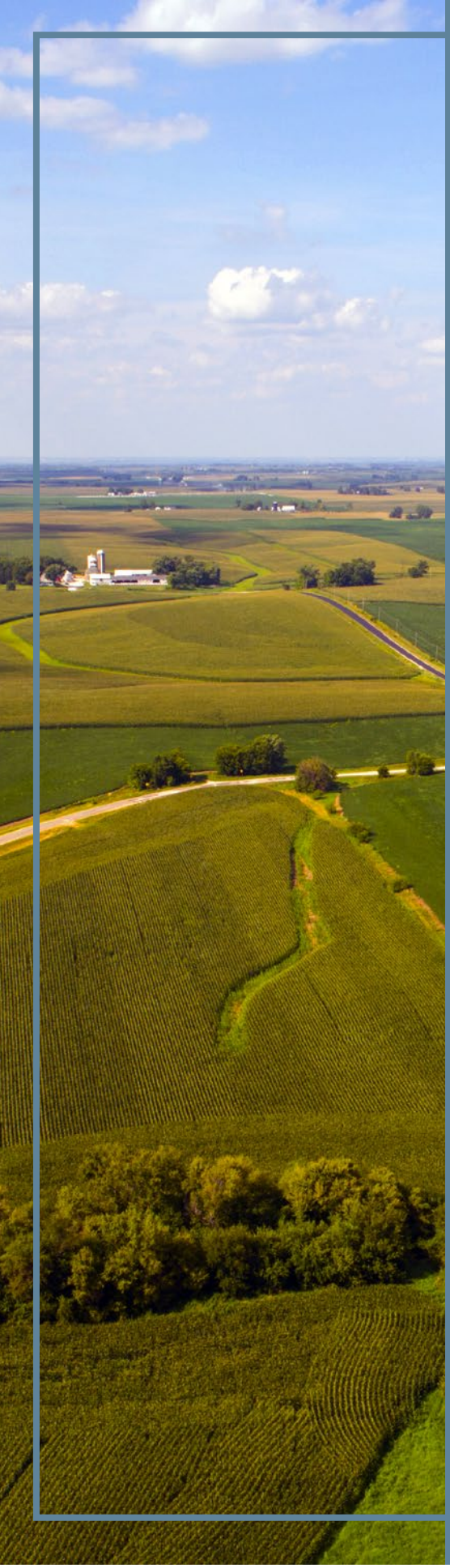

Iowa Farmland Ownership and Tenure Survey

1982-2022: A Forty-Year Perspective

IOWA STATE UNIVERSITY
Extension and Outreach

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Iowa Farmland Ownership and Tenure Survey, 1982–2022: A Forty-Year Perspective

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Abstract: Farmland often is a farmer's single largest investment item, a major source of collateral, and a key component of the farmer's debt portfolio. At the macroeconomic level, the value of land and buildings represents over 80% of all U.S. farm assets. As a result, changes in the farmland market and the implications for farmland owners, tenants, and beginning farmers are of perennial interest to policymakers, landowners, producers, and researchers. Using a statistically representative sample of Iowa landowners in July 2022, this study provides a critical update to the Iowa Farmland Ownership and Tenure Survey series and a 40-year perspective (1982 to present) on many aspects of land ownership, tenure, acquisition, succession, and characteristics of landowners, including non-operator landowners, farmland rental agreements, and the financing of farmland. The 2022 survey also added questions on the use of working land and edge-of-field conservation practices on Iowa farmland, the developments with trusts, and potential transfers to beginning farmers. This survey carries out an Iowa legislative mandate, and represents a nationally unique study that has been conducted every five years since the 1980s to better understand agricultural land ownership, tenure, and transfer.

Key Words: Land Ownership, Land Tenure, Farmland Leasing, Rental Agreements, Landowners, Tenant, Iowa, Estate Planning, Succession Planning, Non-operating Landowners, Women Landowners, Conservation, Beginning Farmers, Cooperatives, Agricultural Finance, Farmland Sales

JEL Codes: Q15, Q13, Q14, Q18, K25

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The authors would like to thank Ann Johanns, Chad Hart, Mike Duffy, and other members of the ISU Extension and Outreach farm management team for comments and suggestions on an earlier draft. This report is dedicated to Curtis Balmer, a beloved CARD staff, colleague, and friend.

Executive Summary

This publication provides a critical update to the Iowa Farmland Ownership and Tenure survey series and a 40-year, statistically representative perspective (1982 to present) on many aspects of land ownership, tenure, acquisition, and transitions in Iowa, as well as characteristics of landowners. The purpose of the study is to document the current situation with respect to Iowa farmland. In addition, this study compares and contrasts the current situation with that of earlier studies since 1982.

The Iowa Farmland Ownership and Tenure survey started in the 1940s, and since 1989, it has been conducted every five years as mandated by Iowa Code. This survey series is the first of its kind in the nation and the only consistent information on the ownership, tenure, and transitions of farmland at the state level.

The 2022 survey is based on a random sample of 40-acre tracts of farmland. Landowners of these tracts were interviewed via telephone with a response rate of 45%. The sampling design is such that the survey results in this study are statistically representative of all farmland and all landowners in Iowa as of July 1, 2022.

The 2022 survey was sponsored by the Iowa State University College of Agriculture and Life Sciences (CALS), Iowa State University Extension and Outreach, the Center for Agricultural and Rural Development, and the Department of Economics. With funding support from the Leopold Center for Sustainable Agriculture and the Iowa Nutrient Research Center, the 2022 survey added new questions on working lands, edge-of-field conservation practices, and land trusts. Additionally, the Iowa State Beginning Farmer Center contributed questions on beginning farmers.

Most of the results in this report will be presented as a percentage of farmland in Iowa. Farmland not only includes cropland, but also includes pasture, timberland, and land enrolled in the United States Department of Agriculture (USDA) Conservation Reserve Program (CRP). The 2022 survey also allows the representation of the results as a percentage of landowners. Unless noted otherwise, the 2022 results are presented in terms of the percentage of Iowa farmland.

The 2022 survey revealed many policy-relevant trends in the ownership and tenancy of farmland as well as characteristics of farmland owners. Below are some of the highlights:

- Eighty-four percent of Iowa farmland is owned free of debt, which represents a significant increase from 62% in 1982 and a further hike from 82% in 2017.
- Two-thirds of farmland is owned by people 65 years of age or above and 37% of farmland is owned by people aged 75 and above. In contrast, only 29% of Iowa farmland was owned by people 65 years of age or above in 1982.
- Forty-six percent of farmland is owned by women, and 13% is owned by female landowners over 80.
- Fifty-eight percent of farmland is leased, with the majority of farmland leases being cash rental arrangements. In particular, the share of Iowa farmland rented out via fixed or flexible cash rental contracts is at a record high level of 51%. Fixed cash rent was the most popular lease, covering 42% of Iowa farmland.
- Thirty-seven percent of Iowa farmland primarily is owned for family or sentimental reasons, which represents a significant increase from 29% in 2017.
- There is a continuous shift away from sole ownership and joint tenancy to trusts, corporations, and LLCs, which accounted for 23, 6, and 9% of the land, respectively, in July 2022.
- Fifty-five percent of Iowa farmland is owned by someone who does not currently farm, and 53% of the non-farming owners do not have farming experience.
- Twenty percent of Iowa farmland is owned by someone who is not an Iowa resident, an increase from 13% in 2017. Of the non-resident landowners, 70% do not have farming experience.
- Cover crops are grown on 7% of Iowa farmland, which represents a significant jump from 4% of farmland in 2017, and are utilized by 7% of landowners. The use of no-till inched up to 30% of acres in 2022 from 27% in 2017.
- Two percent of Iowa farmland have enrolled in a carbon credits program and another 3% are considering carbon opportunities.
- Three of every four landowners in Iowa are interested in selling land to beginning farmers when incentivized with federal and state tax credits. At the same time, over half of Iowa landowners expressed concerns about difficulty finding quality beginning farmers, and concerns about beginning farmers' ability to pay top prices.

Five major trends in the ownership, tenure, and transfer of Iowa farmland are worth noting from the 2022 survey. The first major change is the continuation of aging farmland owners in Iowa. In 2022, two-thirds of farmland in Iowa was owned by people over the age of 65. This was 6% points higher than in 2017, and twice the level in 1982. In addition, farmland owners who were 75 years of age or above owned a record 37% of all acres in Iowa as of July 2022. The aging farmland owner issue is not unique to Iowa and not unique to landowners. The U.S. Census of Agriculture has revealed aging farm operators, which is consistent with the aging workforce in non-agricultural sectors across the nation. However, the continuation of aging farmland owners does pose significant challenges for access to land, especially by beginning farmers.

A second major trend observed is the increasing amount of land that is cash rented. Leased farmland was equally divided between cash rent and crop share leases in 1982. By 2022, 88% of leased farmland was under a cash rent arrangement, covering a record high level of 51% of Iowa grounds. In particular, 42% of Iowa farmland is leased out via fixed cash rental contracts, with another 9% via flexible cash rental contracts. The rise in cash rent arrangements is accompanied with a drop of owner-operated land and leasing via crop share. Regions with better soil quality tend to have higher occurrences of cash rent arrangements, which also is associated with the rising share of land owned by landowners who do not live in Iowa.

The third major trend relates to the financing of Iowa farmland. In 2022, 84% of Iowa farmland was owned debt free, which is a significant increase from 62% in 1982 and 82% in 2017. This is a result of recent hikes in commodity prices, and aging landowners coupled with longer lengths of ownership. It also is related to record-high government payments during the COVID-19 pandemic. The financing situation is not uniform across the different age cohorts of landowners; while landowners 65 years old or above have at least 90% of land they own fully paid for, the debt-free percentages for landowners younger than 35 or 35 to 64 years old are only 17% and 70% of their owned land, respectively. The high debt-free status of Iowa farmland ownership is consistent with the increasing relevance of family or sentimental reasons for owning land. In particular, 37% of farmland is owned primarily for family or sentimental reasons, a record high level.

The fourth major trend is a continuing shift away from sole ownership and joint tenancy towards more institutionalized ownership structures such as trusts and corporations. In particular, trusts accounted for 23% of all acres in Iowa as of July 2022, while three decades ago almost no land was owned in that fashion. Of these, two-thirds are in the form of revocable living trusts. Corporations and LLCs account for 6% and 9% of Iowa farmland in 2022, respectively. In contrast, the share of farmland owned by sole owners or joint tenancy declined from 80% of farmland in 1982 to only half in 2022.

The fifth major trend is a steady increase in conservation practices adopted by Iowa farmers. In 2022, 7% of Iowa farmland currently is growing cover crops, almost double from 4% of acres in 2017. Further, 30% and 41% of Iowa farmland acres use no-till and reduced tillage, respectively. The use of edge-of-field conservation practices, such as saturated buffers, bioreactors, or water quality enhancing wetlands, still is developing, covering less than 1% of Iowa land.

All of these trends have significant implications for when and how farmland is intended to be transferred to the next generation. Willing or giving the land to family remained the most popular method of intended land transfer, accounting for 47% of all acres of Iowa farmland. The second-most popular intended method of land transfer was putting it into a trust or in a business entity, covering 26% or 12% of land, respectively. Only 4% of Iowa farmland was intended to be sold to a non-family member. When asked about what factors will prompt a landowner to sell some of their farmland, 80% of the land is owned by someone not planning to sell. In other words, we will continue to see a tight farmland supply.

The new section on beginning farmers reveals about 75% of landowners are willing to sell land to hardworking beginning farmers at fair market value, but the ratio drops to 40% for below fair market value. Over half of the landowners expressed concerns about difficulty finding quality beginning farmers, or beginning farmers' ability to pay top prices.

The agricultural economy in Iowa and the Midwest faces exciting opportunities and interesting challenges. On the one hand, higher interest rates, substantially higher farmland prices, and concerns over investor demand significantly raise barriers to land access. On the other hand, the value of Iowa farmland increasingly is regarded as critical not only for food security, but also for a low-carbon, clean-energy future. This study and previous versions of the Iowa Farmland Ownership and Tenure Surveys provide a unique, long-term perspective to better understand trends in farmland ownership, tenancy, and transition in Iowa, arguably one of the most important agricultural states in the world.

Chapter 1 Introduction

The Iowa farmland rental market has undergone considerable change in the past few years. Following the 2013 Iowa land value peak, declining commodity prices and farm income, changes in technology, and changes in the demographics of farmland owners have created uncertainty with respect to the farmland rental market. Over the past few years, there have been declines in farmland values, fluctuations in interest rates, and significant changes in federal tax policies; thus, it is critical to examine the status and trends in Iowa farmland ownership, tenure, and transitions.

The percentage of farmland owned by people over the age of 75 has more than doubled over the past three decades. Today, two-thirds of Iowa farmland is owned by people of age 65 or above. Given normal life expectancy, this means there could be a substantial amount of Iowa farmland change ownership over the next several years. Some of this land may be passed to the next generation, who will be in their 60s or 70s at the time of transfer, but some land may skip generations or be sold.

What do the record land values and aging farmland owners portend for the future? Who owns Iowa farmland and how it will be farmed could change considerably over the next decade. The information presented in this report provides a snapshot of where we are today, where we have been, and where we might be headed with respect to farmland ownership.

Concern over farmland ownership and tenure can be traced back to the founding of our country. Throughout the 20th century there were several periods where farmland ownership and the impact of alternative forms of tenure were of considerable importance. During the Great Depression, over half of the farms in Iowa were tenant farms. In other words, the farmer owned no land at all. This situation has changed considerably. Today, most of the farmland is farmed by people who own some of the land they farm, but rent most of it. In 2022, 58% of Iowa farmland was leased. Only 28% of the land was farmed by full-time landowners.

Technology continues to change and increase the amount of land one person can farm, plus it allows a person to remain active in farming to a later age. The impacts of technology, demand shifts for biofuels, aging farmland owners, and a myriad of other factors all indicate there will be changes in Iowa farmland ownership. It is against this background of change that survey reported here was conducted.

Iowa farmland ownership surveys have been conducted by Iowa State researchers for over 60 years. In 2022-2023, Iowa State's Center for Survey Statistics and Methodology conducted the Iowa Farmland Ownership and Tenure survey, a statewide telephone survey of owners of farmland in Iowa under the sponsorship of the Iowa State Department of Economics and the Center for Agricultural and Rural Development. This longitudinal survey has been conducted every five years since 1989, and the results are statistically representative of all farmland and all farmland owners in Iowa.

The 2022 Land Ownership and Tenure survey carries on the tradition of surveys conducted in 1949, 1958, 1970, 1976, 1982, 1992, 1997, 2002, 2007, 2012, and 2017. This series of studies concerning land ownership is unique to Iowa. The 2022 survey was structured so the results also can be applied to the crop reporting districts created by the USDA. This allows for comparison of these results with state- and district-level information from other studies.

Most of the results in this report are presented as a percentage of farmland in Iowa. The 2022 survey also allows the representation of the results as a percentage of landowners. Unless noted otherwise, the 2022 results are presented in terms of percentage of farmland.

Each of the earlier surveys was conducted to accomplish several objectives, including a legislative mandate passed in 1989 that still stands today. The Legislature passed Chapter 319, Section 71 of the Acts of the General Assembly in 1989, which was amended in 1992, Chapter 1080, Section 1 to read:

Iowa Code
Iowa State University of Science and Technology shall conduct continuing agricultural research to provide information about environmental and social impacts of agricultural research on the small or family farm and information about population trends and impacts of the trends on Iowa agriculture, in addition to research that may include the categories specified in Section 266.39B, Subsection 2. The research shall include an agricultural land tenure study conducted every five years to determine the ownership of farmland, and to analyze ownership trends, using the categories of land ownership defined in Chapter 9H. The study shall be conducted on the basis of regions established by the university. A region shall be composed of not more than 23 contiguous counties.

Dimensions of the Study: Ownership and Tenure
The 2022 study continued the analysis from the previous studies examining both land ownership and tenancy. Where appropriate, the results of the 1982, 1992, 2002, 2007, 2012, and 2017 studies are compared with the analysis presented here. The 1997 results also may be presented, but, in the interest of simplicity in comparison, only data from 1982, 1992, 2002, 2007, 2012, and 2017 are presented in most tables.

The concept of "land tenure" refers to the manner in which, or the period for which, rights in land are held. Additionally, land tenure consists of the social relations and institutions governing access to and ownership of land. Tenure describes the rights the landowner maintains or the rights given to the tenant. With increased emphasis on environmental protection, several modifications in tenure arrangements have developed, including acquisition of easements by private and governmental organizations to obtain partial interests in land. Also, in recent decades professional farm managers act as the landowner's agent and have been entrusted with property management. For all of these reasons, and because a substantial portion of farmland is leased, tenancy aspects of land ownership are analyzed in detail in Chapter 5.

There are two unique features in the 2022 survey not found in earlier surveys. First, with a grant from the Iowa Nutrient Research Center, questions were added regarding the use and nature of conservation practices on owner-operated versus leased land, and the perceptions and responses of landowners to various incentives encouraging greater conservation practices. Questions were added on the use of no-till, cover crops, buffer strips, reduced tillage, grassed waterways, saturated buffers, bioreactors, and nutrient removal wetlands. Landowners' familiarity with and participation in carbon credit programs also was explored. Second, the Leopold Center for Sustainable Agriculture and the Iowa State Beginning Farmer Center contributed questions on beginning farmers and the nature of land trusts. These grants and contributions, as well as the support from the Iowa State College of Agriculture and Life Sciences (CALS), Iowa State University Extension and Outreach, the Center for Agricultural and Rural Development, and the Iowa State University Department of Economics are greatly appreciated.

Similar to 2017, the 2022 survey also allows statistical presentation based on the number of farmland owners as well as the percentage of farmland. Some people consider this a minor distinction, but it is statistically important. The survey here is designed to report on farmland, so, unless noted, the statistics are a percentage of farmland.

Allison Anderson, Neely Lehman, Wayne Fuller, Emily Berg, and other members of the Iowa State Center for Survey Statistics and Methodology helped construct the survey, develop appropriate methodology, and collect the data. Faculty and retired faculty from the Iowa State Department of Statistics were involved with the selection of the samples and developing appropriate weights for each observation. Faculty and retired extension faculty in the Iowa State Department of Economics and ISU Extension and Outreach farm management team provided valuable feedback on several questions.

See the appendices for a complete presentation of the methodology and statistical procedures used in this study.

Chapter 2

Survey Method

The 2022 survey was conducted by telephone as well as online by the Iowa State Center for Survey Statistics and Methodology. Telephone interviews were conducted from October 25, 2022, to February 15, 2023. Sole owner or joint tenancy landowners were given an option to provide their responses online. The target for this study is Iowa land used for agricultural purposes as of July 1, 2022. Since no complete list of owners of Iowa farmland is available, landowners were sampled through a two-stage area sampling design. The survey sample is a scientifically drawn random sample of all landowners in Iowa, and the results of this report are statistically representative for all farmland and all landowners in Iowa.

Survey questionnaires were completed by trained telephone interviewers who edited and checked the responses for consistency. See Appendix A for more discussions about the sampling design and statistical methodology, as well as Appendix B for a copy of the survey instrument.

Table 2.1 compares the 1958, 1970, 1976, 1982, 1992, 1997, 2002, 2007, 2012, 2017, and 2022 Iowa Farmland Ownership and Tenure surveys in terms of survey method, number of landowners in the sample, number of usable responses, and percentage of usable responses. The 1949 survey results were conducted for the entire Midwest; therefore, the 1949 study is not comparable to the surveys in Table 2.1 that were conducted for Iowa alone.

Table 2.1. Survey method for Iowa farmland ownership and tenure surveys, 1958-2022.

Year	Method of survey	Landowners in sample (number)	Usable responses (number)	Usable responses (percent)
1958	Mail	11,022	2,576	23
1970	Mail	12,520	3,216	26
1976	Mail	4,392	1,503	34
1976	Phone	1,044	743	71
1982	Phone	1,065	992	93
1992	Phone	1,053	940	89
1997	Phone	861	656	76
2002	Phone	795	633	80
2007	Phone	794	557	70
2012	Phone	794	555	70
2017	Phone	788	535	68
2022	Phone	801	359	45

[1]See the following for discussions of past surveys:

W. Zhang, et al. 2018. Iowa Farmland Ownership and Tenure Survey 1982-2017: A Thirty-five Year Perspective, Publication 18-WP 580. Center for Agricultural and Rural Development, Iowa State University.

M. Duffy, et al. 2014. Farmland Ownership and Tenure in Iowa, 2012. Publication PM 1983, revised, November 2014. Iowa State University Extension and Outreach.

M. Duffy, et al. 2008. Farmland Ownership and Tenure in Iowa, 2007. Publication PM 1983, revised, November 2008. Iowa State University Extension and Outreach.

M. Duffy, et al. 2004. Farmland Ownership and Tenure in Iowa 1982-2002: A Twenty Year Perspective. Publication PM 1983, July (2004). Iowa State University Extension and Outreach.

General Sample Selection

Parcels of land in each county were scientifically chosen on a random basis in 1988. All agricultural land owned in Iowa had the potential to be included in the general sample. The same parcels were used for the 1992, 1997, 2002, 2007, 2012, 2017, and 2022 surveys. The sample unit or parcel was a quarter of a quarter section of land (i.e., a 40-acre tract). Landowners within this sample unit were then identified and became potential survey respondents.

The state was divided into seven regions ranging in size from seven to 23 counties. Within regions, the sample was allocated to counties in approximate proportion to their geographic areas (excluding non-farmland areas). The largest county, Kossuth, had 18 sample units, whereas the 15 smallest counties had five samples each. The sample units were selected in two stages. The first stage assured a geographic dispersal of sample sections over the county in a systematic manner. The second stage selected a single 40-acre unit at random within each sample section within each county.

The use of special regions has historical basis and was continued in 2022. However, since 2012, data also is tabulated so statistics can be presented on the basis of crop reporting districts used by the USDA, among others. Presenting the data on a crop reporting district basis allows broader comparisons with other data.

Legal descriptions of selected 40-acre parcels from this sampling procedure were sent to county auditors before each survey. The auditors provided information about the owners of land within the sample 40-acre units. The owners of record or their representatives, as identified by the county auditors, then were surveyed as respondents.

Some of the 40-acre parcels had more than one ownership unit. Each ownership unit was treated as a separate entity. The 705 sample parcels had 964 separate ownership units, and, of these, 801 eligible agricultural ownership units were included in the survey.

Some of the ownership units had multiple owners. Where there was more than one owner for the ownership unit (other than spouses), one owner was randomly selected for inclusion in the demographic description portion of the survey to be used for weighted calculations. The sampling design for selecting a person among all the owners of the parcel was equal-probability sampling.

See Appendix A for a complete description of the sampling methodology used for the 2022 survey.

Geographic Regions and Crop Reporting Districts Used in 2022

Using regions identified in the 1950 US Census of Agriculture, Iowa was divided into seven geographical regions in the 1958 survey. The composition of these regions was continued in the 2022 survey edition. Figure 2.1 shows the regions that are used throughout the survey. The regions are described as:

1. Northwest Region–10 counties including Lyon, Sioux, O'Brien, Plymouth, Cherokee, Buena Vista, Woodbury, Ida, Sac, Carroll.
2. Southwest Region–11 counties including Monona, Crawford, Harrison, Shelby, Audubon, Pottawattamie, Cass, Mills, Montgomery, Fremont, Page.
3. Northern Region–7 counties including Osceola, Dickinson, Emmet, Kossuth, Clay, Palo Alto, Hancock.
4. North Central Region–13 counties including Pocahontas, Humboldt, Wright, Franklin, Calhoun, Webster, Hamilton, Hardin, Greene, Boone, Story, Dallas, Polk.
5. Southern Region–19 counties including Guthrie, Adair, Madison, Warren, Marion, Adams, Union, Clarke, Lucas, Monroe, Wapello, Jefferson, Taylor, Ringgold, Decatur, Wayne, Appanoose, Davis, Van Buren.
6. Northeast Region–16 counties including Winnebago, Worth, Mitchell, Howard, Winneshiek, Allamakee, Cerro Gordo, Floyd, Chickasaw, Fayette, Clayton, Butler, Bremer, Black Hawk, Buchanan, Delaware.
7. Eastern Region–23 counties including Grundy, Dubuque, Marshall, Tama, Benton, Linn, Jones, Jackson, Clinton, Cedar, Jasper, Poweshiek, Iowa, Johnson, Scott, Muscatine, Mahaska, Keokuk, Washington, Louisa, Henry, Des Moines, Lee.

