Iowa Department of REVENUE

Beginning Farmer Tax Credit Program

Agricultural Assets Transfer Tax Credit
and
Custom Farming Contract Tax Credit

Tax Credits Program Evaluation Study

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Preface

Iowa Code Section 2.48 directs the Legislative Tax Expenditure Committee to review all tax expenditures with assistance from the Department of Revenue. This law also provides a schedule for such reviews and requires a review in 2015 of the Beginning Farmer Tax Credit Program. In addition, the Department was directed to assist the legislature by performing periodic economic studies of tax credit programs. This is the first evaluation study completed for the Beginning Farmer Tax Credit Program.

As part of the evaluation, an advisory panel was convened to provide input and advice on the study's scope and analysis. We wish to thank the members of the panel:

Lori Beary	Iowa Finance Authority
Michael Duffy	Iowa State University
Carl Horne	Farm Credit Services of America
Tim Johnson	Iowa Farm Bureau Federation

The assistance of an advisory panel implies no responsibility for the content and conclusions of the evaluation study. This study and other evaluations of Iowa tax credits can be found on the evaluation study web page on the Iowa Department of Revenue website.

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Executive Summary

The Beginning Farmer Tax Credit Program includes both the Agricultural Assets Transfer Tax Credit (AATTC) and the Custom Farming Contract Tax Credit (CFCTC) and is administered by the Iowa Agricultural Development Division of the Iowa Finance Authority. Both tax credits are available to established farmers and other owners of agricultural assets to encourage leases and contracts with beginning farmers in the state. Both tax credits may be applied against corporation and individual income tax liability and awards are capped at $12 million each calendar year.

The Beginning Farmer Tax Credit Program commenced on January 1, 2007, the effective date of the Agricultural Assets Transfer Tax Credit. This tax credit is allowed for an owner of agricultural assets that are subject to a lease agreement with a beginning farmer. The amount of the tax credit is currently equal to 7 percent of the amount paid to the taxpayer under a cash rent agreement or 17 percent of the amount paid to the taxpayer under a crop share agreement. If the beginning farmer is also a veteran, the asset owner may be awarded an additional one percent of eligible rent or crop share payments for the first year of the agreement. After 2017, tax credit rates for cash rent and crop share agreements return to 5 percent and 15 percent, respectively, as was the case from the outset of the tax credit through tax year 2012. The tax credit is nonrefundable with a ten year carryforward for awards made in 2008 or later; the carryforward was five years for awards made in 2007.

For years 2013 through 2017, the Beginning Farmer Tax Credit Program also includes the Custom Farming Contract Tax Credit for farm owners who hire an eligible beginning farmer to undertake custom farming work. The farm owner is awarded a tax credit equal to 7 percent of the value of the contract. The tax credit award is 8 percent for the first year of the contract if the beginning farmer is a veteran. The tax credit is nonrefundable with a ten year carryforward.

The major findings of the study are these:

Other Federal and State Incentives for Beginning Farmers

- Numerous federal and state financial programs exist to support and promote beginning farming. However, there is no federal tax credit for the transfer of land or other assets to beginning farmers, for the rental of land to beginning farmers, or for contracting with beginning farmers for custom work. Tax credits with this purpose are currently offered by only Iowa and Nebraska. Wisconsin offered a comparable tax credit in tax years 2011 through 2013. Only Iowa offers a tax credit for custom farming contracts with beginning farmers.
- In Nebraska's program, the tax credit rate applicable to cash rent agreements is 10 percent and the rate for crop share agreements is 15 percent.
- For purposes of their respective tax credit programs, Iowa and Nebraska define beginning farmers along similar lines including specifying maximum net worth. Iowa's net worth limit is $703,844 in 2015, much higher than Nebraska's

$200,000. Iowa does not stipulate any maximum length of experience in its definition of a beginning farmer while Nebraska limits experience to 10 years.

- Tax credits awarded under Iowa's Beginning Farmer Tax Credit Program are nonrefundable with a ten year carryforward. Tax credits awarded by the program in Nebraska, however, are refundable.

Literature Review

- Family farms represent 98 percent of U.S. farms and nearly 90 percent of U.S. agricultural production.
- Beginning farmers typically operate small farms and, to a greater extent than established farmers, rely on off-farm income.
- The number of farms operated by beginning farmers has decreased since the mid-2000s. Between 2007 and 2012, the number of farmers who had been in operation less than ten years decreased by 20 percent.
- Some of the key challenges identified by researchers as facing beginning farmers include the lack of market opportunity to buy or rent suitable land and the need for sufficient capital to have enough land to be profitable. Entry into farming is directly related to farmland affordability, including the price of land and the price of credit.
- Because beginning farmers must acquire their land, by and large, from other farmers, barriers to exit from farming constitute important barriers to entry for beginning farmers. A survey of Iowa farmers by the Iowa State University Beginning Farmer Center found that just 23 percent of respondents planned to fully retire from farming someday.
- According to the United States Department of Agriculture's most recent report on tenure, ownership and transition of agricultural land, owners anticipate disposing of only 11 percent of land assets within the next five years, whether by gift, trust, or sale.

Descriptive Overview of Beginning Farming in Iowa

- There were 86,323 family farms in Iowa as of 2013. Of these, an estimated 24 percent were operated by farmers who were eligible for participation in the Beginning Farmer Tax Credit Program.
- As defined by the Beginning Farmer Tax Credit Program, beginning farm households account for just 6.7 percent of agricultural production and 6.5 percent of farmed acreage in Iowa. The median size farm operated by a beginning farmer in the state was 32 acres in 2013.
- Less than nine percent of beginning farms, compared to 38 percent of established farms, have a gross value of farm production of at least $250,000.

Livestock represents a greater share of overall production by beginning farm households than do crops.

- Beginning farmers are less likely than established farmers to be engaged primarily in farming. In 2013, the major occupation of the principal operators of 46 percent of Iowa's beginning farms was something other than farming.
- In 2013, the average household net worth of established farm households was $2.8 million, more than seven times greater than the mean net worth of beginning farm households.

Beginning Farmer Tax Credit Program Awards and Claims

- Since the start of the Beginning Farmer Tax Credit Program in 2007, a total of $33.5 million in tax credits have been awarded through the program. Agricultural Assets Transfer Tax Credit awards represent 99.8 percent of the total Beginning Farmer Tax Credit Program awards. In 2013 and 2014, the first two years in which the Custom Farming Contract Tax Credit was available, only 24 certificates were issued for that tax credit totaling $59,000. The annual program tax credit award cap has not been met.
- Between 2007 and 2014, both the number of certificates issued and award amounts for the AATTC increased fairly steadily. The trends in average awards roughly reflect trends in the average cash rents and average corn and soybean prices over the period.
- Because the tax credit rate is higher for crop share projects than for cash rent projects, crop share projects account for 79 percent of the value of tax credit awards.
- Since tax year 2007, a total of $17.2 million in AATTC tax credits and $28,000 in CFCTC Tax Credits have been claimed. Nearly all claims have been made against individual income tax, with claims against corporation income tax totaling less than $160,000.

Descriptive Statistics of Projects, Participating Farmers and Asset Owners

- There were 1,745 Beginning Farmer Tax Credit Program projects during 2007 through 2014. Overall, AATTC projects comprise 98.8 percent of program projects.
- In the first eight years of the tax credit program, 963 beginning farmers, including partnerships, have participated in the program as a party to either an AATTC or CFCTC project.
- Since 2008, the median net worth of beginning farmers in their first year of program participation has ranged from $56,000 in 2009 to $171,000 in 2014.

- Projects whose terms include the lease of farm machinery or farm structures represent an estimated 4 percent of AATTC projects, suggesting that the predominant asset under lease is land.
- Over all years of the program, counting each lease only once but not excluding any acres that may have been subject successively to more than a single lease, AATTC leases have involved 341,000 total acres. Iowa has 24.5 million acres of harvested cropland.
- The average number of acres leased per project, whether on a cash rent or crop share basis, is 200.
- Over the course of the program, cash rent and crop share projects have been about equally common. In 2014, the total number of crop share acres exceeded cash rent acres by 4 percent.
- The 341,000 acres in AATTC projects are located in 94 of the state's 99 counties and account for 5.1 percent of acreage farmed by tenant operators in the state.
- Since the beginning of the CFCTC in 2013 there have been a total of 21 projects located in thirteen counties in Iowa.
- Eighty-four percent of beginning farmers participating in the tax credit program were age 35 or younger in their first year of participation. The median age of asset owners participating in the tax credit program is 66 years or older.
- Of the 1,745 Beginning Farmer Tax Credit Program projects over the course of the program, 81 percent, have at least one Iowa-resident owner.
- The average adjusted gross income reported each tax year by asset owners claiming a Beginning Farmer Tax Credit Program tax credit has exceeded $100,000 while the median tax liability reported by those taxpayers for tax years 2009 and later is reduced to zero after nonrefundable tax credits are claimed.

Economic Analysis of the Beginning Farmer Tax Credit Program

- A relationship was found between participation in the Beginning Farmer Tax Credit Program and certain financial aspects of farming that typically differentiate beginning and established farmers. The findings of this analysis suggest that, in some respects, program participants became more established in farming between 2008 and 2013 than did members of a comparison group of beginning farmers who did not participate in the program.
- The analysis found program participants to be more established in farming with respect to the share of their total income earned from off-farm sources as well as the growth they experienced in agricultural program payments. The analysis also identified a relationship between tax credit program participation and persistence in farming. The analysis did not find that program participants became more established in farming as measured by changes in total farm income and the ratio of their farm expenses to net income.

I. Introduction

The Beginning Farmer Tax Credit Program includes both the Agricultural Assets Transfer Tax Credit and the Custom Farming Contract Tax Credit. The Agricultural Assets Transfer Tax Credit is available to farm asset owners who lease land or other agricultural assets to eligible beginning farmers. The Custom Farming Contract Tax Credit is awarded to farm owners who engage the custom farm services of eligible beginning farmers. The purpose of this evaluation study is to analyze tax data and other pertinent information to assess the Beginning Farmer Tax Credit Program, its utilization, and its economic impact.

Section II of this report provides background on the tax credits, including a description of tax credit application procedures and beginning farmer eligibility requirements. Section III provides information about federal incentives to promote entry into farming and information about similar tax credits in other states. Section IV provides a review of existing literature concerning beginning farming and important related issues. Section V provides a brief overview of beginning farming in Iowa. Section VI presents data regarding Beginning Farmer Tax Credit Program awards and claims. Section VII provides an economic analysis of the effects of the program on participating beginning farmers. The final section of this report provides a brief conclusion.

II. Background of the Beginning Farmer Tax Credit Program

The Iowa Beginning Farmer Tax Credit Program consists of two separate tax credits available to established farmers and other owners of agricultural assets to encourage enterprise with beginning farmers in the state, as defined in Iowa Code Sections 16.78-16.82. Both tax credits may be applied against corporation and individual income tax liability. The program commenced on January 1, 2007, the effective date of the Agricultural Assets Transfer Tax Credit. The program was expanded to include the Custom Farming Contract Tax Credit, effective for years 2013 through 2017[1].

A. Agricultural Assets Transfer Tax Credit

The Agricultural Assets Transfer Tax Credit is allowed for an owner of agricultural assets that are subject to a lease or rental agreement with a beginning farmer. Assets eligible for the tax credit include agricultural land, depreciable machinery or equipment, buildings, and breeding livestock. The lease must be for a term of two to five years. The asset owner can be awarded a tax credit equal to 7 percent of the amount paid to the taxpayer under a cash rent agreement, where the asset owner receives a fixed payment per acre leased. That tax credit rate also applies to the fixed payment under hybrid lease agreements, where the asset owner receives a fixed payment per acre leased plus an additional payment that varies depending on the productivity of the land. Alternatively, the asset owner can be awarded a tax credit equal to 17 percent of the amount paid to the taxpayer under a crop share agreement, where the asset owner is compensated by a share of crops or animals sold under an agreement in which the payment is exclusively made from the sale of crops or animals. The higher tax credit

[1] Appendix 1 provides a time line of major changes to the tax credit program.

rate for crop share agreements presumably represents intent on the part of lawmakers to provide an additional incentive to asset owners to engage in such lease agreements. Although both cash rent and crop share agreements are considered to have certain advantages and disadvantages relative to one another, crop share agreements are seen as a means for the beginning farmer tenant and landowner to share the financial risks associated with farming.

Initially the rates for this tax credit were 5 percent and 15 percent, respectively, but were increased to their current values effective for tax years 2013 through 2017. If the beginning farmer is also a veteran, landowners may be awarded an additional one percent of eligible rent or crop share payments for the first year of the agreement. Thus, for tax years 2013 through 2017, the credit is equal to 8 percent for the first year of a cash rent agreement with a veteran and 18 percent for the first year of a crop share agreement with a veteran. The additional credit for veteran farmers is not awarded in the first year of renewed agreements or new agreements with the same parties. Beginning in tax year 2018, the tax credit rates for cash rent and crop share agreements revert to 5 percent and 15 percent, respectively regardless of the veteran status of the beginning farmer.

B. Custom Farming Contract Tax Credit

In addition to the Agricultural Assets Transfer Tax Credit, the Beginning Farmer Tax Credit program provides the Custom Farming Contract Tax Credit. The term “custom farming” ordinarily refers to an arrangement wherein a farmer undertakes all farm operations on land the farmer does not own. The Custom Farming Contract Tax Credit, however, is allowed for farm owners who hire an eligible beginning farmer for piecemeal farm work, provided the beginning farmer owns the machinery being used. Example custom farming work that would qualify for the tax credit are planting or harvesting. The farm owner can be awarded a tax credit equal to 7 percent of the gross amount paid to the beginning farmer under the contract. If the beginning farmer is a veteran, the credit award will be 8 percent for the first year. The contract was initially limited to 12 months, but effective for tax year 2015, the custom farming contract can be for a period of up to 24 months. As indicated above, the Custom Farming Contract Tax Credit is available for tax years 2013 through 2017 only.

C. Tax Credit Application and Eligibility

Beginning Farmer tax credits are awarded based on application to the Iowa Agricultural Development Division (IADD) within the Iowa Finance Authority. Applications are made jointly by both the asset owner and the beginning farmer and must include a financial statement for the beginning farmer. Application fees apply. For crop share agreements, the fee is $200 plus $100 for each year of the lease. For cash rent agreements the application fee is $200 plus $50 for each year of the lease. For a custom farming contract, the application fee is $200.

An eligible beginning farmer under the Beginning Farmer Tax Credit Program is defined as a state resident aged 18 or older with a net worth of less than $703,844 as of January 1, 2015 for the 2015 tax year. The allowed maximum net worth is indexed

annually based on the October 1 annual change in the U.S. Department of Agriculture's Prices Paid by Farmers Index. The beginning farmer applicant must materially participate in the farm and have sufficient education, training, or experience in farming. Under the AATTC, the beginning farmer can be related to the asset owner. In contrast, the CFCTC cannot be awarded for an agreement with a beginning farmer who is the parent, child, step-child, spouse or sibling of the farm operator Tax credit awards are made to the asset owner.

The application must include a copy of the signed lease agreement. Other program requirements include that rental or lease rates in the contract cannot be substantially lower or higher than market rates. Applications must be submitted by October 1 to be eligible for an award for that same year.

D. Beginning Farmer Tax Credit Program Limits and Provisions

An annual cap of $6 million was first imposed on the Beginning Farmer Tax Credit Program in 2009. Beginning January 1, 2013, concurrent with the introduction of the Custom Farming Contract Tax, the cap was increased to $12 million. Of this amount, $8 million is allocated to the Agricultural Assets Transfer Tax Credit and $4 million to the Custom Farming Contract Tax Credit. The IADD may adjust the allocation of the $12 million of tax credits by adoption of a resolution. Awards are issued on a first-come, first-served basis.

Tax credit certificates may not exceed $50,000 for an individual taxpayer over all eligible leases in which the asset owner is participating under the two tax credits in a year. Tax credits can be awarded to a partnership, limited liability company, S corporation, estate, or trust. The amount claimed by the individual shall be based upon the pro rata share of the member’s earnings from the entity.

Leases or rental agreements for which tax credits have been awarded may be terminated by either the taxpayer or the beginning farmer. If the IADD determines that the taxpayer is not at fault for the termination, IADD will not issue a tax credit certificate for subsequent years, but any prior tax credit certificates issued will be allowed. If IADD determines that the taxpayer is at fault for the termination, any prior tax credit certificates issued will be disallowed, and the tax credits can be recaptured by the Department of Revenue.

Program tax credits may not be transferred except to the taxpayer’s estate or trust upon the taxpayer’s death. Program tax credits are nonrefundable which means that while they offset tax liability, any credit amount greater than tax liability in the tax year of claim is not paid to the claimant. Credits in excess of tax liability for awards issued in 2007 could be carried forward for up to five years; any unclaimed tax credits for awards subject to this five year limitation thus expired in tax year 2012. For credits issued in tax years beginning on or after January 1, 2008, any credits in excess of tax liability may be carried forward for up to ten years.

III. Other Federal and State Incentives for Beginning Farming

A. Federal Incentives to Support Beginning Farmers

Numerous federal and state financial programs exist to support and promote beginning farming. For example, the United States Department of Agriculture (USDA) Farm Service Agency (FSA), which provides both direct farm loans and farm loan guarantees, targets a portion of its annual loan portfolio to beginning and socially disadvantaged farmers (USDA, 2012). For its program purposes, the USDA defines a beginning farmer as one who has farmed for less than ten years; socially disadvantaged farmers include members of certain racial or ethnic groups and women. In addition, the FSA provides land contract guarantees on land purchased by beginning or socially disadvantaged farmers; such land contract guarantees provide financial assurances to sellers of agricultural land (USDA, 2012).

Many states also administer programs that offer financing for beginning farmers. Such programs include the federal Aggie Bond program whereby loans to beginning farmers are financed by a state agency's issuance of federal tax-exempt bonds; in turn, under such programs, lenders and contract sellers are required to offer reduced interest rates to beginning farmers. Iowa's Beginning Farmer Loan Program is one example of such a program (Iowa Finance Authority, 2015). Items that can be financed under this program include agricultural land and improvements, equipment, and breeding stock (National Council of State Agricultural Finance Programs [NCOSAFP], 2014). In the latest National Council of State Agricultural Finance Programs directory, nine states report having such programs, with Iowa's program the largest in terms of bond activity (NCOSAFP, 2014). In addition, a number of states offer guarantee loan programs, which are similar to the federal loan guarantee program, or state-funded direct loans to beginning farmers (NCOSAFP, 2015).

