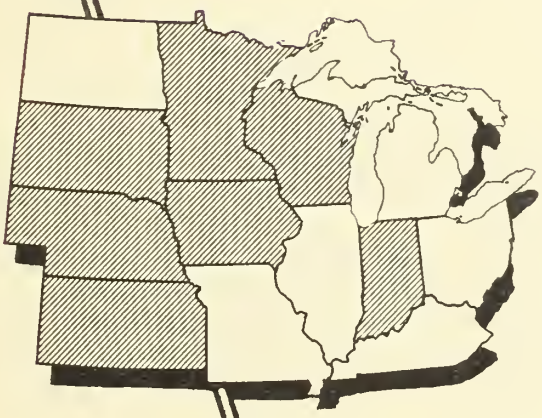
ARS 43-8

FARM RENTAL PRACTICES and PROBLEMS

North Central States
methodological report of study

by Burton L. French



Agricultural Research Service
in cooperation with Farm Foundation and
State Agricultural Experiment Stations

UNITED STATES DEPARTMENT OF AGRICULTURE
Washington, D. C.

March 1955

CONTENTS

NORTH CENTRAL LAND TENURE RESEARCH COMMITTEE

Administrative Advisor -- Noble Clark, Wisconsin
Chairman, 1954-55 -- Charles L. Stewart, Illinois
Co-Chairman -- Joseph Ackerman, Farm Foundation
Secretary -- Philip M. Raup, Minnesota
State members: Illinois, Charles L. Stewart; Indiana, Howard G. Diesslin; Iowa, John F. Timmons; Kansas, W. H. Pine; Kentucky, John H. Bondurant; Michigan, E. B. Hill; Minnesota, Philip M. Raup; Missouri, Frank Miller; Nebraska, Howard W. Ottoson; North Dakota, Rainer Schickele; Ohio, H. R. Moore; South Dakota, Max Myers; Wisconsin, Raymond J. Penn.
Agricultural Research Service, USDA: Marshall Harris
Landlord-Tenant Relations Subcommittee, NCLTRC, members: John F. Timmons, Iowa State College, Chairman; Wilfred H. Pine, Kansas State College (and Howard Dorset); A. A. Dowell, University of Minnesota (and Philip M. Raup); Burton L. French, University of Nebraska (and Howard W. Ottoson); Russell L. Berry, South Dakota State College (and Canute Johnson); Philip M. Raup, University of Wisconsin (and Raymond J. Penn); Joseph Ackerman, Farm Foundation; Virgil L. Hurlburt, Agricultural Research Service, U. S. Department of Agriculture.

Prepared in
Production Economics Research Branch
Agricultural Research Service
United States Department of Agriculture

FOREWORD

In conducting the regional study on farm rental practices and problems, questions arose concerning the efficacy of various alternative procedures. Answers to many of these questions were not available in previous research. Had the answers been known, the leasing study could have been carried out more efficiently. This situation led to the preparation of this report, which is intended: (1) To permit the sharing of experiences gained in the study with research workers in other regions and in other fields of inquiry; and (2) to present a systematic accounting of the procedures of study and evaluation of the survey data for technicians who use the results of the regional leasing study.

This and two additional reports constitute the publications of results of the regional leasing survey at the regional level. "Farm Rental Problems and Practices in the Midwest" was published by the Iowa station as Regional Publication 50, and "Supplementary Tables: Farm Rental Problems and Practices in the Midwest," was processed by the regional committee. In addition, each cooperating State is releasing a report which focuses attention upon the application of results of the study to conditions in that State.

The regional leasing study grew out of a request made in the Spring of 1950 by the North Central Farm Management Extension Committee to the North Central Land Tenure Research Committee for economic solutions to farm rental problems throughout the region. This request was referred to the Landlord-Tenant Relations Subcommittee for consideration and recommendations. The subcommittee formulated the hypotheses of inquiry, determined the data needed to test these hypotheses, and decided upon the means for obtaining and analyzing the data. In April 1951, the subcommittee presented a project statement to the North Central committee with the recommendation that the committee sponsor the study as outlined.

Objectives of the study were as follows: (1) To ascertain existing leasing practices by type of situation; (2) to indicate problems and obstacles in present farm-leasing arrangements which prevent achievement of maximum agricultural production; (3) to provide information that would suggest adjustments in leasing practices to facilitate removal of limitations on production; and (4) to delimit geographic areas in which leasing practices are relatively homogeneous as a basis for future State and regional studies and programs.

The regional committee approved the project to be undertaken by all States interested in participating. Participation by all 13 of the States in the North Central region was not considered necessary. Needs and interests varied in different States, as did the financial

and personnel resources which determined participation in the study. The State experiment stations of Indiana, Iowa, Kansas, Minnesota, Nebraska, South Dakota, and Wisconsin decided to participate in the study (embracing all or part of their respective States), in cooperation with each other, and with the Production Economics Research Branch, Agricultural Research Service (then a part of the Bureau of Agricultural Economics) and the Farm Foundation.

Following the meeting of the Committee in April 1951, membership of the Landlord-Tenant Relations Subcommittee was changed to include: (1) One member from each of the 7 participating State experiment stations, (2) a regional coordinator (or project leader) assigned to the study by the Production Economics Research Branch, Agricultural Research Service; and (3) consulting members from the Farm Foundation and the Production Economics Research Branch, Agricultural Research Service. Direction of the activities of the subcommittee was the responsibility of the chairman, and individual work assignments were made in joint decisions with subcommittee members.

The general form of the questionnaire, the design of the sample, the source of names of tenants and part-owners, the method of collecting the data by means of a mail questionnaire, and the general decision to have the analysis completed on IBM equipment were completed by June 1951. In general, the States agreed to follow uniform procedures.

The regional coordinator, Virgil L. Hurlburt, assumed his duties on July 1, 1951. One of his first tasks was to develop a workplan under the Memorandum of Understanding between the cooperating agencies, to be signed by each of them. (See appendix.) All major decisions as to procedures of the study, data to be obtained, hypotheses to be tested with the data, and type of report to be prepared were discussed and agreed upon by the subcommittee. The subcommittee met on call of the chairman, as needed. Each meeting was carefully planned, and materials were prepared and circulated in advance. Details of the work, including the framework of analysis, analyses of data, and editing and coding instructions were the responsibility of the regional coordinator, subject to adoption by the subcommittee.

Burton L. French, the author of this report, served as Nebraska representative on the subcommittee and also as statistical consultant. In the final stages of the study, Dr. French transferred to the Production Economics Research Branch, Agricultural Research Service. However, he continued his work on the subcommittee, including the preparation of this report.

John F. Timmons, Chairman,
Landlord Tenant Relations Subcommittee,
North Central Land Tenure Research
Committee.

FARM RENTAL PRACTICES AND PROBLEMS, NORTH CENTRAL STATES

METHODOLOGICAL REPORT OF STUDY

by

Burton L. French, Analytical Statistician 1/
Production Economics Research Branch 2/
Agricultural Research Service

Conducting a research project according to scientific method is a goal of most research personnel. This was particularly evident in the course of the study of leasing problems in the North Central States; and in retrospect, it is of value to investigate the success of this goal. This report attempts to show how procedures were carried out and to present a limited evaluation of the data. The supplemental information given here will enable those interested to make better use of the results.

USE OF ECONOMIC THEORY IN RESEARCH PLANNING

Basic to the development and use of a farm lease are the terms that are necessary in the lease to allow and encourage an efficient combination of resources, and to distribute income to owners of resources in accordance with the productivity of resources. This problem is one that has been present in the form of doubt and uncertainty of either, or both, landlord and renter.

What is the solution to this problem? How are agricultural economists to advise the two parties to the agreement? Theoretical solutions based upon the deductive theories of economics function as models for the analysis and provide the hypotheses that guide the empirical phases of the investigation.

The general theories from which the hypotheses to be tested in the analysis of farm rental arrangements were drawn are those which specify efficient use of resources, or maximization of profits.

1/ The author wishes to acknowledge the help received from Virgil L. Hurlburt, Regional Coordinator, Agricultural Research Service, U. S. Department of Agriculture; Marshall D. Harris, Agricultural Research Service, U. S. Department of Agriculture, and all the members of the subcommittee for their assistance in preparing this report.

2/ Formerly a part of the Bureau of Agricultural Economics, U. S. Department of Agriculture.

Conditions required for efficient use of resources are: (1) One factor is substituted for another until the cost of the added increment of the one will just equal the cost of the replaced increment of the other; and (2) one product is substituted for another until the value of the added increment of the one is equal to the value of the replaced increment of the other. 3/

Guided by deductive theories and resulting hypotheses, members of the subcommittee outlined the evidence needed to test the hypotheses. For example, the share division of corn produced and the shares of the corn seed; the share of fertilizer on corn; shares of crops that compete with corn, such as soybeans, wheat, and oats; shares of livestock owned; and share divisions of livestock sales and products showed efficient operation of farms, as set forth by the condition that the share of the factor of variable input must be the same as the share of the product obtained from it. Statistical techniques to be used, the sampling method, and statistical tests of significance were also suggested by the hypotheses. The data here involved discrete populations which implied: (1) The use of frequency distributions; (2) random sampling; and (3) chi-square tests of significance.