Figure 2.2 shows the crop reporting districts developed by the USDA. The 2012 and 2017 survey added analysis on the basis of two regional distinctions and the 2022 survey followed that methodology. Using the original regions allows comparisons historically, and using crop reporting districts makes the data more compatible with USDA definitions and allows comparison with other data sources.

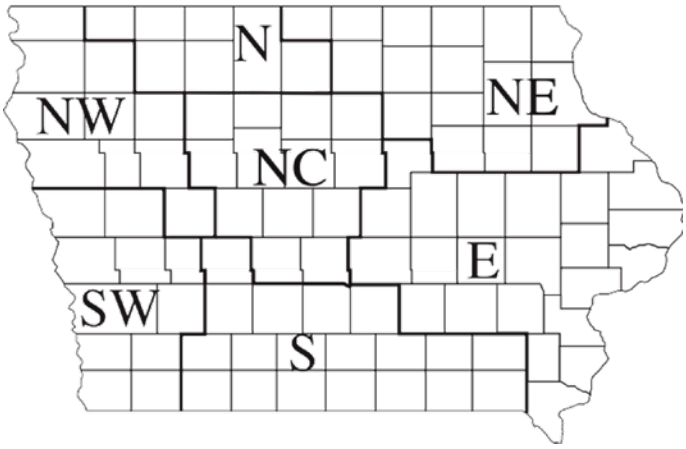

Figure 2.1. Iowa regions used in the 1958, 1970, 1976, 1982, 1992, 1997, 2002, 2007, 2012, 2017, and 2022 surveys.

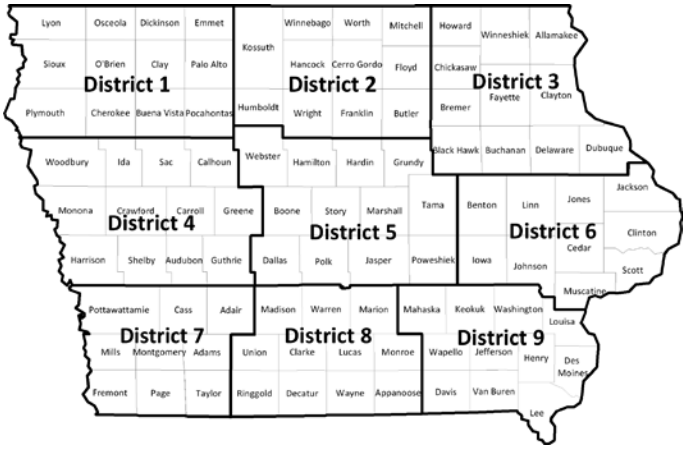

Figure 2.2. Iowa crop reporting districts used in the 2012, 2017, and 2022 surveys.

The crop reporting districts that are used throughout the survey and are described as:

1. Northwest District–12 counties including Buena Vista, Cherokee, Clay, Dickinson, Emmet, Lyon, O'Brien, Osceola, Palo Alto, Plymouth, Pocahontas, Sioux.
2. North Central District–11 counties including Butler, Cerro Gordo, Floyd, Franklin, Hancock, Humboldt, Kossuth, Mitchell, Winnebago, Worth, Wright.
3. Northeast District–11 counties including Allamakee, Black Hawk, Bremer, Buchanan, Chickasaw, Clayton, Delaware, Dubuque, Fayette, Howard, Winneshiek.
4. West Central District–12 counties including Audubon, Calhoun, Carroll, Crawford, Greene, Guthrie, Harrison, Ida, Monona, Sac, Shelby, Woodbury.
5. Central District–12 counties including Boone, Dallas, Grundy, Hamilton, Hardin, Jasper, Marshall, Polk, Poweshiek, Story, Tama, Webster.
6. East Central District–10 counties including Benton, Cedar, Clinton, Iowa, Jackson, Johnson, Jones, Linn, Muscatine, Scott.
7. Southwest District–nine counties including Adair, Adams, Cass, Fremont, Mills, Montgomery, Page, Pottawattamie, Taylor.

A.M. Schultz. 1997. "Iowa Farmland Ownership and Tenure, 1982-1992: Analysis and Comparison." Retrospective Theses and Dissertations, Paper 17179. Iowa State University.

T. Jackson. 1989. "Iowa Farm Ownership and Tenure." Thesis. Department of Economics, Iowa State University.

B. D'Silva. 1978. "Factors Affecting Farmland Ownership in Iowa." Thesis. Department of Economics, Iowa State University.

M. Berk. 1971. "Changing Structure of Iowa Farmland Ownership." Retrospective Theses and Dissertations, Paper 4939. Department of Economics, Iowa State University.

R. Strohbehn. 1959. "Ownership Structure of Iowa Farm Land." Thesis. Iowa State University.

8. South Central District–11 counties including Appanoose, Clarke, Decatur, Lucas, Madison, Marion, Monroe, Ringgold, Union, Warren, Wayne.
9. Southeast District–11 counties including Davis, Des Moines, Henry, Jefferson, Keokuk, Lee, Louisa, Mahaska, Van Buren, Wapello, Washington.

Statistical Analysis

For this survey, land ownership was measured in acres that were held in only one ownership type. All of the acres identified by the respondent were added to the ownership type given and included acreage beyond the 40-acre sample unit.

The types of ownership are sole owner, joint owners (spouses only), other co-ownership, partnership, life estate, unsettled estate, trust, corporation, limited liability company (LLC), and limited liability partnership. Acres owned in a different ownership type, or agricultural land leased from others, was not considered in this study. For sole owner respondents, the study only considered acres owned solely by the respondent. Respondents were reminded throughout the survey the land being discussed was only the land owned in a particular ownership category. The term "farm" was replaced with "farmland owned in this type of ownership."

Congruent with this separation of farm and ownership type, the statistical method used was based on the percentage of farmland owned, maintaining continuity with the 1992 survey. Under this method, a clearer picture of farmland ownership is possible. Specific examples of percentage of farmland owned include the percentage of land owned by sole owners, the percentage of land under a cash rent lease arrangement, and the percentage of land enrolled in conservation and other government programs.

In 2022, the sample was aggregated so it is possible to infer the percentage of owners and the percentage of the farmland owned. The expansion to number of owners is only possible when the specific question is based on demographics and not the farmland. Comparing percentage of farmland and percentage of owners allows inferences regarding the size impact to be made.

The 2022 study was conducted in a manner similar to the 1982, 1992, 2002, 2007, 2012, and 2017 studies. Telephone survey methods were used to contact the identified respondents. Many questions were worded and asked the same way as in previous studies to maintain comparability and avoid undue bias.

Some respondents chose not to answer some questions or responded they did not know the answer. Therefore, the responses, when estimated for the percentage of farmland owned, do not always total 100%. All analysis, unless noted, was completed using the percentage of farmland for statistical weighting.

Chapter 3 Land Ownership

The majority of this study focuses on the characteristics of the landowner analyzed in relation to the land owned. However, due to some special weighting and additional questions, it is possible to present data on the basis of farmland owners. In most cases, the difference between the percentage of farmland and the percentage of farmland owners is not great. However, statistically, the distinction between farmland and farmland owners should be considered. The owner/land distinction allows a clearer focus on the changes occurring in the ownership structure of the land.

Table 3.1 presents an overall summary and comparison of farmland ownership and use in Iowa between 2017 and 2022. The percentage of farmland rented has remained slightly over half of all Iowa farmland for the past few decades. However, an evident trend emerges during this period, characterized by the increasing prevalence of farmland leasing and a decline in landowner involvement in farming operations. In 2022, leasing continued to expand its land share, encompassing 58% of Iowa farmland under various rental agreements. The most significant shift occurred in the individual segment composition, with farmland under fixed cash rent arrangements occupying the largest share at 42%. This shift in leasing patterns is accompanied by a 7% rise in fixed cash rent leasing, while owner-operated land experienced a decline of 5%, and crop share leases decreased by 2%. These changes demonstrate the evolving dynamics of farmland ownership and usage in Iowa during the last five years. Land tenure will be discussed in detail in Chapter 5.

Table 3.1. Distribution of Iowa farmland by control.

	2017		2022	
	Percent	**Acre**	**Percent**	**Acre**
Owner Controlled	47%	13,851,567	42%	12,887,317
Owner operated	37%	10,819,245	32%	9,662,493
Custom farmed	2%	583,485	3%	951,400
Government programs and other uses	8%	2,448,837	8%	2,313,478
Leased	53%	16,771,192	58%	17,622,507
Cash rent (fixed)	35%	11,502,256	42%	12,687,933
Cash rent (flexible)	9%	2,354,117	9%	2,676,097
Crop share	9%	2,875,316	7%	2,166,375
Other types of leases	<1%	39,503	<1%	92,101
Total	100%	30,622,759	100%	30,509,878

Data analyzed in this study reveals the ownership patterns from the 2022 Farmland Ownership and Tenure Survey. The following areas of farmland ownership are considered:

- Ownership type
- Tenancy
- Method of financing, if relevant
- Method of acquiring the land
- Length of ownership
- Land handled by professional farm managers
- Land under production contract

Ownership Type

Land is held in many different ownership arrangements. This study presents the arrangements as revealed in the survey. Categories are then combined or altered as needed to allow comparison with past studies. The ownership categories surveyed were:

- Sole owner
- Joint owners (includes husband or wife)
- Tenancy in common, and other co-ownership
- Partnership, limited liability partnership (LLP), or limited partnership (LP)
- Life estate and unsettled estates
- Trust
- Corporation
- Limited liability company (LLC)

Joint tenancy of agricultural land in Iowa predominantly involves spouses as joint tenants. Joint tenancy other than spouses is included in the "other co-ownership" category along with tenancy in common, thereby maintaining continuity with past studies.

With joint tenancy, through the right of survivorship, ownership is passed to the surviving tenant at the death of the first to die. Tenancy in common differs from joint tenancy in that the right of survivorship does not apply. Upon the death of a tenant in common, the rights of ownership pass to the deceased tenant's heirs or are distributed under the deceased's will, instead of necessarily passing to surviving tenants in common.

Another type of co-ownership is ownership in partnership and is included in the partnership category. A general partnership is defined as an organization of two or more persons to carry on as co-owners of a business for profit. General partnerships involve unlimited liability of the individual partners for the liabilities of the partnership. A limited partnership provides limited liability to limited partners not participating in management and control. The final category, limited liability partnership, provides an exemption of liability from co-partner's acts. Because of the small numbers of the different types of partnerships, these all were listed under the general title, partnership.

Trusts are an instrument that can hold the ownership of the land during the life of, or after the death of, the landowner. With the establishment of a trust, legal title to the property is placed in the hands of a trustee with the property to be used for the benefit of specified beneficiaries. The use of trusts has increased dramatically over the past several years. In the 2022 survey, trusts were separated into revocable and irrevocable trusts; detailed responses are discussed in Chapter 6.

Estates are, in many respects, similar to trusts. While trusts are legal arrangements allowing for management and distribution of assets during a person's lifetime and beyond, estates represent a person's total property and debt, which is managed and distributed after their death. Unsettled estates identified in the survey also are included in the estate category.

This survey looked at corporations as a general group, although corporations are divided into various categories as defined in Chapter 9H of the Iowa Code. Corporation categories include family farm corporations, authorized farm corporations, nonprofit corporations, and other types of corporations. In contrast, an LLC is a type of company with the limited liability of a corporation and the income tax treatment of a partnership. It is more informal than a corporation but still must file with the state.

Table 3.2 presents the 1982, 1992, 2002, 2007, 2012, 2017, and 2022 survey results regarding division of Iowa farmland by ownership type. Throughout the 1980s, 1990s, and early 2000s, the predominant forms of land ownership were sole ownership or joint tenancy. However, an increasing trend toward trust-based ownership has emerged. Trusts held a mere 1% of Iowa farmland in 1982, yet now constitute 23% of ownership, challenging sole ownership as the second-largest form of land ownership in the state. The use of trusts appears to mainly be a tool for estate planning, tax management, or transition planning. When inquiring about the type of trusts landowners use, it was discovered 52% of the total land in trusts is covered by revocable trusts, 31% is in irrevocable trusts, and 17% is captured in trusts in which the landowners are uncertain about the type. These findings align with the special study of the use and nature of trusts in the 2012 survey led by Dr. Mike Duffy, which indicated revocable trusts comprised 57% of total land in trusts.

Table 3.2. Percentage of farmland owned by ownership type.

	1982	1992	2002	2007	2012	2017	2022
Sole owner	41%	38%	28%	29%	25%	22%	23%
Joint tenancy	39%	38%	37%	35%	32%	28%	29%
Tenancy in common	7%	7%	12%	10%	8%	8%	5%
Partnership	<1%	2%	2%	3%	3%	3%	2%
Estates	4%	3%	4%	3%	3%	4%	2%
Trusts	1%	5%	8%	10%	17%	20%	23%
Corporations	8%	8%	7%	9%	7%	10%	6%
LLC	N/A	N/A	1%	1%	5%	5%	9%
Government/ institution	N/A	N/A	1%	1%	>1%	N/A	<1%

The shifts toward not only trusts but also LLCs mainly are from tenancy in common and corporations. Collectively, the land held in LLCs and corporations steadily increased from 8% in 2002 to 12% in 2012 to 15% in 2022. Landowners appear to prefer the informal structure of LLCs over corporations, as evidenced by a steady increase in LLCs since the early 2000s. Sole and joint owners continue to own half of the state's farmland, accounting for 23% and 29% of the farmland, respectively, as of July 2022. However, these numbers are significantly down from the 1982 survey, which reported 80% for the combined groups.

Tenure

Tenure encompasses ownership and tenancy of farmland. Chapter 5 covers tenancy more thoroughly; therefore, only a general overview of owner-operator and leasing arrangements for all Iowa farmland is discussed in this chapter.

Table 3.1 shows 42% of land is controlled by the owner, and 58% of Iowa farmland is leased. Table 3.3 presents a more detailed examination of changes occurring over time and excludes custom farmed acres and acres in government conservation programs. Government conservation programs were not as prevalent in 1982, and, although the owner controls the land, Table 3.3 attempts to show who is operating the land.

Table 3.3. Distribution of Iowa farmland by tenure.

	1982	1992	2002	2007	2012	2017	2022
Owner-operated	55%	50%	41%	40%	40%	41%	35%
Cash rent lease	21%	27%	40%	46%	46%	49%	56%
Crop share lease	21%	22%	18%	13%	13%	10%	8%
Other type of lease	1%	1%	1%	1%	1%	< 1%	1%

Note: Does not include acres enrolled in government programs or custom acres.

According to Table 3.3, the proportion of land farmed by an owner-operator has steadily declined since 1982, going from 55% to about 40% through the early 2000s, and decreased significantly from 2017 to 2022. In contrast, there is a trend

toward more cash rented land. In 1982, cash rented land and land with a crop share lease each accounted for 21% of Iowa farmland. By 2007, cash rent accounted for 46% of the land, and crop share leased land was only 13%. The distribution of farmland by tenure type did not change from 2007 to 2012; however, over the last decade, there has been a continued movement from crop share to both fixed and flexible cash rent leases.

Methods of Financing Iowa Farmland

Interest rates for purchasing farmland were approximately 6-7% at the time of the 2022 study, an increase from 5.5% in 2017. There is considerable variation in interest rates depending on the financial position of the borrower. In 1982, interest rates were just beginning to decrease after reaching a record high in 1981. During this same period, Iowa was experiencing a record decrease in farmland values. Farmland values have risen almost every year since 1986, following the farm debt crisis of the mid-1980s. From 2003 to 2013, the Iowa farmland market experienced record growth. Historically low interest rates were one of the key factors behind the 2013 peak level of land values. The Federal Reserve has been raising interest rates since then, which will continue to put downward pressure on farm income and land values, as well as the financial position of the borrower.

The variations in finance arrangements of Iowa farmland in Table 3.4 show a boom and bust of farmland financing status from the 1980s. Farmland was classified into three groups in terms of financing arrangements existing on the land: (a) debt free; (b) purchased through a purchase contract or contract for deed; and, (c) purchased with a loan secured by a mortgage on the land. The data for each of these groups involve only debt against the land.

Purchase contracts are agreements between the buyer and seller for the transfer of property. Most of these contracts are held between individuals, including family members. The other option for farmland purchase is the traditional secured loan from a third-party lender or mortgage. Under mortgages, the mortgagor holds the title. For purchase contracts, the purchaser may or may not hold the title. Table 3.4 shows the percentage of land owned in each of these groups.

Table 3.4. Finance method as percentage of farmland.

	1982	1992	2002	2007	2012	2017	2022
Free of debt	62%	70%	74%	75%	78%	82%	84%
Under contract	18%	11%	4%	4%	3%	2%	2%
Mortgaged	20%	19%	22%	21%	19%	16%	14%

In 2022, the percentage of debt-free land ownership continued its upward trend, with 84% of the land being held without any debt. This represents a steady and significant increase from 1982, a year that marked the onset of the farm debt crisis, where only 62% of the land was held without debt, and 18% was under a contract. The further increase in the debt-free percentage is due to much higher commodity prices and record-high government payments during the COVID-19 pandemic. The proportion of land under mortgage remained stable until 2012, after which a shift toward debt-free land ownership has been evident since 2017.

Methods of Acquiring Iowa Farmland

Four different modes of acquisition were examined: (a) land was purchased; (b) land was received as a gift from a person living at the time of the transfer; (c) land was inherited; and, (d) land was obtained in some other manner. Purchased land may involve a purchase contract, a note and mortgage, or land purchased with cash. Gifts assume a living donor at the time of the gift. Inherited land could have been acquired through a trust, will, or other instrument that passes legal title to the land at death. Other methods of acquisition involve purchase at less than fair market value or acquisition in a like-kind exchange.

The transition of Iowa farmland to the next set of landowners mainly has occurred in two ways, either by direct purchase or inheritance. As Table 3.5 displays, roughly 95% of Iowa farmland was acquired by either direct purchase or inheritance, and that percentage has been consistent over the past 25 years. However, the shares between purchase and inheritance have shifted over time. The data from 2022 show an increase in inherited land, returning to levels last seen in the late 1990s.

Table 3.5. Percentage of Iowa farmland by method of acquisition.

	1997	2002	2007	2012	2017	2022
Purchase	62%	72%	73%	74%	68%	65%
Gift	3%	3%	3%	4%	3%	3%
Inherited	35%	25%	23%	23%	28%	31%
Other	0%	0%	1%	1%	1%	0%

Length of Ownership

Length of ownership is an important indicator of ownership turnover. The 2022 study documented changes in land ownership length over the decade. Table 3.6 presents the distribution of Iowa farmland ownership according to the length of time the land has been held, comparing data from 2012, 2017, and 2022. It shows farmland ownership is a long-term commitment, with over half of Iowa farmland remaining with the same owner(s) for at least 20 years. Farmland held for over 40 years consistently accounted for around 20% of Iowa farmland across the years. Intriguingly, farmland held for over 50 years exceeded the 40-50 years category in 2022, covering 10% and 9% of Iowa farmland, respectively.

Table 3.6. Percentage of Iowa farmland by length of ownership.

	2012	2017	2022
> 50 Years	20%	8%	10%
40-50 Years		12%	9%
30-40 Years	15%	13%	15%
20-30 Years	19%	20%	21%
10-20 Years	21%	24%	22%
< 10 Years	24%	24%	22%

Note: For the survey 2012, the groups of land with the 40-50 years and > 50 years length share 20% of total Iowa farmland due to the missing division between the two groups of land.

Farmland Managed by a Farm Manager

Professional farm managers act as the landowner's agent and have been entrusted with property management and rights. In 2022, 4% of Iowa farmland was handled by a professional farm manager, and 5% of all leased acres were managed by a professional farm manager. For leased land, professional farm managers supervise the renting of the land to the tenant, acting as an agent for the owner. The landowner typically is removed from the decision-making process with the manager overseeing the tenant directly.

Table 3.7 provides more details for all acres handled by a farm manager, regardless of whether it is leased or controlled by owners. Farm managers were paid a percentage of gross income on over two-thirds (70%) of acres handled by farmer managers. They received a flat dollar fee on 24% of the land, with the residual amount (7% of the land) covered by a fee based on a percent of net income or some combination of land value and cash rent. The arrangements for land handled by a farm manager are equally divided among fixed cash rent leases, crop share leases, and custom farming.

Table 3.7. Distribution of Iowa farmland by arrangement characteristics, 2022.

	Flat dollar fee	Percentage of gross income	Other		
How farm manager is paid	24%	70%	7%		
	Fixed cash lease	**Flexible cash lease**	**Crop share lease**	**Custom farming**	**Other**
Arrangement between farm manager and farm operator	30%	20%	28%	22%	0%

Land Under Production Contract

The land under production contracts can help better understand the extent to which continuing vertical integration in the agricultural sector impacted the control of farmland and the prevalence of production contracts. Table 3.8 shows that 2.5% of Iowa farmland was under a production contract for either crops or livestock, and the vast majority (81%) of production contracts landowners utilized were for seed or specialty crop production. In contrast, relatively fewer (19%) acres were used for livestock custom feeding or manure application.

Table 3.8. Percentage of Iowa farmland under production contract by type, 2022.

Livestock custom feeding	19%
Seed (or specialty crop) production	81%
Percent of total farmland under production contract	2.5%

Summary of Ownership Trends

Chapter 3 examined land ownership patterns and analyzed changes from 1982, from which the following conclusions may be drawn:

- There is a continuous shift away from sole owners, joint tenancy, and tenancy in common to more institutionalized ownership in the forms of trusts or LLCs for all Iowa farmland.
- Fifty-eight percent of Iowa farmland was leased out in 2022, marking a significant five percentage point increase since 2017, while 42% remained controlled by the owner.
- The vast majority of leased land in Iowa was cash rented, and the percentage of crop share leased land continued its 40-year decline.
- A continuing trend toward debt-free ownership and a concurrent decline in mortgaged land and land under contract exists over the years.
- The trend of farmland acquisition between 2017 and 2022 saw a decrease through purchase and an increase in inherited land in Iowa.
- More than half of Iowa's farmland was owned by the same owner for over 20 years, of which 19% and 10% was held for more than 40 and 50 years, respectively.
- Production contracts covered 2.5% of farmland and 5% of all leased acres were managed by a professional farm manager.

Chapter 4 Demographics

This chapter focuses on the characteristics of Iowa farmland owners and their demographics including age, residency, education, gender, and farming experience. The demographics of owners are expressed on the basis of the percentage of farmland owned. Demographics for the 1982, 1992, 2002, 2007, 2012, and 2017 studies are provided as a means of comparison with the 2022 study. The demographics analyzed include:

- The age of the owner and age cross-tabulated with the financing methods used to acquire land.
- Residency and occupancy (whether the land is owned by residents of Iowa and if they live on the land they own).
- Highest education completed and education cross-tabulated with age.
- Farming status and farming experience.
- Gender and marital status.

The 2022 survey allows comparison of results for both percentage of farmland and percentage of farmland owners. This comparison will be presented where it is statistically valid to examine the data both ways.

