weighing of feed delivered under this AGREEMENT, and observe the weights and measures used by _____, _____ to determine the compensation due to PRODUCER under this AGREEMENT.

D. GROWER shall be solely responsible for payment of any and all applicable federal and state taxes on the GROWER'S income and the timely reporting and payment of all worker's compensation insurance, unemployment compensation, withholding and payroll taxes, licenses, permits, and assessments now or hereafter imposed by any governmental agency as to the GROWER and all persons employed or engaged by the GROWER in the performance of this AGREEMENT. GROWER and all persons employed or engaged by the GROWER in the performance of this AGREEMENT. GROWER agrees to defend and hold _____, _____ harmless from any liability with respect to any such taxes or other charges and reimburse, _____, _____ for any and all costs incurred, including attorney's fees, in any such action.

E. All poultry and supplies furnished by _____, _____ necessary to raise the birds pursuant to this AGREEMENT are the property of _____, _____ and the GROWER shall have no titles or right of any kind therein. _____, _____, at its sole option discretion, may post notices or placards concerning its ownership at the GROWER'S premises and may file one or more financing statements or similar instruments under the UCC or other applicable law (for purposes of which this AGREEMENT shall constitute a financing agreement), and the GROWER shall cooperate fully with _____, _____ as necessary to accomplished the foregoing. The failure by _____, _____ to provide notice of its ownership in the foregoing manner shall not, however, relieve the GROWER of its obligation to advise third parties of _____, _____ ownership as provided in this AGREEMENT.

F. Grower shall permit and allow any agent, or employee of _____, _____ unrestricted access and entry upon the premises of the GROWER where the flock is or shall be located, at any and all times deemed necessary by _____, _____, to inspect the premises and the flock, to treat for disease, to cull or remove birds for any reasons, to inspect the GROWER'S records, or take any other action _____, _____ deems necessary in its sole discretion to protect its property.

G. If in the judgment of _____, _____ the GROWER should fail to provide proper care, feeding or treatment under the terms of this AGREEMENT, _____, _____ shall have the rights to immediately enter over and into the land and premises where the flock is located and provide necessary care for and handling of the flock. GROWER shall assume the costs for any necessary disbursements to accomplish such purposes. Costs incurred by the GROWER will deduct from settlement before final payment is made.

H. Unless otherwise expressed in the AGREEMENT, _____, _____ GROWER shall not be held responsible for damages to the other caused by delay or failure to perform hereunder when such delay or failure is due to fires, strikes, acts of God, legal acts of public authorities or delays or defaults due to labor, feed, or fuel shortages, which are due to natural disaster (including, but not limited to, fire, flood, windstorm. or hailstorm) which cannot be reasonable forecasted or protected against.

IV. TERMINATION:

A. For the convenience of not having to initiate a new AGREEMENT for each flock, this AGREEMNT shall continue until the AGREEEMENT is terminated by either _____, _____ or GROWER as provided herein.

B. GROWER shall have a right to cancel this AGREEMENT until 12:00 midnight of the third business day after the day on which GROWER signs this AGREEMENT or until chicks have been placed with GROWER, whichever occurs first. GROWER shall provide a written notice of termination to _____, _____ for termination to be effective.

C. This AGREEMENT can be terminated by either party upon giving the other party ninety (90) days written notice. Notice is required to be sent by certified mailed to the address listed the AGREEMENT.

D. _____, may not place birds with GROWER during the 90 day notification period under the following conditions:
   i. The GROWER fails to properly care for any poultry in accordance with terms of this AGREEMENT.
   ii. The GROWER permits to be levied upon or attached, or disposes or attempts to dispose of any poultry or supplies furnished by _____, _____.
   iii. The GROWER breaches any of the terms of this AGREEMENT.
   iv. In the opinion of _____, _____ the flock becomes endangered for any reason.
   v. Grower's management practices do not conform to _____, _____ standards or do not comply with practices of good animal husbandry.