Pressure of time prevented the complete conceptual analysis that would have been desirable. Responsibility for formulating the questionnaire was assigned to several persons, none of whom could devote uninterrupted time to developing the theory needed, completing the organization of methods of analysis, or trial testing the hypotheses from the pretested questionnaires. The project coordinator was assigned to the work only after the information to be obtained was fairly well completed. Therefore, some analytical tabulations had to be omitted from the study. This omission was less significant to the study than was the fault in the design of the questionnaire--the missing questions (or answers).

SURVEY PROCEDURES

The Sampling Plan 4/

The main objectives of the sampling design followed in the survey were:

1. To select, according to the laws of probability, a sample of leasing arrangements within each area in participating States that would be representative of all leasing arrangements in each area under study;

3/ Hurlburt, Virgil. "Farm Rental Practices and Problems in the Midwest," Iowa Agricultural Experiment Station, Research Bull. No. 416, October, 1954. (North Central Regional Bull. 50) p. 86.

4/ Credit is due to R. J. Jessen, Emil Jebe, Norman Strand, and Alan Ross, for their assistance in the preliminary work of the sampling plan.

2. To choose the size of sample and the type of sampling unit in such a way that the sample would be both economically and statistically efficient;

3. To be able to make estimates for each area from the sample data of the total number of rental arrangements having a particular characteristic; and

4. To obtain measures of the accuracy of estimates made from the sample data.

Definition of Population and of Universe

Early in the planning stage the decision was made to restrict, as nearly as possible, the population of leases to be studied to those connected with units of farm operation larger than 30 acres, except for Wisconsin where units were larger than 10 acres. Units smaller than these were not considered full-time economic farm operations. The size of the rental tract was not restricted. Leasing arrangements for full tenants and for part-owners were to be studied. A systematic sample was drawn for each area in the State.

Even though a subpopulation as small as a county might have been desirable, the Economic Area, as set forth by the Bureau of the Census, 5/ was considered to be the smallest relatively homogeneous area upon which the study could be conducted and still be held within the resource limitations of participating States. The economic areas had been constructed by combining counties into homogeneous areas as to type of agriculture, housing, and population. These areas permitted publication in the 1950 Census of Agriculture of data that could not be presented by smaller geographic units. A total of 46 areas--41 single and 5 combinations of 2 or more economic areas--were included in the study by the 7 States (fig. 1).

Definition of Terms

For purposes of this report the terms used are defined as:

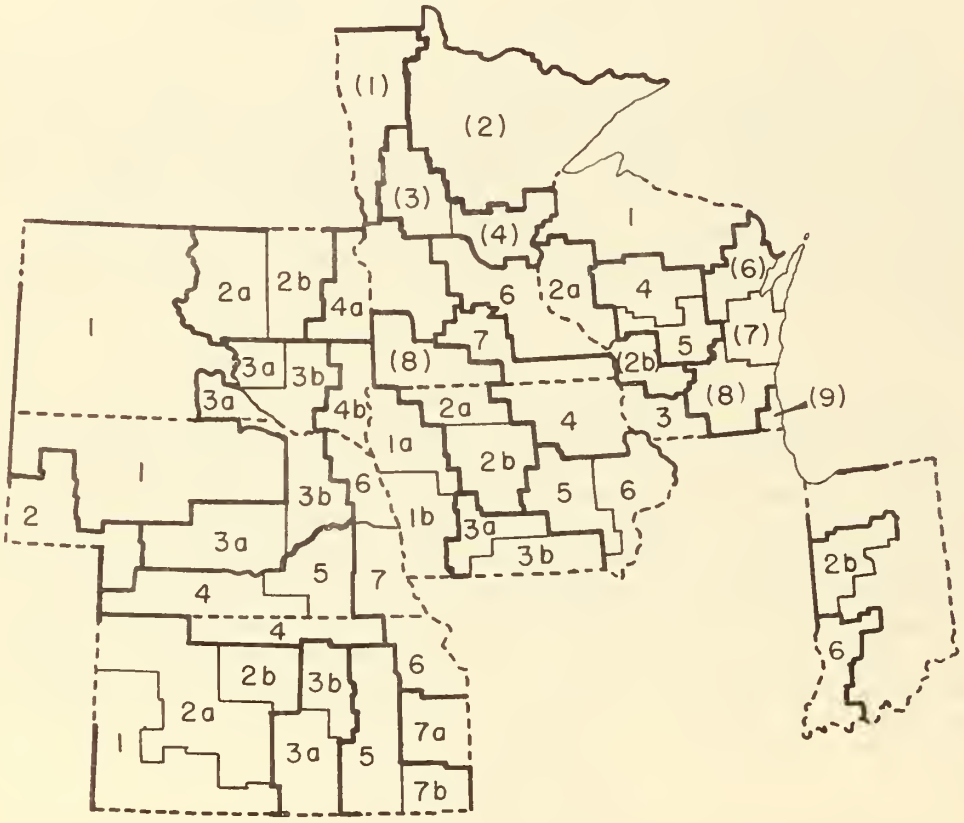
Leasing arrangement. - An agreement, either written or oral, existing between two individuals, one the owner of the land, the other its operator. Also known as a lease or a rental agreement.

Farm operator. - An individual who takes managerial responsibility for directing the functions of a farm operating unit, and who contributes the major part of his labor to the work of the farm.

Renter. - A farm operator, either tenant or part-owner, who rents part or all of the land in his farm operating unit.

5/ Bogue, Donald J. State Economic Areas, Washington, D. C., Bureau of the Census, U. S. Department of Commerce. 1951.

AREAS INCLUDED IN NORTH CENTRAL FARM RENTAL PRACTICES SURVEY



U. S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE

Figure 1

Tenant.- A farm operator who rents all of the land he farms.

Part-owner.- A farm operator who rents part and owns part of the farm operating unit. 6/

Landlord.- An individual or institution who owns or controls a tract or tracts of land operated as a farm unit, or part of a farm unit, by a farm operator.

Type of lease.- Classification of different leases according to the means by which the rental payments are made, as:

Cash lease.- All of the payment for use of the land and buildings is made in a specified amount of money;

Crop-share lease.- Payment for use of the land and buildings is in specified share or shares of the crop or crops;

Crop-share-cash lease.- Payment for use of the land and buildings is in specified share or shares of the crop or crops and in a specified amount of money;

Livestock-share lease.- Payment for use of the landlord's assets, land, livestock, etc., is in specified share of livestock or income from livestock and in specified share or shares of the crop or crops not primarily used, when livestock is the major source of income and the landlord usually owns a share of the livestock assets;

Labor-share.- The operator's contribution is primarily his labor and management, for which he receives as wages a specified share or shares of the crop or crops and livestock;

Special or other lease.- The payment cannot be classified according to one of the types listed above.

Population.- Defined for this survey as all leasing arrangements existing in each economic area under study in each State. Four characteristics of this population were observed: (1) Individual leasing arrangements; (2) the farm unit of operation of which the rented land defined in this leasing arrangement is the whole or part; (3) the renter of this farm unit, the tenant or part-owner; and (4) the owner of the land defined by the lease, the landlord.

6/ The 1950 Census of Agriculture included as part-owners farm operators who rented all of the farm operating unit, but who owned other land that was rented to others. United States Bureau of the Census. 1950 Census of Agriculture, Vol. II, p. xxx. For purposes of this study these persons were classified as tenants. Thus the estimates in this survey differ from those published in the Census.

Universe.- Defined as the total of all individuals who operate land owned by another party, as recorded by the County offices of the Agricultural Stabilization and Conservation Committees 7/ on their Master Listing Sheets. The universe approximates the population, as the listing sheets provided the best list of tenants and part-owners available for this survey in the respective areas.

Sampling unit.- (S. U.) for this survey is the name of the individual who rents part or all of the land he operates as a farm.

Sampling segment.- The term applied, for this survey, to a sampling unit that was chosen for this sample in the first stage of sampling. The second stage of the sampling plan dealt with segments that consisted of 2 or more rental agreements. The agreement selected in the sampling process was that lease for which the landlord's name would come first in an alphabetical listing.

Source of the Sample

In a sense, the population to be studied was unknown, as no information had been obtained on individual leasing arrangements in the respective States. The agricultural questionnaire of the 17th decennial census of the United States included questions on ownership and rental agreements. From information in answer to these questions the tenure and type of rental agreement were determined for each operator. A sample could have been drawn from the files of the Bureau of the Census, but the charge per name drawn would have been $0.15 to pay for the cost of preparing the lists. When there was a direct cost to a station it varied from $0.01 to $0.07 per name.