Age

The age of a landowner affects probabilities of land transfer in the future. Land ownership turnover is of interest to state and local leaders because it may reflect conditions in the agricultural economy and carries implications for the state's agriculture future. Tenure of the land tends to change with the stage in the life cycle as measured in years. Transfer and tenure of land both are age sensitive.

In 1982, approximately 11% of Iowa's farmland was owned by people 34 years old or younger (Table 4.1). In 1992, the percentage of land owned by people in this category had dropped to just 7%. By 2007, only 2% of farmland was owned by people in the early-stage category. In tandem with increasing profitability of the agricultural sector and the entry of young people into farming over the following five years, the percentage of land owned by those in the early stages of their careers increased to 4% by 2012. The agricultural sector has been characterized by declining and overall thin profit margins from 2012 to 2017, with a recovery trend starting in 2017 and continuing until now. Despite this, the percentage of land owned by individuals aged 34 or younger remained at a record low of just 1% in 2022, unchanged from 2017, reflecting sustained departures from this age category since 2017.

The percentage of land held by those in the mid-stage category, 35-64 years old, also sees decreasing changes in every age group for 35-44 years old (by 1%), 45-54 years old (by 2%), and 55-64 years old (by 5%) from 2017 to 2022. Overall, the amount of land owned by those in mid-stage has dropped from 59% in 1982 to just 32% in 2022.

Two-thirds (66%) of the farmland in Iowa was owned by people over the age of 65 in 2022, an increase from 60% in 2017. Owners over 75 years of age have increased their percentage of acres owned from 12% in 1982 to 37% in 2022. These results suggest a turnover in land ownership can be expected in the near future. For a more detailed discussion, see Chapter 5 concerning land tenancy patterns and age, and Chapter 6 for more details on the anticipated transfer of farmland in Iowa cross-tabulated with age.

Table 4.1. Percentage of farmland by age and lifecycle stage of owner.

	1982	1992	2002	2007	2012	2017	2022
Early stage							
< 25	1%	1%	<1%	<1%	1%	<1%	<1%
25-34	10%	6%	3%	2%	3%	1%	1%
Mid-stage							
35-44	14%	11%	10%	6%	5%	4%	3%
45-54	23%	18%	16%	15%	14%	11%	9%
55-64	22%	21%	23%	22%	22%	25%	20%
Late stage							
65-74	17%	23%	24%	27%	26%	26%	29%
> 74	12%	19%	24%	28%	30%	34%	37%

Table 4.2. Percentage of farmland owners and acres by age and lifecycle stage, 2022.

	Owners	Acres
Early stage		
< 25	<1%	<1%
25-34	2%	1%
Mid-stage		
35-44	3%	3%
45-54	8%	9%
55-64	21%	20%
Late stage		
65-74	31%	29%
> 74	34%	37%

Age Cross-Tabulated with Financing Method

As indicated in Chapter 3, equity in land is an important factor in obtaining capital, enhancing financial stability, and facing market risks. Table 4.3 cross-tabulates age and financing method. The percentage of debt-free land increased substantially for those over 65 years old and decreased for those in the 35-64 age bracket over the past five years. However, the percentage of debt-free land for people 34 years of age or younger continues at its lowest level on record. In 2022, 62% of the land in Iowa was owned by people over age 65 and without debt. The percentages of land held under mortgage or contract decreased for all age categories over the last five years, reaching their lowest levels since 2002.

Considering the acreage and debt within each life stage, the early life stage has the highest percentage of land under contract or mortgage across all categories, and the lowest percentage of debt-free land (Table 4.4). Mid-stage owners have 70% of their land debt free, and 28% mortgaged. The 65-80 age category owns 90% of their land debt free, and increases to 95% for those above 80 years of age.

Table 4.3. Percentage of farmland owned by age, year, and financing method.

	< 35				35-64				> 65			
	02	12	17	22	02	12	17	22	02	12	17	22
Free of debt	1%	2%	<1%	<1%	29%	26%	27%	22%	43%	50%	55%	62%
Under contract	3%	< 1%	< 1%	< 1%	4%	2%	1%	1%	< 1%	1%	< 1%	<1%
Mortgaged	2%	2%	1%	1%	16%	12%	10%	9%	4%	6%	5%	5%

Table 4.4. Percentage of farmland owned by financing method and age, 2022.

	< 35	35-65	65-80	>80
Free of debt	17%	70%	90%	95%
Under contract	21%	2%	1%	0%
Mortgaged	62%	28%	9%	5%

Residency of Iowa Farmland Owners

Ownership of Iowa land by non-residents has been a concern of the Iowa General Assembly. Table 4.5a shows the percentage of farmland owned by full-time Iowa residents and all other owners (including part-time residents and non-residents). The share of Iowa farmland owned by full-time residents of the state decreased from 80% in 2017 to 75% in 2022. Besides this drop, the other substantial change occurred between 1992 and 2002, when the share of full-time residents declined from 91% to 81%.

Table 4.5b shows the farmland distribution by the separate categories of full-time resident, part-time resident, and non-resident. Of the 25% of land owned by non-full-time residents, the majority (20%) is held by non-Iowa residents. Full-time residents account for 80% of Iowa landowners, which is a higher percentage than the percentage of land held by full-time residents (75%). This reveals that smaller-sized farmland parcels tend to be owned by full-time residents, while larger land parcels are owned by non-residents.

Table 4.5a. Percentage of Iowa farmland owned by residency status.

	1982	1992	2002	2007	2012	2017	2022
Full-time Iowa resident	94%	91%	81%	79%	80%	80%	75%
Part-time or not an Iowa resident	6%	9%	19%	21%	20%	20%	25%

Table 4.5b. Percentage of Iowa farmland owners and acres by residency status, 2022.

	Owners	Acres
Full-time Iowa resident	80%	75%
Part-time Iowa resident	6%	5%
Not an Iowa resident	14%	20%

Owner Occupancy of Farmland

Another important aspect of ownership as a corollary to residency is whether the owner lives on the land being surveyed (Table 4.6). Most landowners live on the land surveyed or other farmland they own under a different ownership structure. The percentage of landowners living on land surveyed or other farmland they own remained relatively stable from 1992 to 2022. However, a 10% drop in farmland owned by those who live on their own farmland occurred between 1982 and 1992. The 2022 study shows nearly 56% of owners live either on the surveyed farmland or other farmland they own. The other 45% of Iowa farmland is owned by those who do not live on farmland.

Table 4.6. Percentage of Iowa farmland by owner occupancy.

	1982	1992	2002	2007	2012	2017	2022
Lives on surveyed land	57%	48%	47%	46%	45%	44%	46%
Lives on other owned farmland	6%	6%	8%	10%	8%	11%	10%
Does not live on owned farmland	37%	46%	45%	44%	47%	45%	45%

Education of Landowners

Table 4.7 shows the percentage of farmland based on the education levels of the owners. Education has been gradually increasing among farmland owners. This is illustrated by an increase from 1982 to 2022 of the percentage of farmland held by owners with a post-high school education. In the 2022 study, 12% of farmland was owned by people with a graduate degree. The percentage of land owners with a bachelor's degree has nearly tripled from 1982 to 2022, and land owned by those with some college experience increased significantly. During the same period, the percentage of farmland owned by high school graduates or those who did not complete high school decreased significantly. In 1982, almost two-thirds of the farmland (65%) was owned by those with a high school or pre-high school education. In 2022, only 32% of farmland was owned by people in those education categories. Owners with at least a bachelor's degree increased from 17% in 1982 to nearly 40% in 2022, and this portion has remained constant since 2017.

Table 4.7. Percentage of Iowa farmland owned by owner's highest completed level of formal education.

	1982	1992	2002	2007	2012	2017	2022
<High school	17%	16%	7%	7%	4%	2%	2%
High school	48%	42%	42%	38%	34%	33%	30%
Some post high school	18%	24%	26%	27%	29%	25%	29%
BS, BA, etc.	10%	9%	18%	19%	22%	27%	27%
Graduate degree	7%	6%	7%	8%	11%	12%	12%

Table 4.8 shows the percentage of acres and the percentage of owners based on the education level attained in 2022. The percentage of acres and the percentage of owners matches closely.

Table 4.8. Percentage of Iowa farmland owners and acres by owner's highest level of formal education, 2022.

	Owners	Acres
<High school	3%	2%
High school	30%	30%
Some post high school	30%	29%
College graduate	26%	27%
Graduate college	12%	12%

Farming Status of Landowners

Respondents were asked directly if they farmed in 2022. As shown in Table 4.9, full-time farmers own 28% of Iowa farmland in 2022, which is 1% higher than in 2017 and 5% higher than in 2002. Landowners who do not farm currently hold 55% of Iowa farmland, 2% lower than in 2017, but on par with 2002. The longer term gains for full-time farmers have come mainly from the decline of ownership by part-time farmers. While part-time farmers now own 17% of Iowa farmland, up 1% from 2017, that percentage is down 4% from the level reported 20 years ago.

Table 4.9. Distribution of Iowa farmland by farming status of owner.

	2002	2007	2012	2017	2022
Full-time farmer	23%	21%	23%	27%	28%
Part-time farmer	21%	19%	15%	16%	17%
Do not farm	55%	60%	62%	57%	55%

Respondents who said they did farm in 2022 were asked how many acres they farmed. Table 4.10 shows the distribution of the amount of farmland owned by those who said they farmed based on the total number of acres they reported farming. The highest percentages of owned farmland by part-time farmers are for those who reported farming a total of less than 400 acres, these part-time farmers own 11% of all Iowa farmland. An intriguing observation from the data is that among full-time farmers, those cultivating more than 1,200 acres possess the largest share of farmland, owning approximately 9% of all Iowa farmland. This suggests a substantial increase compared to the results of 2017, possibly indicating farmland consolidation occurring over the past five years in Iowa.

Table 4.10. Distribution of Iowa farmland by acres farmed and farming status of farmer, 2022.

	< 400	401-800	801-1200	> 1200
Full-time farmer	30%	19%	18%	33%
Part-time farmer	65%	16%	10%	9%

Table 4.11 provides the breakdown of landowners by age and farming status and shows that as age increases, the share of landowners who are farming full-time or part-time at first increases, up to age 80, then declines. In particular, 73% of all land owned by landowners over 80 years of age was owned by someone who did not farm in 2022, while only 43% of the land owned by 35 to 64-year-old landowners was owned by non-farmers. However, it is important to note that 29% of all land owned by late-stage owners between 65 and 80 years old was still owned by full-time farmers, and another 18% by part-time farmers. This again highlights the aging landowner issue and challenges for beginning farmers and next-generation owners to access farmland.

Table 4.11. Distribution of Iowa farmland by age and farming status of owner, 2022.

	Full-time farmer	Part-time farmer	Do not farm	Total
<35	<1%	<1%	1%	2%
35-64	12%	6%	14%	33%
65-80	13%	8%	25%	45%
>80	3%	3%	15%	20%
Total	28%	17%	55%	100%

The respondents not farming in 2022 were asked if they have ever operated a farm. Table 4.12a and Table 4.12b further summarize the distribution of Iowa farmland acres and owners by residency, farming status, and farming experience of the owner in 2022, respectively. Among landowners who do not farm, 53% of them do not have any farming experience and 47% either have some farming experience or are retired farmers. For non-residents who do not farm, the majority (70%) have no farming experience, constituting 14% of all Iowa farmland. Conversely, 11% of non-residents who do not farm have farming experience. Among active farmers (full-time and part-time farmers), most are full-time residents in Iowa; also, there are more part-time farmers than full-time farmers among full-time residents.

Table 4.12a. Distribution of Iowa farmland by residency, farming status, and farming experience of owner, 2022.

	Do not farm		Part-time farmer	Full-time farmer	Total
	Past experience	No experience			
Full-time resident	21%	14%	25%	15%	75%
Part-time resident	2%	2%	1%	1%	5%
Non-resident	2%	14%	1%	3%	20%
Total	25%	29%	26%	19%	100%

Table 4.12b. Distribution of Iowa landowners by residency, farming status, and farming experience of owner, 2022.

	Do not farm		Part-time farmer	Full-time farmer	Total
	Past experience	No experience			
Full-time resident	20%	15%	26%	17%	79%
Part-time resident	2%	2%	2%	1%	6%
Non-resident	2%	10%	1%	2%	15%
Total	24%	27%	29%	20%	100%

Marital Status of Landowners

The percentage of farmland by marital status changed only slightly in 2022 (Table 4.13). The percentage of land held by married persons decreased to 73%. At the same time, the percentage of farmland owned by those who are single increased to 4%. The differences are not considered significant and the distribution of farmland by marital status in 2022 is similar to 1992.

Table 4.13. Distribution of Iowa farmland by owner's marital status.

	1982	1992	2002	2007	2012	2017	2022
Married	77%	75%	77%	74%	75%	74%	73%
Widowed	14%	17%	15%	19%	17%	18%	17%
Divorced	7%	3%	3%	5%	5%	6%	6%
Single	2%	3%	4%	3%	3%	3%	4%

Table 4.14 shows the distribution of farmland and farmland owners based on marital status. Notice there is a greater difference between acres and owners when comparing based on marital status. Married couples have 73% of the land but account for 82% of landowners. Conversely, widowed owners have 17% of the farmland but account for just 11% of owners. This may suggest married couples own more small-sized farmland, while widowed owners have larger land holdings in general.

Table 4.14. Distribution of Iowa farmland owners and Acres by owner's marital status, 2022.

	Owners	Acres
Married	82%	73%
Widowed	11%	17%
Divorced	5%	6%
Single	3%	4%

Gender of Landowners

The division of Iowa farmland by gender has remained relatively constant over the past few decades. In fact, the division found for 2022 is identical to the division found in 1982 (Table 4.15). Farmland owned by spouses is considered equally divided between them.

Table 4.15. Distribution of Iowa farmland by gender.

	1982	1992	2002	2007	2012	2017	2022
Male	53%	51%	53%	53%	53%	53%	54%
Female	47%	49%	47%	47%	47%	47%	46%

Table 4.16 shows the distribution of acres and owners by gender in 2022. In Iowa today, 54% of the farmland is owned by males. Females tend to own smaller amounts of land relative to their male counterparts, increasing the disparity by 1%. In 2022, females were 47% of owners but owned only 46% of the land.

Table 4.16. Distribution of Iowa farmland owners and acres by gender, 2022.

	Owners	Acres
Male	53%	54%
Female	47%	46%

The distribution of Iowa farmland based on age and gender is shown in Table 4.17a. Not surprisingly, the percentage of land owned by males and females increases from the early (35 or younger) to the mid-stage category (35-64 years old), and again to the late-stage category (65 years of age and above). The largest percentage of land ownership is observed among both male and female farmers in the 65-80 age cohort. Furthermore, the percentage of land owned by males decreases faster between the 65-80 age cohort and above 80 age cohort than the percentage of land owned by females. Only 8% of Iowa farmland is owned by males aged over 80 while 13% of the farmland is owned by females over the age of 80.

Table 4.17a. Distribution of Iowa farmland by age and gender in 2022.

	<35	35-64	65-80	>80
Male	1%	21%	24%	8%
Female	1%	11%	21%	13%

Table 4.17b depicts a further breakdown of Iowa landowners by gender, age, and their marital status in 2022 and reveals a substantial presence of married males, particularly those aged 35-80, signifying a predominant role of this group in farmland ownership compared to females. Simultaneously, the table underscores a noticeable trend of female farmland owners who are widowed, predominantly those aged over 65, compared to male landowners.

Table 4.17b. Distribution of Iowa farmland owners by gender, age and marital status in 2022.

	Married	Divorced	Widowed	Single
Male				
<35	1%	0%	0%	<1%
35–64	18%	1%	<1%	1%
65–80	21%	1%	1%	1%
>80	6%	<1%	2%	0%
Female				
< 35	1%	0%	0%	<1%
35–64	12%	1%	0%	<1%
65–80	17%	1%	4%	<1%
>80	6%	1%	5%	0%

There are some striking differences between the characteristics of male and female landowners. On average, female landowners tend to belong to more senior age groups. Specifically, land owned by females predominantly is held by those aged 65 or above, accounting for 74% of their total ownership, compared to 59% of land owned by males in the same age range. Furthermore, a notable segment of land ownership belongs to women in the 65 and above age bracket who have lost their spouses, a trend more pronounced among female landowners than males.

Summary

The 2022 survey covers the downturn in agricultural profitability and a declining Iowa farmland market following the boom years up to 2013, followed by a resurgence in profit margins from 2017 onward. For 2022, the amount of Iowa farmland owned by older landowners continued to increase. Changes in education level, occupation, and financing method reflect the change in age structure of farmland owners. Current demographics of Iowa farmland owners can be summarized by the following:

- The percentage of land held by senior landowners continues to increase and reach historically high levels: two-thirds of Iowa farmland is owned by owners 65 years of age or above, and 37% of Iowa farmland is owned by owners 75 years of age or above.
- Landowners over 65 hold more debt-free farmland and maintain a lower percentage of mortgaged land than the owners in the 35-64 age cohort.
- 75% of Iowa farmland is owned by those who consider themselves full-time residents of Iowa and 55% is owned by those who reported they did not farm in 2022.
- Among the owners who did not farm in 2022, over half do not have any farming experience, but own 29% of the farmland in Iowa.
- While the gender ratio remained constant over the past 40 years, males own slightly more land than females, but females hold a larger share among the senior owners.
- Widowed landowners represent 11% of all landowners, but disproportionally own 17% of Iowa farmland; they mostly are widowed female landowners.

Chapter 5 Farmland Leasing

This chapter presents some general findings with respect to leased farmland. Three general lease categories are considered: (a) cash rent leases, including flexible cash rental agreements; (b) crop share leases; and, (c) other rental arrangements. It is recognized that many leases represent modifications of the traditional cash rent or crop share rent, but respondents were asked to characterize the lease on the basis of its predominant characteristics. Land farmed by a custom operator was not considered leased. Also, the incidence of other types of leases was extremely small. These mainly consisted of labor sharing or other similar arrangements. Because these were such a small percentage, and due to the individual characteristics, these are not discussed in this chapter other than in the overall summary in Table 5.1. Farmland leased for non-agricultural purposes is also not considered in this report.

Land Under Lease Agreements

A cash rental arrangement is one where the landowner receives a cash payment in exchange for use of the land. These payments can be in any number of installments and may be flexible in total. All of this depends on the agreement between the tenant and landowner. Crop share leases are the other major arrangement in the leasing of farmland. Under crop share leases, both owner and tenant share in the expense and/or income of the crop. Many different arrangements exist and generally are negotiated specifically between the two parties.

Table 5.1a shows the change in the distribution of leased farmland based on the type of lease used. In 1982, there was an equal distribution of farmland under crop share lease and cash rent lease arrangements. The use of cash rents has increased substantially for the past few decades and the shift from crop share lease to cash rents continued over the past five years. In 2022, 87% of leased farmland was under a cash rent arrangement. Notice that in Table 5.1a the use of some other types of leasing arrangements has been decreasing and, as noted, these are not discussed further in this chapter. The other leases were equipment or labor sharing and mostly between family members.

Table 5.1a. Percentage of leased Iowa farmland by lease arrangement.

	1982	1992	2002	2007	2012	2017	2022
Crop share lease	49%	44%	30%	22%	23%	18%	12%
Cash rent lease	49%	54%	69%	77%	77%	82%	87%
Other types of lease	2%	2%	1%	<1%	<1%	<1%	1%

Table 5.1b. Distribution of leased Iowa farmland acres and owners by lease arrangement, 2022.

	Owners	Acres
Crop share	12%	12%
Fixed cash rent	73%	72%
Flexible cash rent-yield	1%	1%
Flexible cash rent-price	1%	2%
Flexible cash rent-yield and price	10%	10%

In addition to the obvious differences between the two types of leases, there are other fundamental differences considered when selecting the type of lease to use. The crop share lease splits the risk between the landowner and tenant, whereas a traditional cash rent lease has the farmer bearing all the production and marketing risks. This risk-sharing feature of the crop share arrangement makes it attractive to beginning farmers. Determining an equal distribution of the costs and/or revenues is an issue in a crop share lease. Trust is important in any leasing arrangement, but it is especially critical in a crop share arrangement.

There are other differences between the two types of leasing arrangements; which is better depends on the individual circumstances. Table 5.1a reveals a continuation of the shift from crop share to cash rent. Major reasons for these changes include aging farmland owners, increased farm size, and a shift toward more land being owned by people living outside of Iowa. Previous research also finds the share of cash rental lease is higher in regions with more uniform, higher quality grounds. One important feature is the relative ease of using a fixed cash rent agreement. As tenants have more landowners, and vice versa, it is simply easier to remember a dollar amount than a division, especially if it involves dividing the crop. With the increase in non-resident owners, cash rent is more appealing because of the ease of exchanging money rather than bushels for payment.

Table 5.1b presents the distribution of Iowa farmland owners and acres based on the further division of cash rent leases and crop share lease in 2022. A trend related to this shift from crop share to cash rent is the increasing use of fixed cash leases, which accounted for about two-thirds of all cash rented acres in 2017, but over 72% in 2022. Although the acres involving flexible cash leases remained flat across years, the characteristics of flexible cash rental leases have experienced significant shifts. In 2017, about two-thirds of the flexible leases used both price and yield to determine the rental payment, and this proportion rose to 77% in 2022. Only 8% of the flexible cash rents used only yield for the rent payment determination in 2022. The percentage of flexible cash rents using only crop price decreased from about 30% to 15%.

Table 5.2. Distribution of leased farmland by ownership type and type of lease, 2022.

Ownership Type	Cash Rent	Crop Share	All Leased Acres
Sole owner	25%	31%	26%
Joint tenancy	20%	20%	20%
Tenancy in common	6%	11%	6%
Partnership	3%	3%	3%
Estate	2%	0%	2%
Trust	27%	33%	28%
Corporation	4%	3%	4%
LLC	13%	0%	11%

Ownership Type and Leasing

Table 5.2 shows ownership type and their lease methods. Sole owners own 26% of Iowa farmland that is leased, based on the 2022 study. Joint tenancy and trusts are the next two most common types of leased land ownership. Although trusts only accounted for 23% of farmland in Iowa in 2022, trusts represent 28% of all leased acres. Compared with 2017, the overall increase in use of trusts among all farmland and the decrease among leased acres suggest the increasing trend of trust use in Iowa owner-operated land. The biggest differences of the ownership types between the two primary lease types are found with the LLCs, sole owners, trusts, and tenants in common. For LLCs, cash rent is the preferred method, whereas for trusts, sole owners, and tenants in common, crop share is more likely to be used for leasing.

Age and Leasing

Landowners 65 years of age and above own 76% of all leased farmland in 2022, which represents continuous increases from 73% five years ago and from 68% a decade ago. The type of lease tends to remain fairly consistent for landowners under the age of 65. For landowners in the 65–74 age cohort, cash rent seemed to dominate, while crop share is more popular for owners 75 years of age and above. These estimates are contained in Table 5.3.

Table 5.3. Percentage of Iowa farmland by age of owner and type of lease, 2022.

Age of Owner	Cash Rent	Crop Share	All Leased Acres
<25	<1%	0%	<1%
25-34	1%	0%	1%
35-44	1%	4%	2%
45-54	7%	7%	7%
55-64	14%	15%	14%
65-74	30%	21%	29%
75-80	19%	22%	20%
>80	23%	26%	24%

Gender and Leasing

Gender is cross-tabulated with lease methods in Table 5.4. The percentage of leased land by gender closely mirrors the overall distribution of all farmland, with a slightly more balanced gender ratio. Females own 49% of all the acres that are leased versus 46% of all farmland acres in 2022. Male farmers prefer crop share arrangements compared to female farmers, as indicated by a gender ratio of 535 for males and 47% for females in crop share leases.

Table 5.4. Percentage of Iowa farmland by gender of owner and lease type, 2022.