The USDA's Transition Incentive Program (TIP), although not a tax credit or other tax incentive, is a federal program whose purposes are similar to those of the Iowa Beginning Farmer Tax Credit program. TIP offers an incentive to land owners to return land on expiring Conservation Reserve Program (CRP) contracts into production. Specifically, it provides two additional annual CRP payments to those land owners who sell or lease their land to beginning farmers, military veterans, or members of certain socially disadvantaged groups (USDA, 2015).

However, there is no federal tax credit for the transfer of land or other assets to beginning farmers, for the rental of land to beginning farmers, or for contracting with beginning farmers for custom work. Tax credits with this purpose are currently offered by only Iowa and Nebraska. Wisconsin offered a comparable tax credit in tax years 2011 through 2013. These states provide established farmers or other asset owners a state income tax credit for lease of farm assets to qualified beginning farmers. Of the three, Iowa is the only one in which a tax credit is also offered to farm owners who engage the custom farming services of a beginning farmer (see Table 1).

B. State Tax Credits for Leasing Agricultural Assets to Beginning Farmers

Iowa's Beginning Farmer Tax Credit Program, Nebraska's Beginning Farmer Tax Credit Program, and Wisconsin's Beginning Farmer and Farm Asset Owner Tax Credit Program offer tax credits against individual income tax or corporation income tax. However, since the approval of Wisconsin's 2015 state budget, Wisconsin's Beginning Farmer and Farm Asset Owner Tax Credit Program applies only to agreements made prior to January 1, 2014 (Wisconsin Department of Agriculture, Trade and Consumer Protection, 2015). The Wisconsin tax credit may still be claimed by eligible claimants awarded credits prior to its repeal and discussion of this tax credit program is included here.

Nebraska's Beginning Farmer Tax Credit program is the longest-standing of the three such state tax credit programs, having begun with the 1999 tax year. Until 2007, the initial year of Iowa's Agricultural Assets Transfer Tax Credit, Nebraska's was the only tax credit of its kind in the country. In 2011, Wisconsin's Beginning Farmer and Farm Asset Owner Tax Credit Program became the third. Wisconsin's tax credit program is applicable for leases in effect in 2011 through 2013. The Iowa Custom Farming Contract Tax Credit was enacted effective for tax years 2013 through 2017.

The tax credits offered by the Iowa, Nebraska, and Wisconsin programs equal a percentage of the lease or contract between the asset owner and beginning farmer. In all cases, the tax credit is awarded to the asset owner, i.e., the established farmer, rather than to the beginning farmer. The Nebraska program also offers an additional one-time tax credit of up to $500 to lessee-beginning farmers for the cost of an approved financial management program. A similar one-time credit was available under the Wisconsin tax credit program. To be eligible for this $500 tax credit in Nebraska, beginning farmers are required to have a lease agreement for which a tax credit under the broader state program is awarded. Completion of such a program by the beginning farmer is an eligibility requirement to participate in the Beginning Farmer Tax Credit program.

Tax credit rates vary among the three states. Both Iowa and Nebraska offer a higher tax rate for crop share agreements than for cash rent agreements. As noted above, Iowa's tax credit is equal to 7 percent of cash rent agreement amounts and 17 percent of crop share agreement amounts. In Nebraska, the tax credit rate applicable to cash rent agreements is 10 percent, somewhat higher than Iowa's; however, Nebraska's rate for crop share agreements is 15 percent, two percentage points lower than Iowa's. The Wisconsin Farm Asset Owner tax credit was not awarded for leases based on crop share agreements. It equaled 15 percent of the cash lease amount received by the established farmer. The Iowa Beginning Farmer Tax Credit Program is distinct among the three states' programs in that it provides for an additional one percent for the tax credit rate for both the Agricultural Assets Transfer Tax Credit and the Custom Farming Contract Tax Credit when the beginning farmer is a veteran; in the first year of the lease or contract.

Iowa and Nebraska offer tax credits for the leasing of comparable kinds of agricultural assets, including land, livestock, and farm machinery. Wisconsin's tax credit, however, applied to the leasing of machinery, facilities, and livestock, but not to the leasing of agricultural land. Neither Nebraska nor Wisconsin offer tax credits for contracts for custom farming.

For purposes of their respective tax credit programs, in some aspects the three states define beginning farmers along similar lines. Specifically, each state defines beginning farmers primarily in terms of financial net worth, length of farming experience, and the beginning farmer's plans to engage directly in farming. Despite these similarities, other eligibility criteria for beginning farmers are different among the three states in important ways. Iowa's tax credit program is the least restrictive in terms of the net worth criterion. Iowa law (§ 16.79) requires that participating beginning farmers have a financial net worth that is not "greater than necessary to adequately support a beginning farmer." The financial threshold is set by administrative rule by the Iowa Finance Authority and, since 2008, is coupled to annual changes in the USDA Prices Paid by Farmers Index.[2] Originally set at $500,000, Iowa's net worth threshold for beginning farmers has increased to $703,844 in 2015. Although the Nebraska tax credit program initially required that lessee-beginning farmers have a net worth of no more than $100,000, a legislative change doubled this threshold to $200,000 in 2006. Nebraska's net worth limit is subject to annual adjustment as prescribed by Nebraska Revised Statute 77-5209 using a formula based on the Bureau of Labor Statistics Producer Price Index; the law requires that any adjustment to the net worth limit, as a result of indexation, be a multiple of $25,000 such that any prospective adjustment of less than this amount is rounded to the next lowest $25,000.[3] Since 2006, the net worth limit of the Nebraska program has never exceeded $200,000. Likewise, the Wisconsin program limited net worth to less than $200,000 with no indexation.

Nebraska and Iowa require that the beginning farmer has farming or ranching experience or education. Uniquely, among the three states with beginning farmer tax credit programs, Nebraska also requires that the beginning farmer has participated in an approved financial management educational program. The Nebraska and Wisconsin programs require that the beginning farmer has farmed for fewer than ten of the

[2] The Prices Paid by Farmers Index is included in Agricultural Prices, a regular monthly report by the National Agricultural Statistics Service. This report is published at http://usda.mannlib.cornell.edu-/MannUsda/viewDocumentInfo.do?documentID=1002.

[3] Nebraska Revised Statute 77-5209 reads, in part, as follows: "The qualified beginning farmer or livestock producer net worth thresholds […] shall be adjusted annually beginning October 1, 2009, and each October 1 thereafter, by taking the average Producer Price Index for all commodities, published by the United States Department of Labor, Bureau of Labor Statistics, for the most recent twelve available periods divided by the Producer Price Index for 2008 and multiplying the result by the qualified beginning farmer's or livestock producer's net worth threshold. If the resulting amount is not a multiple of twenty-five thousand dollars, the amount shall be rounded to the next lowest twenty-five thousand dollars."

previous fifteen years. Iowa does not stipulate any maximum length of experience for the beginning farmer.

Iowa and Nebraska require that the beginning farmer be a state resident. However, in both states, the taxpayer to whom the tax credit is awarded may be a non-resident. Wisconsin, by contrast, required that the taxpayer be a state resident but allows the beginning farmer to be a non-resident.

The required length of lease agreements between state programs varies. The Iowa Agricultural Assets Transfer Tax Credit may be claimed for leases that are of two to five years in length. Nebraska requires three year lease agreements, as did Wisconsin.

While it was available, taxpayers were allowed to claim the Wisconsin Farm Asset Owner Tax Credit for only the first three years of any lease; however, a single taxpayer could claim the tax credit for multiple leases. Similarly, the Nebraska Beginning Farmer Tax Credit may be received each year for the three years of the lease. The Iowa Beginning Farmer Tax Credit program is the only state program to have an annual taxpayer cap on tax credit awards and the only program subject to an annual overall program cap. Nebraska does not impose a limit on aggregate awards made under its tax credit programs, nor did Wisconsin. Iowa's program is capped at $12 million.

Tax credits awarded under Iowa's Beginning Farmer Tax Credit Program are nonrefundable with a ten year carryforward. Tax credits awarded by the programs in Nebraska and Wisconsin, however, are refundable. A refundable tax credit provides a net payment, or refund, to the taxpayer in the event the credit amount exceeds tax liability. In none of the three states with a beginning farmer tax credit program are such tax credits transferable; that is, they may not be sold or given by the awardee to another taxpayer.

The Iowa Custom Farming Contract Tax Credit is not allowed for taxpayers and qualified beginning farmers who are related, including familial relations, members of partnerships, and shareholders in the same business entity. However, the Iowa Agricultural Assets Transfer Tax Credit is allowed for close relatives as well as for partners and shareholders. Nebraska's Beginning Farmer Tax Credit is likewise allowed for lease agreements between close relatives; in the case of a familial relationship between the taxpayer and qualified beginning farmer, however, Nebraska requires that a written succession plan be completed by the parties (although the succession plan is not required to be submitted to the as part of the tax credit application filed with the state).

In addition to its Beginning Farmer Tax Credit, Nebraska offers a personal property tax exemption for beginning farmers. Unlike the tax credits described above, this incentive takes the form of an exemption from state personal property tax. The exemption applies to personal property used in agriculture valued at up to $100,000. To be eligible for this exemption, beginning farmers are not required to have a lease agreement for which a

Nebraska Beginning Farmer Tax Credit is claimed. Because it may be claimed only by beginning farmers, this tax exemption is unique among the fifty states.

IV. Literature Review

A. Definitions of Farms and Beginning Farmers

For both statistical and program administration purposes, the USDA defines a farm as any place that produces, or normally would produce, at least $1,000 worth of agricultural output during a year. That is to say, what constitutes a farm is defined quite broadly. The term encompasses not only the stereotypical family farm wherein the operation is the center of economic and domestic life for an entire household, but much smaller operations in which agricultural production is hardly more than a sideline. Sumner (2014) notes, “The tiny threshold of $1,000 in sales represents an agricultural output of less than two acres of corn, less than one-half of a milk cow, and less than half of one litter from one mother sow” (p. 147).

Owing to this very broad definition, most farms are small farms. More than half of farms nationally have annual sales of less than $10,000 (USDA, 2014a). Less than one fifth of farms nationally had annual sales of $100,000 or more. Farms with gross sales of under $250,000 represent the bulk of farms and most farm operators receive most of their income from off-farm sources (Ahearn and Newton, 2009). Meanwhile, family farms, those operations in which the majority of farm assets are owned by the farmer and the farmer’s family, represent some 98 percent of U.S. farms and nearly 90 percent of U.S. agricultural production (Ahearn, 2012).

These considerations are salient to any understanding of farming and are particularly relevant to an understanding of the literature on beginning farmers. Beginning farmers typically operate small farms and, to a greater extent than do established farmers, rely on off-farm income (Ahearn and Newton, 2009). The USDA, which administers a number of programs intended to assist beginning farmers, defines a beginning farmer in terms of farm experience; specifically, as one who has operated a farm for ten years or less. This definition of a beginning farmer as having limited farming experience is the norm in literature on the topic.

B. Barriers to Entry into Farming

Although the total number of farms has been fairly stable over the past decade, the number of farms operated by beginning farmers has decreased (Ahearn, 2012; Williams, Harris, and Mishra, 2014). Between 2007 and 2012, the years of the two most recent USDA Censuses of Agriculture, the total number of U.S. farmers decreased by 3 percent while the number of those who had been in operation less than ten years decreased by 20 percent (USDA, 2014a). As of 2012, 17 percent of the 2.1 million farms nationally were operated by beginning farmers (USDA, 2014b). This trend corroborates the supposition that farming has become more difficult to enter or otherwise less attractive to prospective farmers.

Ahearn (2011) proposed that the key challenge to enter the farming profession is access to land. Ahearn identified the two primary challenges confronting beginning

farmers as the market opportunity to buy or rent suitable land and the need for sufficient capital to obtain access to enough land to be profitable. Citing an extensive literature, Katchova and Ahearn (2014) saw matters similarly, if not in exactly the same terms; while noting that beginning farmers confront numerous obstacles, they argued that chief among these are the challenges of access to land and access to government financial programs. Ahearn and Newton (2009) suggested that the challenge of access to farmland arises not only from competition for land but, more specifically, for land that is eligible for government program payments because of its productivity. These authors put the matter very concisely: "Beginning farmers and ranchers face two primary obstacles: high startup costs and a lack of available land for purchase or rent" (p. iii).

A report by Shute (2011), unique for its being based primarily on a survey of beginning farmers, lends support to this view. Shute found that lack of capital and lack of access to land led a fairly lengthy list of challenges faced by beginning farmers, with 78 percent of beginning farmers surveyed citing access to land as an obstacle to their start in farming. In Shute's analysis, these items were followed by access to affordable healthcare and access to credit among other challenges facing beginning farmers. Importantly, from the standpoint of the Beginning Farmer Tax Credit Program which provides an incentive for landowners to lease their land to beginning farmers, Shute also cited an undersupply of landowners willing to make long-term lease agreements with beginning farmers. Katchova and Ahearn (2014) found that most beginning farmers purchase or lease, rather than inherit, their farmland.

Clearly, entry into farming is directly related to farmland affordability, including the price of land and the price of credit. Kauffman (2013a) noted that agricultural credit terms for beginning farmers are less favorable than those for experienced farmers for the very reason that they are just starting out; more precisely, because they have lower levels of equity in their land and fewer assets. Moreover, land prices are closely related to land productivity; the steepest price barriers are associated with the most productive land. Increased prices for commodities in 2012 and 2013, and thus also of farmland, led to a gap in agricultural credit markets with respect to established farmers on the one hand and beginning farmers on the other (Kauffman, 2013a).

The challenges of land acquisition relate in part to trends in farm consolidation. Within the past half-century, the overall number of farms in Iowa decreased from more than 200,000 to 86,000 (Beginning Farmer Center, 2009; Economic Research Service, 2015). MacDonald, Korb, and Hoppe (2013) found that, during the quarter century leading up to 2007, the midpoint acreage for cropland nationwide virtually doubled, from 589 acres to 1,105 acres.[4] During this period, the midpoint acreage for Iowa cropland also increased by more than one hundred percent (MacDonald, Korb, and Hoppe, 2013). These authors found that, in financial terms, larger farms tend to perform better than smaller ones, a result of lower per-unit costs of production rather than higher

[4] The midpoint acreage is the level at which half of all *cropland acres* are on larger farms and half are on smaller farms. The midpoint acreage is distinct from the median farm size, which represents the midpoint of the size distribution of *farms*.

revenue. This finding directly relates to Sumner's (2014) observation that the minimum-cost farm size, i.e., the farm size at which the total costs per unit of output is lowest, has been increasing over time and is consistent with increases in farm size. In short, farms have become larger, and as Kauffman (2013a) notes, "Today's new farmers face the additional challenge of needing to acquire even more land to be competitive in modern agriculture" (p. 5).

Owing to the issues around land acquisition and farm consolidation, beginning farmers on average operate smaller farms. When beginning farmers are defined in the standard way, i.e., in terms of farm experience, the median size of farms operated by established farmers is 180 acres, while the median size of farms for beginning farmers in Iowa is 73 acres, just 40 percent of the acreage of established farmers (Economic Research Service, 2015). Likewise, the median farm net worth of farms operated by established farmers in the state is $1.02 million, compared to $0.36 million for farms operated by beginning farmers. When beginning farmers are defined in terms of their net worth, consistent with the eligibility criteria for the Beginning Farmer Tax Credit program, these differences are even more pronounced. On these terms, the median farm net worth of established farmers is six times greater than that of beginning farmers and the median farm size is seven times greater (Economic Research Service, 2015). According to the USDA's system of categorizing farms in terms of gross cash farm income, 91 percent of farms operated by beginning farmers in Iowa are small farms (Economic Research Service, 2015). Such farms account for just seven percent of farm acres in Iowa (Economic Research Service, 2015).

One final point on the challenge of land acquisition concerns its apparent connection to the deferred retirement of established farmers. Nationally, the average age of farmers has steadily increased for three decades and farmers aged 65 and older constitute the fastest-growing age group (USDA, 2009; USDA, 2014a; USDA, 2014c). A number of authors have suggested that the problems of farm transition are exacerbated by the trend of remaining active in farming for longer (Beginning Farmer Center, 2009; Peel, Doye, and Ahearn, 2013). Nearly a third of farmers in Iowa are over the age of 65 (USDA, 2014a). The Iowa State University Beginning Farmer Center (2009) attributed the upward trend in the average age of Iowa farmers to "minimal incentives to encourage young farmers to enter into the profession and reluctance on the part of existing farmers to retire" (p. 3). Data on the aging of Iowa's farmers should be interpreted with caution, however, particularly in its connection to the topic of beginning farmers. For example, between 2007 and 2012, the population of farmers over the age of 65 increased by 7 percent nationally but only 0.4 percent in Iowa. In addition, beginning farmers, based on the number of years in farming, are not necessarily of a young age. As of 2013, the mean age of beginning farmers in Iowa was 45; twenty percent were over the age of 55, and nine percent were over 65 (Economic Research Service, 2015). This is all to say that the increase in the average age of Iowa farmers noted above is partly attributable to the aging of beginning farmers themselves and not solely a sign of the impact of deferred retirement by established farmers. As Sumner (2014) points out, operators of small farms obtain their primary income from off-farm wages and retirement income; thus, "One reason the average age of farmers has been

over 55 for decades is that many individuals continue to operate very small farms as a retirement activity after they have left nonfarm employment" (p. 147).

C. Barriers to Exit from Farming

Bearing these considerations in mind, however, the deferment of retirement is central to the matter of farm transition. Because, by and large, beginning farmers must acquire their land from other farmers, barriers to exit from farming constitute important barriers to entry for beginning farmers. The barriers to exit are not insubstantial. As Peel, Doye, and Ahearn (2013) explain, "A successful farming career can result in a barrier to exit in senior years. Farmers often find that, having spent a lifetime accumulating wealth in agricultural assets, it is difficult and costly to withdraw equity or to provide for succession to heirs" (p. 4). These authors argue that established farmers are offered few financial incentives to transfer their assets to beginning farmers (Peel, Doye, and Ahearn, 2013). A survey of Iowa farmers by the Iowa State University Beginning Farmer Center found that just 23 percent of respondents planned to someday fully retire from farming, with 30 percent of farmer-respondents indicating they would never retire and the remainder of respondents indicating they would someday semi-retire but continue to provide some level of managerial control or labor to the farm operation (Beginning Farmer Center, 2009).