Another possible source of names in several States were the lists of all farmers and related information obtained by local tax assessors for use by the State Agricultural Estimates offices. These lists included no information as to tenure of operator. A sample drawn from this list would have included owner-operators. Such a sample would have had to be much larger to permit discarding owner questionnaires, while providing the tenant and part-owner questionnaires necessary to fulfill the sample size requirements. In many areas this would have doubled the original sample size. It would have doubled also the cost of obtaining the data.

7/ Formerly County offices of the Production and Marketing Administration. Acknowledgement is due the State and County offices of areas in the survey for their cooperation in providing lists of names of all tenants and part-owners or the sample of tenants and part-owners, as requested by the respective State experiment stations.

County Agricultural Stabilization and Conservation Committees maintain lists of all farms in their respective counties. These lists had been brought to date to include all farms in 1950 for all counties in which corn and wheat allotments were to be put into effect. All other counties--a small proportion in these 7 States--had maintained quite accurate records. The Master Listing Sheets had the name of each operator of a tract of land and the name of each owner, if owner and operator were not the same person. By taking the names of all individuals who were listed as operators but not as owners on the listing sheets, fairly complete lists of all tenants and part-owners in the areas were available. Each farm operator was listed as many times as he operated tracts of land owned by different owners. Thus, a sample drawn from these operators would be a sample of the leasing arrangements.

It was decided that the County Agricultural Stabilization and Conservation Committee lists were the best lists of leaseholders available within the range of the study. It was acknowledged that these lists were subject to error, in that they listed some farm operators as tenants who might have been owners or retired farmers; that they were not up-to-date so far as certain changes were concerned; and that there were small differences in definition between ASC offices and the study.

Size of the Sample

Based upon information obtained from previous surveys on farms and farm characteristics, a sample of 300 leasing arrangements in each economic area was considered necessary to attain a 5-percent sampling-confidence limit for the characteristics to be measured. A mail questionnaire does not give a rate of response of 100 percent. From previous experience, in the Farm Ownership 8/ study, it was evident that a response of 33 percent could be expected. In order to have a minimum of 300 respondents for analysis, the size of the sample was placed at 900 in each area studied.

Two procedures were used by the different States in drawing the sample from the ASC Master Listing Sheets. In Kansas, Nebraska, and Wisconsin, lists of the names and addresses of all tenants and part-owners were prepared by county ASC offices. From these lists of names samples were drawn by areas. A rate of sampling that would yield 900 names was used. In part of Nebraska's counties and in Wisconsin, the names were taken directly from the Master Listing Sheets in order to list each time an operator for each tract of land rented from a different landlord. In Kansas and in the rest of Nebraska's counties, lists of names were alphabetical by operator and it was the operator who was sampled; therefore, adjustments had

---

8/ Timmons, John F., and Raleigh Barlowe. Farm Ownership in the Midwest, Iowa Agricultural Experiment Station, Research Bull. 361, June 1949. (North Central Regional Publication No. 13)

to be made to permit comparison of the data for this group with those for other States. All of the multiple landlord returns were duplicated as many times as there were landlords.

In Iowa, Indiana, Minnesota, and South Dakota, the sample was drawn by clerks in the county ASC offices. The rate of sampling was arrived at by estimating the number of rental arrangements in each economic area. This was done by taking the total number of "Farms" 9/ on the ASC listing sheets and subtracting from this the number of owners and part-owners as reported in the 1950 Census of Agriculture. The difference was the estimated number of rental arrangements in the area. The actual sample was drawn by the county ASC offices on instructions furnished by each State (form 1). These instructions included the random-start number, the sampling interval necessary to yield 900 names per area based on the estimated number of leases, and the forms for listing the names (form 2). In some cases, both the name of the tenant and the name of the landlord were copied, but questionnaires were mailed only to tenants.

Drawing the Sample

The essential requirement for a truly representative sample is that the laws of probability should operate in the selection so that the chance each element in the universe has of coming into the sample is known. Methods of sampling from the lists were developed accordingly. Proper methods permit unbiased estimates of the population and its characteristics from such samples. The survey was designed to have the sample adequately reflect pictures of individual areas.

Stage 1 of the sampling plan dispersed the sample by selecting segments throughout each area. This was done by calculating the rate of sampling that would produce 900 names of tenants and part-owners. A proportionate part of the total sample for the area was allocated to each county in the area. A systematic method of sampling was used further to disperse the names over each individual county, as the ASC Master Listing Sheets listed all farms arbitrarily by township. If a strictly random method of selection had been used, a disproportionate number of farms might have been located in one part of a county. The rate of sampling varied from a high of 1 in 2 to a low of 1 in 20 in the different areas, because the number of renters in each area differed considerably.

The second stage in the sampling plan was performed by the tenant or part-owner who replied to the questionnaire. If a farm operator rented from only one landlord, he reported on that landlord and the corresponding lease. If he rented from more than one landlord, he reported on the landlord whose name appeared first in an alphabetical

---

9/ "Farm" is defined by ASC offices on the Master Listing Sheets as a tract of farm or rangeland under a single ownership and operated by one individual.

Form 1

REGIONAL SURVEY OF FARM LEASING PRACTICES
IN NORTH CENTRAL STATES

State_____

County_____

Start No._____

Interval_____

Instructions for Selecting and Transcribing Names and Address from Form A.C.P.-203-1 to Form S.F.-1.

Your county office has been supplied with form S.F.-1 designed to facilitate the transcription of names and addresses of owners, agents and operators of a small sample of farms from the Listing Sheet and Progress Record, A.C.P.-203-1. The following instructions are to be followed in selecting the farms and in transcribing the desired information for these farms. If you have further questions, please consult your district field man who is familiar with the survey for which this information is to be used.

1. Referring to Form A.C.P.-203-1, start with township 1 and put a check mark (✓) opposite all of the following farm numbers:_____

Repeat the process for all townships in the county.

2. Second, type or write on Form S.F.-1 the following information for all sample farms checked (✓) according to above procedure as follows: (1) township code number in column 1, (2) farm number in column 2, (3) owner's, agents and operator's names in column 4, (4) their addresses in column 5, (5) farm land acres in column 6. Be sure to include exact names and complete addresses.

3. Third, if a sample farm has been crossed off the Listing Sheet and Progress Report, write the letters "C.O." (crossed off) in the space in column 4, S.F.-1.

Form 2

State__________
Economic Area___
County__________

REGIONAL SURVEY OF FARM LEASING PRACTICES
NORTH CENTRAL STATES

Sampling Form 1
Starting Farm number
Sampling Interval___

Listing Sheet of Names and Addresses
(Prepared from Form ACP-203-1)

Township Number	Farm Number		Name	Address	Farm Land (acres)
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			
		Owner			
		Agent			
		Operator			

listing and on the corresponding lease. As nearly as possible, under this procedure, a random method was used in resolving which leasing arrangement was to be reported upon when the material available to the station was insufficient to determine a specific lease in the first stage of sampling.

Obtaining the Data

Questionnaire

The questionnaire was formulated by the full subcommittee of representatives from each State, the Agricultural Research Service, and the Farm Foundation. General problems involved in construction of a questionnaire for the survey were as follows:

1. To define the subject-matter boundaries of the area of inquiry--that is, the types of data desired--and, more concretely, to determine the basic data wanted. Part of this was achieved by the early formulation of the objectives for the survey. Also, early study was given to the major tabulations needed.

2. To phrase questions to obtain desired specific data as objectively as possible. This meant that questions should be stated in such a way that they could be uniformly interpreted by the respondents.

3. To restrict both general and specific kinds of data sought and the length of the questionnaire for ease and speed in completing it on the part of the respondent so that excessive length would not reduce the number of respondents.

Agreement of the subcommittee on the questionnaire was the most difficult point on which to obtain uniformity. The general areas of investigation--the renter's age, experience, size of farm, type of farm, landlord's age, sex, and relation to renter--were readily decided. These items of information were believed to be directly related to the form of the rental agreement to be used.

Agreement as to other items of information to be obtained while keeping the length of the questionnaire within desirable limits was more difficult. Within any one State type-of-farming areas vary widely. To include questions that cover all possible leasing arrangements for each situation would be impracticable for any 1 State. To do so for 7 States would further magnify the work.

Thus certain questions dealing with special cases, for example, leasing practices in irrigated regions, were omitted as they applied to a relatively small area. In three sections--crop shares, expenses, and machinery and equipment--these problems were solved by making a master list for the region. Each State was then limited to a maximum

number of items from the master list--the most important ones for that State. An item was included in the master list if 2 or more States felt that it would be important to the analysis. Appendix C shows the complete master questionnaire.

Pretesting

The questionnaire was pretested twice before it was actually used. In the spring of 1951, Kansas and Iowa mailed copies of the questionnaire to 50 renters in each State. Returns from this pretest showed that the questionnaire was either too long or too poorly organized to obtain an adequate response by mail. In Nebraska an interpretative test was made with two on-the-farm training classes of veterans and many of the questions were clarified.