Gender	Cash Rent	Crop Share	All Leased Land
Male	50%	53%	51%
Female	50%	47%	49%

Regional Distribution of Leased Land

In order to get a better idea of how much land is leased in each region, regional estimates were generated at the crop reporting district level (Table 5.5). The estimated percentage of land leased within crop reporting districts can be compared with the 58% shown in Table 3.1 for the entire state. The results reveal the Northwest and North Central districts tend to see a higher percentage of farmland being rented, which likely is a reflection of greater concentration of high-quality ground and higher land value. The percentage of total farmland leased tends to follow the value per acre. District differences will be discussed in more detail in Chapter 6.

Table 5.5 also provides a breakdown of the use of cash rent versus crop share for leased acres; these results could be compared against the state average statistic that 87% of all leased acres were via cash rent as shown in Table 3.3. Interestingly, 21% of all leased acres in the Northwest were crop share leased, which is much higher than the state average. In contrast, Southeast and South Central Iowa have less than 10% of all leased acres rented out via a crop share lease; in Nnortheast Iowa, there are no crop share leases reported. These regional differences could be a result of regional-specific production structure and land use patterns.

Table 5.5. Distribution of leased Iowa farmland based on crop reporting district and tenure, 2022.

	NW	NC	NE	WC	C	EC	SW	SC	SE	State
Crop share	79%	90%	100%	88%	84%	87%	86%	93%	93%	87%
Cash rent	21%	10%	0%	12%	16%	13%	14%	7%	7%	12%
Percent of district farmland leased	69%	64%	38%	53%	61%	51%	60%	49%	48%	58%

Education and Leasing

Iowa farmland owners with graduate degrees owned 14% of leased farmland in 2022, while those with less than a high school education owned 3%. Estimates for the type of lease cross-tabulated with owner's education level are found in Table 5.6. This table includes only those individuals where an education level was identified or was appropriate. The level of education among landowners has changed over time, similar to the general population; over time there has been an increase in education level among landowners since the 1980s. Interestingly, among owners who choose crop share arrangements, approximately two-thirds possess a college degree or above, while for those who prefer cash rent agreements, 64% of the owners have an education level below college.

Table 5.6. Percentage of leased farmland by owner's education level and type of lease, 2022.

	Cash rent	Crop Share	All leased acres
<High school	3%	3%	3%
High school	31%	14%	28%
Some post high school	30%	17%	29%
College degree	23%	38%	25%
Graduate degree	13%	28%	14%

Owner Occupancy of Leased Farmland

Table 5.7 shows full-time Iowa residents owned 70% of all leased farmland. Non-residents had a higher percentage of the crop share leased land relative to the amount of the cash rented land they owned. Almost one-third of all crop share leased acres were owned by someone who does not live in Iowa. This could be driven by several factors: crop share leases could be a longer-term relationship with an existing tenant, and senior landowners have a disproportionally higher percentage of crop share leased land, which remained true when they moved out of state. Percentage of leased farmland based on residency is similar to the distribution found for all farmland shown in Table 4.5b.

Table 5.7. Percentage of Iowa land by residency of owner and leasing relationship, 2022.

Iowa Residency	Cash Rent	Crop Share	All Leased Land
Live in Iowa full-time	71%	63%	70%
Live in Iowa part-time	8%	4%	7%
Do not live in Iowa	22%	33%	23%

Length of Tenant's Tenure

Another area of interest is the length of tenure of Iowa farmland tenants. This represents the relationship between a landowner and a tenant, which could be longer than the length of the lease. Concern has been expressed that a shorter length of tenure could have a deleterious effect on soil conservation and may affect the way the land is farmed. A person with a short tenure horizon is thought to be less likely to practice good conservation measures. Estimates for the length of tenancy by lease type are provided in Table 5.8. Cash rent landowner-tenant relationships have been in place for fewer years than those for crop share. Leases on 41% of the cash rented land have been in effect for more than 10 years, in comparison to 50% for crop-share leases. Regardless of the type of lease, the majority of leases have been in effect for over five years.

Table 5.8. Percentage of leased Iowa farmland based on length of tenancy and type of lease, 2022.

Years	Cash Rent	Crop Share	All Leased Land
1	4%	0%	3%
2-5	25%	20%	25%
6-10	26%	35%	26%
11-20	24%	25%	24%
> 20	17%	25%	22%
Average	13.7	15.1	13.6

Financing and Leasing

Table 5.9 can be contrasted with Table 3.5, the percentage of Iowa farmland by finance method. While 84% of all farmland is debt free, 92% of leased land is debt free. Fourteen percent of farmland is mortgaged, while 8% of leased farmland is mortgaged. Also, 96% of crop share acres are free of debt. These numbers show that unencumbered land is more likely to be leased.

Table 5.9. Percentage of leased Iowa farmland by financing method and type of lease, 2022.

	Cash Rent	Crop Share	All Rented Acres
Free of debt	92%	96%	92%
Under contract	<1%	<1%	<1%
Mortgaged	8%	4%	8%

Percent of Household Income from Agriculture and Leasing

Table 5.10 presents the breakdown of Iowa landowners into five ranges for the percentage of income that comes from farming and by tenure of land. Importantly, 46% of leased acres have landowners for whom 40% or less of their household income is from farmland rental income for the 2021 production year. Cash rent arrangements (48%) are more prevalent among households where agricultural leasing income comprises 40% or less of their total income, while crop share arrangements (32%) are relatively less common for these households with a relatively low income reliance on agricultural leasing.

Table 5.10. Distribution of leased Iowa farmland by percent of 2021 household income from agriculture, 2022.

	Cash Rent	Crop Share	All Leased Acres
10% or less	20%	9%	19%
11-40%	28%	23%	27%
41-75%	32%	37%	33%
76-99%	11%	17%	13%
100%	8%	14%	8%

Farming Status and Leasing

Table 5.11 breaks down leased acres by farming status. Nearly 80% of leased acres belong to landowners who do not farm, and only 8% was owned by someone who farms full time. Keep in mind that while full-time owners identify farming as their primary occupation, this does not preclude them from leasing out portions of their land. Full-time farmers prefer cash rent, while part-time farmers use crop share more often. There is not much difference between the lease types for owners not farming in 2022.

Table 5.11. Percentage of leased Iowa farmland by leasing type and farming status, 2022.

	Cash Rent	Crop Share	All Leased Acres
Full-time	9%	4%	8%
Part-time	12%	19%	13%
Do not farm	79%	77%	79%

Summary

This chapter analyzed leased land, land that is not owner operated, and the characteristics of the owners of leased land. The following are some of the highlights of leased land:

- Cash rental arrangements continue to be the predominant choice of landowners, totaling 87% of all leased land.
- Fixed cash rent is the most popular leasing arrangement, covering 72% of Iowa acres, followed by 14% of acres using flexible cash rent, and 12% of acres using crop share.
- Although trusts only account for 23% of farmland in Iowa, these represent 28% of all leased acres.
- Sole owners, tenancy in common, and trusts exhibit a higher prevalence of crop share arrangements compared to cash rent. All LLCs that lease land opt for cash rent agreements.
- Individual owners aged 65 years and older own 76% of leased farmland, an increase from 73% five years ago.
- Females own 51% of the leased farmland in Iowa, a slight decrease from 55% in 2017 and similar to the 52% in 2012.
- Non-residents of Iowa own 23% of the leased farmland, rising from 17% in 2017.
- A vast majority of land leased out is debt-free.
- The length of landowner-tenant relationship typically is longer than the lease term, and on average lasts for nearly14 and 15 years for cash rental and crop share contracts, respectively.
- Nearly 80% of leased acres in Iowa belong to landowners who currently do not farm.

Chapter 6

Anticipated Farmland Transfer Methods and Beginning Farmers

Farmland owners were asked about the anticipated future transfer of their farmland. These transfer plans may change in response to many different factors, both economic and noneconomic. Therefore, the answers reflect situations existing at the time of the study. It is important to note the results below reflect the intentions or plans of landowners' future farmland transitions or transfers rather than actual land transitioned or transferred.

The previous land ownership studies all asked respondents how they anticipated transferring farmland. Respondents indicated they planned to use multiple disposal methods. The results were weighted to determine the percentage of farmland using the various transfer methods.

Potential Successors

In the 2022 survey, questions were added about landowners' potential successors separately for farmland management and farmland ownership. Table 6.1 outlines the distribution of Iowa farmland owners according to whether there are potential successors for farmland management or ownership. Overall, 80% of total landowners have a potential successor for farmland ownership, while only 58% have made a decision on transferring farmland management. Over half (56%) of the landowners have a potential successor for both ownership and management. Relatively fewer (17%) landowners do not have a successor for both ownership and management.

Table 6.1. Percentage of Iowa farmland owners regarding potential successors for farmland management or farmland ownership.

	Ownership of farmland			
Management of farmland	**Total**	**Have a potential successor**	**Do not have a potential successor**	**Don't know/ refuse to answer**
Total	100%	80%	19%	<1%
Have a potential successor	58%	56%	2%	0%
Do not have a potential successor	37%	20%	17%	0%
Don't know/ refuse to answer	5%	4%	<1%	<1%

Anticipated Transfer Methods

Table 6.2a shows that willing the land to family still is the most popular anticipated method for transferring farmland in Iowa. This method of land transfer also showed the largest decline from 2017 and previous surveys. On the opposite side of the spectrum, putting land in a trust showed the largest increase over the past decade, and became the second-most preferred method of disposal. The introduction of a "business entity" category in the 2022 survey, which mainly includes partnerships, LLCs, and corporations, accounted for 12% of the anticipated land transfers. This increase primarily explains the decline in other transfer methods as well as the drop in the "Other" methods category prior to 2012. This demonstrates a shift in preferences toward more formalized business structures for land ownership and management.

It is interesting to note in Table 6.2a that over half (55%) of the farmland is anticipated to be transferred within the family. This share is likely much higher when considering the majority of trusts are "revocable trusts" that eventually will transfer ownership to family members. Table 6.2b looks at the anticipated method separately for revocable and irrevocable trusts. Among farmland anticipated to be put in trusts, two-thirds are expected to go into revocable trusts, with a slightly higher proportion of owners, at 68%, expressing a preference for this transfer method. Notably, while revocable living trusts are the preferred method for anticipated transfer among Iowa farmland owners, a substantial proportion also is planned to be transferred through irrevocable living trusts.

Table 6.2a. Anticipated transfer method by percentage of farmland.

	1982	1992	2002	2007	2012	2017	2022
Will to family	48%	49%	39%	43%	63%	40%	35%
Will to others	<1%	1%	2%	1%	1%	2%	1%
Give to family	5%	4%	12%	10%	9%	14%	12%
Give to others	<1%	<1%	1%	1%	1%	1%	1%
Sell to family	12%	7%	12%	10%	8%	11%	8%
Sell to others	13%	10%	9%	8%	7%	7%	4%
Put in trust	6%	14%	13%	18%	10%	26%	26%
Put in business entity	N/A	N/A	N/A	N/A	N/A	N/A	12%
Other	16%	16%	12%	10%	1%	0%	1%

Table 6.2b. Distribution of Iowa farmland owners and Acres for those using trust as anticipated transfer method, 2022.

	Owners	Acres
Revocable living trust	68%	66%
Irrevocable living trust	32%	34%

Table 6.3 shows the impact the age of the landowner has on the anticipated transfer method. Not only does the anticipated transfer method change with circumstances, but it also will change as the landowner ages. For all age groups, transferring farmland through a will to family members is the most common anticipated method, ranging from 21% in the 45-54 age group to 38% in the over 74 age group. Giving farmland to family is notably prevalent in the 25-34 age group, at 30%, and trends downward in senior age groups.

Selling farmland to family or others varies by age group, but it's more common in younger owners. Selling to family is particularly noticeable among the under 25 age group at 18%, and selling to others also is 18% in the same age group. Putting the farmland in a trust is a common anticipated method across all age groups, with more interest for landowners 30 years of age or above. The anticipation of putting the farmland in a business entity increases with age, starting at 1% in the under 25 age group and peaking at 26% in the 65-74 age group.

Table 6.2b. Distribution of Iowa farmland owners and Acres for those using trust as anticipated transfer method, 2022.

	<25	25-34	35-44	45-54	55-64	65-74	>74
Will to family	27%	30%	31%	21%	33%	37%	38%
Will to others	0%	0%	0%	3%	1%	1%	2%
Give to family	0%	30%	9%	10%	14%	12%	11%
Give to others	0%	0%	4%	3%	0%	0%	0%
Sell to family	18%	9%	6%	11%	12%	8%	4%
Sell to others	18%	0%	0%	7%	4%	5%	4%
Put in trust	18%	9%	30%	27%	23%	24%	30%
Put in business entity	1%	3%	7%	16%	23%	26%	24%
Other	0%	0%	0%	3%	0%	2%	1%

Tables 6.4 and 6.5 provide more details on the timing of the anticipated transfer. In particular, Table 6.4 shows that across all land transfer plans, only 11% of Iowa farmland potentially will be transferred within the next five years. Twenty-nine percent of land has already been put into revocable trusts, which is higher than anticipated. In contrast, minimal land has been put into irrevocable trusts or business entities compared to landowners' anticipation to these two methods.

Table 6.5 provides additional information on the timing of anticipated transfer by the anticipated land transfer method. Specifically, the results show the majority of landowners who plan to will or give to family members do not anticipate the transfer to happen within the next five years. For the 4% of Iowa land potentially available for sale to others, 39% of these land transfers were anticipated to occur in the next five years. This means that over the next five years, landowners anticipate the acres potentially available for purchase by non-family members could be less than 2%, assuming no immediate sales from inherited land.

Table 6.4. Percentage of Iowa farmland by whether the owner thinks land transfer will happen in the next five years, 2022.

Yes	11%
No	26%
Already in revocable living trust	29%
Already in irrevocable living trust	<1%
Already in business entity	2%
N/A, not going to transfer land	20%
Don't know/refuse to answer	13%

Table 6.5. Percentage of Iowa farmland by anticipated transfer method and whether the owner thinks the transfer will happen in the next five years, 2022.

	Yes	No	Already in revocable living trust	Already in irrevocable living trust	Already in business entity	N/A, not going to transfer land	Don't know/ refuse to answer	Percent of total farm land
Will to family	11%	29%	19%	0%	2%	30%	8%	35%
Will to others	0%	42%	43%	0%	0%	10%	5%	1%
Give to family	12%	51%	22%	0%	1%	0%	14%	12%
Give to others	28%	58%	0%	0%	0%	0%	14%	1%
Sell to family	19%	59%	11%	0%	0%	0%	10%	8%
Sell to others	39%	39%	7%	0%	0%	0%	15%	4%
Put in trust	14%	30%	43%	1%	2%	0%	12%	26%
Put in business entity	13%	22%	45%	0%	8%	1%	10%	12%
Other	12%	31%	5%	0%	0%	0%	52%	13%

Primary Reason for Owning Iowa Farmland

Table 6.6 presents the percentage of farmland based on the primary reason for owning the land for the recent decade. The most cited reason to own land continues to be primarily for current income, yet the share of land held for this reason has fallen from 56% in 2012, to 49% in 2017, and further down to 38% in 2022. In contrast, the share of farmland held due to family ties or sentimental value witnessed an increase, rising from 22% to 37% during the same period. Additionally, 23% of the farmland is held for the purpose of long-term investment, marking a 4% increase from 2017.

Table 6.6. Percentage of farmland by primary reason for owning farmland, 2012, 2017, and 2022.

	2012	2017	2022
Current income	56%	49%	38%
Long-term investment	19%	19%	23%
Family or sentimental	22%	29%	37%
Home	1%	2%	2%
Recreation	1%	1%	<1%
None given	1%	1%	0%

It is not possible to say precisely what impact the primary reason for owning the land would have on the anticipated transfer method. However, given that income and long-term investments represent a significant portion of farmland, it is more likely the land will be held until death. If this is true, the choice of transfer methods will be impacted.

Many factors influence the current owner's anticipated transfer methods. Recently, there has been considerable discussion on the impact of capital gains tax and sale of farmland. The basic contention is that if the tax were removed, landowners would be more likely to sell their land. Following the 2017 survey, the 2022 survey asked landowners who anticipated selling land to family or others (jointly accounting for 18% of Iowa farmland) about the factors that would trigger the sale. Table 6.7 presents the comparison of the answers to the question: "Which one of the following factors would be most likely to prompt you to sell some or all of your farmland?"

Sixty-nine percent of the farmland owned by people who anticipate transferring land ownership through a sale to family or others had no plans to sell land in 2017, which increased significantly to 80% in 2022. Retirement from farming had the highest potential (7%) to trigger land sales in 2017, which decreased to 3% in 2022. The potential impact of capital gains tax and step-up basis tax benefits for heirs on farmland sales are minimal, according to the responses in both years.

Table 6.7. Percentage of iowa farmland anticipated to be sold to family or others by factor prompting owner to sell land, 2017 and 2022.

	2017	2022
Nothing-Decision will be made by heirs	2%	N/A
Lower capital gains tax rate	2%	2%
Higher selling price per acre	3%	1%
Retirement from farming	7%	3%
Elimination of step-up basis tax benefits for heirs	3%	2%
Sale is in process	1%	N/A
Personal reasons	3%	4%
Not planning to sell	69%	80%
Don't know	9%	9%

Beginning Farmers

In the 2022 survey, new questions were introduced targeting landowners' concerns and attitudes toward selling land to beginning farmers, aiming to shed light on the difficulties and potential obstacles the newcomers might face. These insights could guide policy to address the challenges, ultimately promoting a more seamless transition of farmland to the upcoming generation of farmers.

Table 6.8 depicts the willingness of Iowa landowners to sell their land to beginning farmers under various scenarios. A high proportion of landowners showed a positive disposition toward selling if they were incentivized with tax credits: 74% were willing if offered a federal tax credit, and slightly more, 75%, if provided a state tax credit. Landowners were less inclined to sell to hardworking buyers offering below fair market value, with only 40% agreeing. However, this figure rose significantly to 75% when the hardworking buyer was willing to meet fair market value. Furthermore, if the buyer was a family member, friend, or neighbor, 76% of landowners were willing to sell. Overall, when we asked "if you plan to sell it to others, are you willing to sell it to a beginning or a young farmer" without any scenario, a high proportion, 82% of landowners, demonstrated a willingness to sell their land to beginning farmers.

Table 6.8. Percentage of iowa landowners willing to sell land to beginning farmers under different scenarios, 2022.

Federal tax credit	74%
State tax credit	75%
Hardworking but below fair market value	40%
Hardworking and at fair market value	75%
Family, friend, or neighbor	76%
Overall	82%

Table 6.9 summarizes landowners' perceptions and concerns regarding the sale of land to beginning farmers. The highest concern, shared by 58% of respondents, is the difficulty in finding quality beginning farmers. Closely following this, 57% of landowners worry about beginning farmers' ability to pay top prices. On the other hand, 46% of landowners express concern over beginning farmers' affordability for large parcels and maintaining land integrity. Only 11% are concerned about the success prospects of beginning farmers. These statistics highlight the financial and quality-related barriers encountered by beginning farmers in their efforts to acquire land.

Table 6.9. Perceptions and concerns about selling land to beginning farmers, 2022.

Beginning farmers' ability to pay top price	57%
Difficulty finding quality beginning farmers	58%
Beginning farmers' affordability for large parcels and land integrity	46%
Success prospects of beginning farmers	11%

Summary

This chapter discusses anticipated methods to transfer farmland and the primary reasons for owning the land. The trends are summarized as follows:

- While willing land to family members remains the most common anticipated method of transfer, its prevalence has declined over the past decade.
- Putting the land in a trust has increased significantly, going from 10% of the land in 2012 to 26% of the land in 2022.
- The increase in business entities explains the declines in other transfer methods.
- Across all land transfer plans, only 11% of Iowa farmland potentially will be transferred within the next five years.
- Regardless of age, most landowners plan to will their land to family, with younger owners favoring direct sales or gifts, while senior owners prefer trusts and business entities.
- Income, family, and long-term investments are primary motivations for owning land, with a shift occurring from income-driven to long-term and family-related ownership.
- While over 80% of landowners are willing to sell land to beginning farmers, their main concerns are finding competent beginning farmers and receiving fair market value.

Chapter 7

Conservation and Easement Programs

Conservation Programs

There are a variety of conservation programs available to Iowa farmland owners. In addition, easements–giving up partial land use rights–may be granted. This chapter summarizes the use of these programs on Iowa farmland. The Conservation Reserve Program (CRP) is the most extensively used conservation program. There are other government conservation programs, including the Conservation Stewardship Program (CSP), but they are used considerably less than CRP.

The 2022 land ownership survey asked participants whether or not the land was in CRP or another government conservation program following the 2017 survey. As shown in Table 3.1, approximately 8% of all Iowa farmland was in some form of conservation program for both 2017 and 2022. Table 7.1 compares the percentage of total farmland with the percentage of acres in CRP or other government conservation programs by ownership type between 2017 and 2022.

In 2022, the biggest differences between conservation farmland and all farmland are the percentage owned by joint tenants and sole owners. Joint tenants own 29% of all farmland, but they own 46% of conservation acres. Sole owners own 23% of all farmland but 10% of conservation acres. Land held in trusts showed a similar percentage in government conservation programs relative to total farmland owned.

When compared across years, joint tenancy and LLCs present a significant increase in government conservation program enrollment, while tenancy in common and estates demonstrate a notable decline in their engagement with these initiatives.

Table 7.1. Percentage of Iowa farmland and percentage in government conservation programs by ownership type, 2017 and 2022.

	2017		2022	
Ownership Type	**All Farmland**	**Farmland in Conservation Programs**	**All Farmland**	**Farmland in Conservation Programs**
Sole owner	22%	14%	23%	10%
Joint tenancy	27%	36%	29%	46%
Tenancy in common	8%	11%	5%	5%
Partnership	3%	1%	2%	1%
Estates	4%	8%	2%	1%
Trusts	20%	24%	23%	22%
Corporations	10%	5%	6%	5%
LLC	5%	2%	9%	11%

Table 7.2 presents the distribution of conservation acreage compared to that of total farmland by age in 2017 and 2022. Landowners 65 years of age and over heavily use conservation programs, accounting for two-thirds of conservation acres for both years. While controlling 60% of farmland in 2017 and 66% of farmland in 2022, the actual conservation acres adopted by owners over 65 years of age increased by 5% from 2017 to 2022. In contrast, owners 55 to 64 years of age owned a quarter of Iowa farmland in 2017, but only 18% of the acres in government conservation programs; the actual acres adopted are almost the same in 2022 given a lower share of total farmland and a higher share of conservation land they own.

Table 7.2. Percentage of Iowa farmland and percentage in government conservation programs by age, 2017 and 2022.

	2017		2022	
Age	**All Farmland**	**Farmland in Conservation Programs**	**All Farmland**	**Farmland in Conservation Programs**
<25	0%	< 1%	<1%	<1%
25–34	1%	< 1%	1%	0%
35–44	4%	4%	3%	4%
45–54	11%	11%	9%	7%
55–64	25%	18%	20%	22%
65–74	26%	31%	29%	27%
>74	34%	35%	37%	40%

Table 7.3 compares the distribution of government conservation acres across 2017 and 2022. Intriguingly, more land is enrolled in conservation programs by female landowners (53%) than male landowners (48%) in 2022. Together with the gender ratio of all farmland, the actual gender disparity in conservation acres is 2% in 2022, down from 5% in 2017. This suggests an increase in government conservation programs adoption of farmland acres for female owners and a decline for male owners.

Table 7.3. Percentage of Iowa farmland and percentage in government conservation programs by gender, 2017 and 2022.

	2017		2022	
Gender	**All Farmland**	**Farmland in Conservation Programs**	**All Farmland**	**Farmland in Conservation Programs**
Male	53%	52%	54%	48%
Female	47%	48%	46%	52%

Table 7.4 shows the percentage of land in government conservation programs by whether the owner thinks a land transfer will occur in the next five years following 2022. Only 11% of owners who have their farmland enrolled in conservation programs think the land will be transferred during the next five years, with an additional 33% owning land that is already in a revocable living trust.