Mishra, Fannin, and Hyunjeong (2014) analyzed influences on the decision to exit farming. They found that receipt of government agricultural program payments is associated with lower likelihood to exit farming. Ahearn (2011) notes that a farmland's agricultural base as defined under federal program rules determines eligibility for such payments. According to Ahearn, "Due to the historical program eligibility conditions, land used for cash grains, soybean, cotton, and rice are more likely to have an agricultural base than other types of farmland uses, such as vegetables, fruits, nuts, and livestock. Owning farmland with a base encourages established farmers to continue farming" (p. 3). Perhaps just as importantly, Ahearn suggests that the USDA's Conservation Reserve Program (CRP) provides an additional disincentive to retirement. Specifically, the CRP "encourages established farmers–many with a history of cash grain production–with an interest in retiring from farming to place their land in the CRP, rather than exiting farming and selling or renting their land to other producers" (p. 3).

Finally, Mishra et al. (2014) noted the connection between commodities prices and retirement preferences. Their research found that the recent surge in commodities prices, because it led to increased farm income, slowed the rate of exit from farming. Factors that increase prices, such as increased demand from both the biofuel industry and from foreign markets, contribute to farm profitability and thus provide an incentive to continue farming. Likewise, they suggest, such trends contribute to an upward trend in farmland prices and higher cash rents, and in turn present a barrier for new entrants.

D. Land Ownership and Land Tenancy

Kauffman (2013b) notes that despite a recent upturn in agricultural lending, financing is more difficult to obtain for beginning farmers than for those who are more established. Beginning farmers typically have much lower levels of equity and less solvency than

their more established peers (Katchova, 2010; Kauffman, 2013b). Meanwhile, over the last decade, agricultural land values and production costs have soared (Kauffman, 2013b).

Access to farming is directly related to farmland prices (Ahearn, 2011; Shute, 2011; Kauffman, 2013b). Owing to the high cost of farmland, it is more common for beginning farmers than for established farmers to only rent land rather than to own some land (Ahearn, 2011; Kauffman, 2013b; Economic Research Service, 2013). Ahearn and Newton (2009) found that when beginning farmers are able to purchase land, most land acquisitions result from a purchase from a nonrelative. Although this is true of U.S. farmers in general, it is more typically the case among beginning farmers (Economic Research Service, 2013). This would seem to comport with Shute's (2011) finding that 78 percent of new farmers surveyed were not raised on farms themselves; that is, these new farmers were less likely to have been in a position to either inherit land or purchase it from a relative.

According to the USDA's most recent report on tenure, ownership, and transition of agricultural land, 76 percent of Iowa agricultural land is owned by non-operating landlords (USDA National Agricultural Statistics Service, 2015). In addition, of all agricultural land in the state, owners anticipate disposing of only 11 percent within the next five years, whether by gift, trust, or sale (USDA National Agricultural Statistics Service, 2015).

Despite a strong culture of preference for asset ownership among farmers, leasing offers certain advantages to beginning farmers (Kauffman, 2013b; Peel, Doye, and Ahearn, 2013). For those farmers who lack capital, leasing requires lower cash flow and lower risk (Katchova and Ahearn, 2014). Kauffman summarizes this present state of affairs as follows, "Higher prices for land and fixed expenses appear to be shifting the structure of farm enterprises managed by young and beginning farmers from an owner-operator model to a renter-operator model" (Kauffman, 2013b, p. 13).

E. Government Programs and Tax Incentives

Although research relating to federal farm programs is extensive, the literature on incentives for beginning farmers is much less so. As many researchers have noted (e.g., Briggeman, 2006; Ahearn and Newton, 2009; Ahearn, 2011; White and Hoppe, 2012; Economic Research Service, 2013), federal government supports have shifted towards larger farms, and because nearly all large farms are established farms, the distribution of federal program payments has shifted away from beginning farms. This stands to reason since established farms account for nearly all farm production, including 92 percent of Iowa production (Economic Research Service, 2015). In part because beginning farmers typically operate smaller farms and because they are often not engaged in the sorts of production activities for which federal programs were designed, beginning farmers are less likely to receive federal direct payments (Ahearn and Newton, 2009; Ahearn, 2011). Shute (2011) cites several ways in which federal policy is inadequate to the needs of beginning farmers; for example, the maximum Farm Service Agency loan available for purchase of farmland is $300,000. Given that, as of

2014, the estimated average value of Iowa farmland is $7,943 per acre, this maximum loan amount equates to the purchase of fewer than 40 acres of average farmland and fewer than 30 acres of Iowa's most valuable farmland (Center for Agriculture and Rural Development, 2014).

The USDA began to provide support for beginning farmers in 1992 under the Agricultural Credit Improvement Act; prior to that year, federal farm programs related primarily to production of particular commodities, land preservation, and natural disaster relief (Economic Research Service, 2013; Katchova and Ahearn, 2014). Currently, a number of federal programs target beginning farmers, either by allocating a share of program benefits to beginning farmers or by providing payments at higher rates (Ahearn, 2011).

Issues around farm transitions have gained prominence as a focus of farm policy (Katchova and Ahearn, 2014). However, Cox (2012) identifies the Iowa Beginning Farmer Tax Credit program as one among just a handful of policy incentives available to landowners to promote land transition. Cox notes that other programs with like objectives include Aggie Bonds, the Beginning Farmer or Rancher Land Contract Guarantee Program and the Conservation Reserve Program (CRP)-Transition Incentive Program (TIP). As does the Iowa Beginning Farmer Tax Credit Program, the latter two have a particular focus on the transition of land from established farmers to beginning farmers. That is, these three programs provide incentives to established farmers to keep their land in productive use under the tenancy of a beginning farmer. Peel, Doye, and Ahearn (2013) also cite the CRP-TIP as innovative for its focus on the transition between established and beginning farmers. It is worth highlighting, however, that the TIP is a component of the CRP, a program whose purposes are somewhat at odds with farm transition, since it provides payments to landowners to conserve land by keeping it out of production.

Research on the use of tax policy to promote beginning farming and encourage farm transitions is limited. The report by Shute (2011), cited above, included the recommendation that states offer tax credits for the sale or lease of land to beginning farmers, but did not offer any direct evidence to support it. Swenson (2004) assessed the potential fiscal costs to Iowa of a proposed state income tax exemption for certain income received from the lease of farm assets to first-time farmers. That proposal, which presaged the Beginning Farmer Tax Credit Program but did not become law, was found to offer mixed incentives such that "lower income elderly farmers would realize proportionately greater reductions in state tax liability though the values would be very low, while upper income elderly farmers would realize substantially higher amounts of reductions per filer/participant" (p. 5).

The Internal Revenue Code (IRC) has numerous provisions that directly affect farmers. These include, for example, tax treatment of investment in capital assets (Williamson, 2013). Williamson, Durst, and Farrigan (2013) noted that tax on nonfarm income accounts for most federal income tax paid by farm households; they report that, "with only about 30 percent of farm sole proprietors reporting a profit and with just 60 percent

of those reporting a farm profit owing any Federal income taxes, only about 19 percent of farm sole proprietors paid any Federal income tax on their schedule F farm income in 2010" (p. 9). Perhaps the greatest disincentive to the transfer of land arises from the capital gains tax. The capital gains tax applies to profits realized from the sale of assets as a result of an increase in the value of the asset over the purchase price. Such assets can include farmland. In Iowa, as elsewhere, farmland prices have increased quite substantially during some periods (Center for Agriculture and Rural Development, 2014). For farmers who have owned land for many years, the capital gains tax presents a distinct disincentive to sell. However, it is important not to overstate the effect of this disincentive. A survey of Iowa farmland owners found that a decrease in the capital gains tax would have no impact on the decision to sell farmland for 75 percent of respondents (Iowa State University Extension and Outreach, 2014).

To be sure, other tax-related considerations affect the estate-planning calculus. For example, van der Hoeven (2013) notes that farmers can transfer tax free farmland, equipment, and livestock by gift, up to the lifetime gift exclusion amount. In addition, farmers can preserve farmland by donating a qualified conservation easement (Williamson, 2013). Under a conservation easement, the farmer can specify that the land will remain in agricultural production and deduct the fair market value of the easement from federal and state taxable income. Iowa offers the Charitable Conservation Contribution Tax Credit for the donation of qualified real property in the state for conservation purposes.[5] Nevertheless, the capital gains tax represents a very real obstacle to farm transitions.

V. Descriptive Overview of Beginning Farming in Iowa

According to estimates based on the annual Agricultural Resource Management Survey (ARMS), there are 86,323 family farms in Iowa as of 2013, the most recent complete survey year. Of these, 12,061, or 14 percent, are principally operated by beginning farmers as defined by the USDA; that is, 14 percent of family farms in Iowa are operated by farmers with ten or fewer years of farming experience (Economic Research Service, 2015). As noted above, beginning farmers are defined differently for the Beginning Farmer Tax Credit Program. When they are classified by net worth as they are for this tax credit program, farms operated by beginning farmers represent 24 percent of farm households in the state(see Table 2). The Beginning Farmer Tax Credit Program thus relates to a much larger group of beginning farmers than that defined by length of experience.

In either case, an examination of available data illuminates the important ways in which beginning farmers are different from established farmers. The following discussion is based on special tabulations from the annual ARMS for Iowa. Note that the farm household is the unit of observation in the ARMS survey. Thus, for the remainder of this section, the term "beginning farmers" refers to the principal operators of farms whose household net worth as reported in the 2013 ARMS is below the Beginning Farmer Tax

[5] The Iowa Department of Revenue evaluation study of this tax credit is available at https://tax.iowa.gov/report-type/evaluations-0.

Credit Program's net worth eligibility threshold for 2014.[6] As used in this section, the term "beginning farms" refers to these farm households.

Beginning farm households account for a minority of Iowa farms and a comparatively small share of agricultural production in the state. While beginning farms make up 24 percent of farm households, as noted above, they account for just 6.7 percent of agricultural production and 6.5 percent of farmed acreage. Thus, established farm households account for 93.3 percent of the total value of agricultural production in the state and 93.5 percent of farmed acreage.

As was noted in Section IV, not only do beginning farmers operate fewer farms, they tend to operate smaller farms. In 2013, the median size beginning farm in the state was 32 acres, one seventh of the median size of farms whose household net worth exceeded the tax credit program's net worth threshold.

While 69 percent of family farms in Iowa, have a gross value of production of less than $250,000, around 92 percent of beginning farms households have production under that level. Thus, under nine percent of beginning farms have a gross value of production of at least $250,000, compared to 38 percent of established farms. The USDA's system of categorizing operations in terms of gross cash farm income shows that 95 percent of beginning farm households are small; that is, 95 percent had gross cash farm income of less than $350,000 in 2013. Regardless of whether they are operated by beginning farmers or established farmers, most Iowa farms are not large; just eight percent of farms overall had cash farm income of more than $1 million. However, 11 percent of established farms met this criterion, compared to just one tenth of one percent of beginning farms.

Livestock represents a greater share of overall production by beginning farm households than do crops, with livestock making up 55 percent of their total production. The allocation of production between livestock and crops is roughly the reverse for established farms; that is, 58 percent of the value of production by established farms is derived from crops. The way in which production is allocated between crops and livestock by beginning and established farms comports with indicators of production specialization. Over half, 52 percent, of established farms specialize in row crops including grains and oilseeds; by contrast, only 32 percent of beginning farms specialize in row crops. On the other hand, 28 percent of beginning farms specialize in livestock production, including beef, dairy, hogs, and poultry, whereas 21 percent of established farms specialize in these areas. Four percent of Iowa beginning farms specialize in the production of fruits and vegetables compared to just two percent of established farms.

[6] The Beginning Farmer Tax Credit program's net worth limit applies to the individual beginning farmer rather than to the entire farm household. For purposes of this discussion, the tax credit program's net worth limit, as applied to household net worth, is assumed to be a useful criterion for distinguishing beginning farms and established farms in the state.

As discussed in Section IV, row crop production is more typically associated with government agricultural program payments than are other farmland uses. Likewise, because row crop production is largely the province of established farmers, most farm households that receive government payments are established farm households. Eighty-three percent of farms that received payments in 2013 were established, a somewhat disproportionate share given that established farms represent 77 percent of farms in the state. Eighty-four percent of established farms, as compared to 55 percent of beginning farms, received government program payments in 2013. The program payments received by established farms are larger, in general, than payments received by beginning farms. In 2013, payments to established farms averaged $12,159; the average payment to beginning farms was $4,000. Of the total amount of government program payments, the great majority, 94 percent, went to established farms and six percent went to beginning farms.

Beginning farmers are less likely than established farmers to be engaged primarily in farming. In 2013, the major occupation of the principal operators of 46 percent of Iowa's beginning farms was something other than farming. In addition, 13 percent were not in the workforce, likely because they were retired. Thus, farming was the primary occupation of the principal operators of just 41 percent of beginning farms. The pattern is different for established farms, 61 percent of whose principal operators were primarily engaged in farming in 2013. Nevertheless, the major occupation of the principal operators of some 31 percent of established farms was off-farm work. Just eight percent of these operators were not in the workforce.

The average off-farm income of all farm households in the state was $86,000 in 2013. For beginning farms this measure is somewhat lower, at $70,000, and for established farms somewhat higher, at $91,000. On average, then, established farm households earn 23 percent more from off-farm sources than beginning farms do. However, as one might expect, the disparity in terms of farm income is far greater, as established farms earn considerably more income from farming. Their farm income is, on average, nearly two and a half times greater than that of beginning farms.

It is important to remember that, for the analysis in this section, beginning farms are defined as those whose household net worth is below the Beginning Farmer Tax Credit Program's net worth eligibility threshold. Defined in these terms, beginning farms necessarily have a lower net worth than established farms. In 2013, the mean, or average, household net worth of established farms was $2.8 million, more than seven times greater than the mean net worth of beginning farm households, which was estimated at $0.4 million. The median net worth of established farms and beginning farms, respectively, was $1.8 million and $0.4 million. As with overall net worth, established farms in general have greater farm net worth than do beginning farms. In 2013, the average farm net worth of established farms was ten times the average farm net worth of beginning farms and the median farm net worth was six times greater.

In terms of available demographic data concerning their principal operators, the differences between beginning farms and established farms are less dramatic. In both

categories, men far outnumber women, accounting for 93 percent of Iowa's principal farm operators overall. Perhaps not surprisingly, the principal operators of a larger share of beginning farms than of established farms are less than 35 years old. An estimated 14 percent of beginning farms' principal operators had not reached the age of 35, compared to three percent for established farms. Somewhat less expected, the operators of more than a fifth of beginning farms were over the age of 65; that is, the operators of 22 percent of farms whose household net worth was below the qualifying net worth threshold for the Beginning Farmer Tax Credit Program were age 65 or over in 2013.

Lastly, it is worth noting that when beginning farm households are defined in terms of net worth, the operators of three quarters of those farms do not meet the USDA definition of beginning farmer. That is, the operators of 74 percent of farms whose net worth was below the net worth threshold for participation in the Beginning Farmer Tax Credit Program in 2013 had ten or more years of farming experience. It is nevertheless the case that the principal operators of 92 percent of households whose net worth was above the program's net worth threshold had at least ten years of farming experience.

VI. Beginning Farmer Tax Credit Program Awards and Claims

A. Awards

Since the start of the Beginning Farmer Tax Credit (BFTC) Program in 2007 through 2014, a total of $33.5 million tax credits have been awarded through the program. By far the majority of these awards have been for the Agricultural Assets Transfer Tax Credit (AATTC). Although the AATTC was the only tax credit associated with the program until 2013 when the BFTC program was expanded to include the Custom Farming Contract Tax Credit (CFCTC), usage of the CFCTC has been low.

For the years 2007 through 2014, a total of 5,504 AATTC tax credit certificates have been issued to taxpayers (see Table 3). These certificates were for award amounts totaling $33.5 million, or 99.8 percent of the total BFTC Program awards issued over that period. In 2013 and 2014, the first two years in which the CFCTC was available, only 24 certificates were issued for that tax credit. Award amounts for the CFCTC total $59,000 over both years.

Between 2007 and 2014, both the number of certificates issued and award amounts for the AATTC increased fairly steadily. Numbering 287 in 2007, the number of certificates increased sharply in the following year to 651. The number of certificates issued increased in all but two of the subsequent years. The largest year-to-year increase in the number of certificates issued took place between 2013 and 2014, when the number of certificates increased from 651 to 937. Program administrators indicated the significant jump in certificates reflects a substantial increase in marketing of the program during 2014.

Amounts awarded for the AATTC increased steadily too. In 2007, tax credit awards amounted to $1.4 million. In 2014, they were $6.5 million. The upward trend in tax credit award amounts partly reflects increases in average award amounts during the period. In

terms of award amounts per certificate, average certificate amounts range from $3,434 in 2008 to $9,250 in 2013. Award amounts averaged $6,979 in 2014. The trends in average awards reflect trends in the average cash rents and average corn and soybean prices over the last seven years (see Table 4). The average AATTC award is higher in those years in which cash rental rates are higher. For example, average tax credit awards are highest in 2012 and 2013, two of the three years since the beginning of the tax credit, in which statewide average cash rental rates have been at their highest. The peak in rental rates in 2013 followed the peak in corn and soybean prices in 2012. In addition, the decrease in average award amounts in 2014 reflects a slight decrease in cash rental rates from the prior year. Certificates are issued for leases in place during the tax year for which a credit can first be claimed.

Over the years 2008 through 2014, the number of cash rent projects (including hybrid projects) and crop share projects in place in any given year have been approximately equal. In terms of lease income to the asset owner, however, crop share projects have been larger, on average, than cash rent projects in all years (see Table 5). The percent difference in the average lease income by project for the two lease types ranges from 34 percent in 2008 to more than a hundred percent in 2012 and 2013 when corn and soybean prices were at record highs.

In addition, the tax credit rate is higher for crop share projects than for cash rent projects. The tax credit rate for cash rent projects is 5 percent for award years 2008 through 2012 and 7 percent for years 2013 through 2017. For crop share projects, the applicable rates for the two periods, respectively, are 15 percent and 17 percent. Thus, lease income from crop share projects accounts for the great majority of the value of tax credit awards. Multiplying reported lease income for the respective lease types by the applicable tax credit rates provides an estimate of tax credit awards by lease type that does not account for other considerations, such as the $50,000 annual limit on awards or the higher rates applicable for beginning farmers who are veterans. Based on such estimates, the value of tax credits awarded for crop share leases is at least three times greater than the value of tax credits awarded for cash rent leases in every year during the period 2008 through 2014. In 2012, estimated tax credit awards for crop share leases were 6.5 times greater than for cash rent leases. Crop share projects account for 79 percent of the value of tax credit awards over all years.