In the fall of 1951, a revised questionnaire was pretested in some States. In Kansas, Nebraska, South Dakota, and Wisconsin, 100 names were taken from the lists in each State and copies of the questionnaire were mailed. Ten days after the original mailing a second copy of the questionnaire was mailed to all persons who had not returned the original form. In Iowa and Minnesota, a field interview was conducted with several tenants and part-owners. The questionnaires were first handed to the interviewee for completion. The completed form was checked by the interviewer and discussed with the renter to determine whether the questions were concisely worded and whether they would provide the desired reply. The second pretest revealed no major defects and the form of the questionnaire was left appreciably unchanged, except for questions about improving rental agreements. These were reworded to apply to the community rather than the landlord and tenant of the rented tract. Had a fairly complete analysis of the pretested questionnaires been made, other defects might have been discovered.

Data--Units of Observation

Data were obtained entirely on a voluntary basis. Most of the questions were fixed questions which required either yes or no, or a specific measure such as acres of land in the rental tract. Five opinion questions were included to obtain information on problems existing in the community between landlords and renters, as seen by the renter. No questions considered strictly personal, such as income, expenditures, etc., were included, as experience had proved that the respondent would be less willing to return the questionnaire. Several items of information that might have permitted classification of the farm as to productivity were omitted. This information should be obtained by specialists in soils and crops; it should not be provided by renters.

The unit for which data were obtained was called the Unit of Observation. Information was obtained on four basic units of observation: (1) Characteristics of the lease for a specific tract of land; (2) Characteristics of the farm of which the tract is a part or the whole; (3) Characteristics of the operator of the farm or the respondent; and; (4) Characteristics of the landlord from whom the tract is rented. The major part of the questionnaire dealt with information on the tract of rented land. Only a small basic amount of information was obtained on the farm and operator, and approximately a fourth of the data dealt with the landlord.

The probability with which the units of observation entered the sample differed. This caused some difficulty in making sample estimates of part of the characteristics measured, but the sampling plan was designed to make known the probability with which the tract of rented land entered the sample, as these were the characteristics most important to the study.

Methods of Mailing Questionnaires

All State experiment stations except Indiana mailed the questionnaires to names drawn in the sample under the postal franking permit of the Extension Service, 10/ United States Department of Agriculture. This required using the signature of a member of the State extension service on the covering letter. The person who signed the letters was an individual well known throughout the State. In some States, the Associate or Assistant Director of the State extension service signed the letters; in others, an Extension Economist signed them. Indiana used regular postage stamps; apparently the rate of return was influenced very little because of this method of mailing.

To use the postal franking permit of the Extension Service, it was necessary to comply with a ruling of the United States Bureau of the Budget. This ruling requires that no department of the United States Government may conduct a general survey without permission of the Bureau of the Budget.

Questionnaires were mailed to the sampled names in January and February 1952; enclosed with each was a self-addressed return envelope to facilitate return of the report. This period was purposely chosen as one when farmers were not too busy with outdoor work and would be more likely to take time to complete the questionnaire. The questionnaires were printed on colored paper. Previous tests have shown that any color other than white has increased the number of replies in a mail survey. The questionnaire is not so likely to be lost or confused with other papers on the farmer's desk.

10/ Credit is due the State extension services for their cooperation in this stage of the study. Use of the postal franking privilege and the signature of a member of the Extension staff facilitated collection of the data.

Approximately 10 days after the original mailing a second copy of the questionnaire was mailed to those persons who had not returned the first one. Enclosed with the second mailing was a note to the effect that if the form had already been returned the letter might be disregarded. The second mailing approximately doubled the total number of returns in part of the States. In Wisconsin the first mailing returned 11 percent, while the second mailing brought in 22 percent. Whether a third mailing would have increased the total number of returns sufficiently to pay the additional cost involved is problematical. Indiana sent a postcard reminder to those who had not responded within approximately 2 weeks after the second mailing; this card had some effect, but how many responded directly to the card could not be learned. One or two questionnaires were returned 2 years after they were mailed.

Publicity

Before the questionnaires were mailed and as the respondents were returning the forms, each State used the many avenues of publicity open to it. Letters were sent to each county extension agent in the counties covered to inform them of the purpose of the survey. Releases were distributed to radio stations within the States, including college stations. In addition, news releases were sent out through the extension editors' offices. In Nebraska, an additional means of publicity was enlisted. Letters and copies of the questionnaires were sent to all members of the Nebraska Society of Farm Managers and Rural Appraisers. They were asked to encourage all of their renters who received the questionnaire to return it. The effect of this publicity cannot be evaluated quantitatively but obviously it helped to increase the proportion of the sample that responded.

Response to Survey

Response to the mail survey was not quite as high as had been expected. The sample was drawn on the basis that there would be a return of 33 percent. Returns varied from a low of 21.2 percent in South Dakota to a high of 34.3 percent in Nebraska (table 1). This was the total rate of return of all questionnaires except those returned by postoffices for wrong addresses. When the questionnaires were checked for completeness and usability, a number were discarded. Discarded questionnaires varied from a high of 8.1 percent of the original sample in Wisconsin to a low of 0.9 percent of the original sample in Indiana.

Table 1.- Response to mail survey

State	Areas	Sample size	Respondents		Net usable questionnaires	
	Number	Number	Number	Percent	Number	Percent 1/
Indiana	2	1,951	472	24.2	436	22.3
Iowa	9	9,407	2,497	26.5	2,352	25.0
Kansas	10	10,833	2,775	25.6	2,296	21.2
Minnesota	3	3,830	1,147	29.9	956	25.0
Nebraska	8	7,702	2,640	34.3	2,177	28.3
South Dakota	7	7,026	1,604	21.2	1,488	19.7
Wisconsin	7	6,810	2,314	34.0	1,764	25.9
Total	46	47,559	13,449	28.3	11,469	24.1

1/ Percentage of original sample.

Among reasons for discarding questionnaires, the important ones were that the person whose name was in the sample was an owner, was not farming, or had been called into the Service (table 2). Several questionnaires were returned incomplete. The leasing arrangement could not be classified as to type of lease. There were a few direct refusals to fill out the form. Some of these persons returned the questionnaire after removing any identification.

The number of owner respondents made it possible to correct the population number of leasing arrangements in each area. For example, in South Dakota 1.2 percent of the questionnaires mailed were returned with the information that the operators rented none of the land they farmed. Thus, the total number of leasing arrangements could be reduced by 1.2 percent--from 56,155 to 55,481--following the assumption that the number of owners responded in the same proportion in which they were drawn in the original sample.

Table 2.- Breakdown of nonusable questionnaires

State	Areas	Sample size	Owners		Incomplete returns		Not farming		Other		Total		Wrong address	
	Number	Number	Number	Percent 1/	Number	Percent 1/	Number	Percent 1/	Number	Percent 1/	Number	Percent 1/	Number	Percent 1/
Indiana	2	1,951	13	0.7	11	0.6	4	0.2	8	0.4	36	1.9	2	0.1
Iowa	9	9,407	67	.7	37	.4	38	.4	3	.03	145	1.5	89	.9
Kansas	10	10,833	212	2.0	129	1.2	106	1.0	33	.3	480	4.4	178	1.6
Minnesota	3	3,830	134	3.5	15	.4	32	.8	10	.3	191	5.0	58	1.5
Nebraska	8	7,702	260	3.4	66	.9	60	.8	77	1.0	463	6.0	41	.5
South Dakota	7	7,026	83	1.2	17	.2	8	.1	8	.1	116	1.7	60	.9
Wisconsin	7	6,810	317	4.7	52	.8	116	1.7	65	1.0	550	8.1	185	2.7
Total	46	47,559	1,086	2.3	327	.7	364	.8	204	.4	1,981	4.2	613	1.3

1/ Percentage of original sample.

Processing Returned Questionnaires

Incoming questionnaires were checked by clerks and then checked by the State project leader for completeness, accuracy in answers, and usability. The final decision as to completeness or usability was deferred until the editing process had been completed. All questionnaires were assembled by counties and by economic areas to facilitate future work.

Sample Check of Nonrespondents

Commonly, in mail surveys, a considerable proportion of those persons to whom questionnaires are mailed do not respond. In this study, for all States as a whole, about 70 percent failed to respond. Do these 70 percent differ in important characteristics from the 30 percent who responded?

This question was examined briefly in 5 of the 7 States. In Nebraska a sample of 100 nonrespondents was selected in Economic Area 7. These were to be surveyed by personal interview. The number of persons available for complete interviews was 63. Others had been called into the service, died, or moved from the farm. One person refused to be interviewed. No attempt was made to obtain alternates for these 37 individuals, as the above information was used to show the inaccuracies in the original list from which the samples were drawn. In South Dakota, samples were selected in 2 counties in 2 different economic areas, 3b and 4, consisting of all nonrespondents in the counties. In Kansas, a sample of 8 individuals was interviewed in 1 county in area 1. Iowa sampled 27 nonrespondents in economic area 2b, and Minnesota interviewed 21 nonrespondents in Martin County in Economic Area 8.