Table 7.4. Percentage of farmland in government Conservation programs by whether owner thinks land Transfer will happen within five years, 2022.

Yes	11%
No	22%
Already in revocable living trust	33%
Already in irrevocable living trust	0%
Already in business entity	1%
N/A, not going to transfer land	19%
Don't know/refuse to answer	15%

Conservation Programs

Table 7.5 provides a comparative snapshot of the adoption of various conservation practices by Iowa farmland owners and on Iowa farmland in 2017 and 2022. The acres applied by grassed waterways were not documented, given the difficulty in identifying the accurate adoption of acres.

Notably, the use of cover crops saw a slight increase over this period, from 5% of owners and 4% of acres in 2017 to 7% for both owners and acres in 2022. No-till farming saw a significant rise; from 21% of owners and 27% of acres in 2017 to 26% and 30%, respectively, in 2022. The new questions of other practices, such as saturated buffers, bioreactors, and nutrient removal wetlands, were explored, revealing less than 1% of owners and acres have adopted these practices. Among the newly asked practices, reduced tillage and grassed waterways are the most popular. Specifically, reduced tillage was embraced by 34% of farmers and implemented on 41% of farmland, and grassed waterways were chosen by a considerable 51% of owners.

Table 7.5. Percentage of Iowa farmland owners and acres that use various conservation practices, 2017 and 2022.

	2017		2022	
	Owners	**Acres**	**Owners**	**Acres**
No-till	21%	27%	26%	30%
Cover crops	5%	4%	7%	7%
Buffer strips	3%	3%	3%	3%
Saturated buffers	N/A	N/A	<1%	<1%
Bioreactor	N/A	N/A	<1%	<1%
Nutrient removal wetland	N/A	N/A	<1%	<1%
Reduced tillage	N/A	N/A	34%	41%
Grassed waterway	N/A	N/A	51%	N/A

Conservation practices differ geographically across Iowa. Table 7.6 shows the proportion of farmland in various conservation practices by crop reporting district, compared with the state level adoption shown in Table 7.5. No-till was most widely used in the Southwest (56% of acres) and the least in the North Central (18% of acres). The Northeast had the largest proportion of land in cover crops at 15%, potentially due to the intensive livestock raised in the region and the need for cover crops as a forage source.

The reduced tillage and grassed waterways adoption rates vary significantly across the districts. East Central Iowa had the most acres adopting reduced tillage, reaching nearly 70%; whereas South Central Iowa had the lowest adoption share of only 13%. For grassed waterways, East Central had the highest adopted share of 72% for landowners, and in the lowest adopted district of North Central Iowa, 20% of the owners embraced grassed waterways. Note the statistics for grassed waterways are only for landowners' percentages, not the percentage of acres.

Table 7.6. Distribution of Iowa farmland under conservation practices by crop reporting district, 2022.

	NW	**NC**	**NE**	**WC**	**C**	**EC**	**SW**	**SC**	**SE**	**State**
No-till	25%	18%	25%	31%	29%	35%	56%	20%	34%	30%
Cover crops	10%	4%	15%	1%	8%	4%	6%	4%	11%	7%
Buffer strips	1%	<1%	6%	1%	3%	4%	2%	2%	3%	3%
Saturated buffers	0%	<1%	<1%	<1%	2%	<1%	2%	0%	0%	<1%
Bioreactor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<1%
Nutrient removal wetland	0%	<1%	1%	1%	<1%	0%	<1%	<1%	<1%	<1%
Reduced tillage	62%	33%	45%	37%	32%	69%	24%	13%	36%	41%
Grassed waterway	52%	20%	53%	54%	56%	72%	48%	67%	52%	51%

In addition, the survey looked at how policy changes could influence landowners' likelihood of adopting conservation practices (Table 7.7). First, the plurality of landowners stated they were not at all likely to adopt more conservation practices if land enrolled in conservation programs was excluded from the value of their estate for estate tax purposes, with only 12% stating they would be very likely to enroll more land. Slightly more respondents were favorable to enrolling more land in conservation programs in the event tax-free cost-sharing assistance was available, with 13% stating they would be very likely to do so; in contrast, 19% answered they would not be at all likely to do so. However, landowners were more favorable to increasing conservation efforts under the policy where they could get tax credits or deductions for implementing them, with 18% stating they would be very likely to enroll more land and only 15% not at all likely.

Table 7.7. Percentage of Iowa owners by likelihood of adopting conservation practices under various scenarios, 2022.

	Estate tax	Cost share	Tax credits
1 = Not at all likely	29%	19%	15%
2	8%	11%	7%
3	17%	25%	20%
4	14%	17%	27%
5 = Very likely	12%	13%	18%
Unsure	19%	15%	14%

Conservation and Leases

New questions about conservation in leasing arrangements were asked, including making decisions on conservation adoption between landowners and tenants on the requirements of the lease.

Table 7.8 highlights the distribution of decision-making authority between Iowa landowners and tenants when it comes to conservation practices and programs in 2022. Tenants largely decide on single-season practices (44%), while owners are more involved in permanent practices (39%) and government programs (35%). Importantly, joint decisions between owners and tenants account for over 45% across all categories, indicating a high level of cooperation in conservation adoption.

Table 7.8. Percentage of Iowa farmland by landowners and tenants making decisions on conservation practices and programs, 2022.

	Single season practices	Permanent practices	Government programs
Owner	10%	39%	35%
Tenant	44%	13%	18%
Both owner and tenant	46%	48%	47%

On the conservation practices, the survey asked if landowners require the practices to be in the lease. Table 7.9 describes the percentage of landowners leasing land requiring conservation practices in their leases. The results indicate conservation practices are not commonly stipulated in leases. The most required practice was nutrient management at 7%, followed by other practices including grassed waterways, buffer strips, and easements, at 5%. No-till practices were required by 3% of landowners, reduced tillage by 3%, and cover crops by only 1%.

Table 7.9. Percentage of Iowa landowners with land leased out requiring conservation practices in lease, 2022.

No-till	3%
Cover crops	1%
Reduced tillage	3%
Nutrient management	7%
Other	5%

Note: Percentages are of landowners with leased land, not for all Iowa farmland owners.

Table 7.10 provides a comparison between 2017 and 2022 about the willingness of landowners to contribute financially toward their tenants increasing the use of cover crops. The survey asked landowners whether they would be willing to pay a portion of costs to plant cover crops. In 2022, 16% of the landowners were ready to shoulder a portion of the costs associated with the planting of cover crops, with the most common contribution being half of the required cost. However, it is noteworthy the overall proportion of land owned by those willing or potentially willing to encourage tenant adoption of cover crops has dropped from 36% in 2017 to 31% in 2022.

Table 7.10. Percentage of owners willing to encourage tenant to adopt cover crops by paying for part of planting cost, 2017 and 2022.

	2017	2022
Yes	20%	16%
No	25%	31%
Maybe	16%	15%

Perceived Effectiveness

The survey additionally explored the perceptions of landowners on the effectiveness of practices on water pollution reduction. Table 7.11 presents the share of landowners' attitudes in 2022 about the effectiveness of two conservation practices, no-till farming and cover crops, in reducing nitrogen and phosphorus runoff into Iowa's waterways. Specifically, questions were asked about the effectiveness of no-till in reducing nitrogen runoffs and of cover crops in reducing nitrogen and phosphorus runoffs. Landowners overall showed a strong belief in the effectiveness of the practices, with 68% of respondents considering no-till farming and 67% seeing cover crops as either "somewhat effective" or "very effective." However, about a quarter of the landowners chose not to answer or stated they did not know about the effectiveness of these practices, indicating a potential gap in knowledge or awareness.

Table 7.11. Iowa landowners' perceived effectiveness of no-till and cover crops in reducing nitrogen and phosphorus runoff into iowa waterways, 2022.

	No-till	Cover crop
Not at all effective	1%	1%
A little effective	5%	8%
Somewhat effective	32%	31%
Very effective	36%	36%
Don't know/refuse to answer	26%	24%

Cost Share Payments

Cost share payments often serve as financial incentives, helping offset the initial costs associated with conservation implementation. Understanding cost-share payments is crucial to gaining insights into the economic drivers behind landowners' decisions to adopt conservation practices; and devising strategies to make conservation practices more appealing to landowners, thereby contributing to the overall goal of sustainable and responsible farming.

Table 7.12 reveals the extent to which Iowa landowners' willingness to adopt conservation practices in 2022 depends on cost-share payments from government programs. Interestingly, 37% of the landowners indicated their willingness did not depend at all on these payments. On the other hand, 27% of the landowners stated their decision to adopt conservation practices depended "some" on the cost share payments, and relatively fewer (19%) indicated it depended "a lot" on these payments. This suggests while cost share payments are a significant factor in conservation practice adoption for many landowners, a substantial portion is not monetarily incentivized, but instead motivated by other factors.

Table 7.12. Percentage of Iowa landowners' degrees of willingness to adopt conservation practices dependent on cost share payments from government programs, 2022.

	Dependent on the cost-share payments
Not at all	37%
A little	15%
Some	27%
A lot	19%
Don't know/refuse to answer	2%

Table 7.13 shows the share of landowners by the average cost-share per acre received by themselves or tenants for cover crops planted in the fall of 2021. The results indicate 41% of farmers received no cost-share payment. Among those who received cost-share payments, the largest shares received $10-19 and $20-29 per acre, accounted for 33% and 15% of landowners or tenants, respectively. None of the respondents received $40 or more per acre. The high proportion of landowners receiving low or no cost share is in line with the implication from Table 7.12, that factors other than cost share payments drive the adoption of cover crops.

Table 7.13. Average cost share per acre received by Iowa landowners or tenants for 2021 fall cover crops.

None	41%
Less than $10/acre	2%
$10-19/acre	33%
$20-29/acre	15%
$30-39/acre	10%
$40/acre or more	0%

Note: Percentages are of landowners who adopted cover crops in the fall of 2021, not for all Iowa landowners.

Easements

Landowners sometimes transfer certain rights associated with their land to others. In some cases, this is the actual use of the land, while in others it is merely access to the land. The 2022 survey asked landowners if they had transferred rights to their land. This was a yes/no type of question and did not ask the amount of land for which the easement was granted. Table 7.14 shows the amount of land owned by those who reported granting an easement and the types of easements granted. Again, the percentage of farmland listed is the percentage of all farmland owned by those granting the easement, not the amount of easement themselves. Nineteen percent of the land was owned by owners who stated they transferred some rights, with wind easements being the most granted specific right. There has been an increasing trend of rights transferred over the recent decade.

Table 7.14. Percentage of farmland owned by those who indicated transfer of some rights, 2012, 2017, and 2022.

	2012	2017	2022
Any rights transferred	16%	17%	19%
Wind	5%	6%	7%
Solar	N/A	N/A	<1%
Oil and gas	N/A	4%	5%
Carbon pipeline	N/A	N/A	1%
Other rights	N/A	5%	7%

Note: Some land has multiple rights transferred.

Private Conservation Programs

Some private groups offer easements on farmland for conservation purposes. These can be for wildlife habitat, farmland preservation, or other activities. Table 7.15 shows the extent of use of non-governmental easements. Less than 1% of Iowa farmland was in these types of easements based on the 2022 survey.

Table 7.15. Percentage of Iowa farmland in private conservation programs, 2012, 2017, and 2022.

	2012	2017	2022
Total land in private conservation programs	0.5%	0.3%	0.5%

Carbon Credits

Carbon credits are tradable certificates that represent the removal of one ton of carbon dioxide or its equivalent from the atmosphere. These credits are generated through activities that reduce, avoid, or sequester greenhouse gas emissions (e.g., sustainable agricultural practices). Understanding the carbon credit market can empower farmers to make informed decisions that support both their business interests and environmental goals.

The survey investigated landowners' familiarity with carbon credits by asking "How much do you or your tenant know about carbon credits programs offered by private companies?" A small percentage (2%) of farmland was owned by farmers who reported they already had signed up to participate in carbon credit programs. Only a slightly higher proportion (3%) was owned by those considering participating in such programs. It is worth noting 20% of Iowa farmland is held by owners who had heard of carbon credits and expressed interest, while a considerable 45% of the land has owners that had heard of carbon credits but were not interested in participating. Finally, 30% of landowners were completely unfamiliar with the concept of carbon credits. Similar percentages of owners are reported in Table 7.16.

Table 7.16. Percentage of farmland and owners by familiarity with carbon credits, 2022.

Familiarity	Owner	Acre
Already signed up to participate	1%	2%
Are currently considering participation	3%	3%
Have heard of and are interested	14%	20%
Have heard of them and are not interested	47%	45%
Have never heard of them	35%	30%

Summary

- Government conservation programs remain popular among landowners, with the Conservation Reserve Program (CRP) still the most extensively used program.
- Land held in joint tenancy, trusts, or LLCs, and land owned by landowners 65 years old or above, was more likely to be enrolled in government conservation programs.
- No-till and cover crops were used on 30% and 7%, respectively, on Iowa farmland in 2022, an increase from 27% and 4% in 2017.
- Grassed waterways and reduced tillage are popular for landowners to adopt in Iowa, accounting for 51% of owners and 41% of acres, respectively.
- Buffer strips were utilized by 3% of landowners across 2017 to 2022.
- Saturated buffer, bioreactors, and nutrient removal wetlands have less than 1% adoption in 2022.
- Landowners tend to make decisions on permanent practices and government conservation programs, while tenants tend to make decisions on temporary practices.
- Sixteen percent of Iowa landowners expressed willingness to pay a portion of the costs to plant cover crops on their leased land.
- Overall, landowners show a strong belief in the effectiveness of no-till and cover crops in reducing water pollution.
- A sizable portion of Iowa landowners do not view cost-share payments as the main driver for conservation adoption.
- Private conservation programs were not widely used in Iowa.
- Wind easements are the most common easements granted in Iowa.
- Few owners have already enrolled in or are considering participating in carbon credit programs, and most are either not interested or have never heard of them.

Chapter 8 Regional Analysis

This chapter presents the regional differences for land ownership and tenure in Iowa and the comparisons based on the USDA crop reporting districts. The tables from earlier publications can be found in Appendix A. The counties in the crop reporting districts and each region are listed and shown in Figures 2.1 and 2.2 of Chapter 2.

The percentage of farmland in each district and the state average by ownership type in 2022 are shown in Table 8.1. There are some regional differences observed. Farmland in the northern districts has more land held as joint tenancy than in all other districts, while the West Central district has the highest percent of land held as sole owners and in trusts. The use of trusts is considerably lower in the Northeast and Southeast districts. Joint tenancy and sole ownership jointly account for 43-67% of the land in each district.

Table 8.1. Percentage of farmland by crop reporting district and ownership type, 2022.

Ownership Type	NW	NC	NE	WC	C	EC	SW	SC	SE	State
Sole owner	26%	16%	30%	32%	26%	22%	12%	14%	23%	23%
Joint tenancy	33%	31%	37%	15%	23%	23%	38%	36%	32%	29%
Tenancy in common	0%	11%	2%	0%	16%	11%	0%	3%	3%	5%
Partnership	3%	0%	5%	0%	4%	0%	0%	5%	7%	2%
Estates	2%	3%	3%	2%	2%	0%	0%	3%	0%	2%
Trusts	21%	24%	8%	32%	19%	26%	35%	27%	12%	23%
Corporations	8%	4%	7%	5%	8%	6%	4%	2%	12%	6%
LLC	7%	11%	9%	14%	2%	11%	12%	10%	11%	9%
Percent of land in district	13%	12%	12%	14%	13%	11%	9%	8%	9%	100%

Table 8.2 presents a summary of the rented land by region. In the Northwest, North Central, Central, and Southwest districts, the proportion of leased land exceeded the state average (58%). In the Northeast, South Central, and Southeast districts, less than 50% of the land was rented. Cash rent leases account for more than 83% of all rented farmland across all districts with the exception of the Northwest district, where crop share is more prevalent than in the other districts. Flexible cash rent lease agreements account for less than 25% of all leased acres across all districts except for the Northwest and Northeast districts, where these account for 29% and 32% of rented land, respectively.

Table 8.2. Percentage of leased Iowa farmland by crop reporting district and tenure, 2022.

	NW	NC	NE	WC	C	EC	SW	SC	SE	State
Crop share	21%	10%	<1%	12%	16%	13%	14%	7%	7%	12%
Cash rent	79%	90%	100%	88%	84%	87%	86%	93%	93%	87%
Flexible cash rent	29%	16%	32%	9%	15%	0%	20%	3%	<1%	15%
Percent of farmland leased	69%	64%	38%	53%	61%	51%	60%	49%	48%	58%

Table 8.3 shows the percentage of farmland by district and farming status. The two regions with the highest percentage of rented land also were the regions with the highest percentage of land owned by those who did not farm in 2022. Over 60% of the land in the Northwest and North Central districts was owned by those who did not farm. The lowest percentage of land owned by non-farmers was in the South Central district at 40%. Landowners who farm full time account for more than 50% of all actively farmed acres in all districts except the Southwest district, where these account for only 46% of all actively farmed acres.

Table 8.3. Distribution of Iowa farmland by crop reporting district and farming status, 2022.

	NW	NC	NE	WC	C	EC	SW	SC	SE	State
Farm full time	30%	18%	40%	24%	32%	31%	21%	31%	24%	28%
Farm part time	9%	15%	14%	18%	13%	17%	25%	29%	18%	17%
Do not farm	61%	67%	45%	58%	55%	52%	54%	40%	58%	55%

Summary

Some differences with respect to land ownership do exist across Iowa. For the most part, however, the major trends identified in earlier chapters are maintained even at the district level. It is important when reviewing the district summaries to remember the number of observations in each district is smaller and thus wider swings in results can be expected. The statistical sampling procedure explained in Appendix A allowed for these differences. Nonetheless, it is still in the reader's best interest to remember there is a wider variation in the regional estimates as compared to the state estimates.

- The farming status of landowners varies significantly across crop reporting districts.
- Over half of the farmland in seven districts is owned by people who do not farm, but the percentages vary substantially across districts.
- Full-time farming accounts for more than 50% of all actively farmed acres in eight districts, but the percentages vary across districts.
- Cash rent leases dominate the leasing arrangements across all crop reporting districts.
- Joint tenancy and sole ownership were found to jointly account for 43-67% of the land in each district.

Chapter 9 Summary, Comparisons, and Recommendations

This study focused on Iowa land ownership and tenure in 2022. Where possible, changes from the results of earlier surveys were provided to give a historical perspective. The analysis included land owned by type of ownership, tenure of the land, demographics of landowners, farmland acquisition, and anticipated transfer methods. The study also examined the use of conservation programs and conservation practices. This final chapter summarizes the survey methods, reviews the major conclusions from the 2022 study, contains policy implications of the results, and recommends avenues for future studies.

Summary of the Survey Methods

The selection of survey respondents concerning land ownership and tenure was made using a general sample of Iowa farmland. This survey methodology means that most of the time, the data presented here represents the percentage of farmland and not the percentage of farmland owners. However, the 2022 survey does allow some limited comparisons between the percentage of farmland and the percentage of farmland owners. In most cases, the percentage of owners matches the percentage of farmland, but not in every case. Therefore, it is important to keep the distinction in mind when reviewing the data.

The general sample selection utilized 705 scientifically selected, randomly chosen 40-acre tracts. Legal descriptions of the selected tracts were sent to county auditors who provided information about the owners of the agricultural land in those tracts. For some of the 40-acre tracts there was more than one separate ownership unit, resulting in 964 different sample units. In some cases, there were multiple owners within the same sample unit. After allowing for ineligible tracts, non-respondents, and other adjustments,
the work in this publication represents 359 completed telephone interviews. This was a 45% response rate from eligible respondents.

General Conclusions

Three major conclusions can be made regarding farmland ownership and tenure based on the 2022 study. Most of the changes were relatively small, involving only a one or two percent change from 2017. However, when viewed over the past 40 years, some of the changes were significant.

The first major conclusion from this study is the increasing age structure of farmland owners continues to move toward an older population of landowners. In 2022, about 66% of Iowa farmland was owned by people over 65. This was 6% higher than in 2017, and more than twice the level in 1982. In addition, farmland owners who were 75 years or above owned a record 37% of all acres in Iowa as of July 2022.
The aging farmland owner issue is not unique to Iowa and not unique to landowners either. The U.S. Census of Agriculture has revealed a continued aging of farm operators, which is consistent with the aging workforce in non-agricultural sectors across the nation. However, the continuation of aging farmland owners does pose significant challenges in accessing land, especially for beginning farmers.

This trend is echoed by the landowners' plans to transfer the land to the next generation. Willing or giving the land to family remained the most popular method of transferring land, accounting for nearly half of all acres in Iowa farmland. The second-most popular method for transferring farmland is a trust. Only 4% of Iowa farmland would be available for sale to a non-family member. The recent federal and state tax policy changes, especially the reinforcements of the stepped-up basis for farmland transition and 1031 exchange for farmland, likely will make for tight farmland markets with limited land sales.

A second major conclusion is the increasing move toward cash rental arrangements has continued. The amount of land that is rented has not changed substantially over the past few decades, but the amount of land cash rented increased substantially. In 1982, leased land was equally divided between cash rent and crop share leases. By 2007, 77% of the leased land was leased using cash rent. In 2022, 87% of the leased farmland was under a cash rent arrangement, primarily a fixed cash lease.

The third major conclusion is that there is a shift in ownership structure. The percentage of Iowa farmland owned under a sole proprietor business arrangement decreased 18% from 1982 to 2022. In 1982, 41% of the land in Iowa was held as sole proprietorship, but in 2022 this had dropped to 23%. Farmland held in joint tenancy (spouses for purposes here) remained steady from 2017 to 2022. Overall, joint tenancy ownership has dropped from 39% in 1982 to 29% in 2022.

Land in trusts is the ownership category that has seen the largest increase. In 1982, only 1% of the land was in a trust; by 2022, 23% was in a trust. The use of trusts increased by 130% over the past 15 years. The majority of the trusts are revocable trusts, which indicates the owner is maintaining control of the trust but using this form of ownership as an estate planning and tax management tool or for some other reason. Another continuing change in ownership structure is the increased use of multiple ownership entities, especially LLCs. Land being owned by two trusts, a trust and a corporation, and a trust, a corporation, and an individual are some examples of these multiple ownership entities.

Most of the changes seen in land ownership and owner characteristics stem from these major forces in the land market. Some of the other changes are reflective of changing technology used in agricultural production and in the aging rural population in general.

Today in Iowa, 84% of the land is held without debt. Although the financing situation with respect to farmland has not changed dramatically since 2007, there has been a substantial change since 1982. In 1982, 62% of the land was held debt free and 18% was under a contract for deed. By 2022, there had been a significant shift, with 84% of the land held without debt and just 2% held under a contract for deed. This could result from the recent surge in commodity prices and aging landowners coupled with longer lengths of ownership. The unprecedentedly high government payments during the pandemic period also played a role. Increasing land value and the shifts into conservation programs and easements also can potentially induce this outcome. During the period of rapid land value increases in the 1970s, land contracts were a popular form of financing. The low use of land contracts today may indicate the change in circumstances since that time.

The percentage of land owned by those with a high school degree or less continued to decrease from 65% in 1982 to 35% in 2022. The amount owned by those with a college degree grew by 13% compared to 15 years ago. The biggest increases are found among land owned by those with some post-high school education or a college degree. This change in education level reflects a change in the population and a change in the complexity of running a farm today.

The majority of land, nearly 55%, was owned by those who reported they did not farm in 2022. A fair portion of the land, 29%, was owned by someone who said they have no farming experience; and, another 25% was owned by either retired farmers or owners with some farming experience but employed off the farm. This indicates two trends from the data. First, even after retirement, owners will tend to hold on to their land. Second, there has been an increase in the percentage of land being purchased by those who are classified as investors or landowners who inherited land, and many of them have no farming experience.