B. Claims

As noted in Section II, both the AATTC and the CFCTC may be claimed against corporation and individual income tax liability. Since tax year 2007, a total of $17.2 million in AATTC tax credits and $28,000 in CFCTC Tax Credits have been claimed (see Table 6). As with awards, claims have increased quite steadily since the initial year of the program. Claims for tax year 2007 amounted to $657,000. Claim amounts increased in all but one of the subsequent years. Claim data for tax years 2013 and 2014 are preliminary. To date for tax year 2014, claims total $3.4 million for the AATTC and $13,000 for the CFCTC. Over the course of the program, nearly all claims have been made against individual income tax (see Table 7). Claims against corporation income tax represent just 1.2 percent of claims since the beginning of the tax credit

program. However, half of all claims against corporation income tax were for tax year 2014, a year in which claims against corporation income tax increased to 2.9 percent of total claims.

Since 2008, BFTC program tax credits in excess of tax liability may be carried forward for up to ten years. However, awards issued for tax year 2007 had a carryforward period of only five years. Of tax credit awards issued for that year, 97 percent were claimed prior to the expiration of the carryforward period (see Table 8). Of awards made in 2007, 52 percent were claimed in the first year, 21 percent were claimed in the second year, and 8 percent were claimed in the third. More than 50 percent of awards for 2008 were likewise claimed in the first year. For awards made in 2009 and after, however, the percentage of awards claimed in the first year decreased considerably to the high twenties after 2010. In other words, the rate at which tax credits are claimed has steadily decreased, such that, in every year since the start of the program, the percentage of awards claimed in the first three years after a given award year have been lower than for the prior award year. This trend reflects that by definition under this tax credit program, all taxpayers receive at least two consecutive years of nonrefundable awards, with many receiving five years of awards. Taxpayers with tax liability below their annual award find themselves with a growing amount of available tax credits in the second, and likely, third year of awards as they continue to offset tax liability using the tax credit awarded in the first year. Indeed, the total claim rate in the first three tax years dropped from 81 percent for 2007 awards to only 44 percent for 2012 awards.

VII. Descriptive Statistics of Projects, Participating Farmers and Asset Owners

A. Project Counts and Beginning Farmers

In addition to tax credit awards and claim data, for years since the program's commencement in 2007, data concerning qualifying lease agreements is available. Because all qualifying lease agreements, or projects, must be for a length of two to five years, project-level data for the 2008 certificate year includes projects begun in 2007.

Since 2007, there have been 1,745 tax credit program projects (see Table 9). Until 2013, when the Custom Farming Contract Tax Credit began, all such projects were associated with the Agricultural Assets Transfer Tax Credit. In 2013 and 2014, AATTC projects continued to comprise the majority of program projects. Of the 204 program projects initiated in 2013, just ten were CFCTC projects; and of the 419 projects initiated in 2014, eleven were CFCTC projects. Overall, AATTC projects comprise 98.8 percent of program projects, including 95.1 percent of projects initiated in 2013 and 97.4 percent of projects initiated in 2014.

Since the start of the tax credit program, 963 beginning farmers, including partnerships, have participated in the program as a party to either an AATTC or CFCTC project (see Table 10). A beginning farmer may be party to multiple qualifying lease agreements in the same year or across years. For this reason, the number of beginning farmers participating in the tax credit program is lower than the number of program lease agreements. Likewise, a single asset owner can be party to multiple lease agreements.

Participating beginning farmers were matched to tax returns, when possible, based on the name and demographic information provided on the tax credit application.[7] Of the 963 participating beginning farmers, 750 were matched to tax returns (see Table 10).

Of the 963 beginning farmers participating in the program, during the first seven years 562 farmers participated in only one project, 211 farmers with two projects, and 98 farmers with 3 projects (see Figure 1). Although a majority of participating beginning farmers have been associated with just a single project, there is a sizable minority that has participated in two or three. In addition, the highest number of projects with which a single beginning farmer has been associated is thirteen. Meanwhile, there have been 1,698 asset owners who have participated in the program through 2014. As with participating farmers, most owners are involved with just a single project. Of the total number of asset owners who have been awarded a tax credit, 1,470 have been party to only one qualifying lease agreement. However, nearly 300 have had two projects under the program. The highest number of projects with which a single asset owner has been associated is five.

B. Beginning Farmers Net Worth

As noted in Section II, program eligibility requirements include a maximum net worth criterion that has been indexed since 2008, to the USDA Prices Paid by Farmers Index. In both 2007 and 2008, the criterion was $500,000. Over both of those years, the minimum net worth among participating beginning farmers was -$37,000 and the maximum net worth was $313,000 (see Table 11). Thus for 2007 and 2008 the net worth range (the difference between the largest and smallest values) was $350,000. In no year since the program's beginning was the net worth range of each farmer's first year (of participation in the tax credit program) less than $300,000. The range reached more than $375,000 in 2012 and 2014. The minimum net worth among participating farmers in 2012 was -$175,000, its lowest value over the course of the program. In 2014, the maximum net worth was $668,000, the program's highest value for this metric. Thus, within the maximum set by program requirements, a wide range of net worth is represented among participating farmers.

Since 2008, the median net worth of beginning farmers in their first year of program participation has ranged from $56,000 in 2009 to $171,000 in 2014 (see Table 11). The median net worth of participating farmers has thus been well below the maximum allowable for program participation throughout the program's history. In no year has the difference between the median net worth and the program maximum for that year been less $389,000. In 2013, when the median net worth of participating beginning farmers was $63,000 and the net worth threshold for eligibility was $691,000 this difference was as high as $628,000.

[7] Unlike the participating asset owners who must include their Social Security Number in the tax credit application for tracking future tax credit claims, the beginning farmers' SSNs were not included in the award database.

C. AATTC Project Acreage

Program data for the AATTC, which, as noted above, comprises 98.8 percent of program projects, includes information about project acreage and other lease terms, such as whether farm buildings or machinery are included in the lease. Based on an analysis of lease descriptions, which are not standardized for aggregate analysis, at least 72 projects include machinery or facilities. These include 48 projects whose terms include the lease of farm machinery and 32 projects whose terms included farm structures such as hog confinement facilities, storage sheds, and grain bins. These represent only 4 percent of AATTC projects, suggesting that the predominant asset under lease is land.

At the start of the tax credit program, including projects begun in both 2007 and 2008 (years for which program data are combined) projects comprised a total of 97,000 acres under either cash rent or crop share agreements (see Table 12). No fewer than 28,000 acres were added to the program each subsequent year. In years 2009 through 2013, project acres added to the program numbered between 28,000 and 38,000 annually. In 2014, the program experienced the largest increase in project acreage. In that year, 80,000 acres were added to the program. Over all years, counting each lease only once but not excluding any acres that may have been subject successively to more than a single lease, the AATTC leases have involved 341,000 total acres. Iowa has 24.5 million acres of harvested cropland (United States Department of Agriculture, 2014a). Which means that less than 1.5 percent of harvested cropland in Iowa has been covered by AATTC agreements.

For the history of the program, the average project size, in terms of the number of acres leased, has been quite consistent. Over all years, the average number of acres leased, whether on a cash rent or crop share basis, is 200 (see Table 12). For any single year, the average project size has not been lower than 190 nor higher than 216. This confirms that the large increase in program acreage in 2014 reflects an increase in the number of projects, rather than an increase in the average number of acres leased in that year. Between 2009 and 2013, the program added between 140 and 194 projects annually. In 2014, the number of new projects more than doubled from the prior year, to 408.

Despite a consistency over time in the average number of acres leased by project, project sizes vary considerably. Over all years, the median number of acres leased is 152. However, the number of acres leased range from 8 to 1,700.

D. AATTC Lease Type

In addition to information about acreage, program data for the AATTC includes information about whether each project's tenant payments are made on the basis of a cash rent, crop share, or hybrid lease arrangement. These lease types are explained in Section II. Over the course of the program, cash rent and crop share projects have been about equally common while the numbers of hybrid lease projects have been just a fraction of the others (see Figure 2). Cash rent projects in operation in 2008 numbered 243 compared to 206 crop share projects. Also in that year there were 29 hybrid leases, accounting for just 6 percent of the number of projects in place in 2008. Cash rent

projects slightly outnumbered crop share projects in 2009 also. This is surprising given that the tax credit rate offered for crop share in those years was three times that offered for cash rent projects. Thereafter, until 2014, the situation was reversed, with crop share projects outnumbering cash rent projects in years 2010 through 2013. Crop share projects outnumbered cash rent projects by the greatest margin in 2012, when 278 crop share projects accounted for 52 percent of the 533 total projects operating that year.

In terms of acreage, cash rent and crop share projects are uniformly comparable in size for all years of the program (see Figure 3). Over years 2008 through 2014, the average size of cash rent projects ranges from 189 acres to 207 acres. The average size of crop share projects ranges from 191 to 204 acres. It is notable, that hybrid projects are larger on average than cash rent or crop share projects in all years except 2008; but it should be remembered, hybrids represents a much smaller number of projects. For most years, this difference is quite small; however, for years 2010 through 2012, the average size of hybrid projects exceeds the average size of the other lease types by more than 50 acres. In 2011, the magnitude of the difference is nearly 100 acres.

Because both the number and average size of cash rent and crop share projects are about equal each year, the total number of acres represented by each lease type are fairly comparable overall. More specifically, the relative number of acres in each lease type closely tracks the number of projects on a year to year basis (see Figure 4). Thus, with approximately 50,000 cash rent project acres and approximately 41,000 crop share project acres in 2008, cash rent acres outnumbered crop share acres by 24 percent in that year. In subsequent years, the magnitude of the gap in acreage by lease type fluctuated but never exceeded this level. The number of acres represented by each lease type was approximately equal in 2010. In each year thereafter, the number of crop share acres exceeded cash rent acres. In 2014, the number of crop share acres exceeded cash rent acres by 4 percent. In all years, hybrid lease project acres are far fewer in number than acres in other lease types. As noted above, this is because there are fewer hybrid leases in the program than cash rent or crop share leases.

E. County Location of AATTC Projects

Considering all years combined, the 341,000 acres in AATTC projects are located broadly throughout the state. Of the state's 99 counties, 94 are represented in the program (see Figure 5).[8] Project acreage is not uniformly distributed among Iowa's counties, however.

Although projects are located in all but five Iowa counties, project acres are largely concentrated in a comparatively few of them, most notably those counties in the northwest quadrant of the state. Nine counties have more than 7,500 project acres, including three counties—Franklin, Kossuth, and Pocahontas counties—that are the site of at least 10,000 project acres each. In contrast, forty-one counties have project acres, with fewer than 2,500 acres, while 28 counties have between 2,500 and 5,000 acres associated with tax credit projects. Most of these are located in Iowa's eastern half.

[8] A map of Iowa counties including county names is provided in Appendix 2.

Four of the five counties with no program projects are located in the southernmost quarter of the state.

Acres associated with projects based on cash rent leases and crop share leases are somewhat similarly distributed among counties (see Figures 6 and 7). As with total project acres, regardless of lease type, project acres associated with both cash rent and crop share leases are largely concentrated in the state's northwest quadrant. Eight counties have more than 4,000 cash rent project acres and eight counties, although not entirely the same eight, have more than 4,000 crop share project acres. However, crop share acres are somewhat more highly concentrated in a smaller number of counties. While there are twenty counties with more than 3,000 cash rent project acres, there are just twelve counties with at least this number of crop share acres. Meanwhile, there are 34 counties in the state with fewer than 1,000 cash rent projects acres but 49 counties in which the number of crop share acres do not reach this level.

This aspect of the distribution of project acres is also apparent from a look at the number of counties in which one or other lease type predominates (see Figure 8). Cash rent acres comprise a majority of project acres in double the number of counties in which crop share acres are the majority. More precisely, excluding the small percentage of total program acreage associated with hybrid leases, cash rent acres account for more than 60 percent of project acres in 40 Iowa counties. By comparison, crop share acres account for 60 percent or more of total project acres in just 19 Iowa counties. Broadly speaking, counties in which cash rent predominates among project acres are those in the eastern half of the state; of the 40 counties in which project acres are mostly leased on a cash rent basis, all but eight are located east of a line of counties that extends from Winnebago County in north central Iowa, through Hamilton, Boone, and Dallas counties in central Iowa, to Decatur County on the state's southern border.

F. AATTC Project Acres as a Share of Total Farm Acres by County

The number of AATTC project acres in each county roughly correlates with the number of total cropland acres in each county. The ten Iowa counties with the most harvested cropland acres account for 16.7 percent of the total harvested cropland acres in the state (USDA, 2014a). Considering only projects in place in 2014, these same ten counties account for 20.6 percent of the total number of Beginning Farmer Tax Credit Program project acres leased during that year.

It must be noted, however, that while more cropland acres are located in some counties than in others, cropland is fairly broadly distributed among the state's 99 counties. Only a single county, Kossuth County, accounts for more than two percent of all of the state's harvested cropland acres (see Table 13). Fifty counties each account for between one percent and two percent of the state's harvested cropland acres. Likewise, AATTC project acres are broadly distributed among the state's counties. Statewide, tax credit project acres were located in 88 Iowa counties and accounted for 0.7 percent of harvested cropland acres in 2014 (see Figure 9). Among those 88 counties, this share varied from 0.4 percent of harvested cropland acres in Linn County to 2.1 percent in Humboldt County. In 32 counties, project acres accounted for more than 0.5 percent of

total harvested cropland, including 15 counties in which project acres account for between 1.0 and 2.1 percent of harvested cropland acres.

Although tax credit project acres represent a very small percentage of total harvested cropland acres in the state, they represent a far higher percentage of the subset of harvested cropland farmed by tenants. Overall, AATTC project acres account for 5.1 percent of tenant acres in the state. Those counties with large numbers of total cropland acres are, in general, the same counties with a large number of tenant-operated acres. Of the ten Iowa counties with the most harvested cropland acres, seven are among the ten with the most tenant-operated acres. AATTC project acres in those ten Iowa counties accounted for 19.1 percent, or nearly one-fifth, of the total program acres leased during 2014. Among those 88 counties in which tax credit program leases were located, project acres as a percentage of tenant-operated acres in the county range from 0.9 percent in Appanoose County to 11.3 percent in Kossuth County. AATTC project acres account for at least 5.0 percent of tenant-operated acres in 41 counties, including ten counties in which project acres accounted for 10.0 to 11. 3 percent of tenant-operated acres (see Figure 10).

G. Custom Farming Contract Tax Credit Usage

Since the beginning of the Custom Farming Contract Tax Credit (CFCTC) in 2013 there have been a total of 21 CFCTC projects located in thirteen counties in Iowa. CFCTC leases have involved seventeen beginning farmers. Contract leases include various farm projects, including cattle feeding and tilling, spraying, planting, and harvesting both corn and soybeans. The average payment to a beginning farmer under the CFCTC contracts in 2014 was $45,338.

H. Beginning Farmer and Asset Owner Demographics

As discussed in previous sections, Iowa's beginning farmers, whether defined in terms of farming experience as under USDA program guidelines or in terms of net worth as for the BFTC Program, represent a range of ages. When defined in terms of net worth, USDA data suggests that 14 percent of Iowa beginning farmer households' principal operators are less than 35 years old and 22 percent are age 65 or over.

In contrast to the range of ages represented among beginning farmers in Iowa overall, most of the beginning farmers participating in the BFTC program are age 35 or below (see Figure 11). Considering each farmers' age as of his or her first year in the tax credit program, of those participating beginning farmers for whom age information is available, 84 percent were age 35 or below. Seven percent were above the age of 40 and one percent were between ages 51 and 60. No beginning farmers participating in the program were above the age of 60.

Asset owners participating in the BFTC program represent a broad range of ages as well. Bearing in mind that a single project, e.g., leased farmland, can have several owners, there are 1,698 asset owners who have received a tax credit under the Beginning Farmer Tax Credit Program. Of these asset owners, it was possible to match 89 percent to age data using federal tax records on file at the Iowa Department of

Revenue. As of the beginning of the tax year in which the asset owner first received a tax credit award, owners range in age from 23 to 101 (see Figure 12). However, in general, asset owners' age statistics suggest use of the tax credit largely consistent with the program's purpose of providing an incentive to retirement-age owners to transition land to working farmers. Considering all asset owners who received a tax credit in each year of the program, the median and average ages of asset owners has varied little since the program's beginning (see Table 14). Since 2007, the median and average ages of asset owners participating in the tax credit program have never been below 66 years suggesting at least 50 percent were 65 or older.

Of the 1,745 Beginning Farmer Tax Credit Program projects over the course of the program, 1,416, or 81 percent, have at least one Iowa-resident owner keeping in mind that a given project may have multiple owners (see Table 15). The percentage of projects with resident asset owners has trended slightly downward since 2010 when it was as much as 91 percent. By 2013, the percentage of projects with any level of ownership by an Iowa resident had decreased to 80 percent. In the next year it decreased again, to 69 percent. The drop may reflect increased awareness among nonresidents as a result of expanded marketing during 2014.

In all program years, the average adjusted gross income (AGI) reported each tax year by asset owners awarded the tax credit has exceeded $100,000 (see Table 16). The average AGI of asset owners in the program was $104,000 in 2007. It grew steadily through 2012 when it reached $196,000, but has decreased somewhat in 2013 and 2014 as crop prices fell. The median AGI of asset owners in the program is somewhat lower. The median AGI of asset owners was $74,000 in 2007. The median AGI was $104,000 in 2013. In contrast, during that same tax year, 94 percent of all resident Iowa taxpayers reported an AGI of less than $100,000 (Iowa Department of Revenue, 2015).

The average tax liability of asset owners awarded the credit, after accounting for the Agricultural Assets Transfer Tax Credit, the Custom Farming Contract Tax Credit, and any other nonrefundable tax credits to which the taxpayer might be entitled but prior to calculation of refundable credits, was $3,323 in 2014. (Claim data for the 2013 and 2014 years are preliminary.) Average tax liability of asset owners in the program reached as high $5,362 in 2012. It is noteworthy, however, that median tax liability of asset owners in the program has been zero or very nearly zero for the history of the tax credit program. This suggests that, for at least half of the asset owners awarded program tax credits, tax liability for tax years 2009 and later is reduced to zero after nonrefundable tax credits.