In testing certain factors, there appeared to be no significant difference between those who responded to the questionnaire and those who did not respond (table 3). In only two cases was there a difference between the two groups that could not be attributed to chance. This was the difference in age of Iowa and Kansas operators. In both cases nonrespondents were older. However, this difference was based on a small sample of nonrespondents--27 and 6, respectively. In other factors where the data were of the enumeration type, there appeared to be no difference between respondents and nonrespondents that could not be attributed to chance selection of the sample (table 4). That is, it is probable that there is no appreciable difference between persons in the sample who did not respond to the questionnaire and those who did respond. These tests were made for specially selected economic areas, and small numbers of nonrespondents were sampled in each area. Judging from this it is possible that little, if any, bias arises from the differences between respondents and nonrespondents. A more intensive nonrespondent survey would have made it possible to judge the accuracy with more precision.

Table 3.- Characteristics of respondents in comparison with interviewed nonrespondents in farm leasing survey, selected economic areas, 1952

Items	Respondents	Non-respondents	Difference between means	Standard error of difference between means
	Number	Number	Number	Number
Acres farmed per operator				
Iowa - Economic Area 2b	234.6	208.3	26.3	21.9
Kansas - Economic Area 1	1,523.3	908.3	615.0	559.4
Minnesota - Economic Area 8	268.5	211.8	56.7	71.7
Nebraska - Economic Area 7	257.1	241.1	16.0	19.2
South Dakota - Economic Area 3b	729.2	762.2	33.0	81.4
South Dakota - Economic Area 4	600.1	468.1	132.0	90.1
Acres owned by part owners				
Iowa	122.7	102.0	20.7	98.2
Kansas	471.5	570.0	98.5	125.4
Minnesota	151.6	120.0	31.6	57.6
Nebraska	142.6	132.0	10.6	22.1
South Dakota 3b	444.8	543.3	98.5	89.8
South Dakota 4	394.5	251.7	142.8	140.9
Acres rented by tenants				
Iowa	217.1	192.0	25.1	21.1
Kansas	906.4	497.5	408.9	318.3
Minnesota	232.6	208.8	23.8	43.8
Nebraska	229.8	215.2	14.6	18.6
South Dakota 3b	574.3	521.5	52.8	92.8
South Dakota 4	464.4	363.4	101.0	88.3
Acres rented by part owners				
Iowa	186.1	144.9	41.2	52.0
Kansas	1,370.9	1,160.0	216.9	950.3
Minnesota	231.2	120.0	111.2	376.4
Nebraska	185.3	146.2	39.1	28.8
South Dakota 3b	402.1	382.6	19.5	64.4
South Dakota 4	334.9	340.1	5.2	73.1
Acres rented from this landlord				
Iowa	185.1	157.9	27.2	32.5
Kansas	427.2	251.7	175.5	156.7
Minnesota	180.6	165.6	15.0	20.7
Nebraska	165.7	153.2	12.5	13.4
South Dakota 3b	343.5	276.4	67.1	46.2
South Dakota 4	280.9	268.0	12.9	49.1
Age of operator				
Iowa	39.1	44.0	4.9	2.1
Kansas	40.4	49.0	8.6	4.3
Minnesota	38.2	42.0	3.8	2.4
Nebraska	40.4	41.0	0.6	1.6
South Dakota 3b	39.6	41.0	1.4	2.0
South Dakota 4	38.8	39.0	0.2	2.6

Table 4.- Characteristics of respondents in comparison with interviewed nonrespondents in farm leasing survey, for selected economic areas, 1952

Item	Iowa Area 2b		Kansas Area 1		Minnesota Area 8		Nebraska Area 7		South Dakota Area 3b		South Dakota Area 4	
	Respondents	Nonrespondents	Respondents	Nonrespondents	Respondents	Nonrespondents	Respondents	Nonrespondents	Respondents	Nonrespondents	Respondents	Nonrespondents
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Percentage by type of lease												
Cash	5.3	14.1	1.3	0	21.3	24.0	5.1	6.5	2.4	7.3	4.5	12.5
Crop-share	14.0	18.5	71.5	86.0	20.2	14.0	30.5	35.5	39.3	51.2	41.4	25.0
Crop-share-cash	62.0	48.2	22.7	0	39.5	33.0	57.8	48.4	51.7	34.2	47.0	45.8
Livestock share	18.7	18.5	4.5	14.0	19.0	29.0	6.6	9.6	6.6	7.3	7.1	16.7
Percentage of leases in writing												
Yes	49.0	52.0	30.2	43.0	42.3	48.0	35.2	36.1	33.0	29.3	34.5	46.0
No	51.0	48.0	69.8	57.0	57.7	52.0	64.8	63.9	67.0	70.7	65.5	54.0
Percentage by length of lease												
None specified	0.3	0	58.8	86.0	1.5	0	0.9	8.3	71.1	73.7	75.9	68.3
One year	64.7	37.0	4.0	0	56.4	33.3	74.0	45.1	8.7	4.8	6.2	13.6
2 - 3 years	3.7	15.0	4.4	14.0	15.2	19.1	3.0	3.3	1.9	4.8	3.9	4.5
4 - 5 years	6.1	11.0	19.0	0	8.8	0	3.8	3.3	13.0	11.9	7.3	4.5
Indefinite	6.4	37.0	13.8	0	10.6	9.5	4.7	40.0	5.3	4.8	6.7	9.1
Other	18.0	0	0	0	7.5	38.1	13.6	0	0	0	0	0
Percentage of operators related to landlord												
Yes	40.4	44.0	26.3	29.0	45.3	52.9	39.9	40.7	35.9	42.5	35.3	50.0
No	59.6	56.0	73.7	71.0	54.7	47.1	60.1	59.3	64.1	57.5	64.7	50.0
Percentage of farms where landlord shares cash expense												
Yes	96.7	81.0	48.3	14.0	80.1	81.0	71.6	50.8	21.1	10.0	30.6	13.6
No	3.3	19.0	51.7	86.0	19.9	19.0	28.4	49.2	78.9	90.0	69.4	86.4
Number of replies	342	27	314	7	352	21	271	63	222	42	203	24

Processing of Data

Editing and Coding

Questionnaires were edited by clerks at each State station, according to a set of directions supplied by the regional coordinator. There were advantages and disadvantages in this operation. For the sake of uniformity, having all questionnaires edited at a single place under the direction of one individual would have been more desirable. However, certain questions arose that could best be answered by the State project leader who was familiar with conditions in his State. In addition, the processes of transferring funds between stations compared with hiring clerks in the different States from general department funds made this impracticable. Any questions on editing were answered by the State project leader, or, if doubt still remained, they were referred to the regional coordinator for answering. (See appendix p. 43, for a copy of the editing instructions.)

Previous experience with similar surveys demonstrated that it would be well to prepare the data for adaptation to punched-card methods of processing. This necessitated reducing all data to numeric codes or coding the data. Part of this work was done at the time of editing, which helped in assigning the code numbers. (See appendix p. 48, for example of a code sheet used.) Numeric codes were identical for all States. Editing instructions were drawn up with this step in mind, thus simplifying the coding process. Reduction of the data to numeric codes was performed at each State headquarters, under the direction of the State project leader.

The code consisted of three sets or decks of cards, designated as CARD I, CARD II, and CARD III. Each CARD contained 11,469 IBM cards, one for each respondent questionnaire. In general, all columns were used on each CARD. The arrangement on the CARDS permitted the maximum number of cross-tabulations without transferring the data to other cards. In general, quantitative data were not reduced to class intervals; they were preserved in raw form. For a portion of the cross-runs of items that were originally placed on different CARDS, a fourth CARD was prepared from the original three. A fifth CARD was used to determine the class intervals for those items that were punched in the original form; for example, size of tract rented in acres, and size of farm in acres. Each CARD contained 8 columns of basic information for identification.

Punching

The cards were punched from code sheets for 5 of the 7 States. Two States were coded directly on the questionnaire and the punching was done directly from these codes. Cards for 5 States were punched at South Dakota College in conjunction with the business office of the college at a special price to the regional study. Those for the other 2 States were punched at the local experiment stations, to avoid transferring additional funds.

Checking punched cards

Detailed procedures were worked out with the Iowa State College Statistical Laboratory for checking the cards before the tabulations were begun. All cards were visually checked to determine whether they were punched on the last column of each card; for example, column 78 for CARD I, and column 80 for CARD II. Then all cards were arranged for each farm in order of CARDS I, II, and III. All cards were then sent through the tabulating machine and all columns were printed on tabulation paper. From the printed sheets checks were made: (1) To see that three cards were present for each schedule; (2) to prove that all cards for one schedule were identical so far as identification, type of lease, and type of renter were concerned; (3) to compare sets of columns from the three cards. For example, number of landlords were compared with type of renter; the logic of this check was that if the type of renter (col. 10, CARD I) was specified as tenant-single or owner-single there should be only one landlord (col. 48, CARD I). If col. 10, CARD I, was coded as 2 or 4, tenant-multiple or owner-multiple, more than 1 landlord would be punched in column 48, CARD I. Or, if in col. 69, CARD I, the code punched was 1 for Yes, cash rent is paid, the type of lease coded in column 9, CARD I, could not be coded 2, crop-share, or 5, labor-share. When an answer had to be a specific one based on previous information, these checks were made.