E. If this AGREEMENT is terminated by_____, pursuant to the provisions of the preceding paragraphs then, in addition to, and not in limitations of, any other rights and remedies available to _____, _____ at law or in equity, it or its authorized representative shall be fully authorized to come upon the GROWER'S premises without legal process, as _____, _____ may elect, either to feed and care for the flock on the GROWER'S premises or to take immediate possession and to remove or dispose of same in such manner as _____, _____ may see fit. If _____, _____ elects to keep the flock on the GROWER'S premises and equipment for completing the growing operation shall be without charge. If _____, _____ exercises its rights pursuant to this paragraph, the GROWER shall be liable for any expenses and other costs, including reasonable attorney's fees and court costs, incurred by _____, _____.

F. Neither party shall incur any liability to the other party as a result of so electing to terminate this AGREEMENT. Any claim that either party may have against the other pater for sums loaned or indebtedness owed to the other party or for breach of this AGREEMENT shall survive termination of this AGREEMENT.

V. PERFORMANCE IMPROVEMENT PLAN (PIP):

A. A PIP will be developed for the improvement of the overall cost and or performance of the GROWER. A GROWER may be placed into a PIP program if one or more of the following conditions exist:
   i. A GROWER'S five of six flock average cost equals or exceeds $0.0075 per pound worse the average of their growing program.
   ii. GROWER has two consecutive flocks with costs greater than $0.0075 worse than average of their growing program.
   iii. A single event due to GROWER negligence (such as a suffocation) causing increased mortality during a normal production cycle.

B. Once the GROWER is placed into the PIP program, the following steps will transpire:
   i. An overview of the GROWER'S facility to include the condition of all equipment, GROWER'S management technique, etc., by a committee that will consist of the GROWER, the Technical Supervisor, and the Growout Manager.
   ii. An action plan will be developed based upon the findings of the committee for improving the overall performance and cost. The action plan may include upgrades to existing facilities or changes in poultry husbandry practices, including but not limited to changes in density or layout period.
   iii. Entering into the PIP program precipitates the termination clause that requires a ninety (90) day written notices as outlined in the Farm Bill Act. The PIP program can last for a period of three (3) grow out cycles. The completion of the third growout cycle of 90 days, a GROWER whose performances is better than average will be removed from the PIP Program. GROWERS not showing a $0.0025 per pound improvement in cost will be terminated.

VI. MISCELLANEOUS:

A. All disputes, claims, and questions regarding the rights and obligations of the parties under the terms of this AGREEMENT shall be subject to compulsory arbitration. Either party may make a demand for arbitration by filling such demand in writhing with the other party within forty-five (45) days after the disputes first arises. Thereafter, arbitration shall be conducted by one arbitrator acting under the rules of commercial arbitration of the American Arbitration Association. The decision of the arbitrator shall be final and binding upon both parties hereto. Each party shall share equally the arbitrator's expenses.

B. As outlined in the Farm Bill Act, GROWER has the right, before entering into the AGREEMENT, to decline the requirement to use arbitration to resolve any controversy that may arise hereunder. If GROWER declines the requirement to use arbitration, GROWER has the right to nonetheless seek to resolve any controversy that may arise under this AGREEMENT if, after the controversy arises, both parties consent in writing to use arbitration to settle the controversy. GROWERS refusing the arbitration process are required to sign a statement to that affect.

By signing below, GROWER declines the requirement to use arbitration to resolve any controversy that may arise hereunder.

_____	_____(seal)
WITNESS	GROWER (CO-OWNER)
_____	_____(seal)
WITNESS	GROWER (CO-OWNER)
_____	
DATE	

C. If any legal action is filed for the enforcement or interpretation of this AGREEMENT, the prevailing party shall be entitled to recover, as a part of its damages, the costs, including reasonable attorney's fees, incurred by prevailing party.
D. The invalidity of any portion of this AGREEMENT shall not affect the validity of any other provision. If any provision of this AGREEMENT is held to be invalid, the remaining provisions shall be deemed to be in full invalid provision.
E. This AGREEMENT and the then current COMPENSATION SCHEDULE constitutes the entire agreement between _____, _____ and GROWER, and no representations statements made by either party or their agents not contained herein shall be in any way binding on either party. This AGREEMENT shall be freely assignable by GROWER only with _____, _____ prior written consent.
F. This AGREEMENTS shall be governed by, and construed and enforced in accordance with the laws of the state where GROWER'S premises are located and operations conducted under this AGREEMENT.
G. This AGREEMENT shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto, and shall supersede any previous AGREEMESNT made between the said parties.
H. By executing this AGREEMENT and COMPENSATION SCHEDULE, GROWER represents and warrants that he ,she or it has been afforded the opportunity to have the AGREEMENT and COMPENSETION SCHEDULE reviewed outside the business premises of _____, _____ or _____, _____ agents by an attorney or adviser of GROWER'S choosing for at least three business days prior to such execution.