VIII. Economic Analysis of the Beginning Farmer Tax Credit Program

In addition to descriptions of awards, claims, and program scope, this evaluation study provides an economic analysis of the Beginning Farmer Tax Credit Program. While the tax benefits of the program accrue to asset owners rather than to the beginning farmers to whom assets are leased, the program's ultimate purpose is presumably to promote entry into farming. This analysis assesses the extent to which participation in the Beginning Farmer Tax Credit Program is associated with positive economic outcomes

for beginning farmers. Specifically, the economic analysis addresses the question, did farmers who participated in a lease for which an Agricultural Assets Transfer Tax Credit was awarded experience better economic outcomes than similarly-situated farmers who did not participate?

In order to assess the link between program participation and improved economic outcomes, this analysis compares farmers who participated in the program to a control group of non-participant farmers. The participant and control groups are compared with respect to changes each group experienced in the following indicators between 2008 and 2013:

i. Farm income
ii. Farming expenses as a percentage of net income
iii. Share of household income from off-farm sources
iv. Payments from governmental agricultural programs
v. Continued engagement in farming

Financial issues particular to beginning farmers vis à vis their more established peers are discussed in some detail in Section IV. The five indicators noted above are included in the analysis because they concisely represent a range of financial considerations, and because they are available directly from tax records. Each of these factors and its rationale for inclusion in the analysis are described below.

A. Beginning Farmer Economic Outcome Measures

The analysis uses tax records maintained by the Iowa Department of Revenue, including data elements from Iowa individual income tax returns and federal individual income tax returns, with a focus on the federal Schedule F which is used to report farm income and expenses for federal and Iowa tax purposes.

1. Farm Income

As noted in Section V, beginning farmers have, on average, much lower farm income than established farmers. Average farm income of established farmers in Iowa in 2013 is nearly ten times greater than that of beginning farmers when the respective groups are defined in terms of eligibility for participation in the Beginning Farmer Tax Credit Program. The connection between farm income and persistence in farming is well attested in the research literature. For example, Mishra, Fannin, and Hyunjeong (2014) found that increases in farm incomes slowed the rate of exit from farming by beginning farmers. For this analysis, farm income is measured as net farm income reported on the Schedule F.

2. Ratio of Farm Expenses to Net Income

According to research by Williams, Harris, and Mishra (2014), the ratio of operating expenses to farm income is higher among beginning farms as compared to established farmers. This ratio is sometimes called the operating expense ratio. The authors suggest that a higher operating expense ratio is indicative of greater financial risk and that beginning farmers typically sustain greater financial risk than their more established counterparts. For this analysis, the ratio of operating expenses to farm income is

measured as total farm expenses divided by net farm income as reported on the Schedule F.

3. Share of Household Income from Off-Farm Sources

Not only do beginning farmers earn less income from farming than do established farmers, the share of their total income represented by farm income is lower. That beginning farmers operate smaller farms, earn less farm income, and therefore rely more heavily on off-farm income is widely attested in the research literature, for example, Ahearn and Newton (2009). Because established farmers earn a higher percentage of their total income from farm sources, the share of household income from off-farm sources is a useful and straightforward measure of how established in farming a beginning farmer has become. This measure is calculated as the ratio of Iowa adjusted gross income minus net farm income to Iowa adjusted gross income.

4. Governmental Agricultural Program Payments

Among farms that receive payments from governmental agricultural programs, average payments to those operated by established farmers are three times higher than to those operated by beginning farmers (see Table 2). In addition, a greater percentage of established farms receive federal program payments. Thus, as with the other measures used for this analysis, the value of payments received through government agricultural programs is a useful indicator of the degree to which a farm household is established in farming. For this analysis, payments from governmental agricultural programs are based on the dollar amount reported for this item as income on the Schedule F.

5. Continued Engagement in Farming

Perhaps the most definitive measure of being established as a farmer is whether one continues to engage in farming at all. That a farmer who remains in farming is more established in farming than one who no longer farms is self-evident. For this analysis, continued engagement in farming is assessed by whether a farmer who filed a Schedule F in 2008 also filed a Schedule F in 2013.

6. Economic Analysis Overview

The indicators described above are useful for assessing whether program participants have become established in farming because they represent important ways in which beginning and established farmers differ. The analysis compares a group of beginning farmers participating in the BFTC Program to a similar group of beginning farmers who did not at two points in time, tax years 2008 and 2013. It is intended to address whether program participants became more established in farming during this period than did members of the control group in terms of the indicators selected for analysis.

B. Participant Group and Control Group

For this analysis ,the participant group consists of those beginning farmers who began their participation in a lease for which an Agricultural Assets Transfer Tax Credit was awarded in either 2007 or 2008 and who could be matched to tax records. The number of farmers in the participant group is 285. Note that the participant group under analysis does not include beginning farmers who first participated in the Beginning Farmer Tax

Credit Program after 2008. Therefore, the number of participants included in the analysis is lower than the total number of beginning farmers who have participated in the tax credit program in all years.

For purposes of selecting a control group, individuals in the participant group were coded with respect to three factors: their approximate age, approximate 2008 farm income, and the U.S. Congressional District in which they resided in 2008 (see Table 17). For their approximate age, members of the participant group were coded with respect to the five- year interval that includes their birth year. For their approximate 2008 farm income, participants were coded according to the position of their farm income within the distribution of farm income for the entire group; specifically, each participant was assigned one of six possible codes depending on whether their 2008 farm income was between the 1st and 10th percentile for the entire group, the 10th and 25th percentile, and so on; the following percentiles were employed as thresholds: 1st, 10th, 25th, 50th, 75th, 90th, 99th. For coding participants with regard to their Congressional district of residence, the analysis employed the current boundaries for the four Congressional districts in place since 2013. The boundaries of the Congressional districts bifurcate the state approximately in half both north to south and east to west such that each district comprises a quadrant of the state.

The control group was selected from among the pool of all farmers who filed a Schedule F in 2008. Each member of the pool was assigned a code with respect to his or her value on each of the three factors described above for the participant group.

For each member of the participant group, it was found that there were at least five beginning farmers in the control pool who matched that participant on all three selection factors. Of those members of the control pool who matched a participant on all three selection factors, five were randomly selected into the control group for each member of the participant group. Thus, the distribution of the control group on the three characteristics for selection matches that of the treatment group. In addition, because for some participants the number of control pool matches was not more than five, the control group is as large as it is possible to be.

Note that other important considerations are not factors in control group selection. For example, whether the farmer operates his or her own land or land leased from another owner is not a factor in control group selection because data on this factor is not available in tax records. However, such factors are controlled for through randomization. That is, randomizing the selection of control group members reduces the possibility of systematic bias.

C. Beginning Farmer Tax Credit Program Economic Analyses and Results

This economic analysis employs three main statistical procedures to assess the research questions: t-tests, regression analysis, and chi-squared tests. Analysis procedures and results are described below.

1. T-Tests

T-tests are tests to evaluate whether two groups are statistically significantly different from one another. Specifically, the procedure tests whether the difference in the two sample means is sufficiently great that it is unlikely to have been a matter of chance that the two means are different. For this study, t-tests were used to evaluate whether the group of beginning farmer participants in the Agricultural Assets Transfer Tax Credit and the control group were statistically significantly different from each other with respect to four of the five indicators described above. T-tests were used to evaluate group means for the following: farm income; farming expenses as a percentage of net income; share of household income from off-farm sources; and payments from governmental agricultural programs. The fifth indicator of interest, continued engagement in farming, cannot be evaluated using the t-test because the indicator does not involve a group mean.

The analysis compares the participant group to the control group at two points in time using data from the 2008 and 2013 tax years (see Table 18). There are 285 farmers participating in the tax credit program in 2008. The control group includes 1,425 farmers. Mean values and standard deviations for each group for each indicator are presented. In addition, the table shows the result of the t-test for differences between the groups. In 2008, the average farm income of participants in the Beginning Farm Tax Credit Program was $3,233 compared to $4,662 for the control group. For tax credit program participants, the average ratio of farm expenses to net income was 20.7. For the control group, the average was 7.8. On average, the participant group earned 70.9 percent of income from off-farm sources and the control group earned 69.4 percent from off-farm sources. Average annual government payments were $7,513 to the participant group and $7,622 to the control group.

The results of the t-tests comparing the two groups in 2008 indicate that differences between the two groups on each indicator are not statistically significant. That is, the participant and control groups were not significantly different with regard to their net farm income, ratio of farm expenses to net income, share of income from off-farm income sources, and government program payments. These findings are necessary for an analysis of the impact of the program on the participant group, that it is not different from the control group before the treatment is applied at the start of the period under investigation.

The next step is to compare outcomes for the two groups in tax year 2013, up to five years after beginning farmers had first participated in the Agricultural Asset Transfer Tax Credit (see Table 18). The table shows mean values, standard deviations for each group for each indicator as well results of the t-test for differences between the groups. In 2013, the average farm income was $16,682 for program participants and $9,754 for the control group. For program participants, the average ratio of farm expenses to net income was -20.4 and for the control group the average was -6.1 (Note that while expenses cannot be negative, net farm income can be. A negative value for this ratio results when the net farm income of the farmer concerned is negative.) Despite the fact that average farm income for participants increased five times compared to only

doubling for the control group, the differences between the two groups is not statistically significant for either of these two indicators.

With respect to the other indicators of interest, however, the participant and control groups do differ to a degree that is statistically significant. That is, based on statistical analysis, the difference is unlikely to be the result of chance alone and likely to be in some way related to program participation. In 2013, the participant group earned a lower share of total income from off-farm sources than did the control group. The groups' shares of income from off-farm sources were 63.2 percent and 68.5 percent, respectively. This difference was statistically significant at the 0.05 level, which is to say there is a less than 5 percent chance that this level of difference is due to chance rather than to participation in the tax credit program. Lastly, the participant group received, on average, government agricultural payments of $11,000. The average amount of governmental agricultural program payments to the control group was $9,400. This difference is statistically significant to the 0.1 level which means there is a less than 10 percent chance that the difference is due to chance.

2. Logistic Regression Analysis

Logistic regression is a statistical procedure that allows for the testing of both predictive models (sets of predictors) as well as individual predictor variables. Logistic regression is applicable to this economic analysis because it allows for the prediction of a discrete dependent variable. In this instance, the percentage change between the years 2008 and 2013 in each indicator under analysis is assessed in terms of its ability to predict whether a farmer is in the participant group or control group. Because this procedure assesses the effect of participation in terms of changes over time and controls for the effects of selection bias, it is similar to a difference in differences research design with respect to purpose and interpretation of results.

Logistic regression is adversely affected by high correlations among independent (predictor) variables. That is, regression equations should not include predictor variables that are strongly related to one another. For this reason, the regression model shown in Table 19 excludes the ratio of farm expenses to net farm income because that variable was found to be highly correlated with net farm income. To be clear, for the logistic regression, predictor variables are the percentage change in each indicator (farm income, share of household income from off-farm sources, and payments from governmental agricultural programs) between 2008 and 2013.

The R-square is a measure of the predictive capacity of the full model. Both from this statistic as well as from the statistical significance of the intercept, it is clear that the full model does virtually nothing to predict the dependent variable (see Table 19). In other words, percentage change in farm income, change in the share of household income from off-farm sources, and percentage change in payments from governmental agricultural programs, were found to be ineffective as predictors of whether a farmer is in the participant group or control group.

Nevertheless, as noted above, logistic regression may be used to assess individual predictor variables as well whole sets of predictor variables. In this regard, it is of note that although the model as a whole does little to predict participation in the Beginning Farmer Tax Credit Program, the regression results suggest that growth in the share of revenue from off-farm sources is statistically significantly related to participation in the program.

3. Chi-Square Test

The chi-square test is a test of proportionality and may be used to evaluate the relationship between two discrete variables. For this analysis, the chi-square test was used to evaluate the relationship between participation in the Agricultural Assets Transfer Tax Credit and persistence in farming; i.e., whether the farmer in question, who farmed and filed a Schedule F in 2008, remained in farming, as indicated by the filing of a Schedule F for tax year 2013. More specifically, the procedure assesses the null hypothesis that the two variables—tax credit program participation and persistence in farming—are unrelated to each other. It is important to note, however, that the test does not in any way describe the nature of the relationship, such as whether one variable causes the other.

The results of the chi-square test are presented in Table 20. The table indicates that of the 285 farmers who were participants in the Agricultural Assets Transfer Tax Credit in 2008, 271, or 95.1 percent remained in farming in 2013. By contrast, of the 1,425 members of the control group in 2008, 81.5 percent remained in farming five years later. The value of the chi-square statistic and its significance demonstrates that there is a statistical relationship between tax credit program participation and persistence in farming.

D. Discussion of Results

The economic analysis provides some evidence that there is a relationship between participation in the Beginning Farmer Tax Credit Program and certain financial aspects of farming that typically differentiate beginning and established farmers. The findings of this analysis suggest that, in some respects, program participants became more established in farming between 2008 and 2013 than did members of the comparison group.

The analysis found program participants to be more established in farming with respect to the share of their total income earned from off-farm sources as well as, perhaps, the growth they experienced in agricultural program payments. On the other hand, the analysis did not find that program participants became more established in farming as measured by changes in farm income and farm expenses over time.

The implications of this analysis, including both what it found and what it did not find, should not be overstated. Although the analysis found a relationship between program participation and certain characteristics of established farmers, the statistical procedures employed do not, in general, describe the strength of this relationship nor

the size of the effect. On the other hand, lack of evidence of a strong relationship with a sizable effect does not indicate that such does not exist.

This economic analysis is intended to add to the understanding of the relationship between participation in the Beginning Farmer Tax Credit Program and certain positive economic outcomes. As such, it relates to a narrow set of concerns. A full consideration of the connection between tax incentives and entry into beginning farming is beyond the scope of this or any other single study. While this economic analysis provides a unique perspective on the questions it addresses, it is subject to important limitations. Although they share some characteristics, the hundreds of farmers in the state face a host of unique local and personal circumstances that cannot be accounted for.

IX. Conclusion

This evaluation study provides an overview and analysis of the Beginning Farmer Tax Credit Program, which includes both the Agricultural Assets Transfer Tax Credit and the Custom Farming Contract Tax Credit. Administered by the Iowa Agricultural Development Division of the Iowa Finance Authority, both tax credits are available to established farmers and other owners of agricultural assets to encourage leases and contracts with beginning farmers in Iowa.

This evaluation study presents a context for consideration of the tax credit program by providing background on other state and federal incentives for beginning farming. Only Iowa and Nebraska offer tax credits for the leasing of agricultural assets to beginning farmers.

A review of scholarly literature describes the key findings from research on beginning farming, particularly the important barriers to entry into and exit from farming that the Beginning Farmer Tax Credit Program is intended to help overcome. In addition, this report describes what is known about beginning farming in Iowa based on analysis of data from the Agricultural Resource Management Survey. This analysis illuminates the important ways in which beginning farmers are different from established farmers.

Since its start in 2007, a total of $33.5 million in tax credits have been awarded through the program. Through 2014, there have been 1,745 program projects and 963 beginning farmers have participated in the program. This evaluation study presents a range of data concerning program awards and claims as well as descriptive statistics concerning lease agreements and participating beginning farmers and asset owners.

Finally, an analysis assessed the extent to which participation in the program is associated with positive economic outcomes for beginning farmers. Overall, the findings of this analysis are mixed. Compared to other, similarly situated beginning farmers who did not participate in the tax credit program, in certain respects program participants in 2008 were found to be more established in farming in 2013.

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Beginning Farmer Tax Credit Program

Tax Credits Program Evaluation Study

Tables and Figures

Table 1. Comparable Beginning Farmer Tax Credit Programs by State

State	Iowa		Nebraska	Wisconsin
Program/Tax Credit	Beginning Farmer Tax Credit Program		Beginning Farmer Tax Credit Program	Beginning Farmer and Farm Asset Owner Tax Credit Program
	Agricultural Assets Transfer Tax Credit	Custom Farming Contract Tax Credit		
Tax Types to which Tax Credit Applies	Corporation Income Tax Individual Income Tax	Corporation Income Tax Individual Income Tax	Corporation Income Tax Individual Income Tax	Corporation Income Tax Individual Income Tax
Key Requirements for Beginning Farmer	1. State resident 2. Has farming or ranching experience or education 3. Has access to adequate working capital and production items 4. Will materially and substantially participate in farming 5. Net worth is less than $703,844 in 2015 (adjusted annually for inflation)		1. State resident 2. Has farmed for fewer than 10 of the preceding 15 years 3. Net worth is less than $200,000 (subject to annual adjustment) 4. Has farming or ranching experience or education 5. Has participated in an approved financial management educational program	1. Net worth is less than $200,000 2. Has farmed for fewer than 10 of the preceding 15 years 3. Has entered into a lease for a term of at least three years with an established farmer 4. Uses the leased agricultural assets in farming
Credit Amount to Asset Owner	7% for cash rent agreements. 17% for crop share agreements. In either case, an additional 1% in the first year when the beginning farmer is a veteran.	7% of the value of the contract for custom farm work. An additional 1% in the first year when the beginning farmer is a veteran.	10% for cash rent agreements. 15% for crop share agreements.	15% of lease amount. No tax credit for crop share agreements.
Program Benefits Available to Beginning Farmer	None	None	A qualified beginning farmer may receive a one-time state income tax credit for the cost of participation in an approved financial management program up to a maximum of $500.	A qualified beginning farmer may receive a one-time state income tax credit for the cost of participation in an approved financial management program up to a maximum of $500.
Other Limitations	Agreement may be with close relative.	Agreement may not be with close relative.	Agreement may be with close relative.	Agreement may be with close relative. Claimant must be state resident.
Applicable Agricultural Assets	Agricultural land Depreciable machinery or equipment Breeding livestock Buildings	N/A	Land Livestock Farm equipment and machinery Grain storage Livestock facilities	Machinery Equipment Facilities Livestock
Required Lease Term	2-5 Years	Up to 2 Years	3 Years	3 Years
Tax Credit Limit	Tax credit certificates may not exceed $50,000 for an individual taxpayer over all eligible contracts under the two tax credits.		None	None
Tax Credit Program Cap	$8 million	$4 million	Not capped	Not capped
Transferability	No	No	No	No
Refundability	No	No	Yes	Yes
Carryforward	10 years	10 years	NA	NA
Initial Award Year	2007	2013	1999	2011
Ending Year	NA	2017	NA	2013

Sources: Iowa Department of Revenue; Iowa Finance Authority; Nebraska Department of Agriculture, (2015); Wisconsin Department of Revenue, (2013); Wisconsin Department of Agriculture, Trade and Consumer Protection, (2015); Wisconsin State Legislature, (2015).