During the tabulation process the machine operator continually checked for impossible categories, numbers of cards by card count, and so on. When an error was detected, correction was made by checking against the original schedule.

Tabulation procedures

All IBM tabulation of data was performed at the Iowa State College Statistical Laboratory with the cooperation of the regional coordinator. The subcommittee met three times to decide which items were essential for cross-tabulation consistent with the purposes of the regional study. Some possible cross-runs were found to involve numbers of schedules small enough to introduce doubt as to the accuracy of the results and they were deleted. Selection of cross-tabulations was made on the basis of their relative importance in describing current leasing practices or their utility in identifying leasing problems. These cross-tabulations were suggested directly by the theory of production economics; for example, comparisons of shares of expenses and returns.

For all tabulations considered feasible from both a statistical and an economic viewpoint, work tables were prepared by clerks under the direction of the coordinator. Worktables were prepared in duplicate, and the distribution percentages were computed by the clerks. Duplicate copies of IBM tabulations and worktables were forwarded to each State headquarters. A full-time clerk checked the runs as they came from the statistical laboratory, corrected errors detected by the laboratory, prepared worktable forms, and directed the

work of other clerks who transcribed data to the worktables and computed percentages. Tabulation procedures disclosed that additional checking of the coding step would have saved money and increased the accuracy of the work.

Measures of Reliability

Estimations for this study were made for each economic area as though the sample had been a random sample. The bias between a systematic sample and a random sample in this case is negligible. For a few characteristics, State totals were computed with the assumption that the sample was a stratified random sample. State estimates of the mean were obtained by

$$\bar{x} = \sum_{i=1}^{k} \frac{N_i}{N} \bar{x}_i$$

where $\bar{x}$ is the State mean, N the total number of leasing arrangements in the State, N_i the total number of leasing arrangements in the i^{th} area, $\bar{x}_i$ the sample mean for the i^{th} area, and p the number of areas in the State. State estimates of the proportion having a given characteristic were obtained by

$$p = \sum_{i=1}^{k} \frac{N_i}{N} p_i$$

where p is the proportion having a given characteristic in the State and p_i is the proportion having a given characteristic in the i^{th} area.

Estimated relative root mean square errors were computed for a few characteristics for the economic areas that were chosen for the nonrespondent survey. The estimated relative root mean square errors in table 5 provide information for estimating confidence limits to include the true means. These confidence limits permit statements to be made concerning the interval which covers true means or totals of the item measured with some degree of certainty. A confidence interval statement for any of the means, with 95 percent confidence, is determined in general by

Sample mean $\pm$ 2 (estimated relative root mean square error) (sample mean). The value of 2 (estimated relative root mean square error) (sample mean) is shown in table 5. The confidence interval for the average size of farm in Iowa Economic Area 2b is:

$$234.6 \pm 2\ (0.0254)(234.6) = 234.6 \pm 11.92.$$

Then the probability or confidence is approximately 0.95 that, in repeated sampling, the true mean average size of farms in this economic area will be included in the interval 222.68 acres to 246.52 acres.

Table 5.- Estimates of means and relative root mean square errors for selected items and economic areas

Characteristic and State	Mean	Relative root mean square error	1/2 the confidence interval
Average size of farms			
Iowa (Economic Area 2b)	234.6	2.54	11.92
Kansas (Economic Area 1)	1,523.3	5.05	153.98
Minnesota (Economic Area 7)	268.5	6.51	34.96
Nebraska (Economic Area 7)	257.1	3.51	18.06
South Dakota (Economic Area 2a)	729.2	4.64	67.74
South Dakota (Economic Area 2b)	600.1	5.12	61.40
Average acres rented full tenants			
Iowa	217.1	2.45	10.64
Kansas	906.4	6.46	117.14
Minnesota	232.6	4.97	23.12
Nebraska	229.8	3.67	16.86
South Dakota 2a	574.3	6.45	74.14
South Dakota 2b	464.4	6.68	62.02
Average acres rented part owners			
Iowa	186.1	9.60	35.72
Kansas	1,370.9	6.93	190.04
Minnesota	231.2	24.97	115.48
Nebraska	185.3	7.73	28.64
South Dakota 2a	402.1	6.82	54.88
South Dakota 2b	334.9	7.01	46.96
Average acres owned by part owners			
Iowa	122.7	8.83	21.68
Kansas	471.5	8.40	79.22
Minnesota	151.6	5.82	17.64
Nebraska	142.6	7.73	22.06
South Dakota 2a	444.8	2.64	23.52
South Dakota 2b	394.5	11.64	91.88

Check Data: Reasonability of Results

In April 1950, the Bureau of the Census, Department of Commerce, conducted a complete count of many characteristics of agriculture and made a sample count of others. The North Central Regional Farm Leasing study was conducted in the winter of 1951-52 and between the dates of the two surveys some changes took place. Even so, a check of certain characteristics measured in the survey against published data from the Census of Agriculture could be used to determine whether the sample differs a great deal from the population represented by the census.

Two statistical methods of checking the survey data against census data were followed: (1) Using the sample mean of such characteristics as size of farm operated, acres rented by full tenants, acres rented by part-owners, and acres owned by part-owners; and (2) comparing the proportions of individuals classified by relation of landlord, class intervals of acres farmed, class intervals of ages of operators, and proportions of full tenants and part-owners. The economic areas tested were those used for the nonrespondents' tests. Additional areas tested would have required additional machine tabulations and computations.

In the first method of comparison there appeared to be several areas in which a difference existed that might not be attributed to chance. In one economic area, South Dakota 2a, the differences between the respondents of the survey and the population were consistently nonsignificant except for the average number of acres owned by part-owners. In practically all other areas the respondents of the survey differed in average sizes from the population of 1950 as reported in the Agricultural Census (table 6).

The second method of comparison was more gratifying. In practically all cases the proportions from the survey did not differ significantly from the proportions as reported by the census. There is a possibility that the deviation is due to chance rather than to any true difference (table 7).

COSTS AND FINANCING

Costs of the North Central Regional Farm Leasing study were borne by participating State experiment stations, the Agricultural Research Service, and the Farm Foundation. Each experiment station paid all costs of materials and of labor performed at the station in collecting the data, editing the questionnaires, and preparing the numeric codes of the data (table 8). The expense of preparing the original sets of IBM cards was the responsibility of the individual station whether the work was performed at a central location or at the local experiment station. Costs reported by the States varied considerably because of the size of the original sample, the purchasing arrangements available to the different stations, and the availability of regular station personnel for which time worked

Table 6.- Characteristics of respondents in comparison with population, as represented by corresponding areas in 1950 Agricultural Census, for selected economic areas, 1952

Items	Respondents $\bar{x}$	1950 Agricultural Census u	Difference between means $\bar{x} - u$	Standard error of sample mean $s_{\bar{x}}$
	Number	Number		
Acres farmed per operator				
Iowa - Economic Area 2b	234.6	196.1	- 38.5	5.96
Kansas - Economic Area 1	1,523.3	1,152.7	- 370.6	76.99
Minnesota - Economic Area 8	268.5	214.3	- 54.2	17.48
Nebraska - Economic Area 7	257.1	232.3	- 24.8	9.03
South Dakota - Economic Area 2a	729.2	911.7	+ 182.5	33.87
South Dakota - Economic Area 2b	600.1	544.7	- 55.4	30.70
Acres rented by tenants				
Iowa	217.1	187.4	- 29.7	5.32
Kansas	906.4	787.5	- 118.9	58.57
Minnesota	232.6	200.5	- 32.1	11.56
Nebraska	229.8	211.9	- 17.9	8.43
South Dakota 2a	574.3	618.9	+ 44.6	37.07
South Dakota 2b	464.4	428.7	- 35.7	31.01
Acres rented by part owners				
Iowa	186.1	122.2	- 63.9	17.86
Kansas	1,370.9	757.0	- 613.9	95.02
Minnesota	231.2	107.8	- 123.4	57.74
Nebraska	185.3	139.8	- 45.5	14.32
South Dakota 2a	402.1	439.5	+ 37.4	27.44
South Dakota 2b	334.9	277.8	- 57.1	23.48
Acres owned by part owners				
Iowa	122.7	123.5	+ .08	10.84
Kansas	471.5	764.8	+ 293.3	39.61
Minnesota	151.6	151.4	- .2	8.82
Nebraska	142.6	152.5	+ 9.9	11.03
South Dakota 2a	444.8	658.1	+ 213.3	11.76
South Dakota 2b	394.5	372.7	- 21.8	45.94