_____, _____

GROWER COMPENSATION SCHEDULE

I. WEEK'S AVERAGE PRIME COST

The sum of chick, feed, fuel, and non-chargeable expenses (including but not limited to; litter, litter bug treatment, PLT, vaccine, medication, and miscellaneous costs) as charged to each program's Settling GROWERS, divided by the total Pounds of Poultry Moved from Settling GROWERS' farms as recorded by the far, weight record. These costs shall be calculated using standard rates as determined by _____, _____.

II. WEEK'S AVERAGE ADJUSTED PRIME COST

The Week's Starting Adjusted Prime Cost is the sum of chick, feed and fuel costs of all Settling Growers divided by the pounds of poultry moved from each program's Settling GROWER's farms as recorded by the farm weight record. These costs shall be calculated using standards rates as determined by _____, _____.

a. A minimum of 5 flocks are required to calculate the Week's Starting Average Adjusted Prime Cost. In the event there are not 5 flocks within the Payment Period, the number of flocks to equal or exceed 5 will be used from the previous week's Payment Period starting with the most recent flocks moved.
b. All GROWERS who's Adjusted Prime Cost per pound is $.0150 greater than the Week's Starting Average Adjust Prime Cost shall be excluded when calculating the Week's Final Average Adjusted Prime Cost.

III. GROWER ADJUSTED PRIME COST

The Adjusted Prime Cost is sum of chick, feed and fuel costs divided by the pounds of poultry moved from GROWER'S farm as recorded by the farm weight record. These costs shall be calculated using standards rates as determined by _____, _____.

IV. GROWER'S POINT SPREAD

Week's Average Adjusted Prime Cost minus GROWER's Adjusted Prime Cost.

V. PAYMENT PERIOD

Based on final movement, all flocks marketed each week from Saturday at midnights to the following Saturday at midnight will constitute a payment period.

VI. BASE PAYMENT RATES

Payments rates per pound of poultry moved by program:

Program	ABF SB	SB	ABF SR	SR
Base Pay Rate per Pound	$0.0510	$0.0370	$0.0490	$0.0335

VII. GROWER PERFORMANCE PAYMENT

The GROWER'S Performance Payment per pound is the base payment per pound plus or minus the GROWER'S Point Spread.

VIII. INCENTIVE PAYMENTS

All the below listed Incentive Payments will be paid per live pound. The applicable Incentive Pays will be added to the GROWER Performance Payment (Base Pay +Point Spread). If a farm has a combination of different types of housing, the incentive pay per pound will be pro-rated based on the percent of square footage of each style house placed.

Example: A farm has a combination of "tunnel" housing. House #1 has a 6" recirculating system and house #2 is conventional. The square Footage for house #1 is 20,000 and house #2 is 16,000. Total farm square footage of 36,000 square feet.

20,000 square feet of tunnel divided by 36,000 total square feet = 56% tunnel.

56% X $0.0055 (Tunnel Incentive) = $.0031 per pound of all poultry moved.

A. Tunnel Incentive Pay - Houses which meet _____, _____ tunnel specifications and approved air will receive the Tunnel Incentive Pay per pound.

	ABF SB	SB	ABF SR	SR
Tunnel Incentive Rate per Pound - 6" Recirculation Pad	$0.0055	$0.0055	$0.0055	$0.0055
Tunnel Incentive Rate per Pound - Spray on Pad	$0.0035	$0.0035	$0.0035	$0.0035

B. Solid Sidewall Incentive Pay – This incentive pay will be paid to those houses with both sides covered and sealed properly and insulated to a minimum rating of R-13.

	ABF SB	SB	ABF SR	SR
Both sides covered, sealed properly and insulated to a minimum of R-13	$0.0035	$0.0035	$0.0035	$0.0035

C. Brooding Light Circuit Incentive Pay – This incentive pay will be paid to those houses that contain a brooding light circuit and are able to achieve 2.5 or greater foot candles.