Table 2. Iowa Farm Households, by Household Net Worth, 2013

	Established Farmer (by Net Worth of Farm Household)	Beginning Farmer (by Net Worth of Farm Household)	State Total
Farm Households			
Number of family farms	66,074	20,250	86,323
Percent of family farms	76.5	23.5	100
Number of total operators	92,714	27,928	120,641
Value of production			
Percent of total value of production	93.3	6.7	100
Farm Size			
Farm size (mean operated acres)	437	99	357
Farm size (median operated acres)	227	32	157
Percent of acres	93.5	6.5	100
Percent distribution by gross value of production			
Less than $10,000	24.5	52.2	31.0
$10,000 to $249,999	37.6	39.4	38.1
$250,000 or more	37.8	8.5	30.9
Percent distribution of farms by typology (Gross cash farm income)			
Small (GCFI < $350,000)	69.3	95.4	75.4
Midsized (GCFI $350,000-$999,999)	20.1	4.5	16.5
Large or very large (GCFI > $1 million)	10.6	0.1	8.1
Percent distribution of value of production			
Percent crop value of production	57.7	45.2	56.9
Percent livestock value of production	42.3	54.8	43.1
Specialization of operation (percentage)			
Grains, oilseeds, tobacco, cotton	51.9	31.5	47.1
Fruits, nuts, vegetables, greenhouse	1.6	3.7	2.1
Beef, dairy, hogs, or poultry	20.7	27.5	22.2
Other crops or livestock	26.0	37.2	28.6
Farms receiving government payments	55,147	11,087	66,235
Percent of all farms receiving payments	83.3	16.7	100
Percent of farms within group receiving payments	83.5	54.8	76.7
Average government payment (all farms)	$10,148	$2,190	$8,281
Average government payment (payment farms)	$12,159	$4,000	$10,793
Percent of payments	93.8	6.2	100
Major occupation of principal operator (percentage)			
Farm or ranch work	60.7	41.0	56.0
Work other than farming/ranching	31.2	46.2	34.7
Currently not in the workforce	8.1	12.8	9.2
Farm household finances			
Farm income, average	$108,262	$11,582	$85,583
Off-farm income, average	$90,904	$69,920	$85,981
Total income, average	$199,166	$81,501	$171,564
Total income, median	$115,076	$61,826	$98,858
Net worth, mean	$2,846,235	$383,738	$2,268,587
Net worth, median	$1,813,892	$412,850	$1,389,823
Farm net worth, mean	$2,222,577	$220,836	$1,753,012
Farm net worth, median	$1,276,646	$203,406	$905,775
Gender of principal operator (percentage)			
Male	93.2	94.0	93.4
Female	6.8	6.0	6.6
Age of principal operator			
Mean age of principal operator	58	52	57
Less than 35 years old (percent)	2.8	13.7	5.3
35-54 years old (percent)	27.8	36.4	29.8
55-64 years old (percent)	42.3	28.4	39
65 years old or more (percent)	27.1	21.5	25.8
Experience of operators farming (percentage)			
More than 10 years of farming experience	91.9	73.8	87.7
10 years or less of farming experience	8.1	26.2	12.3

Source: 2013 USDA Agricultural Resource Management Survey, Economic Research Service Staff Analysis

Note: For this table, beginning farm households are those with net worth of not more than $678,731 in 2013.

Table 3. Beginning Farmer Tax Credit Program Awards by Tax Credit

	Agricultural Assets Transfer Tax Credit			Custom Farming Contract Tax Credit			Beginning Farmer Tax Credit Program Total	
Award Year	Number of Certificates	Certificate Amount	Average Certificate Amount	Number of Certificates	Certificate Amount	Average Certificate Amount	Number of Certificates	Certificate Amount
2007	287	$1,439,685	$5,016				287	$1,439,685
2008	651	$2,235,663	$3,434				651	$2,235,663
2009	696	$2,604,843	$3,743				696	$2,604,843
2010	767	$3,583,654	$4,672				767	$3,583,654
2011	789	$5,292,439	$6,708				789	$5,292,439
2012	726	$5,763,537	$7,939				726	$5,763,537
2013	651	$6,021,569	$9,250	10	$28,975	$2,897	661	$6,050,543
2014	937	$6,538,857	$6,979	14	$30,046	$2,146	951	$6,568,902
Total	5,504	$33,480,247	$6,083	24	$59,020	$2,459	5,528	$33,539,268

Source: Iowa Agricultural Development Division Database

Table 4. Comparison of AATTC Awards to Rental Rates and Grain Prices

	Cash Rental Rates		Corn Price		Soybeans Price		Agricultural Assets Transfer Tax Credit	
Crop Year	State Average	Percent Annual Change	State Average	Percent Annual Change	State Average	Percent Annual Change	Average Award	Percent Annual Change
2007	$148		$4.40		$11.00		$4,387	
2008	$176	18.9%	$4.13	-6.1%	$10.26	-6.7%	$4,165	-5.1%
2009	$183	4.0%	$3.57	-13.6%	$9.55	-6.9%	$5,006	20.2%
2010	$184	0.5%	$5.46	52.9%	$12.08	26.5%	$6,324	26.3%
2011	$214	16.3%	$6.35	16.3%	$13.08	8.3%	$8,913	40.9%
2012	$252	17.8%	$6.94	9.3%	$14.54	11.2%	$10,700	20.0%
2013	$270	7.1%	$4.51	-35.0%	$13.38	-8.0%	$9,362	-12.5%
2014	$260	-3.7%	$3.70	-18.0%	$9.94	-25.7%	$7,072	-24.5%

Sources: Iowa Agricultural Development Division Database; Iowa State University Extension and Outreach (2015); Iowa Department of Revenue analysis.

Table 5. Estimated Lease Income under AATTC Contracts by Year

Certificate Year	Cash Rent Lease Income*	Cash Rent Project Average Lease Income	Crop Share Lease Income	Crop Share Project Average Lease Income	Cash Rent Lease Income X Tax Credit Rate	Crop Share Lease Income X Tax Credit Rate	Crop Share Lease Income Percent of Total
2008	$10,594,952	$37,571	$10,381,813	$50,397	$529,748	$1,557,272	75%
2009	$11,918,673	$39,336	$12,437,342	$54,312	$595,934	$1,865,601	76%
2010	$12,622,587	$42,500	$18,420,914	$67,476	$631,129	$2,763,137	81%
2011	$14,705,741	$50,190	$28,548,636	$96,775	$735,287	$4,282,295	85%
2012	$14,637,699	$56,299	$31,718,080	$114,094	$731,885	$4,757,712	87%
2013	$15,017,258	$52,143	$30,433,281	$106,410	$1,051,208	$5,173,658	83%
2014	$22,412,141	$50,706	$29,737,218	$75,860	$1,568,850	$5,055,327	76%
Total	$101,909,051	$46,964	$161,677,284	$80,761	$7,133,634	$27,485,138	79%

Source: Iowa Agricultural Development Division Database
*Includes hybrid projects.

Table 6. Beginning Farmer Tax Credit Program Claims by Tax Credit

Tax Year	Agricultural Assets Transfer Tax Credit Claims	Custom Farming Contract Tax Credit Claims	Beginning Farmer Tax Credit Program Total Claims
2007	656,850		656,850
2008	1,315,858		1,315,858
2009	1,363,893		1,363,893
2010	1,795,659		1,795,659
2011	2,342,672		2,342,672
2012	3,235,372		3,235,372
2013	3,033,965	15,606	3,049,571
2014	3,423,618	12,682	3,436,300
Total	$17,167,887	$28,288	$17,196,175

Source: Iowa Department of Revenue IA 148 Tax Credit Schedule Claims Database
* Program claims data for tax years 2013 and 2014 is incomplete.

Table 7. Beginning Farmer Tax Credit Program Claims by Tax Type

	Individual Income Tax		Corporation Income Tax		Program Total Claims	
Tax Year	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent of Total
2007	$653,397	99.5%	$3,453	0.5%	$656,850	100.0%
2008	$1,307,650	99.4%	$8,208	0.6%	$1,315,858	100.0%
2009	$1,347,366	98.8%	$16,527	1.2%	$1,363,893	100.0%
2010	$1,787,854	99.6%	$7,805	0.4%	$1,795,659	100.0%
2011	$2,327,418	99.3%	$15,254	0.7%	$2,342,672	100.0%
2012	$3,225,833	99.7%	$9,539	0.3%	$3,235,372	100.0%
2013*	$3,004,362	98.5%	$45,209	1.5%	$3,049,571	100.0%
2014*	$3,382,878	98.4%	$53,422	1.6%	$3,436,300	100.0%
Total	$17,036,758	99.1%	$159,417	0.9%	$17,196,175	100.0%

Source: Iowa Department of Revenue IA 148 Tax Credit Schedule Claims Database
* Program claims data for tax years 2013 and 2014 is incomplete.

Table 8. Timing of Beginning Farmer Tax Credit Program Claims by Award Year

	Tax Credit Claim Year									
Award Year	2007	2008	2009	2010	2011	2012	2013	2014	First Three Years After Award	Total
2007	52%	21%	8%	6%	6%	3%	0%	0%	82%	97%
2008		51%	14%	6%	8%	4%	4%	2%	71%	89%
2009			37%	14%	8%	6%	3%	2%	59%	71%
2010				33%	15%	11%	5%	3%	59%	67%
2011					26%	19%	7%	4%	52%	56%
2012						27%	11%	6%	44%	44%
2013*							28%	12%	--	40%
2014*								29%	--	29%

Sources: Iowa Agricultural Development Division Database and Iowa Department of Revenue IA 148 Tax Credit Schedule Claims Database
* Program claims data for tax years 2013 and 2014 is incomplete.

Table 9. Number of New Beginning Farmer Tax Credit Projects by Tax Credit

Project First Year	Number of New Agricultural Assets Transfer Tax Credit Projects	Number of New Custom Farming Contract Tax Credit Projects	Total Tax Credit Program Projects	New Agricultural Assets Transfer Tax Credit Projects Percent of Total
2008*	488	--	488	100.0%
2009	147	--	147	100.0%
2010	180	--	180	100.0%
2011	140	--	140	100.0%
2012	167	--	167	100.0%
2013	194	10	204	95.1%
2014	408	11	419	97.4%
Total	1,724	21	1,745	98.8%

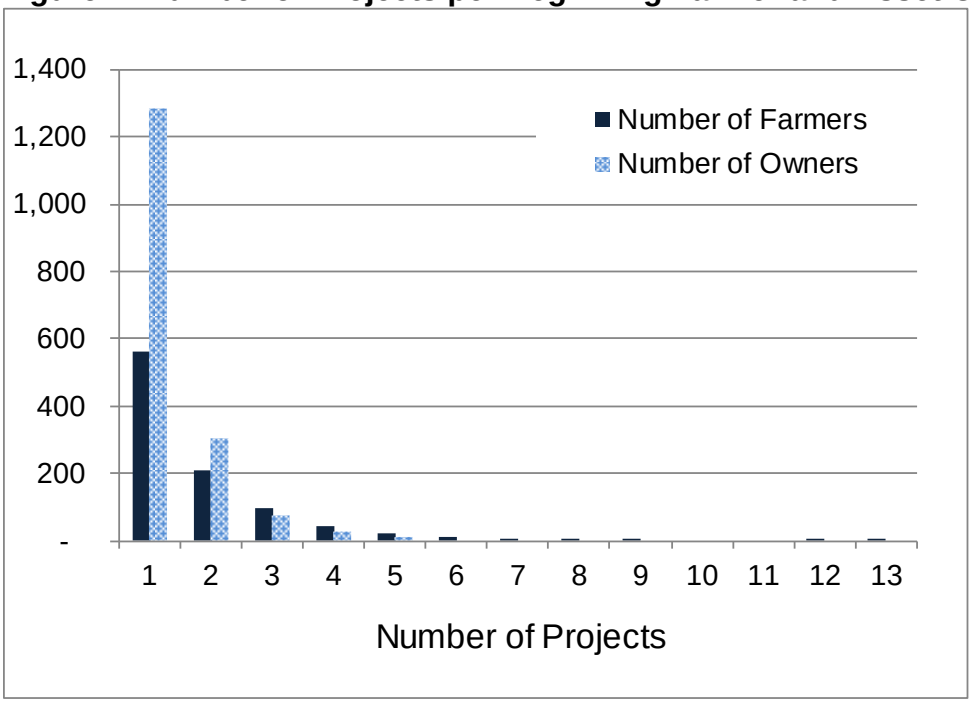
Source: Iowa Agricultural Development Division Database
* Includes projects begun in 2007.

Table 10. Participation by Farmers in the Beginning Farmer Tax Credit Program

Project First Year	Number of Projects	Number of Beginning Farmers	Number of Beginning Farmers Matched by Name to Tax Returns
2008*	488	339	285
2009	147	72	65
2010	180	83	73
2011	140	70	62
2012	167	84	62
2013	204	109	89
2014	419	206	114
Total	1,745	963	750

Source: Iowa Agricultural Development Division Database
* Includes projects begun in 2007.

Figure 1. Number of Projects per Beginning Farmer and Asset Owner, 2007-2014



Source: Iowa Agricultural Development Division Database

Table 11. Net Worth of Beginning Farmers by First Year of Program Participation

Year	Maximum Net Worth for Program Eligibility	Minimum Net Worth	Median Net Worth	Maximum Net Worth	Net Worth Range	Average Net Worth
2008*	$500,000	-$37,082	$111,345	$313,202	$350,284	$125,107
2009	$600,000	-$5,162	$55,666	$306,980	$312,142	$88,603
2010	$555,600	-$3,705	$100,702	$299,810	$303,515	$114,175
2011	$577,825	-$46,046	$56,817	$291,263	$337,309	$86,110
2012	$647,165	-$175,477	$125,135	$334,803	$510,280	$125,087
2013	$691,172	-$11,100	$63,379	$364,148	$375,248	$107,560
2014	$678,731	-$48,100	$171,094	$667,737	$715,837	$211,634

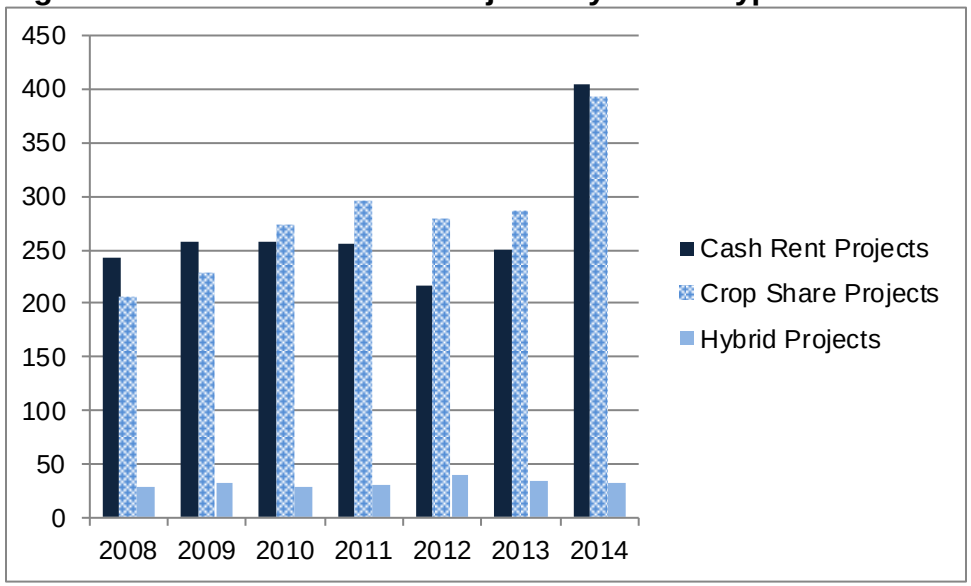
Source: Iowa Agricultural Development Division Database
Note: Data reflect farmer net worth as of the farmer's first year of participation in the tax credit program. For partnerships, where multiple net worths are listed, the table reflects data for the partner with the highest net worth.
* Includes projects begun in 2007. The maximum net worth for program eligibility in 2007 was $500,000.