The conclusion that farmers retain ownership of their land is reinforced by the reported reasons for owning land. Almost all land is owned either for income, long-term investment, or sentimental reasons. In 2022, 37% of the land was owned by those who identified family or sentimental reasons as their primary reason for ownership. This increased from 29% in 2017, and also represented a change from 2007 when more people owned their land as a long-term investment versus for current income. This is concurrent with the increasing amount of land held by late-stage landowners and land owned free of debt.

The 2022 survey also revealed that 7% of all acres in Iowa currently grew cover crops and 30% of acres were farmed using no-till, an increase from 4% and 27%, respectively, in 2017 and a growing recognition of key conservation practices. Sixteen percent of farmland owners expressed willingness to pay a portion of costs to encourage more adoption of conservation practices on the land they own. There are drivers other than cost-share payments to be explored for landowners to enroll in conservation programs. Additionally, farmers have a low level of familiarity with and participation in carbon credits programs.

Farmland ownership is a dynamic and fluid situation. Although farmland often is held for a long period of time, as revealed by the survey, the ownership structure, tenancy, and transitions of farmland do respond to macroeconomic changes in federal and state policies as well as key commodity market trends. A number of key issues that are worth watching closely over the next few years include rising interest rates, changes in estate and capital gains tax policy, including stepped-up basis, agricultural trade uncertainty, and differential tax treatments on income from cash rent versus crop share.

Currently, the majority of the land is owned by an aging population and a growing number of owners with no farming experience. As they pass on, it appears they will be transferring the land within the family using a variety of techniques. Given the aging population, the majority of the trends revealed in this survey likely will continue. Iowa can expect more of its farmland will be owned by those who are not full-time residents, there will be significant changes in the ownership structure, and there will be a continued move toward cash rented land.

Appendix A Methodology Report

Iowa Farmland Ownership and Tenure Survey

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Iowa farmland ownership surveys have been conducted by Iowa State University researchers for over 60 years. In 2022-23 Iowa State University's Center for Survey Statistics and Methodology conducted the Iowa Farmland Ownership and Tenure Survey, a statewide telephone survey of owners of farmland in Iowa under the sponsorship of the Iowa State Department of Economics. This longitudinal survey has been conducted every five years since 1988. This report describes the methods used to design the sample, collect data, and create summary tables for the study. The Next Section describes the sampling design methodology for the study and the data collection procedures, and the last section describes weighting and estimation procedures.

Sampling Design and Data Collection Procedures

The target population for this study is Iowa land that was used for agricultural purposes as of July 1, 2022. Since no complete list of owners of Iowa farmland is available, owners of the land were sampled through a two-stage area sampling design.

The first stage of sampling consisted of randomly selecting 705 40-acre tracts of land in Iowa, where a tract is a quarter of a quarter section in the Public Land Survey System. This sample of tracts was selected in 1988 and has been used every five years for the Iowa Land Ownership Survey. The sampling design for the survey tracts selection was stratified simple random sampling without replacement, where the strata were counties.

The next step consisted of identifying and contacting the owners of the selected tracts of land. Legal descriptions of the selected tracts were forwarded to appropriate county auditors to identify owners by name and address. Auditors also indicated whether the land was classified as agricultural. Most of the 40-acre tracts had one ownership arrangement, but some had multiple ownership arrangements. The part of a tract owned by a particular entity (individual, couple, cooperation, etc.) is called a parcel. All ownership arrangements for a tract were included in the sample.

The second stage of sampling related to owner selection for demographic data. Demographic information was obtained for all sole owners. If the ownership arrangement was spouses, demographic information was obtained about both people. In cases of multiple ownership other than spousal ownership, one owner was randomly selected for inclusion in the demographic description portion of the survey. Because of the selection of one sample owner from a set of owners, the sample is a two-stage sample.

Respondents were asked how many acres were owned as of July 1 in the particular ownership arrangement of the selected 40-acre plot, and subsequent questions were asked for all acres owned in that particular ownership arrangement. The acres in the ownership arrangement are called unit acres.

Prior to data collection, research staff located telephone numbers for owners using records from the 2017 survey and internet resources. If county auditors provided only company names, Iowa Land Records information and other online resources were referenced to identify the names of individual owners. Anticipated ownership type and potential proxy respondents also were identified by research staff based on information provided by the auditors and online searches. The owner of record for each parcel was sent an advance letter describing the study prior to the initial phone contact. If no telephone number could be located for an owner, a pre-addressed, postage-paid postcard was enclosed to be returned to research staff with a current phone number.

Interviewers were trained in telephone interviewing techniques and in project protocols. All interviews were conducted in the CSSM telephone lab using an online instrument programmed in Qualtrics. A manual of interviewing procedures, glossary, and question-by-question specifications were used for training and for reference throughout the interviewing process. Interviews were conducted from October 25, 2022, through February 15, 2023.

CSSM staff observed the following protocols when contacting sample respondents. Telephone numbers were tried at various times (e.g., days and evenings, weekdays and weekends). Non-working and incorrect numbers were identified and placed in a tracking queue for additional attempts to locate the owners. Phone numbers with no personal contact were rotated through a minimum of eight call attempts. Phone numbers with personal contact were attempted up to 30 times. Numbers were classified as Maximum Calls if no interview was obtained after these attempts. Land classified by the auditors as non-agricultural was recorded as Not Eligible and no attempts were made to contact those owners. During the interview screening process, it was learned some additional parcels were not used for agricultural purposes in 2022, and these also were recorded as not eligible.

Three types of follow-up letters with a $2 bill enclosed were sent to sub-groups of the sample during the data collection period:

1. Letters were sent to 68 individuals whose contact information had proven to be inaccurate. The letters included CSSM's toll-free phone number and a postage paid postcard was enclosed to be returned to research staff with a current phone number.
2. Letters were sent to 57 individuals with valid phone numbers who consistently did not answer their phone.
3. Refusal conversion letters were sent to 105 individuals who originally refused, asking them to reconsider.

Not every landowner who refused was sent a refusal conversion letter. As a result of all the letters, 43 additional interviews were completed. Two postcards were returned with contact information after data collection was completed.

Proxy interviews were conducted in 35 cases. Six completed cases involved land owned exclusively by institutions, and interviews were conducted with representatives of those institutions.

All interviews were conducted under the direct supervision of a telephone interviewing supervisor. The survey was programmed to include edit checks to detect illegal values and logic errors as responses were entered into the computer during the interview. Interviewers were monitored at random as a quality control measure and completed interviews were reviewed by a supervisor. Discrepancies, omissions, and unclear responses were clarified with the interviewer if possible. Data retrieval callbacks were made to the respondent by a senior interviewer or supervisor when required. Frequencies, cross tabulations, and edit checks were conducted to catch coding and entry errors. Corrections in the data were made as inaccuracies were found.

Table A1 contains the outcomes for the telephone survey. Of the 801 land parcels with unique ownership that were identified in the sample, 163 were determined to be not eligible because the land was classified as exempt and/or non-agricultural. This includes land owned by government entities and churches as well as residential property. Four owners each owned two of the sampled 40-acre plots in the same ownership type. Fifty-six respondents were contacted multiple times but no interview could be obtained. There were 137 respondents who refused to complete an interview. An additional 239 owners could not be located (in most cases, addresses were available but no telephone number was located). The remaining 359 cases resulted in completed interviews, for an overall response rate of 44.8%.

Estimation and Weighting

For the 2022 Iowa Farmland Ownership and Tenure Survey, two sets of weights were created, one set for acres and one set for owners. The acre weights are constructed to estimate characteristics of acres such as "number of acres owned by females." The owner weights are designed to estimate characteristics of owners such as "the number of owners that are female."

All weights are computed by district and region. Since the location of the "other" land that is owned is unknown, it is assumed the land is owned in the same district and region of selected parcel.

Table A1. Telephone survey outcomes 2022-2023.

	# of Cases	Percent
Total 40-acre tracts of Iowa farmland selected	**705**	
Total land parcels with unique ownership in sample	**964**	
Not eligible (classified exempt or non-agricultural)	121	
Not eligible (duplicate owners–Three owners each own two sampled parcels in the same manner Their information is included only once.)	4	
Not eligible government owns land	38	
Total eligible land parcels	**801**	**100.0%**
Unlocatable (no phone number available)	239	29.8%
Refused	137	17.1%
Maximum calls-unresolved	56	7.0%
Interviews started, not completed, not in data set	4	0.5%
Interviews completed	359	44.8%

Acre Weights

The sample tract is a 40-acre plot but the tract may consist of multiple ownership units. As defined, the ownership unit within the sample tract is called a parcel. It is assumed the probability of selecting a parcel is proportional to the maximum of 40 acres and the size of the parcel.

Then, the sampling weight for the *i*-th parcel in the *j*-th district and *k*-th region is

$$w^*_{1ijk} = \frac{A_{jk}}{n_{jk}\, a^*_{ijk}}\,, \qquad (1)$$

where

A_{jk}: Total acres of Iowa farmland in the *j*-th district and *k*-th region.

n_{jk}: a number of sampled parcels in the *j*-th district and *k*-th region.

a_{ijk} : Acres of the *i*-th parcel in the *j*-th district and *k*-th region.

$a^*_{ijk} = \max\,(40,\, a_{ijk})$

The sampling weights are adjusted so that the weighted sum of a_{ijk} is equal to the total acres of farmland in the *j*-th district and *k*-th region,

$$w_{1ijk} = w^*_{1ijk}\, r_1, \qquad (2)$$

where

$$r_1 = \left(\sum_i \frac{1}{n_{jk} a^*_{ijk}} a_{ijk}\right)^{-1} = \left(\sum_i w^*_{1ijk} a_{ijk}\right)^{-1} A_{jk}\,.$$

Given sampling weights for parcels, the acre weights are

$$w_{ijk} = w_{1ijk}\, a_{ijk},$$

where w_{ijk} is the acre weight for the *i*-th parcel in the *j*-th district and *k*-th region.

The sum of acre weights preserves total size of farmland in the district and region. That is, we have that

$$\sum_{i \in S_{jk}} w_{ijk} = \sum_{i \in S_{jk}} w_{1ijk}\, a_{ijk} = A_{jk}$$

and

$$\sum_j \sum_k \sum_{i \in S_{jk}} w_{ijk} = \sum_j \sum_k \sum_{i \in S_{jk}} w_{1ijk}\, a_{ijk} = \mathrm{A}\,,$$

where S_{jk} is a set of sampled parcels in the *j*-th district and *k*-th region and A is total acres of Iowa farmland.

Since we collect information for both husband and wife in cases of couple ownership, half of the acre weight is assigned to each member of the couple. For example, if an acre weight is 200 and the ownership arrangement is a couple, then the husband gets a weight of 100 and the wife gets a weight of 100. In other words, the data set contains a row of data for the husband and a row for the wife and each row is given a weight equal to one half of the acre weight.

Owner Weights

To create sampling weights based on owners, "total acres" of farmland owned by each owner is required. The construction of person weights is described below. Six ownership types are described as follows:

Table A2

Type	Description
1	CorrOwnT = 1 and OwnMore = 2
2	CorrOwnT != 1 and Spouse = 1 and OwnMore = 2
3	CorrOwnT = 1 and OwnMore = 1
4	CorrOwnT != 1 and Spouse = 1 and OwnMore = 1
6	Not 1-4 and OwnOth = 88888 or OwnSole = 88888
5	Remainder

For each type, missing values for OwnSole, OwnOth, NumOwner, and Acres are set to the mean of the non-missing values for the type. A missing value is indicated by a 99 or 99999. For types 3, 4, and 5, a NumOwnO value of 88 is set to infinity. The weights, b and d, are defined as follows:

Table A3

Type	B	d
1	Acres	Acres
2	Acres	Acres/2
3	Acres + OwnSole + Own-Oth/ NumOwnO	Acres + OwnSole + Own-Oth/ NumOwnO
4	Acres + OwnSole + Own-Oth/ NumOwnO	Acres/2 + OwnSole + Own-Oth/ NumOwnO
5	Acres/NumOwner + Own-Sole+OwnOth/NumOwnO	Acres/NumOwner + Own-Sole+OwnOth/NumOwnO
6	Acres/NumOwner	Acres/NumOwner

Set 1 is composed of types 1,2 and Set 2 is composed of the remaining types:

$$\mathrm{B_{1jk}} = \sum_{i \in S_{1jk}} w_{ijk} \qquad (3)$$

and

$$\mathrm{B_{2jk}} = \sum_{i \in S_{2jk}} w_{ijk} = \mathrm{A_{jk}} - \sum_{i \in S_{1jk}} w_{ijk}\,, \qquad (4)$$

where

A_{jk}: total acres of Iowa farmland in the *j*-th district and *k*-kth region.

w_{ijk} : acre weight for *i*-th owner whose parcel in the *j*-th district and *k*-th region. It is the acre weight calculated in the previous section for the *i*-th parcel in the *j*-th district and *j*-th region. But here we focus on the ownership of the corresponding parcel.

S_{1jk}: a set of parcels owned by ownership type (1) or (2).

S_{2jk}: a set of parcels owned by ownership type (3) or (4) or (5).

B_{1jk}: adjusted total acres of Iowa farmland in the *j*-th district and *k*-th region in set S_{1jk}.

B_{2jk}: adjusted total acres of Iowa farmland in the *j*-th district and *k*-th region in set S_{2jk}.

The probability that *i*-th owner is sampled is assumed to be proportional to owner's total acres, denoted by b_{ijk}, and is defined as "Acres for weighting" in the Table A2. Since we observe both husband and wife information, the whole unit acres Q9a is proportional to probability of selection of either. The rule preserves the sampling probability for owners across all ownership types. We use half of unit acres (Q9a/2) when estimating acres, because each member of the couple is given one half of the acres. Also the owner weights can be different in a couple, because husband and wife may have other land owned as sole owner (Q61) or other land owned as joint owners (Q62). In cases (2) where the ownership arrangement is husband and wife and they do not own any acres in other ways, the husband and wife have the same total acres and same owner weight.

The initial owner weight is the sampling weight for the *i*-th owner in the *j*-th district and *k*-th region as

$$q^*_{ijk} = I\{i \in S_{1jk}\}\frac{B_{1jk}}{m_{1jk}b^*_{ijk}} + I\{i \in S_{2jk}\}\frac{B_{2jk}}{m_{2jk}b^*_{ijk}}, \quad (5)$$

where

m_{1jk}: a size of S_{1jk}. That is, the total number of owners whose parcels are in S_{1jk}.

m_{2jk}: a size of S_{2jk}. That is, the total number of owners whose parcels are in S_{2jk}.

b_{ijk}: total acres of the *i*-th owners in the *j*-th district and *k*-th region.

$b^*_{ijk} = \max(40, b_{ijk})$.

$I\{i \in S_{1jk}\}$: an indicator function.$I\{i \in S_{1jk}\}$ if the *i*-th owner is in set S_{1jk}, otherwise it is 0.

The initial owner weights are adjusted so that the weighted sum of b_{ijk} is equal to the adjusted total acres of farmland in *j*th district and *k*th region. So the final owner weights q_{ijk} are

$$q_{ijk} = q^*_{ijk} r_2 \quad (6)$$

where

$$r_2 = I\{i \in S_{1jk}\}\left(\sum_{i\in S_{1jk}} \frac{1}{m_{1jk}b^*_{ijk}} d_{ijk}\right)^{-1} + I\{i \in S_{2jk}\}\left(\sum_{i\in S_{2jk}} \frac{1}{m_{2jk}b^*_{ijk}} d_{ijk}\right)^{-1}$$

and

$$\sum_{i\in S_{1jk}} q_{ijk}\, d_{ijk} = B_{1jk}$$

and

$$\sum_{i\in S_{2jk}} q_{ijk}\, d_{ijk} = B_{2jk},$$

where d_{ijk} is the total acres for estimation of the *i*-th owner in the *j*-th district and *k*-th region and is obtained from "Acres for estimation" of Table 2. The d_{ijk} is the total acres owned by the individual, where acres in a multiply owned unit allocated to an owner in the acres in unit divided by number of owners. Because half of acres of unit (Q9a/2) is total acres in estimation for a member of a couple, d_{ijk} is different from b_{ijk} for couple ownership type. The final owner weights satisfy the following two equations:

$$\sum_{i\in Q_{jk}} q_{ijk}\, d_{ijk} = \sum_{i\in S_{1jk}} q_{ijk}\, d_{ijk} + \sum_{i\in S_{2jk}} q_{ijk}\, d_{ijk} = A_{jk}$$

and

$$\sum_j \sum_k \sum_{i\in Q_{jk}} q_{ijk}\, d_{ijk} = A,$$

where Q_{jk} is a set of owners in the *j*-th district and *k*-th region and $Q_{jk} = S_{1jk} \cup S_{2jk}$.

Ratio estimators of categorical variables

This section describes how to construct ratio estimates of categorical variables using acre weights and owner weights, respectively. As before:

Table A4

Type	Description
w_{1ijkl}	Inverse of selection probability for sampled parcel
a_{ijkl}	Acres of sampled parcel
w_{ijkl}	Acre weights $w_{ijkl}=w_{ijkl}\cdot a_{ijk}$
q_{ijkl}	Owner weights Inverse of selection probability for observed person
g_{ijkl}	Indicator of categorical variable
n_{ij}	A sample size of fixed district and region

i:district (*i*=1,…D) ; *j*: region (*j*=1,..,R); *k*: sample (*k*=1,…,n_{ij}); *l*: category (l=*1*,…L).

(i) Use of acre weights (fraction of acres in category l)

$$\hat{\theta}_{Al} = \frac{\sum_{i=1}^{D}\sum_{j=1}^{R}\sum_{k=1}^{n_{ij}} w_{ijkl}g_{ijkl}}{\sum_{i=1}^{D}\sum_{j=1}^{R}\sum_{k=1}^{n_{ij}}\sum_{l=1}^{L} w_{ijkl}g_{ijkl}} \quad (7)$$

(ii) Use of owner weights (fraction of owners in category l)

$$\hat{\theta}_{ol} = \frac{\sum_{i=1}^{D}\sum_{j=1}^{R}\sum_{k=1}^{n_{ij}} q_{ijkl}g_{ijkl}}{\sum_{i=1}^{D}\sum_{j=1}^{R}\sum_{k=1}^{n_{ij}}\sum_{l=1}^{L} q_{ijkl}g_{ijkl}} \quad (8)$$

Two examples of gender and age are presented in Table A5 and Table A6. The estimate θ_A in Table A5 represents the proportion of total acres owned by males and by females and is obtained from E_q. (7). The estimate θ_o in Table A6 represents the proportion of owners that are male or female and is obtained from Eq. (8). The meaning of ratio estimates in Table A6 is analogous to those in Table A5. All variance estimates were computed with R (svydesign and svyratio) or SAS (survey means). District and region information is used to define strata and case ID is used as cluster. The R code for the two examples is available upon request.

Table A5. Ratio Estimates and Standard Error For Gender.

Gender	$\hat{\theta}_A$(std error)	$\hat{\theta}_o$(std err)
Male	52.7% (1.8%)	50.9% (2.0%)
Female	47.3% (1.8%)	49.1% (2.0%)

Table A6. Ratio Estimates and Standard Error For Age.

Age	$\hat{\theta}_A$(std error)	$\hat{\theta}_o$(std err)
<25	.2% (.2%)	.03% (.03%)
25-34	.9% (.4%)	2.0% (1.0%)
35-44	4.1% (.9%)	6.6% (1.9%)
45-54	11.0% (1.4%)	16.1% (2.7%)
55-64	24.7% (2.0%)	24.8% (2.8%)
65-74	25.6% (2.0%)	24.6% (2.8%)
>75	33.5% (2.2%)	25.8% (2.9%)

T-test for the difference between two-year ratios

Let θ_1 be the ratio estimate for year 1, and θ_2 be the ratio estimate for year 2. The null hypothesis is that the two ratios are equal. Then the t statistic is

$$t = \frac{\hat{\theta}_1 - \hat{\theta}_2}{\sqrt{V(\hat{\theta}_1 - \hat{\theta}_2)}}, \quad (9)$$

where the variance estimate for the difference, denoted as $V(\theta_1-\theta_2)$, can be estimated as follows. Let n_1 be the number in sample for year 1, n_2 be the number in sample for year 2, n_12 be the number in sample for both year 1 and year 2, V_1 be the estimated variance for year 1, V_1 be the estimated variance for year 2, and *p* be the sample correlation computed using elements common to the two years. Then an estimate of the variance of the difference between the two estimates is

$$V(\hat{\theta}_1 - \hat{\theta}_2) = V_1 + V_2 - 2\, n_{12}(\, n_1\, n_2)^{-0.5}(V_1 V_2)^{0.5}\rho \quad (10)$$

Here is an example to test whether free-of-debt ratios in 2012 and 2017 surveys are equal. The results are listed in Table A6. Corresponding R code is available upon request.

Table A7. T-test Statistic and Variance for Free of Debt Ratios in 2012 And 2017 Surveys.

$\hat{\theta}_A$(std error) 2017 survey	$\hat{\theta}_A$(std error) 2012 survey	$\theta_1-\theta_2$	std. error	t statis-tic
80.0% (1.6%)	77.4% (1.6%)	2.5%	2.07%	1.23

Appendix B

2022 Land Ownership and Tenure Questionnaire

Introduction–Beginning

Hello, this is (your name) calling for the Economics Department at Iowa State University. May I please speak to (owner name)?

Recently, Iowa State University sent you a letter about a land ownership research study we are conducting for the state legislature. Did you receive this letter?

1 = Yes

2 = No [EXPLAIN PROJECT - READ LETTER IF NECESSARY.]

As the letter stated, we would like to talk with you for about 15-20 minutes about some land that you own in Iowa. Is this a good time for you?

Before I ask any questions, I want to assure you that any information you provide will be kept strictly confidential and used only for the purposes of this research. Your participation is voluntary and if you feel any question is too personal, you do not have to answer it. First, I need to verify some information.

Introduction– Callback

Hello, this is (your name) calling for the Economics Department at Iowa State University. May I please speak to (owner name)?

I'm calling back about the land ownership research study we are conducting for the state legislature. Is this still a good time for you to complete the interview? It will take 15 to 20 minutes.

1 = Yes

2 = No > [SCHEDULE CALLBACK.]

Before we begin, I want to assure you that any information you provide will be kept strictly confidential and used only for the purposes of this research. Your participation is voluntary and if you feel any question is too personal, you do not have to answer it. First, I need to verify some information.

Screener

1a. According to tax records, as of July 1, 2022, you had an ownership interest in land located in _____ County, _____ Township, Section _____, the _____ Quarter of the _____ Quarter. Is that correct?

1 = Yes [GO TO Q2a.]

2 = No

3 = Respondent represents the owner (Proxy) [GO TO Q2a.]

4 = Institution owns land [GO TO Q2a.]

[IF DON'T KNOW, PROBE TO CLARIFY. IF NECESSARY, FIND OUT WHO CAN VERIFY OWNERSHIP, AND RECORD NAME, AND PHONE NUMBER FOR SUPERVISOR TO CALL. END CALL.]

IF NO, ASK:

b. Did you have an ownership interest in this land before July 1, 2022?

[IF NO: PROBE TO DETERMINE ERROR AND DESCRIBE ON ROC.]

[IF YES, ASK Q1c.]

c. Who owned this land as of July 1, 2022?

IF THEY KNOW: RECORD OWNER'S NAME, PHONE NUMBER, AND ADDRESS ON ROC.

IF THEY DON'T KNOW: PROBE TO CLARIFY. IF POSSIBLE, FIND OUT WHO CAN VERIFY OWNERSHIP, AND RECORD NAME, AND PHONE NUMBER FOR SUPERVISOR TO CALL.]