	ABF SB	SB	ABF SR	SR
Brooding Light Circuit 2.5 or greater Foot Candles	$0.0015	$0.0015	$0.0015	$0.0015

D. Pulse Water Meter Incentive Pay – This incentive pay will be paid to those houses that are equipped with a pulse water meter connected through the controller. There must be one pulse water meter per house.

	ABF SB	SB	ABF SR	SR
Pulse water meter connected through the controller	$0.0010	$0.0010	$0.0010	$0.0010

IX. CHANGE OF PRGORAM INCENTIVE PAY

a. The below rates per pound will paid when the program change involved all of the houses within an account.

	ABF SB	SB	ABF SR	SR
SB or ABF SB placed but proceeded as SR or ABF SR	NA	NA	$0.0025	$0.0025
SR or ABF SR placed but processed as SB or ABF SB	$0.0120	$0.0120	NA	NA

b. If there is a partial farm movement change (i.e. less than all of the houses change programs) the GROWER will be paid based on the average pay per day of the flocks used to create the best five of six flock average. The per day pay amount will be multiplied times the average of the flock for total pay amount prior to bonuses.

X. CONTRACT MINIMUM PAY

Contract Minimum Pay will be paid per square foot of housing space per flock. Contract Minimum Pay will be paid instead if it exceeds the total of the Grower's Performance Payments plus Incentives.

	ABF SB	SB	ABF SR	SR
Standard House	$0.25/Sq. Ft	$0.25/Sq. Ft	$0.25/Sq. Ft	$0.25/Sq. Ft
New House	$0.33/Sq. Ft	$0.33/Sq. Ft	$0.33/Sq. Ft	$0.33/Sq. Ft

XI. GROWER's SIX - FLOCK ADJUSTED PRIME COST RATING

A simple average of GROWER'S Point Spread for the previous up to six (6) flocks settled. If this is the GROWER'S first flock, the rating shall zero.

XII. FIVE OF SIX FLOCKS AVERAGE RATING BONUS

a. Five of Six Flocks Average Rating is the simple average pf GROWER'S highest five out of the last six settled flocks' GROWER'S Point Spread. For growers with less than six flocks settled, but greater than two, the Five of Six Flocks Average Rating is a sample average of those flocks GROWER'S Point Spreads. If a grower has less than three flocks settled, the Five of Six Flocks Average Rating shall be zero.

b. In order to receive the Five of Six Flocks Average Rating Bonus, a GROWER must have a Five of Six Flock's Average Rating greater than zero. The GROWER will receive 50% of the Five of Six Flocks Average Rating

For example: If the GROWER'S 5 of 6 flock average, prior to current settlement, is +.0020, then +.0010 will be added to their payment per pound.

XIII. ELECTRIC BONUS

An electric bonus will be paid pound of poultry moved between June 1 and October 31.

	ABF SB	SB	ABF SR	SR
Electric Bonus	$0.0025	$0.0025	$0.0050	$0.0050

XIV. DIASTER PAYMENT:

a. In the event of a disaster involving 100% loss of a flock from fire, windstorm, flood or hail _____, _____will pay GROWER $10.00 per week per one-thousand (1000) chicks placed and lost from date of placement of birds on GROWER'S farm to the date of disaster.

b. In the event of a partial disaster (less than 100%) of a flock from fire, windstorm, flood or hail, placed and lost from date of placement of birds on GROWER's farm to the date the disaster. The surviving poultry will be settled in accordance to the COMPENSATION SCHEDULE and all surviving house Contract Minimum Payments will apply:

c. In the event there is an excessive amount of birds lost (greater than 2% of the birds placed) during a 24-hour period, the following will apply:

   i. If birds lost are due to malfunction of the GROWER's equipment (alarms, fans, curtain minders generators, electrical boxes, etc.) that was preventable and within the control of the GROWER, or caretaker not being present to respond to an emergency situation, then all Contract Minimum Pay and Disaster Payments will not apply.

   ii. If birds lost are due to malfunction of the GROWER'S equipment (alarms, fans, curtain minders generators, electrical boxes, etc.) that was not preventable and not within the control of the GROWER, _____, _____ will pay GROWER $10.00 per week per one-thousand (1000) chicks placed and lost from date of placement of birds on GROWER'S farm to the date of the disaster. The surviving poultry will be settled in accordance to the Compensation Schedule and all surviving house Contract Minimum Payments will apply.