Table 12. AATTC Project Acreage by Project First Year

Project First Year	Number of AATTC** Projects	Minimum Number of Acres by Project	Median Number of Acres by Project	Maximum Number of Acres by Project	Average Number of Acres by Project	Total Number of Project Acres
2008*	488	8	160	1,090	203	96,986
2009	147	25	154	990	194	27,944
2010	180	18	150	1,163	200	36,041
2011	140	8	160	902	216	30,284
2012	167	21	145	1,119	190	31,551
2013	194	38	149	1,230	199	38,444
2014	408	22	144	1,727	197	79,713
Total	1,724	8	152	1,727	200	340,963

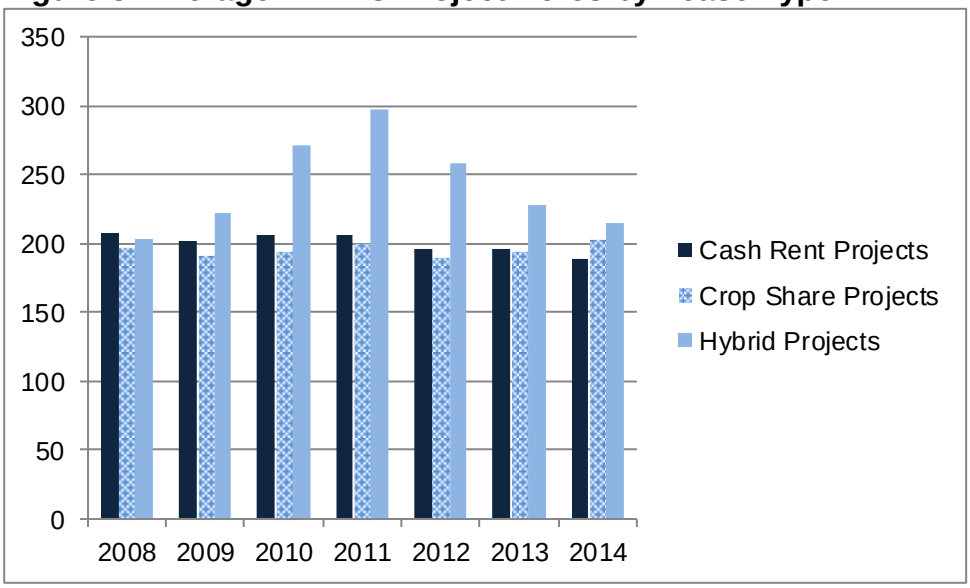
Source: Iowa Agricultural Development Division Database
* Includes projects begun in 2007.
**AATTC: Agricultural Assets Transfer Tax Credit

Figure 2. Number of AATTC Projects by Lease Type



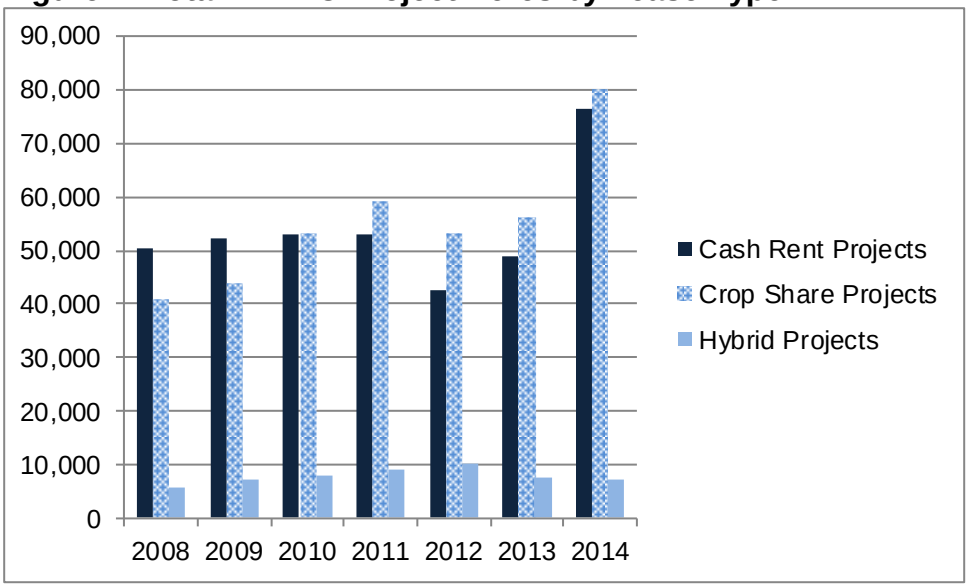
Source: Iowa Agricultural Development Division Database

Figure 3. Average AATTC Project Acres by Lease Type



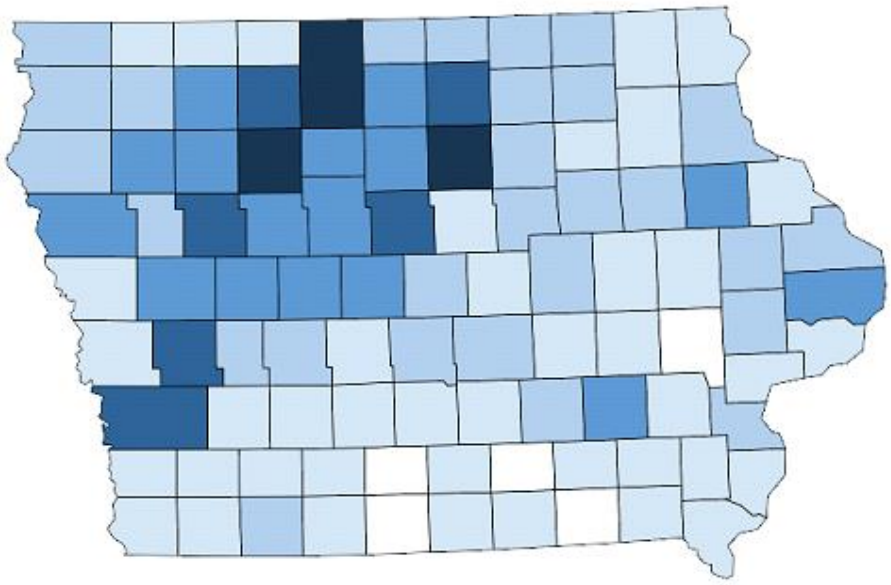
Source: Iowa Agricultural Development Division Database

Figure 4. Total AATTC Project Acres by Lease Type



Source: Iowa Agricultural Development Division Database

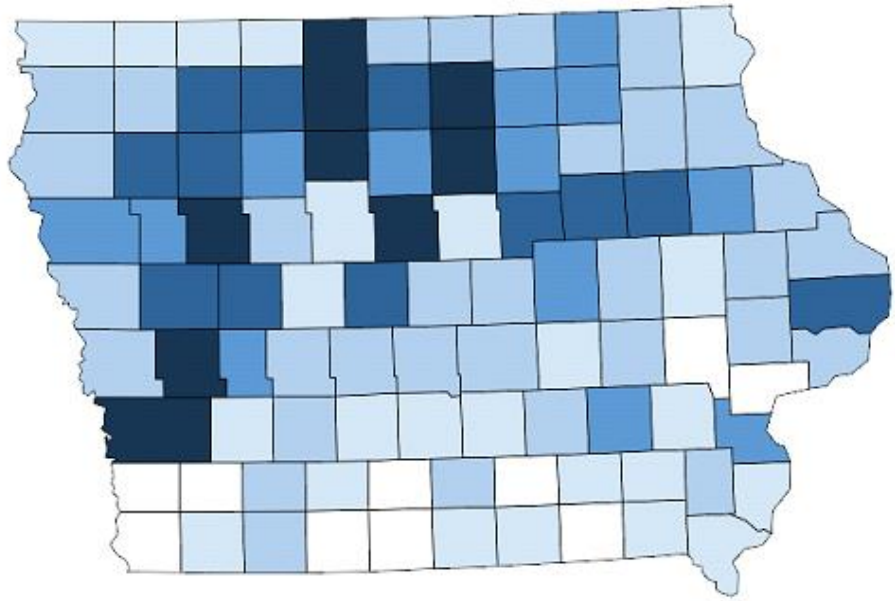
Figure 5. Total Acres of AATTC Projects by County, 2008-2014



Number of Acres	Number of Counties
0	5
1-2,500	41
2,500-5,000	28
5,000-7,500	16
7,500-10,000	6
More than 10,000	3

Source: Iowa Agricultural Development Division Database
Note: A map of Iowa counties including county names is provided in Appendix 2.

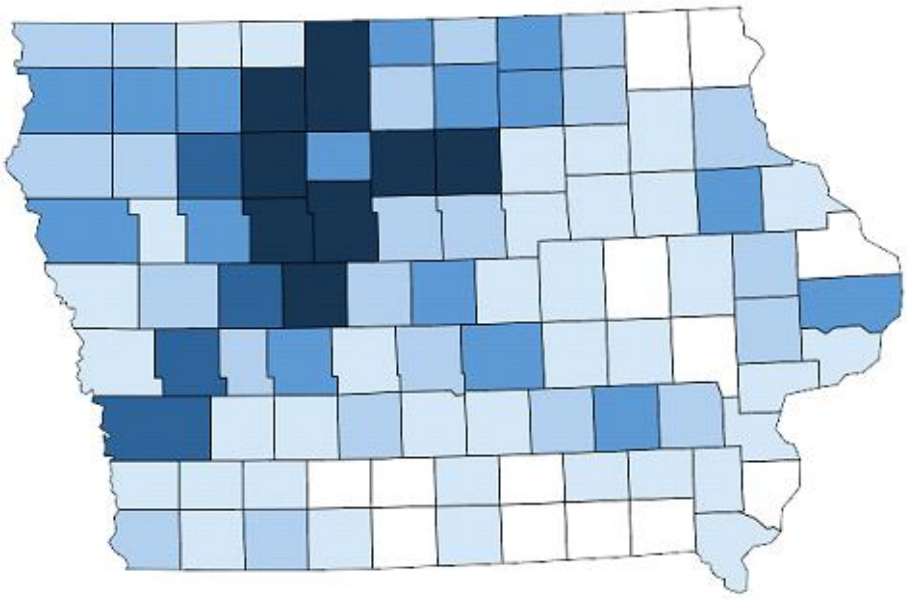
Figure 6. AATTC Cash Rent Lease Project Acres by County, 2008-2014



Number of Acres	Number of Counties
0	10
1-1,000	24
1,001-2,000	32
2,001-3,000	13
3,001-4,000	12
More than 4,000	8

Source: Iowa Agricultural Development Division Database

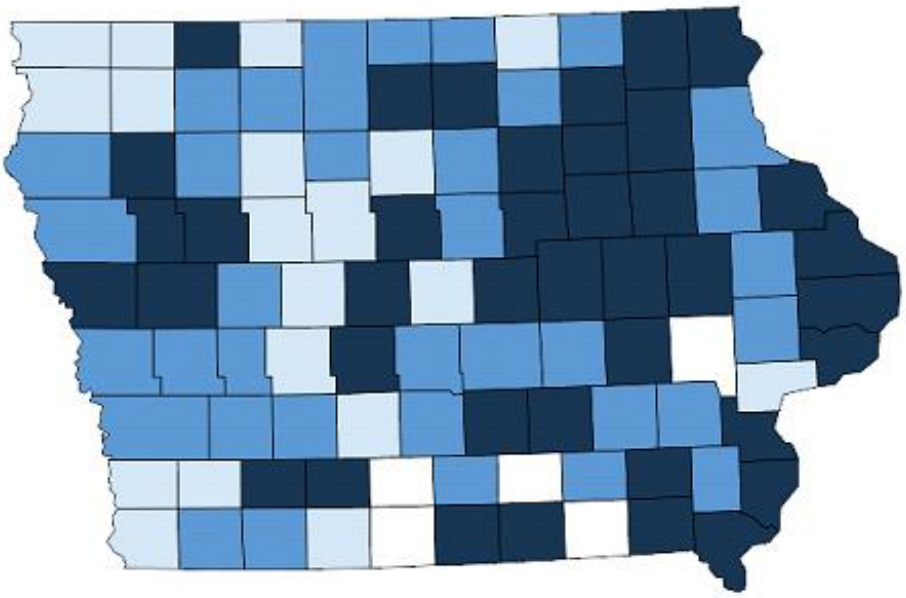
Figure 7. AATTC Crop Share Lease Project Acres by County, 2008-2014



Number of Acres	Number of Counties
0	13
1-1,000	36
1,001-2,000	22
2,001-3,000	16
3,001-4,000	4
More than 4,000	8

Source: Iowa Agricultural Development Division Database

Figure 8. Predominant AATTC Lease Type by County, 2008-2014*



Share of Acres by Lease Type	Number of Counties
No program acres	5
Mostly Crop Share (>60%)	19
About Half CS and Half CR	35
Mostly Cash Rent (>60%)	40

Source: Iowa Agricultural Development Division Database
* Excludes hybrid lease acres.

Table 13. Total Cropland Farm Acres and AATTC Lease Acres by County

	Harvested Cropland		Tenant-Operated Cropland		AATTC Acres (2014)			
County	Acres	Percent of State Total	Acres	Percent of State Total	Acres	Percent of State Total	AATTC - Percentage of Cropland Acres	AATTC - Percentage of Tenant Acres
Adair	225,573	0.9%	19,410	0.6%	1,452	0.9%	0.6%	7.5%
Adams	142,020	0.6%	11,814	0.4%	380	0.2%	0.3%	3.2%
Allamakee	159,113	0.6%	14,103	0.4%	0	0.0%	0.0%	0.0%
Appanoose	87,266	0.4%	5,916	0.2%	50	0.0%	0.1%	0.8%
Audubon	232,137	0.9%	17,615	0.5%	807	0.5%	0.3%	4.6%
Benton	364,605	1.5%	68,958	2.1%	656	0.4%	0.2%	1.0%
Black Hawk	265,823	1.1%	44,655	1.4%	1,471	0.9%	0.6%	3.3%
Boone	271,424	1.1%	28,038	0.9%	2,791	1.7%	1.0%	10.0%
Bremer	232,900	1.0%	27,749	0.9%	651	0.4%	0.3%	2.3%
Buchanan	308,349	1.3%	36,200	1.1%	2,680	1.6%	0.9%	7.4%
Buena Vista	324,664	1.3%	54,999	1.7%	4,224	2.6%	1.3%	7.7%
Butler	314,807	1.3%	30,754	1.0%	662	0.4%	0.2%	2.2%
Calhoun	317,220	1.3%	44,801	1.4%	3,142	1.9%	1.0%	7.0%
Carroll	312,964	1.3%	31,443	1.0%	2,969	1.8%	0.9%	9.4%
Cass	220,308	0.9%	41,100	1.3%	493	0.3%	0.2%	1.2%
Cedar	262,666	1.1%	37,428	1.2%	1,413	0.9%	0.5%	3.8%
Cerro Gordo	293,224	1.2%	45,257	1.4%	4,147	2.5%	1.4%	9.2%
Cherokee	285,204	1.2%	42,218	1.3%	2,972	1.8%	1.0%	7.0%
Chickasaw	257,092	1.0%	20,514	0.6%	1,273	0.8%	0.5%	6.2%
Clarke	76,141	0.3%	8,577	0.3%	0	0.0%	0.0%	0.0%
Clay	281,334	1.1%	42,057	1.3%	2,330	1.4%	0.8%	5.5%
Clayton	256,297	1.0%	24,445	0.8%	2,498	1.5%	1.0%	10.2%
Clinton	357,198	1.5%	43,484	1.4%	3,018	1.8%	0.8%	6.9%
Crawford	392,883	1.6%	39,002	1.2%	2,664	1.6%	0.7%	6.8%
Dallas	256,702	1.0%	58,498	1.8%	1,603	1.0%	0.6%	2.7%
Davis	106,445	0.4%	18,588	0.6%	0	0.0%	0.0%	0.0%
Decatur	97,556	0.4%	13,638	0.4%	0	0.0%	0.0%	0.0%
Delaware	304,615	1.2%	26,168	0.8%	2,965	1.8%	1.0%	11.3%
Des Moines	127,456	0.5%	19,168	0.6%	138	0.1%	0.1%	0.7%
Dickinson	166,908	0.7%	18,118	0.6%	526	0.3%	0.3%	2.9%
Dubuque	205,371	0.8%	19,776	0.6%	1,639	1.0%	0.8%	8.3%
Emmet	194,965	0.8%	21,539	0.7%	604	0.4%	0.3%	2.8%
Fayette	309,392	1.3%	32,163	1.0%	976	0.6%	0.3%	3.0%
Floyd	274,162	1.1%	27,850	0.9%	2,179	1.3%	0.8%	7.8%
Franklin	325,315	1.3%	50,202	1.6%	5,455	3.3%	1.7%	10.9%
Fremont	243,055	1.0%	51,781	1.6%	928	0.6%	0.4%	1.8%
Greene	314,599	1.3%	48,339	1.5%	2,766	1.7%	0.9%	5.7%
Grundy	294,483	1.2%	25,840	0.8%	980	0.6%	0.3%	3.8%
Guthrie	236,394	1.0%	18,999	0.6%	2,379	1.5%	1.0%	12.5%
Hamilton	293,032	1.2%	54,062	1.7%	2,925	1.8%	1.0%	5.4%
Hancock	323,289	1.3%	42,996	1.3%	3,034	1.9%	0.9%	7.1%
Hardin	293,262	1.2%	28,753	0.9%	1,116	0.7%	0.4%	3.9%
Harrison	326,421	1.3%	33,107	1.0%	498	0.3%	0.2%	1.5%
Henry	193,483	0.8%	22,346	0.7%	1,271	0.8%	0.7%	5.7%
Howard	253,250	1.0%	38,276	1.2%	1,580	1.0%	0.6%	4.1%
Humboldt	212,611	0.9%	35,873	1.1%	4,367	2.7%	2.1%	12.2%
Ida	225,658	0.9%	24,434	0.8%	1,360	0.8%	0.6%	5.6%
Iowa	244,042	1.0%	20,957	0.7%	484	0.3%	0.2%	2.3%

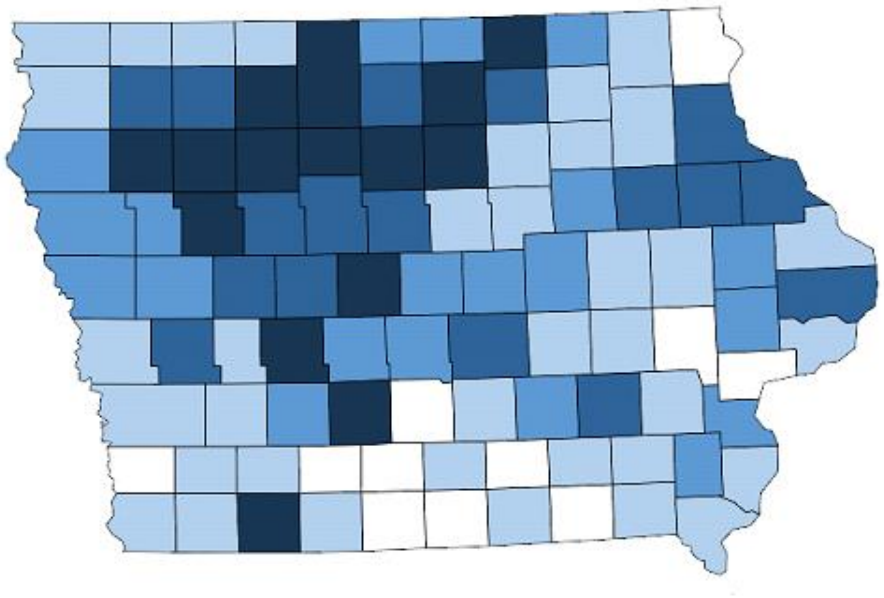
Sources: USDA Census of Agriculture, 2012; Iowa Agricultural Development Division Database