Table 7.- Characteristics of respondents in comparison with population, as represented by corresponding areas, 1950 Agricultural Census

Item	Iowa Area 2b		Kansas Area 1		Minnesota Area 8		Nebraska Area 7		South Dakota Area 2a		South Dakota Area 2b	
	Respondents	Census	Respondents	Census	Respondents	Census	Respondents	Census	Respondents	Census	Respondents	Census
Percentage of tenants and part-owners	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Tenants	80.99	75.08	35.98	43.4	76.07	66.49	66.41	63.95	44.34	31.51	49.26	37.74
Part-owners	19.01	24.92	64.02	56.6	23.93	33.51	33.59	36.05	55.66	68.49	50.74	62.26
Percentage by size of farm												
0 - 29	---	1.09	---	0.08	---	1.23	0.74	1.31	---	0.37	---	0.86
30 - 49	---	1.12	---	---	---	.77	.37	1.13	---	---	---	.16
50 - 99	2.92	6.84	---	.56	3.42	5.41	6.27	5.31	0.47	.75	.50	.39
100 - 179	34.22	44.71	1.59	3.68	35.04	39.53	26.57	31.17	3.29	2.34	6.50	5.32
180 - 259	26.02	27.85	.96	2.48	26.50	28.84	28.41	31.24	4.69	1.40	7.00	7.66
260 - 499	33.92	17.28	12.42	22.17	30.77	22.39	31.00	26.45	27.70	23.39	38.00	44.64
500 - 999	2.92	1.07	28.98	34.08	3.42	1.77	6.27	3.17	46.48	45.20	37.00	33.45
1,000 - 4999	---	.04	56.05	36.95	.85	.06	.37	0.22	17.37	26.55	11.00	7.52
5,000 and over												
Percentage by age of operator												
Under 25	3.53	6.85	4.60	4.12	4.76	5.27	4.80	6.46	6.79	6.80	8.96	5.44
25 - 34	33.24	30.13	31.91	24.10	38.10	31.40	29.15	25.65	35.74	28.28	33.33	25.61
35 - 44	35.88	28.52	32.57	27.67	28.89	29.79	32.10	28.74	25.79	24.49	28.86	24.40
45 - 54	16.18	20.06	15.46	23.99	19.68	20.20	21.77	21.34	17.65	23.25	13.43	24.25
55 - 64	9.70	11.50	14.47	14.49	7.30	10.32	8.49	13.55	12.22	13.51	13.43	16.21
65 and over	1.47	2.94	.99	5.63	1.27	3.02	3.69	4.26	1.81	3.67	1.99	4.09
Percentage related to landlord												
Yes	40.36	1/	26.26	38.88	45.32	41.26	40.5	39.9	35.94	26.52	35.33	28.16
No	59.64	1/	73.74	61.12	54.68	58.74	59.5	60.1	64.06	73.48	64.67	71.84

1/ Not reported.

Table 8.- Costs of survey at individual States

Item	Indiana	Iowa	Kansas	Minnesota	Nebraska	South Dakota	Wisconsin
	Number	Number	Number	Number	Number	Number	Number
Questionnaires mailed	1,951	9,407	10,833	3,830	7,702	7,026	6,810
Usable returns	436	2,352	2,296	956	2,177	1,488	1,764
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Materials							
Labels	1/	54	1/	8	26	21	1/
Envelopes	2/ 226	148	209	181	168	150	1/
Questionnaires		264	184	170	203	156	1/
Code sheets	20	100	---	55	71	---	1/
Labor							
Typing address labels	90	3/	3/	57	3/	3/	1/
Labeling and stuffing envelopes	150	220	280	141	318	131	1/
Acquiring the sample	---	---	100	252	104	3/	1/
Editing questionnaires	3/	210	375	85	118	300	1/
Coding questionnaires	3/	457		380	364		1/
Punching cards	28	145	150	126	166	108	1/
Making pretest	---	---	25	25	---	---	---
Nonrespondent survey	---	4/	4/	77	4/	100	---
Tests of significance on nonrespondents and respondents	---	---	---	---	226	---	---
Total costs of work at local station	514	1,598	1,323	1,557	1,764	966	1,629
Professional time (estimated)	2,000	2,000	2,100	2,070	3,380	1,707	2,000
Transferred to central station	125	423	519	5/ 471	650	380	371
Total all costs	2,639	4,021	3,942	4,098	5,794	3,053	4,000

1/ Information not available at this station.
2/ Includes stamps, envelopes, and questionnaires.
3/ Labor performed by regular personnel as time permitted and no record was maintained of time or cost.
4/ Data obtained at no cost to the project.
5/ Includes preliminary tabulations performed on Minnesota data at South Dakota State College.

could not be estimated. Some States hired additional clerks to do the editing and coding. In one instance, the State project leader performed a major share of the workload.

Costs of operations at central headquarters--card corrections, machine tabulation, preparation of worktables, and so on--were paid by all cooperating parties. The initial estimated cost of the tabulations was prorated to individual experiment stations according to the number of areas included in the study. Clerical and supervisory salaries and the additional costs of machine tabulations were financed from funds of the Agricultural Research Service and the Farm Foundation. (See tabulations below.) This part of the project was divided as follows: State experiment stations, 31.6 percent; Agricultural Research Service, 22.9 percent; and Farm Foundation, 45.5 percent. IBM machine work paid for consisted of 180 tabulations, from which clerical workers prepared 175 separate worktables for each area in the study. Worktables were not prepared for all tabulations because of the small number of cases in many cells.

Expenditures at Regional Project Headquarters are shown below:

Item	Dollars
IBM	
Card corrections	500
Tabulation of data	3,090
Supervisory	1,200
Clerical	3,121
Bulletin manuscript	294
Supplementary tables	780
Miscellaneous	329
	9,314

Sources of funds for work at Regional Headquarters follow:

Source	Dollars
From individual States	2,939
Agricultural Research Service	2,135
Farm Foundation	4,240
	9,314

The original estimates of total costs for the study as set forth in the Memorandum of Agreement and the renewals were fairly accurate. Actual costs were generally less than the estimates, except for IBM tabulations and project coordinators' time. The difference between the estimates and the amounts actually spent was due to an underestimate of the time spent by the regional coordinator. The Memorandum of Agreement allowed for three-fourths time each year for 2 years. The work actually accounted for nearly all of his time each year for a 3-year period. The IBM tabulation costs were underestimated because of errors detected in the coding stage.

The total costs of the project are divided as follows: Experiment stations, 46.5 percent; Farm Foundation, 11.9 percent; and Agricultural Research Service, 41.6 percent (table 9). This division includes the professional time of the State project leaders and the regional coordinator, but no attempt was made to estimate the amount of time or the value of contributions of other professional personnel of the Agricultural Research Service and the Farm Foundation. These persons worked with the subcommittee continually during the planning and execution stages of the project and spent considerable time in liaison work in obtaining approval of both the project and the questionnaire from the Bureau of the Budget.

Table 9.- Estimates of income and expenditures by sources of funds and contributions

State	Estimates				Spent	Other than professional time
	Memorandum of Agreement 1951-52	Renewal: 1952-53	Additional: 1953-54	Total		
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Indiana	2,000	550		2,550	2,639	639
Iowa	3,000	3,200		6,200	4,021	2,021
Kansas	2,400	2,300		4,700	3,942	1,842
Minnesota	4,000	3,000		7,000	4,098	2,028
Nebraska	3,050	3,300		6,350	5,794	2,414
South Dakota	2,740	2,117		4,857	3,053	1,346
Wisconsin	3,000	2,700		5,700	4,000	2,000
Farm Foundation	4,500	2,500	1,400	8,400	7,041	7,041
ARS	5,000	5,635	5,000	15,635	24,635	2,635
Total	29,690	25,302	6,400	61,392	59,223	21,966

Costs of the different phases of the total project are shown in the tabulation on page 30. Of the approximately $59,000 spent for the study, about $37,000 was paid for salaries of professional personnel already employed by their respective agencies. Subcommittee meetings and other travel amounted to about $3,000. The cost of obtaining the data and preparing it for the analysis was about $9,000, while approximately the same amount was spent in preparing the analysis.

Total expenditures are itemized in the tabulation below:

Item	Dollars
At State level	9,351
Professional time (States)	15,257
Regional coordinator (salary)	22,000
Regional coordinator (travel)	500
Subcommittee meetings	2,607
Telephone (Ames)	119
Workshop	75
To regional headquarters	9,314
Total	59,223

For future work, information on costs is not as valuable to research personnel as is the physical output of the persons who do the work. The Minnesota Agricultural Experiment Station alone maintained accurate records of the workload and the personnel there performed as follows:

Typing labels	76.6 labels per hour
Labeling and stuffing envelopes	62.3 envelopes per hour
Editing questionnaires	12.9 questionnaires per hour
Coding questionnaires	2.5 questionnaires per hour

These average workloads indicate the cost for future studies in which comparable work is to be performed.