[AFTER RECORDING INFORMATION ON ROC: Thank you for helping us update our records. Iowa State University greatly appreciates your time (today/this evening). END CALL.]

2a. Was this land used for agricultural purposes (crops, livestock, etc.) this year? (in 2022)

1 = Yes [GO TO Q3a.]

2 = No

2b. Is this land a home site which is adjacent to property you own that is being used for agricultural purposes?

1 = Yes [GO TO Q3a.]

2 = No > c. What is this land used for? [OPEN-ENDED]

[IF NO TO Q2a AND 2b, CLOSE: That's all the information we need for this study. Iowa State University thanks you for your time (today/this evening).]

Our records show that as of July 1, 2022 you owned this parcel of land as a [FILL OWNERSHIP TYPE]. Is this correct?

[IF YES: SELECT THE CORRESPONDING OWNERSHIP TYPE BELOW]

[IF NO, ASK: In what manner did you own this land?

3a. Our records show that as of July 1, 2022 you owned this parcel of land as a [FILL OWNERSHIP TYPE]. Is this correct?

[IF YES: SELECT THE CORRESPONDING OWNERSHIP TYPE BELOW]

[IF NO, ASK: In what manner did you own this land?

THEN SELECT THE CORRECT OWNERSHIP TYPE BELOW]

1 = Sole owner

2 = Joint tenancy (includes husband/wife)

3 = Tenancy in common

4 = Partnership (Legal)

5 = Life estate

6 = Unsettled estate

7 = Trust

8 = Corporation

9 = LLC

10 = LLP, LLLP, Limited partnership

11 = Foundation

12 = Other [IF other, SPECIFY: _____]

[IF Q3a = 1, SOLE OWNER, GO TO Q6a]

{If Q3a = 7 Trust}

3b. Is the trust a revocable living trust or an irrevocable trust?

1 = Revocable living trust

2 = Irrevocable trust

3 = Don't Know

{If Q3a = 8 or 9}

1	Respondent/Owner1
2	Owner 2
3	Owner 3
4	Owner 4
5	Owner 5
6	Owner 6
7	Owner 7
8	Owner 8
9	Owner 9
10	Owner 10
11	Owner 11
12	Owner 12
13	Owner 13
14	Owner 14
15	Owner 15

3c. Is the corporation that owns this land

1 = a C corporation,

2 = an S corporation or

3 = a nonprofit corporation?

4 = don't Know

{If Q3a = 4, 7, 8, 9, or 10}

3d. What is the primary purpose of your (corporation, trust or partnership)? Is it for agricultural production or an investment?

1 = Agricultural production

2 = Investment

3 = Some of each, some owners for ag production, some for an investment

{If Q3a = 4, 7, 9, or 10}

3e. What is your role in the (corporation, trust or partnership)? Are you:

1 = an Owner,

2 = a trustee, or

3 = a registered agent (only)?

4 = OTHER

4a. How many people, including you, have an ownership interest in this land?
_____# owners

{IF Q4a = 1, GO TO Q6a

IF Q4a = 2, GO TO Q4b below

IF Q4a > 2, GO TO Q5a}

4b. IF Q4a = 2, ASK: Is the other owner your (husband/wife)?

1 = Yes {IF YES, GO TO Q6a}

2 = No

5a. I may need to ask a few questions about one of the other owners later in the interview. In order to select which owner, I need to list their first names. What are the first names of the other owners?

[IF RESPONDENT IS AN OWNER, LIST RESPONDENT FIRST.]

5b. [IF #1 SELECTED, SAY:] According to our selection process, you are the only owner we will need to talk with.

[IF #2 OR GREATER SELECTED, SAY:] According to our selection process, [FILL NAME2] is the other owner we will need to ask about.

6a. Next I have a few background questions. Do you live in Iowa year-round, part of the year, or not at all?

1 = Year-round in Iowa

2 = Part of the year in Iowa

3 = Not at all in Iowa (but in the United States)

4 = Not at all in Iowa (outside the US, in another country)

6b. Are you a legal resident of Iowa for tax purposes?

1 = Yes {GO TO: Q6c.}

2 = No {GO TO: Q6d.}

{IF Q6b = 1}

6c. Which county in Iowa (do you live in)? (Dropdown list)

{IF Q6b = 2}

6d. Which state is your legal residence? (Dropdown list)

{IF Q4a > 2 (3+ owners) or IF Q4b = 2 (not spouse), ASK Q7a-e. ELSE, GO TO Q8a.}

7a. How many of the other owners live in Iowa year-round? _____

7b. How many (of the other owners) live in Iowa part of the year? _____

7c. How many (of the other owners) do not live in Iowa at all but live in the US? _____

7d. How many (of the other owners) do not live in the US? _____

TOTAL for Q7a+b+c+d MUST EQUAL Q4a minus 1.

7e. How many of the other owners are members of your family? (related to you by blood or marriage) Would you say . . .

1 = All of them

2 = Some of them or

3 = None of them?

Land Ownership

8a. Now I would like you to think of all the Iowa farmland owned by [FILL OWNERS FROM SAMPLE] as a [FILL TYPE OF OWNERSHIP] as of July 1, 2022. Do not include land owned in another manner. Please include land mortgaged, and land being purchased on contract, as well as any land owned free of debt.

As of July 1, 2022, how many acres of Iowa farmland were owned by [FILL OWNER/S FROM THE SAMPLE] (as a [FILL TYPE OF OWNERSHIP])? _____

8b. How many of these acres are located in [FILL COUNTY FROM SAMPLE] County, Iowa? _____

9a. Of the [FILL Q8a] acres, how many are fully paid for? _____

9b. Of these acres, how many are being bought under purchase contract or contract for deed? _____

9c. Of these acres, how many are mortgaged? _____

9d. Of these acres, how many are owned under other financial arrangements? _____

9e. [IF Q9d > 0, ASK:] What is the other type of arrangement? (Describe) _____

TOTAL NUMBER OF ACRES IN Q11a+b+c+d MUST EQUAL ACRES IN Q9a. IF DIFFERENT, PROBE TO RESOLVE.

10a. How many acres of this land did you purchase? _____ (as opposed to inherit, or receive as a gift)

10b. How many acres of this land did you receive as a gift from a person who was living at the time of the transfer?_____

10c. How many acres of this land did you inherit? _____

10d. How many acres of this land did you obtain in some other way? _____

TOTAL NUMBER OF ACRES IN Q10a+b+c+d MUST EQUAL ACRES IN Q8a.

10e. [IF Q10d > 0, ASK:] You indicated that [FILL 10d] acres were obtained in another way.
How did you obtain those acres? (Describe) _____

10f. IF Q10d > 0. ASK:] How many of those acres were obtained from a family member? _____

10g. IF Q10a > 0, ASK: How many of the acres you purchased were bought at an auction? _____

10h. IF Q10a > 0, ASK: How many of the acres you purchased were bought from a family member? _____

10i. IF Q10c > 0, ASK: You indicated that you inherited farmland. Did you inherit that land after the death of the owner, after the termination of a life estate or after the termination of a trust?

1 = After death of owner

2 = After termination of a life estate

3 = After termination of a trust

4 = DK/RF

11. Next think about how long you have owned this land (that you own as [OWNERSHIP TYPE.])
What year did you acquire the (first/next) parcel of this land?

How many acres was that?

REPEAT UNTIL ALL ACRES OWNED AS A [OWNERSHIP TYPE] ARE ACCOUNTED FOR.

Year	Acres

LAND USE AND CHARACTERISTICS

12a. On July 1, 2022, did you live on any Iowa farmland that you owned as a [FILL TYPE OF OWNERSHIP]?

1 = Yes [GO TO Q13a]

2 = No

12b. IF Q12a = NO, ASK: Did you live on any other farmland that you (or your spouse) own?

1 = Yes

2 = No

13a. Thinking of the land you own as a [FILL TYPE OF OWNERSHIP], as of July 1, 2022, how many of these acres were being rented or leased to someone else for agricultural purposes, including farmsteads?

_____ acres

13b. How many of these acres were being rented or leased to someone else for industrial or commercial purposes?

_____ acres

13c. How many of these acres were being rented or leased to someone else for hunting or recreational purposes?

_____ acres

13d. How many of these acres were being rented or leased to someone else for some other purpose?

_____ acres

13e. What purpose was that? (describe)_____

[TOTAL SHOULD NOT EXCEED Q8a ACRES]

[IF Q13a. = 0, SKIP Q14a-f AND GO TO Q15a.]

14a. Thinking of the [FILL # FROM Q13a] acres rented or leased for ag purposes in 2022, how many of these acres were used for cropland (including hay ground)? _____ acres

14b. How many of these acres were used for pastureland? (not harvested) _____ acres

14c. How many of these acres were used for forest, timber, or woodland? _____ acres

14d. How many of these acres were used for livestock facilities? _____ acres

14e. How many of these acres were used for other uses, such as farmsteads, buildings, ponds, roads, ditches, or wasteland? _____ acres

[TOTAL Q14a-e SHOULD NOT EXCEED Q8a ACRES]

15a. In 2022 was any of the land you own as a [FILL TYPE OF OWNERSHIP] being farmed or operated by you (or your spouse or any of the other owners) or under your control?

(This includes any land in crops, livestock, pasture, farmstead or timber. It includes land you pay to have custom farmed or handled by a professional farm manager, as well as land in CRP or other conservation programs.)

1 = Yes (with crops/livestock)

2 = Yes (only farmstead/timber/CRP, acres not farmed)

3 = No [GO TO Q19a]

15b. How many acres were operated by you or any of the other owners? _____ acres

[NOTE: TOTAL ACRES RENTED OUT (Q13a-d) + ACRES OPERATED BY YOU (Q15b) MUST EQUAL ACRES OWNED in Q8a. IF NOT, PROBE.]

16a. In 2022 were any of the acres that you own as a [FILL TYPE OF OWNERSHIP] entirely custom farmed by someone else, for all production operations?

1 = Yes

2 = No [GO TO Q17a]

16b. IF Q16a = 1 (YES) ASK: How many acres were custom farmed? _____ acres

17a. In 2022 were any of the acres that you own as a [FILL TYPE OF OWNERSHIP] under a production contract for either crops or livestock?

1 = Yes

2 = No [GO TO Q18a]

17b. IF Q17a = 1 (YES) ASK: How many acres were under a production contract? _____ acres

17c. Was this contract for livestock, for producing crops for seed, or something else?

1 = Livestock custom feeding

2 = Manure application/easement

3 = Seed (or specialty crop) production

4 = Other (Describe 17c_Spec _____)

18a. In 2022 were any of the acres that you own as a [FILL TYPE OF OWNERSHIP] being handled on your behalf by a professional farm manager?

1 = Yes

2 = No [GO TO Q19a]

18b. IF Q18a = 1 YES, ASK: How many acres? (were handled by a professional farm manager)? _____ acres

18c. IF Q18a = 1 YES, ASK: Is the professional farm manager paid a flat dollar fee, a percentage of the gross income, or in some other way?

1 = Flat dollar fee (either total or per acre)

2 = Percentage of gross income

3 = Other way [ASK Q18c_Spec]

18c. Spec. IF OTHER, ASK: How is the farm manager paid? (Describe) _____

18d. IF Q18c = 2, PERCENTAGE, ASK: What percentage of the gross income is paid to the farm manager? _____%

18e. What kind of arrangement does the farm manager have with the farmer who operates (or actually farms) this land? Is it a

1 = Fixed cash lease

2 = Flexible cash lease (varies with yields and/or prices)

3 = Crop share lease

4 = Custom farming arrangement

5 = Something else [ASK Q18e_Spec]

18e_spec. IF ANOTHER ARRANGEMENT, ASK:

What type of arrangement is used? (Describe) _____

19a. Sometimes people have transferred certain rights associated with their land to others. These rights are for nonagricultural uses such as mineral rights, wind turbines, electrical power lines, or pipelines. Transfers like this may be in the form of a deed, lease, easement or option. Have any of the rights on this farmland been sold or leased to others?

1 = Yes

2 = No [GO TO Q20a]

[IF Q19a = 1 YES, ASK Q19b-g:]

19b. Are there wind generation easements on this land?

1 = Yes

2 = No

19c. Are there solar energy easements on this land?

1 = Yes

2 = No

19d. Are there oil or gas pipeline easements on this land?

1 = Yes

2 = No

19e. Are there carbon pipeline easements on this land?

1 = Yes

2 = No

19f. Are there any other easements or rights that have been transferred on this land?

1 = Yes [GO TO Q19f_spec]

2 = No

19f_spec. [IF Q19f = 1 YES, ASK:] What other easements are on this land? (Describe) _____

IF NO TO ALL OF Q19b-f, PROBE. EITHER CHANGE Q19a TO NO, OR INDICATE WHICH TYPE OF EASEMENT EXISTS.

19g. [IF Q19a = 1 YES, ASK:] Were any of these easements sold (with a one-time payment), leased (with royalty payments), or both sold and leased?

1 = Sold (one-time payment)

2 = Leased (include royalty payments)

3 = Both sold and leased

4 = Don't Know

20a. Have any of the property rights on the land you own as a [FILL TYPE OF OWNERSHIP] been placed in any non-government conservation easement programs, such as Ducks Unlimited, Pheasants Forever, or the Iowa Heritage Foundation? (also the American Farmland Trust, the Conservation League, the Sustainable Iowa Land Trust)

1 = Yes

2 = No [GO TO INSTRUCTIONS BELOW Q20b.]

20b. [IF Q20a = 1 YES, ASK:] How many acres does this involve? _____ acres

20c. [IF Q20a = 1 YES, ASK:] Were these rights donated or sold?

1 = Donated

2 = Sold

3 = Don't Know

[IF NO RENTED ACRES IN Q13a, GO TO Q48.]

You indicated that [FILL #] acres of your land that you own as a [TYPE OF OWNERSHIP] were being rented or leased for agricultural purposes this year. Next, I have several questions relating to those acres and the rental agreements that you have.

21. How many of those acres were rented out for cash rent this year (in 2022)? _____ acres

[IF Q21 = 0, NO CASH RENT, GO TO Q33, CROP SHARE SECTION]

22a. [IF Q21 > 0 ACRES, ASK] How many different tenants are involved? _____ tenants

[IF Q22a = 1, GO TO Q23]

22b. {IF Q22a. > 1, ASK:} Think of the tenant who rents the greatest number of these acres from you (for cash rent). How many acres does that tenant rent from you? _____ acres

23a. Approximately how old is your tenant? Would you say . . .

1 = Less than 35 years old

2 = 35 to 50

3 = 51 to 65

4 = Over 65

5 = DK/RF

23b. How many years has this tenant been renting this land? _____ years

{IF Q23b. < 10, ASK:}

23c. Approximately how many years of farming experience does this tenant have? _____ years

24. Is your rental agreement written or verbal?

1 = Written

2 = Verbal [GO TO Q26]

25. [IF Q24 = 1 WRITTEN, ASK:] How many years is the lease (or rental agreement) for?

_____ years

26. How many rent payments do you receive per year (for the acres that are cash rented) from this tenant?

1 = One payment

2 = Two payments

3 = Three payments

4 = Four payments

5 = Twelve monthly payments

6 = Other, it varies, no set schedule

27. Is the cash rent a fixed amount, or is it flexible, based on the actual yield or price?

1 = Fixed amount

2 = Flexible, based on the actual yield

3 = Flexible, based on actual crop price

4 = Flexible, based on both actual yield and price

28. Is this tenant a relative (by blood or marriage), a neighbor, a close friend, or someone else?

1 = Relative

2 = Neighbor

3 = Close friend

4 = Someone else

29. Does your tenant…

	Yes	No
a. tell you what crop yields are obtained on this land?	1	2
b. regularly communicate with you?	1	2
c. take good care of your land?	1	2
d. respect your wishes?	1	2
e. pay you a fair price?	1	2

30. Overall, are you satisfied with your tenant?

1 = Yes

2 = No

31. Which one of the following factors is the primary reason you chose your tenant? Would you say it was because…

1 = your tenant is a family member

2 = your tenant farms other land close to yours

3 = your tenant is a good land steward

4 = you wanted to help your tenant get started in farming

5 = you received a Beginning Farmer tax credit by renting to your tenant

6 = your tenant would pay the highest rent

7 = another reason

32. How often do you (or the other owners) actually go to the site to check on this land during a typical farming season? Would you say…

1 = Never

2 = Once or twice during the farming season

3 = Once a month

4 = Once a week

5 = Daily

33. How many acres were rented on a crop-share basis?_____ acres

[IF Q33 = 0, NO CROP SHARE, GO TO Q47a – OTHER RENTAL]

34a. IF 33 >0, ASK: How many different tenants are involved? _____ tenants

[IF Q33a = 1, GO TO Q23]

34b. {IF Q33a. > 1, ASK:} Think of the tenant who rents the greatest number of these acres from you (on crop share). How many acres does that tenant rent from you? _____ acres

35. Is this tenant a relative (by blood or marriage), a neighbor, a close friend, or someone else?

1 = Relative

2 = Neighbor

3 = Close friend

4 = Someone else

36a. Approximately how old is your tenant? Would you say . . .

1 = Less than 35 years old

2 = 35 to 50

3 = 51 to 65

4 = Over 65

5 = DK/RF

36b. How many years has this tenant been renting this land? _____ years

{IF Q36b. < 10, ASK:}

36c. Approximately how many years of farming experience does this tenant have? _____ years

37. Does your tenant…

	Yes	No
a. tell you what crop yields are obtained on this land?	1	2
b. regularly communicate with you?	1	2
c. take good care of your land?	1	2
d. respect your wishes?	1	2

38. Overall, are you satisfied with your tenant?

1 = Yes

2 = No

39. Which one of the following factors is the primary reason you chose your tenant? Would you say it was because…

1 = your tenant is a family member

2 = your tenant farms other land close to yours

3 = your tenant is a good land steward

4 = you wanted to help your tenant get started in farming

5 = you received a Beginning Farmer tax credit by renting to your tenant

6 = your tenant would pay the highest rent

7 = another reason

40. Is your rental agreement written or verbal?

1 = Written

2 = Verbal [GO TO Q42a]

41. [IF Q40 = 1 WRITTEN, ASK:] How many years is the lease (or rental agreement) for?_____ years

42a. We are interested in how you are involved in your crop-share arrangement. Do you receive a percentage of the yield for corn?

1 = Yes

2 = No [GO TO Q43a]

42b. IF Q42a = 1 YES, ASK: What percent of the yield do you receive (for corn)? _____%

43a. Do you receive a percentage of the yield for soybeans?

1 = Yes

2 = No [GO TO Q44]

43b. IF Q43a = 1 YES, ASK: What percent of the yield do you receive (for soybeans)? _____%

44. On average, what percent of the crop input costs, such as seed, fertilizer, pesticides, or drying costs, do you pay? _____%

45a. Is any custom fertilizer or pesticide application or custom harvesting done on your crop share acres?

1 = Yes

2 = No [GO TO Q46]

45b. IF Q45a = 1 YES, ASK: On average, what percent do you pay? _____%

46. How often do you (or the other owners) actually go to the site to check on this land during a typical farming season? Would you say…

1 = Never

2 = Once or twice a farming season

3 = Once a month

4 = Once a week

5 = Daily

47a. How many acres were rented out under some other type of arrangement? (Other than cash rent or crop-share.)

_____ acres

{IF Q47a > 0, ASK:}

47b. What was the arrangement? OPEN TEXT

CHECK: [Q21 + Q33 + Q47a ACRES MUST EQUAL ACRES IN Q13a]

48. Are any of the Iowa acres that you own as a [FILL TYPE OF OWNERSHIP] enrolled in government conservation programs or under conservation easements? (This includes CRP, EQIP, CSP, or IDALS soil conservation cost-share programs.)

1 = Yes

2 = No [GO TO Q50]

3 = DK/RF [GO TO Q50]

49a-A. IF Q48 = 1 YES, ASK: Is any of this land currently enrolled in the Conservation Reserve Program (CRP)?

1 = Yes

2 = No [GO TO Q49b-A]

3 = Not sure [GO TO Q49b-A]

49a-B. IF Q49a-A = 1 YES, ASK: How many acres? (Enrolled in CRP) _____ acres

49b-A. IF Q48 = 1 YES, ASK: Is any of this land currently enrolled in Environmental Quality Incentives Programs (EQIP)?

1 = Yes

2 = No [GO TO Q49c-A]

3 = Not sure [GO TO Q49c-A]

49b-B. IF Q49b-A= 1 YES, ASK: How many acres? (Enrolled in EQIP) _____ acres

49c-A. IF Q48 = 1 YES, ASK: Is any of this land currently enrolled in the Conservation Stewardship Program (CSP)?

1 = Yes

2 = No [GO TO Q49d-A]

3 = Not sure [GO TO Q49d-A]

49c-B. IF Q49C-a= 1 YES, ASK: How many acres? (Enrolled in CSP) _____ acres

49d-A. IF Q48 = 1 YES, ASK: Is any of this land currently enrolled in the IDALS soil conservation cost-share program?

1 = Yes

2 = No [GO TO Q49e-A]

3 = Not sure [GO TO Q49e-A]

49d-B. IF Q49d-A = 1 YES, ASK: How many acres? (Enrolled in IDALS) _____ acres

49e-A. IF Q48 = 1 YES, ASK: Is any of this land currently enrolled in any other program or conservation easements?

1 = Yes

2 = No [GO TO Q50]

3 = Not sure [GO TO Q50]

49e-B. IF Q49e-A = 1 YES, ASK: How many acres? (Enrolled in other program or conservation easements)_____ acres

49f. IF Q49e-A= 1 YES, ASK: What other programs? OPEN TEXT

50. How much does your willingness to adopt conservation practices depend on the cost-share payments you could get from government programs? Would you say

1 = Not at all

2 = A little

3 = Some

4 = A lot

51. How much do you know about carbon credits programs offered by private companies? Would you say you (or your tenant)…

1 = have already signed up to participate

2 = are currently considering participation in a carbon credit program

3 = have heard of them and are interested

4 = have heard of them and are not interested

5 = you have never heard of them

52a. In 2022, was no-till used on the land you own as a [FILL TYPE OF OWNERSHIP]?

1 = Yes [ASK Q52b & c, THEN GO TO Q54]

2 = No [GO TO Q53]

3 = Don't Know/Refused [GO TO Q53]

52b. IF Q52a = 1 YES, ASK: How many acres were no till? _____ acres

52c. IF Q52a = 1 YES, ASK: Are these no till acres operated by you, rented out, or some of each?

1 = Operated by me

2 = Rented out

3 = Some of each

[IF Q52a = 2 NO, ASK:]

53. Are you likely to use no till within the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

54. [ASK ALL:] How many of your neighboring farmers, within 20 miles of your farmland, have adopted no till? Would you say . . .

1 = None (0)

2 = Some (1-5)

3 = Quite a few (6-12)

4 = Many (>12)

5 = DON'T KNOW

55. How effective do you think no-till is to help reduce nitrogen runoff into Iowa waterways? Would you say…

1 = Not at all effective

2 = A little effective

3 = Somewhat effective

4 = Very effective

5 = Don't know

56a. In winter 2021-2022, were cover crops used on the land you own as a [FILL TYPE OF OWNERSHIP]?

1 = Yes

2 = No [GO TO Q57]

3 = DK/RF [GO TO Q57]

56b. IF Q56a = 1 YES, ASK: How many acres of cover crops were planted? _____ acres

56c. IF Q56a = 1 YES, ASK: Are these cover crop acres on land operated by you, rented out, or some of each?