Table 13 (continued). Total Cropland Farm Acres and AATTC Lease Acres by County

	Harvested Cropland		Tenant-Operated Cropland		AATTC Acres (2014)			
County	Acres	Percent of State Total	Acres	Percent of State Total	Acres	Percent of State Total	AATTC - Percentage of Cropland Acres	AATTC - Percentage of Tenant Acres
Jackson	188,877	0.8%	26,310	0.8%	904	0.6%	0.5%	3.4%
Jasper	306,706	1.3%	35,471	1.1%	2,788	1.7%	0.9%	7.9%
Jefferson	127,230	0.5%	14,529	0.5%	295	0.2%	0.2%	2.0%
Johnson	260,980	1.1%	24,194	0.8%	0	0.0%	0.0%	0.0%
Jones	239,045	1.0%	21,511	0.7%	1,695	1.0%	0.7%	7.9%
Keokuk	199,448	0.8%	25,475	0.8%	1,546	0.9%	0.8%	6.1%
Kossuth	549,004	2.2%	85,894	2.7%	9,666	5.9%	1.8%	11.3%
Lee	153,827	0.6%	13,858	0.4%	357	0.2%	0.2%	2.6%
Linn	279,019	1.1%	32,325	1.0%	103	0.1%	0.0%	0.3%
Louisa	125,750	0.5%	20,399	0.6%	735	0.4%	0.6%	3.6%
Lucas	72,100	0.3%	3,081	0.1%	231	0.1%	0.3%	7.5%
Lyon	326,253	1.3%	44,584	1.4%	1,211	0.7%	0.4%	2.7%
Madison	157,324	0.6%	20,721	0.6%	2,144	1.3%	1.4%	10.3%
Mahaska	244,417	1.0%	26,040	0.8%	1,262	0.8%	0.5%	4.8%
Marion	172,883	0.7%	35,509	1.1%	542	0.3%	0.3%	1.5%
Marshall	267,050	1.1%	37,164	1.2%	1,477	0.9%	0.6%	4.0%
Mills	174,708	0.7%	31,739	1.0%	0	0.0%	0.0%	0.0%
Mitchell	263,004	1.1%	37,912	1.2%	3,145	1.9%	1.2%	8.3%
Monona	292,450	1.2%	50,746	1.6%	2,183	1.3%	0.7%	4.3%
Monroe	88,196	0.4%	3,074	0.1%	0	0.0%	0.0%	0.0%
Montgomery	195,213	0.8%	34,595	1.1%	781	0.5%	0.4%	2.3%
Muscatine	169,674	0.7%	26,863	0.8%	0	0.0%	0.0%	0.0%
O'Brien	271,874	1.1%	42,075	1.3%	2,703	1.7%	1.0%	6.4%
Osceola	215,342	0.9%	39,780	1.2%	920	0.6%	0.4%	2.3%
Page	244,828	1.0%	30,103	0.9%	198	0.1%	0.1%	0.7%
Palo Alto	324,555	1.3%	43,480	1.4%	3,925	2.4%	1.2%	9.0%
Plymouth	463,717	1.9%	65,288	2.0%	2,389	1.5%	0.5%	3.7%
Pocahontas	307,390	1.3%	45,034	1.4%	5,238	3.2%	1.7%	11.6%
Polk	170,719	0.7%	26,224	0.8%	1,176	0.7%	0.7%	4.5%
Pottawattamie	466,379	1.9%	71,472	2.2%	1,116	0.7%	0.2%	1.6%
Poweshiek	259,867	1.1%	23,064	0.7%	1,217	0.7%	0.5%	5.3%
Ringgold	137,082	0.6%	6,592	0.2%	640	0.4%	0.5%	9.7%
Sac	322,177	1.3%	34,254	1.1%	4,803	2.9%	1.5%	14.0%
Scott	194,059	0.8%	33,105	1.0%	755	0.5%	0.4%	2.3%
Shelby	333,297	1.4%	41,723	1.3%	3,280	2.0%	1.0%	7.9%
Sioux	431,644	1.8%	65,921	2.0%	1,551	0.9%	0.4%	2.4%
Story	266,536	1.1%	34,259	1.1%	1,586	1.0%	0.6%	4.6%
Tama	324,959	1.3%	38,829	1.2%	1,774	1.1%	0.5%	4.6%
Taylor	178,987	0.7%	21,905	0.7%	2,926	1.8%	1.6%	13.4%
Union	127,506	0.5%	9,262	0.3%	0	0.0%	0.0%	0.0%
Van Buren	117,184	0.5%	7,246	0.2%	74	0.0%	0.1%	1.0%
Wapello	124,860	0.5%	13,550	0.4%	188	0.1%	0.2%	1.4%
Warren	159,964	0.7%	15,984	0.5%	0	0.0%	0.0%	0.0%
Washington	231,531	0.9%	24,824	0.8%	866	0.5%	0.4%	3.5%
Wayne	155,767	0.6%	23,096	0.7%	0	0.0%	0.0%	0.0%
Webster	369,453	1.5%	56,888	1.8%	2,801	1.7%	0.8%	4.9%
Winnebago	208,986	0.9%	39,781	1.2%	1,128	0.7%	0.5%	2.8%
Winneshiek	275,051	1.1%	21,253	0.7%	184	0.1%	0.1%	0.9%
Woodbury	366,777	1.5%	63,374	2.0%	2,268	1.4%	0.6%	3.6%
Worth	208,212	0.8%	24,708	0.8%	1,309	0.8%	0.6%	5.3%
Wright	331,680	1.4%	69,857	2.2%	5,035	3.1%	1.5%	7.2%
Total	24,507,219	100.0%	3,216,933	100.0%	163,629	100.0%	0.7%	5.1%

Sources: USDA Census of Agriculture, 2012; Iowa Agricultural Development Division Database

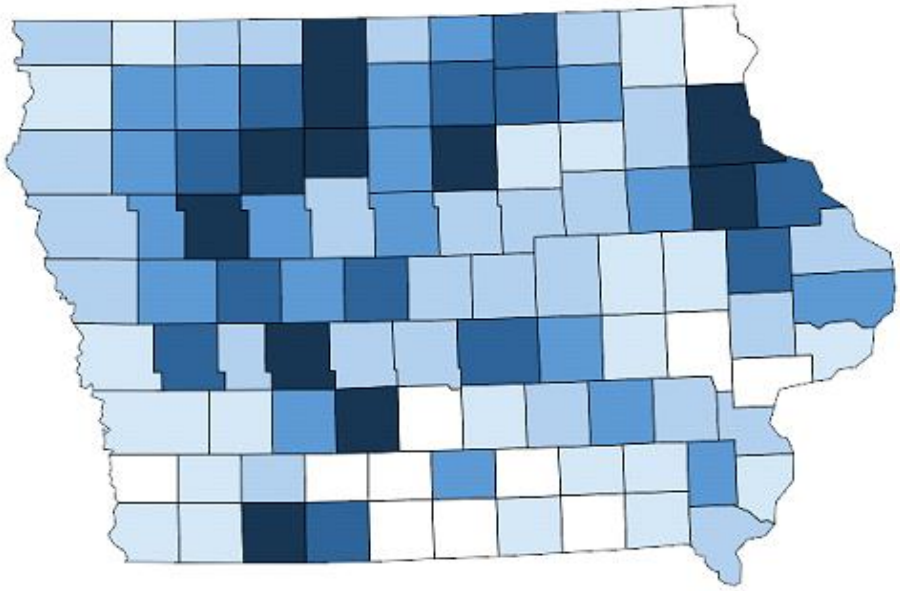
Figure 9. AATTC Lease Acres as a Percent of Harvested Cropland, 2014



Percent of Harvested Cropland Acres	Number of Counties
0	11
Up to 0.5%	36
0.5%-0.75%	20
0.75%-1%	17
More than 1%	15

Sources: USDA Census of Agriculture, 2012; Iowa Agricultural Development Division Database

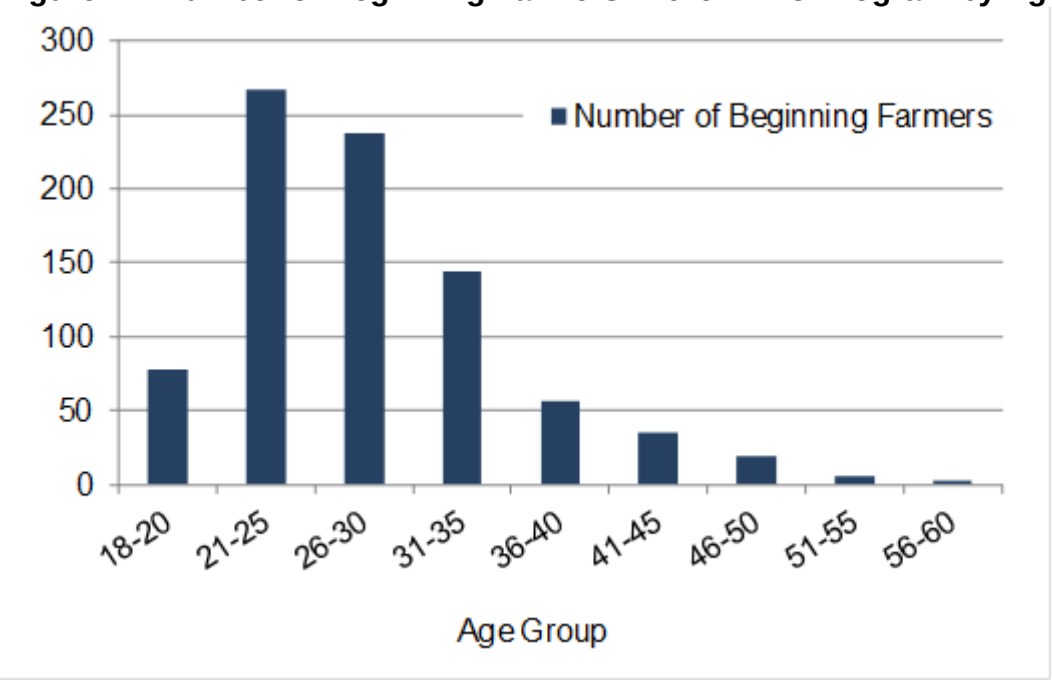
Figure 10. AATTC Lease Acres as a Percent of Tenant-Operated Cropland, 2014



Percent of Tenant-Operated Acres	Number of Counties
0	11
Up to 2.5%	21
2.5%-5.0%	26
5.0%-7.5%	19
7.5%-10.0%	12
More than 10.0%	10

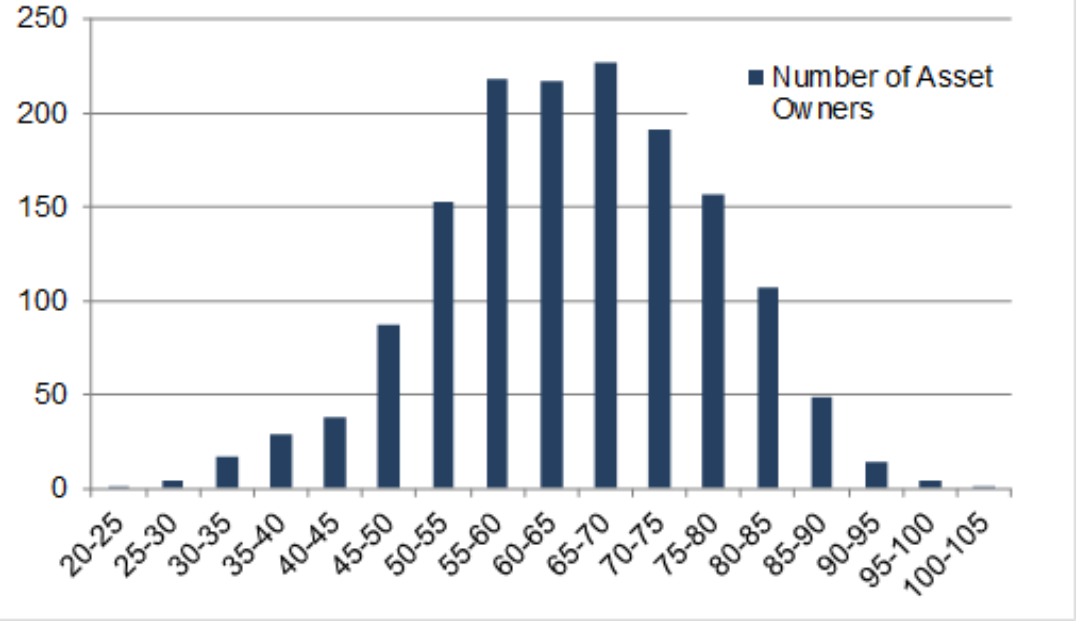
Sources: USDA Census of Agriculture, 2012; Iowa Agricultural Development Division Database

Figure 11. Number of Beginning Farmers in the BFTC Program by Age Group*



Source: Iowa Agricultural Development Division Database
* Includes only farmers whose age was reported in the Iowa Agricultural Development Division Database (N = 846). The age of each person in multiple-farmer partnerships is counted individually. Age is reported as of the farmer's first year of program participation.

Figure 12. Number of Asset Owners in the BFTC Program by Age Group



Source: Iowa Agricultural Development Division Database and Iowa Department of Revenue
* Includes asset owners matched to date of birth using federal tax records. Age is reported as of January 1 of the first year in which the taxpayer received a Beginning Farmer Tax Credit Program award.

Table 14. Median and Average Age of BFTC Asset Owners by Year

	Age of Asset Owner	
Year	Median	Average
2007	67	66
2008	68	67
2009	67	66
2010	67	66
2011	67	66
2012	66	66
2013	66	67
2014	66	67

Source: Iowa Agricultural Development Division Database and Iowa Department of Revenue
* Includes asset owners matched to date of birth using federal tax records. Age is reported as of January 1 of the year indicated.

Table 15. Iowa-Resident Ownership of BFTC Program Projects

		Iowa-Resident Ownership*	
Project First Year	Total Tax Credit Program Projects	Number of Projects	Percent of Total
2008**	488	419	86%
2009	147	130	88%
2010	180	164	91%
2011	140	120	86%
2012	167	131	78%
2013	204	164	80%
2014	419	288	69%
Total	1,745	1,416	81%

* Projects with multiple owners are counted as having Iowa-resident ownership when any owner is an Iowa resident.
** Includes projects begun in 2007.

Table 16. BFTC Asset Owner Adjusted Gross Income and Tax Liability by Tax Year

	Adjusted Gross Income		Tax Liability*	
Year	Median	Average	Median	Average
2007	$74,103	$103,686	$17	$2,220
2008	$82,361	$120,643	$76	$2,761
2009	$77,880	$128,121	$1	$3,183
2010	$80,369	$137,989	$1	$3,594
2011	$95,658	$141,684	$0	$2,945
2012	$112,644	$196,374	$0	$5,362
2013	$104,052	$168,093	$0	$3,128
2014	$99,351	$155,357	$1	$3,323

Source: Iowa Department of Revenue

* For this table, tax liability refers to tax liability remaining after accounting for the Agricultural Assets Transfer Tax Credit, the Custom Farming Contract Tax Credit, and any other non-refundable tax credits to which the taxpayer might be entitled but prior to calculation of refundable credits. Values are presented in nominal terms with no adjustment for inflation.

Table 17. Selection Factors and Values for Control Group Selection

Factors	Values
Congressional District	1st
	2nd
	3rd
	4th
Birth Year Range	1950-1955
	1956-1960
	1960-1965
	1966-1970
	1970-1975
	1976-1980
	1980-1985
Farm Income in 2008	($329,223) - ($23,139)
	($23,139) - ($6,990)
	($6,990) - $3,469
	$3,469 - $14,787
	$14,787 - $38,029
	$38,029 - $118,805

Source: Iowa Department of Revenue Individual Income Tax Returns

Table 18. AATTC Beginning Farmer and Control Group Descriptive Statistics and T-Test Results

	2008				2013			
	Participant Group	Control Group	t-Value	Significance	Participant Group	Control Group	t-Value	Significance
N	285	1,425			273	1,161		
Farm Income								
Mean	$3,233	$4,663	-0.69	0.49	$16,682	$9,754	1.39	0.16
Standard Deviation	$34,568	$31,279			$68,314	$75,258		
Ratio of Farm Expenses to Farm Income								
Mean	20.7	7.8	0.68	0.50	-20.45	-6.13	-0.03	0.98
Standard Deviation	561.1	176.5			1,338.2	7,854.6		
Share of Income from Off-Farm Sources								
Mean	70.9%	69.4%	0.63	0.53	63.2%	68.5%	-2.01	0.04*
Standard Deviation	36.7%	38.4%			38.4%	39.2%		
Government Agricultural Program Payments								
Mean	$7,513	$7,622	-0.14	0.89	$11,003	$9,405	1.72	0.09**
Standard Deviation	$7,697	$10,890			$15,461	$11,619		

* Statistically significant at the 0.05 level.
** Statistically significant at the 0.1 level.

Table 19. Logistic Regression Analysis of Participation in the BFTC Program

Logistic Regression Results			
Parameter	Coefficient	t-Value	Significance
Intercept	-0.89	-10.037	<.0001*
Change In Share of Off-Farm Income	-0.45	-2.169	0.03*
Percentage Change in Farm Income	0.00	-0.692	0.49
Percentage Change in Government Agriculture Program Payments	-0.01	-0.313	0.75
R-Square 0.0074			

* Statistically significant at the 0.05 level.

Table 20. Chi-Square Analysis of Continued Engagement in Farming

	Participant Group	Control Group	Total
N	285	1425	1710
Not Matched in 2013			
Frequency	14	264	278
Row Percentage	5.0	95.0	100.0
Column Percentage	4.9	18.5	0.2
Matched in 2013			
Frequency	271	1161	1432
Row Percentage	18.9	81.1	100.0
Column Percentage	95.1	81.5	0.8
		Value	Significance
Chi-Square		32.33	<.0001*

* Statistically significant at the 0.0001 level.

Appendix 1. Time Line of Major Program Changes by Effective Date

January 1, 2007	The Agricultural Assets Transfer Tax Credit is first available.
July 1, 2009	Program cap of $6 million per fiscal year is imposed on the Agricultural Assets Transfer Tax Credit
January 1, 2013	The Custom Farming Contract Tax Credit becomes effective for tax years 2013 through 2017. Together with the Agricultural Assets Transfer Tax Credit, the two tax credits are called the Beginning Farmer Tax Credit Program. The overall program cap is increased from $6 million to $12 million for the five years during which the Custom Farming Contract Tax Credit is available. The Agricultural Assets Transfer Tax Credit percentage for cash rent agreements is increased from 5 percent to 7 percent; the percentage for crop share agreements is increased from 15 to 17 percent effective for tax years 2013 through 2017. If the beginning farmer is a veteran, the tax credit rates are 8 or 18 percent for the first year of the contract. The Custom Farming Contract Tax Credit is available for landowners who hire a beginning farmer to do custom work and allows the landowner to claim 7 percent of the value of the contract as a tax credit. If the beginning farmer is a veteran, the credit is 8 percent for the first year.
January 1, 2014	The carry forward period for the two credits under the Beginning Farmer Tax Credit Program is extended to 10 years from 5 years for credits awarded in 2008 and later.
January 1, 2015	With passage of House File 624 in 2015, Custom Farming Contract Tax Credits may be awarded for contracts with terms of up to twenty-four months. Under prior law, a custom farming contract could be for a term of no more than twelve months.

Appendix 2. Map of Counties in Iowa