IN WITNESS WHERORF, the parties have hereunto set their hands and seals to this AGREEMENT and COMPENSATION SCHEDULE on the day and year first above written.

_____, _____

By _____ (seal)
Director of Live Production

_____ _____(seal)
WITNESS GROWER (CO-OWNER)

_____ _____(seal)
WITNESS GROWER (CO-OWNER)

_____
DATE

Appendix B

Stakeholder Input

Exhibit 1.Sample Listening Session Agenda
Exhibit 2. Sample Press Release

Appendix B

Exhibit 1. Sample Listening Session Agenda

Poultry Business Interruption Study – FCIC Insurance? Listening Session Agenda

- Introductions
  - Watts and Associates, Inc.
  - Attendees

- Purpose
  - Gather stakeholder input regarding possible Federal poultry business interruption insurance product

- Background
  - Paperwork Reduction Act Constraints
  - Farm Bill Mandate
  - Contract Requirements
  - Contract Definition of Business Interruption Cause of Loss

- Stakeholder Input
  - Industry level of concern
  - Industry practices already in place to manage integrator bankruptcies
  - Industry experiences with integrator bankruptcies
  - Business interruption indemnity calculation thoughts
  - Obstacles to developing insurance product
  - Other issues raised by the attendees

- Questions

Appendix B

Exhibit 2. Sample Press Release

Government Contractor Seeks Stakeholder Input on Federal Insurance Program Development for Poultry Business Interruption.

Congress made an amendment to Section 522(c) of the Federal Crop Insurance Act in the Agricultural Act of 2014. One portion of the amendment added a subparagraph to the Crop Insurance Act directing the Federal Crop Insurance Corporation (FCIC) to contract for "research and development regarding a policy to insure the commercial production of poultry against business interruptions caused by integrator bankruptcy."

Watts and Associates, Inc. (W&A) was awarded the contract "to obtain information; provide analyses; and produce a data gathering report that may support developing an insurance program covering business interruptions incurred by poultry growers as a result of an integrator's bankruptcy." W&A is an economic consulting firm out of Billings, Montana and has completed almost 100 projects focused on crop insurance in the United States, Canada, and Europe over the last 14 years. The completed projects include a 2010 report entitled "Feasibility Research Report for Insuring Commercial Poultry Production" prepared for the United Sates Department of Agriculture (USDA) Risk Management Agency (RMA). Part of the research required under the Insurance Program Development for Poultry Business Interruption project is gathering stakeholder input. To that end, W&A is conducting listening sessions open to the public on July 8, 2015, at 10:30 am for the stakeholders in the Northeast; on July 8, 2015, at 12:30 pm for stakeholders in the Southeast; on July 10, 2015, at 12:30 pm for stakeholders in the upper Midwest; on July 15, 2015, at 12:30 pm for stakeholders on the West Coast; and on Date, 2015, at Time am/pm at Location, Arkansas for stakeholders in the Midwest.

W&A is particularly interested in the level of concern associated with business interruption in the poultry industry; whether this concern includes business interruption caused by integrator bankruptcy; practices currently in use to manage the risk of such interruptions; details concerning grower operations that have experienced integrator bankruptcy; impressions about how a business interruption indemnity payment might be calculated; obstacles for development of such an insurance product both within and outside the poultry industry; and any other relevant feedback stakeholders would like to provide.

In deference to concerns regarding the current outbreak of highly pathogenic avian influenza in the United States, the listening sessions will be held as a teleconference with a GoToMeeting© available for those interested in viewing the agenda on their computer screens. The phone numbers and access codes for the meetings are as follows:

Northeast - 1 877 309 2070 access code: 521-369-213
Southeast - 1 877 568 4106 access code: 608-911-709
Upper Midwest - 1 877 309 2073 access code: 376-994-797
West Coast - 1 866 899 4679 access code: 674-827-797
Lower Midwest - TBD

If you are interested in accessing the GoToMeeting© for any of these sessions, please contact Richard Allen at W&A (rallen@wattsandassociates.com) or at 406 252 7776 and he will provide the login information for the session. If you are unable to attend a listening session, you can provide your input to Richard Allen by email at rallen@wattsandassociates.com. You may also indicate your interest in attending one of the sessions at the same email address.