1 = Operated by me

2 = Rented out

3 = Some of each

56d. IF Q56a = 1 YES, ASK: What is the average cost-share per acre you (or your tenant) received for the fall 2021 cover crops? Would you say…

1 = None

2 = Less than $10 /acre

3 = $10 - $19 /acre

4 = $20 - $29 /acre

5 = $30 - $39 / acre

6 = $40 - $49 /acre

7= $50/acre or more

8 = Don't know

57. [IF Q56a = 2 NO, ASK:] Are you likely to use cover crops within the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

[ASK Q58 & 59 OF ALL:]

58. How many of your neighboring farmers, within 20 miles of your farmland use cover crops? Would you say . . .

1 = None (0)

2 = Some (1-5)

3 = Quite a few (6-12)

4 = Many (>12)

5 = DON'T KNOW

59. How effective do you think cover crops are in reducing nitrogen and phosphorus runoff into Iowa waterways? Would you say…

1 = Not at all effective

2 = A little effective

3 = Somewhat effective

4 = Very effective

5 = Don't know

60a. In 2022, were buffer strips (in-field or along streams) used on the land you own as a [FILL TYPE OF OWNERSHIP]?

1 = Yes

2 = No [GO TO Q60d]

3 = Don't Know [GO TO Q61a]

60b. IF Q60a = 1 YES, ASK: How many acres are treated by buffer strips? _____ acres

60c. IF Q60a = 1 YES, ASK: How wide is your largest buffer strip (in feet)? _____ feet wide

60d. IF Q 60a = 2, NO, ASK: Are you likely to use buffer strips in the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

61a. In 2022, were saturated buffers used on the land you own as a [FILL TYPE OF OWNERSHIP]?

(Saturated buffers are an area of perennial vegetation along a creek or river where tile water is routed into the buffer by a water control structure and nitrates are removed.)

1 = Yes

2 = No [GO TO Q61c]

3 = Don't Know [GO TO Q62a]

61b. IF Q61a = 1, YES, ASK: How many acres are treated by saturated buffers? _____ acres

61c. IF Q61a = 2, NO, ASK: Are you likely to use saturated buffers in the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

62a. Has a bioreactor been constructed on the land you own as a [FILL TYPE OF OWNERSHIP]?

(A bioreactor is an underground trench filled with woodchips that receives and treats tile water and removes nitrates.)

1 = Yes

2 = No [GO TO Q62c]

3 = Don't Know [GO TO Q63a]

62b. IF Q62a = 1, YES, ASK: How many acres are treated by the bioreactor? _____ acres

62c. IF Q62a = 2, NO, ASK: Are you likely to install a bioreactor in the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

63a. Has a nutrient removal wetland been constructed on the land you own as a [FILL TYPE OF OWNERSHIP]? (This is a shallow wetland that receives tile drainage water and removes nitrates.)

1 = Yes

2 = No [GO TO Q63c]

3 = Don't Know [GO TO Q64a]

63b. IF Q63a = 1, YES, ASK: How many acres are treated by a nutrient removal wetland? _____ acres

63c. IF Q63a = 2, NO, ASK: Are you likely to install a nutrient removal wetland in the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

64a. In 2022, was reduced or conservation tillage (at least 30% of crop residue left before planting) used on the land you own as a [FILL TYPE OF OWNERSHIP]?

1 = Yes

2 = No [GO TO Q64c]

3 = Don't Know [GO TO Q65a]

64b. IF Q64a = 1, YES, ASK: How many acres had reduced tillage? _____ acres

64c. IF Q64a = 2, NO, ASK: Are you likely to use reduced tillage in the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

65a. In 2022, was a grassed waterway used on the land you own as a [FILL TYPE OF OWNERSHIP]?

1 = Yes

2 = No [GO TO Q65c]

3 = Don't Know [GO TO Q66a]

65b. IF Q 65a = 1, YES, ASK: Have you added any new grassed waterways in the past 5 years?

1 = Yes

2 = No

3 = Not sure

65c. IF Q65a = 2, NO, ASK: Are you likely add any new grassed waterways in the next 5 years?

1 = Yes

2 = No

3 = Maybe, unsure

66. On a scale from 1 to 5, where 1 is not at all likely and 5 is very likely, how likely would you be to adopt more conservation practices.

	Not at All Likely				Very Likely	Unsure, DK
a. if land enrolled in conservation programs was excluded from the value of your estate for estate tax purposes?	1	2	3	4	5	6
b. if tax-free cost sharing assistance was available?	1	2	3	4	5	6
c. if you could get tax credits or deductions for implementing them?	1	2	3	4	5	6

67. How concerned are you that discussing conservation practices on your farmland might upset your co-owners or neighbors? Are you…

1 = Not at all concerned

2 = Slightly concerned

3 = Somewhat concerned

4 = Very concerned

68. What is your most important or trusted information source for learning about conservation practices? (Describe)

_____

{IF Q13a > 0, ASK Q69a-c}

69a. For your farmland, who makes the decisions about using single-season conservation practices, like reduced tillage or cover crops? Is it you (the owner) alone, the tenant alone, or both of you?

1 = You (the owner) alone

2 = Tenant alone

3 = Both owner and tenant

69b. Who makes the decisions about using permanent conservation practices, like buffer strips or grassed waterways? (You (the owner) alone, the tenant alone, or both of you?)

1 = You (the owner) alone

2 = Tenant alone

3 = Both owner and tenant

69c. Who makes decisions about participating in government conservation programs? (You (the owner) alone, the tenant alone, or both of you?)

1 = You (the owner) alone

2 = Tenant alone

3 = Both owner and tenant

{IF EITHER Q24 = 1 or Q40 = 1 (Written leases)}

70. What conservation practices do you require in your lease? Do you require…

	Yes	No
a. no-till?	1	2
b. reduced till?	1	2
c. cover crops?	1	2
d. nutrient management?	1	2
e. anything else? (ASK Q70e_Spec)	1	2

70e_Spec. (Please explain: _____])

71a. IF Q13a > 0, ASK: Would you be willing to assist your tenant by paying a portion of the cost to plant (more) cover crops?

1 = Yes

2 = No [SKIP Q71b]

3 = Maybe

4 = Not Applicable, all acres typically have cover crops

71b. IF Q71a = 1 YES OR 3 MAYBE, ASK: What percent of the (cover crop) cost would you be willing pay? _____%

72a. Think about all the Iowa farmland that you own as a [FILL TYPE OF OWNERSHIP]. What is your primary reason for owning this farmland? Would you say it is…

1 = For your current income

2 = For an investment (long-term)

3 = For family or sentimental reasons

4 = For some other reason [ASK Q72b]

72b. IF Q72a = 4, ANOTHER REASON, ASK: What is your primary reason for owning this land?

(Describe: _____)

73a. Do you expect to transfer the MANAGEMENT of your farmland to someone else while you still own it?

1 = Yes/Maybe

2 = No

3 = Already managed by someone else

{If Q73a. =1, ASK}

73b. What is your relationship to your most likely successor who will take over the management of the land?

1 = Spouse

2 = Son

3 = Daughter

4 = Son- or daughter-in-law

5 = Niece or nephew

6 = Grandson or granddaughter

7 = Neighbor

8 = Non-related friend

9 = Current non-related operator

10 = Other (ASK Q73b_Spec)

73b_Spec. Please explain. OPEN TEXT

74. Have you identified a potential individual(s) to whom you will transfer your OWNERSHIP of your farmland?

1 = Yes/Maybe

2 = No

75. Next, we would like you to think about how you anticipate transferring the ownership of the land that you own as a [FILL TYPE OF OWNERSHIP]. Even though we know that these plans may change in the future, we would like to know how you currently expect to transfer the land. Do you expect to . . .

1 = Yes/Maybe

2 = No

a. Will any of it to a family member

b. Will any of it to others

c. Give any of it to a family member

d. Give any of it to others

e. Sell any of it to a family member

f. Sell any of it to others

g. Put or keep any in a revocable living trust

h. Put or keep any in an irrevocable living trust (family or other)

i. Put or keep it in a business entity (LLC, Corp, etc)

j. Do anything else [ASK Q75k]

75k. IF Q75j = 1 YES, ASK: What else do you plan to do? _____

{IF Q75 c, d, e, f, g, h, i or j = 1}

76. Do you think this land transfer (sell it, give it, put in a trust, put it into a business entity) will happen within the next 5 years?

1 = Yes

2 = No

3 = Already in a revocable living trust

4 = Already in an irrevocable trust

5 = Already in a business entity

6 = Don't know

{IF Q75e or f = 1}

77. Which one of the following factors would be most likely to prompt you to sell some or all of your farmland? Would you say . . .

1 = A lower capital gains tax rate

2 = A higher selling price per acre

3 = Your retirement from farming

4 = The elimination of step-up basis tax benefits for your heirs

5 = Something else [ASK Q77_Spec]

77_Spec. What else would prompt you to sell? (Describe:_____)

{IF Q77 = 3}

78. When do you plan to retire from farming? Would you say . . .

1 = In less than five years

2 = In 5 to 10 years

3 = In more than 10 years

{IF Q75f = 1, ASK Q79 & 80 & 81}

79. If you plan to sell it to others, are you willing to sell some acres to a beginning or a young farmer?

1 = Yes

2 = Maybe

3 = No

80. Would you be more likely to sell some land to a beginning farmer…

	Yes/Maybe	No
a. if you received a federal tax credit to offset capital gains tax	1	2
b. if you received a state tax credit to offset capital gains tax	1	2
c. if you met a beginning farmer who works hard and needs an opportunity, even if the price is below fair market value	1	2
d. if you met a beginning farmer who works hard and needs an opportunity, as long as the price is at fair market value	1	2
e. if the beginning farmer is a family friend or neighbor	1	2

81. What are the potential drawbacks to selling land to a beginning farmer?

	Yes	No
a. Would you say beginning farmers are not able to pay the best price?	1	2
b. Is it hard to find a good beginning farmer?	1	2
c. Would you say beginning farmers can't afford to buy large parcels and you don't want to break up your land?	1	2
d. Would you say beginning farmers are not likely to be successful?	1	2

OTHER FARMLAND OWNED

IF JOINT TENANCY WITH HUSBAND/WIFE [TYPE OF OWNERSHIP = JOINT TENANCY AND Q5 = 1 (Yes)], ASK Q82-88 series.

FOR EVERYONE ELSE (NOT JOINT TENANCY WITH HUSBAND/WIFE), ASK Q89-93 series:

82. Throughout this interview, we focused on the Iowa farmland that you own jointly with your spouse. Do either you or your spouse have an ownership interest in any other Iowa farmland? (This would include tillable and non-tillable land, pasture, timber, building sites, and any other land that is part of a farm.)

1 = Yes

2 = No [IF Q82 = NO, GO TO DEMOGRAPHICS.]

83. How many other acres do you own as a sole owner? _____ acres

84. How many other acres do you own with other people? _____ acres

85. IF Q84 > 0, ASK:

How many people, including you, share the ownership of that land? _____ people

IF MORE THAN ONE OWNERSHIP SITUATION WITH OTHER PEOPLE, DESCRIBE ON ROC. INCLUDE # OF OWNERS WITH # OF ACRES FOR EACH SITUATION.

86. How many other acres does your spouse own as a sole owner? _____ acres

87. How many other acres does your spouse own with other people? _____ acres

88. IF Q87 > 0), ASK:

How many people, including your spouse, share the ownership of that land? _____ people

IF MORE THAN ONE OWNERSHIP SITUATION WITH OTHER PEOPLE, DESCRIBE ON ROC. INCLUDE # OF OWNERS WITH # OF ACRES FOR EACH SITUATION.

THEN GO TO DEMOGRAPHIC SECTION, Q128.

FOR EVERYONE ELSE (NOT JOINT TENANCY WITH HUSBAND/WIFE), ASK Q89-93 series:

89. Throughout this interview, we focused on Iowa farmland that you own as a [FILL TYPE OF OWNERSHIP]. Do you have an ownership interest in any other Iowa farmland?

(This would include tillable and non-tillable land, pasture, timber, building sites, and any other land that is part of a farm.)

1 = Yes

2 = No [IF NO, GO TO Q94.]

90. IF SOLE OWNER (Q3a = 1), ASK: How many other acres do you own in a different type of ownership, such as a corporation, trust, or life estate, where you are the only owner?

_____ acres

91. IF NOT SOLE OWNER (Q3a ≠ 1), ASK: How many other acres do you own as a sole owner? This could also include being the sole owner of a corporation, trust, or life estate.

_____ acres

92. How many other acres do you own with other people? _____ acres

93. IF Q92 > 0 ASK:

How many people, including you, share the ownership of this land? _____ people

IF MORE THAN ONE OWNERSHIP SITUATION WITH OTHER PEOPLE, DESCRIBE ON ROC. INCLUDE # OF OWNERS WITH # OF ACRES FOR EACH SITUATION.

DEMOGRAPHICS

If Q3a = 2 and Q4b = 1 (Joint Tenancy Husband and Wife), go to Q128 for Demographic Questions.

If Q1 = 4 (Institution owns the land), skip all demographics and go to Q150.

Respondent Demographics (Not Joint Tenancy Husband/Wife)

94. Now I have some background questions about you.

ENTER GENDER. ASK IF UNSURE: Are you male or female?

1 = Male

2 = Female

95. This past year, in 2022, did you operate a farm full-time, part-time, or not at all?

1 = farmed full-time

2 = farmed part-time

3 = did not farm at all [IF Q95 = 3, NO FARMING AT ALL, GO TO Q102]

IF Q95 = 1 or 2, ASK Q96-101

96. How many acres did you farm this year? (including acres owned or rented from others)

_____

97. Did you raise crops, livestock, or both?

1 = crops only

2 = livestock only

3 = both crops and livestock

4 = all CRP/Pasture

98. IF Q97 = 2 or 3, ASK:

What types of livestock do you have? (Check all that apply)

1 = Beef cow-calf

2 = Feedlot cattle

3 = Dairy cattle

4 = Hogs

5 = Poultry (layers or broilers)

6 = Other

99. About how many years have you been farming? _____ years

100. Are you a first, second, third, or fourth generation farmer on any of this land?

1 = First

2 = Second

3 = Third

4 = Fourth or longer

101. Are you also currently employed off the farm?

1 = Yes

2 = No

102. IF Q95 = 3 (did not farm in 2022), ASK: Have you ever operated a farm?

1 = Yes

2 = No > IF NO, GO TO Q104

103. IF Q102 = 1 (Yes), ASK: How many years did you farm? _____

104. IF Q95 = 3 (did not farm in 2022), ASK: Are you currently . . .

1 = Employed off the farm

2 = Unemployed

3 = Retired

4 = Disabled

5 = Caring for your home or family full time

105. IF Q102 = 1 YES AND Q104 = 3, RETIRED, ASK: Are you a retired farmer-landlord whose rental income is excluded from Iowa income tax?

1 = Yes

2 = No

3 = Don't know

106a. [ASK ALL:] In general, are you someone who is willing to take risks or do you try to avoid taking risks? On a scale from 1 to 7, where 1 means you always avoid taking risks and 7 means you are always willing to take risks, which number would you choose?

Always avoid taking risks						**Always willing to take risks**	**Unsure/NA**
1	2	3	4	5	6	7	8

IF Q95 = 1 OR 2 OR 102 = 1 (YES), ASK

106b. In your occupation as a farmer, (are/were) you someone who is willing to take risks or do you try to avoid taking risks?If 1 means you always avoid taking risks and 7 means you are always willing to take risks, which number would you choose?

Always avoid taking risks						**Always willing to take risks**	**Unsure/NA**
1	2	3	4	5	6	7	8

107. What is your current age? _____

[LEAVE BLANK IF DK/REF]

108. Are you currently . . .

1 = Married or living as married

2 = Separated or divorced

3 = Widowed

4 = Single and never been married

109. In 2021, about what percent of your total household income came from the sale of agricultural products or farmland rental income? _____

110. What is the highest level of education you have completed? (Please include any college, vocational, or technical training.)

1 = 11th grade or less

2 = High school (includes GED)

3 = Some post-high school, but no four-year degree

4 = College degree (four-year Bachelors)

5 = Graduate or professional degree completed (Masters, PhD, JD, etc.)

IF ADDITIONAL OWNER WAS SELECTED FOR DEMOGRAPHICS IN Q5b, ASK Q111 - 127.

IF RESPONDENT WAS SELECTED IN Q5b (NO OTHER OWNER WAS SELECTED), GO TO Q150.

DEMOGRAPHICS: Characteristics FOR OTHER SELECTED OWNER IN Q5b (RESPONDENT WAS NOT SELECTED)

111. Now I have a few similar questions about [FILL NAME2 FROM Q5b].

RECORD GENDER. ASK IF UNSURE: Is [NAME2] male or female?

1 = Male

2 = Female

3 = DK/REF

112. This past year, in 2022, did [NAME2] farm full-time, part-time, or not at all?

1 = Farmed full-time

2 = Farmed part-time

3 = Did not farm at all [IF NO FARMING AT ALL, GO TO: Q119]

4 = DK/REF [GO TO: Q119]

IF Q112 = 1 or 2, ASK Q113-118

113. About how many acres did [NAME2] farm this year? (including acres owned or rented from others) [ENTER '0' IF DK/REF]

114. Did (he/she) raise crops, livestock, or both?

1 = Crops only

2 = Livestock only

3 = Both crops and livestock

4 = All CRP/Pasture

5 = DK/REF

115. IF Q114 = 2 or 3, ASK: What types of livestock does [NAME2] have? (Check all that apply)

1 = Beef cow-calf

2 = Feedlot cattle

3 = Dairy cattle

4 = Hogs

5 = Poultry (layers or broilers)

6 = Other

7 = DK/REF [Exclusive response]

116. About how many years has [NAME2] been farming?

[ENTER '0' IF DK/REF]

117. Is [NAME2] a first, second, third, or fourth generation farmer on any of this land?

1 = First

2 = Second

3 = Third

4 = Fourth or longer

5 = DK/REF

118. Is (he/she) also currently employed off the farm?

1 = Yes

2 = No

3 = DK/REF

119. IF Q112 = 3, DID NOT FARM or 4, DK/REF, ASK: Has (he/she) ever operated a farm?

1 = Yes

2 = No > GO TO Q121

3 = DK/REF > GO TO Q121

120. IF Q119 = 1 (Yes), ASK: About how many years did (he/she) farm? _____

[ENTER '0' IF DK/REF]

121. IF Q112 = 3, ASK: Is [NAME2] currently . . .

1 = Employed off the farm

2 = Unemployed

3 = Retired

4 = Disabled

5 = Caring for home or family full-time

6 = DK/REF

124. What is [NAME2]'s current age?

[ENTER '0' IF DK/REF]

125. Is [NAME2] currently . . .

1 = Married or living as married

2 = Separated or divorced

3 = Widowed

4 = Single and never been married

5 = DK/REF

126. What state does [NAME2] live in? [DROP-DOWN LIST OF STATES, AND DK/REF]

127. What is the highest level of education (he/she) has completed? (Include any college, vocational, or technical training.)

1 = 11th grade or less

2 = High school (includes GED)

3 = Some post-high school, but no four-year degree

4 = College degree (four-year Bachelors)

5 = Graduate or professional degree completed (Masters, PhD, JD, etc.)

6 = DK/REF

AFTER Q127, GO TO Q150.

DEMOGRAPHIC SECTION FOR JOINT TENANCY HUSBAND/WIFE OWNERS (Q3a = 2 and Q4b= 1).

128. Now I have some background questions about you and your (spouse/husband/wife). During the past year (in 2022), were either of you involved in farming?

1 = Yes

2 = No RECORD GENDER, NEXT QUESTION, THEN GO TO Q137.

129. RECORD GENDER. ASK IF UNSURE: Are you male or female?

1 = Male

2 = Female

130. IF Q128 = 1 (Yes), ASK: Would you say that you, yourself, farmed full-time, part-time, or not at all?

1 = Farmed full-time

2 = Farmed part-time

3 = Did not farm at all

131. How many acres did you and your (husband/wife) farm this year? _____

132. Did you raise crops, livestock, or both?

1 = Crops only

2 = Livestock only

3 = Both crops and livestock

4 = All CRP/Pasture

133. IF Q132 = 2 or 3, ASK: What types of livestock do you have? (Check all that apply)

1 = Beef cow-calf

2 = Feedlot cattle

3 = Dairy cattle

4 = Hogs

5 = Poultry (layers or broilers)

6 = Other

134. About how many years have you (either or both of you) been farming? _____

135. Are you first, second, third, or fourth generation farmers on any of this land?

1 = First

2 = Second

3 = Third

4 = Fourth or longer

136. Are you currently employed off the farm?

1 = Yes

2 = No

137. IF Q128= 2 (Household did not farm), ASK:

Have you (and your husband/wife) ever operated a farm?

1 = Yes

2 = No > GO TO Q139

138. IF Q137 = 1 (Yes), ASK: How many years did you farm? _____

IF Q128= 2 (No) OR Q130 = 3 (Did not farm at all), ASK:

139. Are you currently . . .

1 = Employed off the farm

2 = Unemployed

3 = Retired

4 = Disabled

5= Caring for home or family full-time

140. IF Q137 = 1 YES AND Q139 = 3, RETIRED, ASK: Are you retired farmer-landlords whose rental income is excluded from Iowa income tax?

1 = Yes

2 = No

3 = Don't know

141a. In general, are you someone who is willing to take risks or do you try to avoid taking risks? On a scale from 1 to 7, where 1 means you always avoid taking risks and 7 means you are always willing to take risks, which number would you choose?

Always avoid taking risks						**Always willing to take risks**
1	2	3	4	5	6	7

141b. In your occupation as farmers, are you and your spouse willing to take risks or do you try to avoid taking risks? If 1 means you always avoid taking risks and 7 means you are always willing to take risks, which number would you choose?

Always avoid taking risks						**Always willing to take risks**
1	2	3	4	5	6	7

142. What is your current age? _____

[LEAVE BLANK IF DK/REF]

143. What is the highest level of education you have completed? (Please include any college, vocational, or technical training.)

1 = 11th grade or less

2 = High school (includes GED)

3 = Some post-high school, but no four-year degree

4 = College degree (four-year Bachelors)

5 = Graduate or professional degree completed (Masters, PhD, JD, etc.)

SPOUSE DEMOGRAPHICS

144. Now I have a few similar questions about your spouse.

ENTER GENDER. IF UNKNOWN, ASK: Is your spouse male or female?

1 = Male

2 = Female

IF Q128 = 1 (INVOLVED IN FARMING), ASK:

145. This past year, in 2022, did (he/she) farm full-time, part-time, or not at all?

1 = Farmed full-time

2 = Farmed part-time

3 = Did not farm at all > GO TO Q147

IF Q145 = 1 OR 2 (FARMED FT OR PT), ASK:

146. Is (he/she) also currently employed off the farm?

1 = Yes

2 = No

IF Q128 = 2 (No) OR Q145 = 3 (Did not farm at all), ASK:

147. Is (he/she) currently . . .

1 = Employed off the farm

2 = Unemployed

3 = Retired

4 = Disabled

5 = Caring for home or family full-time

148. What is (his/her) current age? _____

149. What is the highest level of education (he/she) has completed? (Include any college, vocational, or technical training.)

1 = 11th grade or less

2 = High school (includes GED)

3 = Some post-high school, but no four-year degree

4 = College degree (four-year Bachelors)

5 = Graduate or professional degree completed (Masters, PhD, JD, etc.)

ASK ALL:

150. This completes the interview. Do you have any comments you'd like to make, or is there anything you would like to tell us about the ownership of farmland that may be helpful to our project?

1 = Yes

2 = No [IF NO, GO TO Q152]

151. RECORD COMMENTS _____

152. Are you interested in receiving a copy of the results of this study? It would probably be mailed to you sometime next summer.

1 = Yes

2 = No [IF NO, GO TO CLOSE]

IF Q152 = YES, CONFIRM NAME AND ADDRESS. MAKE CHANGES ON ROC.]

[CLOSE] Thank you for your time today. Iowa State University appreciates your interest and cooperation with our study.

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