CRITICAL REVIEW OF PROCEDURES

The North Central Land Tenure Research Committee has used several different procedures in carrying on regional research. The first project was a complete regional committee undertaking as a consensus report of semiannual conference meetings. 11/ The background for the report was supplied from past research programs of the different institutions and the experience of committee members. Another procedure was to have a small committee use existing farm-record data at the various stations to prepare a report on capital requirements. 12/ Other work has been accomplished by one or two agencies assigning persons to conduct an analysis of

---

11/ Improving Farm Tenure in the Midwest, NC-2, Illinois Agricultural Experiment Station, Bulletin 502, June 1944.

12/ Capital Needed to Farm in the Midwest, NC-5, Minnesota Agricultural Experiment Station, Bulletin 389, August 1947, reprint.

a problem, such as was done by Hill and Harris for family-farm transfers and arrangements. 13/ This study was made by the authors visiting each of the 13 States and obtaining information from the experiment stations, extension services, farmers, and collecting data from case studies. One agency conducted a survey and analysis of the entire region. State experiment stations participated only as an advisory committee and sponsors of the publication. 14/ The entire cost of and work on the project was provided by the agency that conducted the survey.

In the North Central Farm Leasing Practices study, the planning, conduct of the survey, and financing were closely coordinated efforts of all cooperating agencies. Knowledge gained by the cooperating agencies from this project is valuable for the conduct of future work. Comments on the work should not be construed to mean that regional research cannot be undertaken by a group. They are merely suggestions for changes in methods of regional research.

Individuals in the region had previously been interested in a broad regional leasing study. Need for the study was apparent to all States. In obtaining tenure information in the 17th decennial census, the Bureau of the Census had the ideal population from which a sample of renters could be selected for such a survey. As this population was too costly for most of the experiment stations interested in the study, a substitute was found in the master lists of county agricultural Stabilization and Conservation Committees. Both of these lists of names of renters were accurate as of 1950. The master lists had been brought up-to-date to include all farms in the counties as of that year if they were in the commercial corn- and wheat-producing areas as marketing quotas were contemplated for that period.

Thus an element of time was introduced into the process of developing and conducting the study. Lists of names and addresses are accurate only at the time they are obtained; their accuracy diminishes with each day after that. At the time the survey was in the planning stage, the lists were already a year old. Unless the survey could be conducted in the winter of 1951-52, the lists would be 3 years old before another period could be found when farmers would again be relatively free of field work. This was considered necessary for success in increasing the replies to the mailed questionnaire.

13/ Hill, Elton B., and Marshal D. Harris. "Family Farm-Operating Agreements." NC-17, Michigan Agricultural Experiment Station Special Bul. No. 368, January 1951; and Harris, Marshal D., and Elton B. Hill. "Family Farm-Transfer Arrangements." NC-18, Illinois College of Agriculture Extension Service Circular 680, April 1951.

14/ Timmons, John F., and Barlowe, Raleigh. Op. cit.

Had an up-to-date list been available at a time when the subcommittee was prepared to distribute the questionnaires, considerable improvement would have been possible.

The basic theory of analysis was sketchy in the minds of the planners, and it was not set forth in rigid form. The project might have been greatly improved had the subcommittee assigned the development of the framework of analysis to one or two individuals, permitting them to devote the major part of their time to the work. A thorough analysis for the planning phase of the work would have been prepared for the subcommittee, and the many differences of thought would have been rationalized before the questionnaire and the details of analysis were developed.

The subcommittee then could have decided upon the data necessary for testing the hypotheses outlined in a well-organized framework, rather than setting forth data which each thought would be desirable in testing the hypotheses he had in mind. Because of the need to expedite the study, proper checking of the more important items to be included in the questionnaire could not be undertaken. The two brief pretests made of the questionnaire did not permit proper evaluation of the data obtained.

The first pretest conducted by mail consisted of sending out only 100 schedules to farmers and evaluating the number of respondents. The response of only 6 percent was immediately interpreted as rejection of a questionnaire too long for mail purposes. The interpretative test of this preliminary questionnaire was inconclusive in evaluating questions for the data to be obtained. It did permit some rephrasing of questions to make them more easily understood. The limited pretest made in November 1951 provided little information concerning the accuracy of the wording of questions, whether the questions asked would provide the data needed, or whether the response would be that desired in all areas of the States under study. The desirable procedure would have been for each State to pretest different forms of the questionnaire in sufficient number to draw conclusions that would have been helpful to the study. Information obtained on the pretests would have permitted fairly comprehensive analysis of each form to determine whether the facts were useful in testing the hypotheses set forth or whether they were of no importance.

In order to decrease the cost of the survey for each State, the method of collecting the data by means of a mail questionnaire considerably restricted the quantities of data that could be obtained. Had funds been available for field interviews, the size of the original sample could have been reduced considerably. However, the cost per schedule obtained by mail was approximately $0.40, while a field interview would have cost approximately $2.50 for personnel alone.

Because of differences in type of farming in the several States, the attempt to maintain rigid uniformity in the detailed questions on the questionnaire and hold the length within bounds narrowed the value for each area. For example, items of information dealing with cash-grain farming and beef production that were of value for Iowa were practically all blank for Wisconsin. Analytical tabulations dealing with crop-share and crop-share-cash types of leases were unimportant for Wisconsin because of the small numbers of such leases. Greater detail concerning livestock-share leases would have been of more value for this State. It is granted that more variations in the questionnaire would have increased the cost when numeric codes of the replies were prepared and the data were tabulated, but these small differences would have been offset by the increased value of the analyses for each particular State. There still would have been enough uniformity between States to permit delineation of similar subregions of leasing practices.

The different experiment stations invested considerably in the survey in terms of professional personnel. Results of the survey in terms of regional research were good, but additional outlay for materials and semiskilled labor would have permitted an improved project in terms of the professional investment. Regional research is excellent in overcoming many of the disadvantages which individual State experiment stations experience when they work on each problem separately.

A tentative questionnaire could be organized for preliminary investigation. With this preliminary questionnaire data may be assembled by different procedures, for example, mail and direct interviews. This permits tests of various questions, value of the questionnaire in obtaining voluntary responses, accuracy of the response to questions, differential interpretations to questions, and so on. From these pretest responses a pilot analysis may be made--possibly as graduate student research--to determine the degree to which the data acquired tested the hypotheses set forth.

A pilot analysis of this kind would permit reexamination of the economic framwork of analysis, correction of the content and form of the questionnaire, determination of the most efficient procedure for collecting the data, and estimation of the costs of all survey procedures involved. The last step was one that tended to deter decisions during the conduct of the study because the experiment stations did not know whether funds available would be sufficient for each stage of operation. A well-planned study, with concrete estimates of costs, would have permitted the project leaders to request funds in advance instead of constructing the study at each stage to fit existing funds.

It was estimated that money could be saved in checking the coding step. Additional costs of checking errors and making corrections during the machine analysis was far in excess of the cost for checking the coding process.

In organizing future studies, emphasis should be on proceeding slowly and in an orderly fashion. The universe from which the sample is to be drawn should not be determined before all preliminary work is completed as consideration of the out-dating of the universe tends to push the steps faster than rational procedure allows.

APPENDIX

Project Statement

Regional Study of
Leasing Practices in the North Central Region

The North Central Regional Land Tenure Research Committee, the Farm Foundation, and the former Bureau of Agricultural Economics, 15/ cooperating.

I Concept of Study

a. General need for study.

The Regional Farm Management Extension Committee has asked our research committee to provide them with information on leasing practices throughout the regional and subareas thereof. Closely allied to this is the need for providing information on leasing practices and problems as the basis for further research on a regional basis. From a research viewpoint, we need to define the leasing universe and the various subpopulations of leasing conditions that make up the leasing universe as bases for sampling and integrating leasing studies throughout the region. These leasing populations of similar characteristics may be defined (1) in terms of geographic areas of relatively homogeneous leasing practices, (2) in terms of leasing-type situations occurring as strata throughout geographic areas, or (3) in terms of a combination of both (1) and (2).

For these purposes, the proposed survey of leasing practices should provide: (1) Information on leasing practices throughout the region; (2) a better basis for sampling leasing situations for further research; (3) a basis for working out a division of labor among States undertaking studies of various phases of leasing problems, and (4) a better knowledge of areas and of type of situations to which research results would be applicable. For example, if we knew the nature of the leasing conditions that make up a relatively homogeneous area covering parts of 4 States, for example, southeastern Minnesota, southwestern Wisconsin, northwestern Illinois, and northeastern Iowa, results from a study conducted by, say, Illinois in the Illinois sector of the interstate area would be applicable to leasing conditions in the 4 State area. Thus, the other 3 States might use Illinois findings for that particular area; they could save their research resources for other areas or situations that would complement research done in other States. However, before such integrated regional research may be undertaken, we need to know more about leasing practices throughout the region, as proposed in this survey.

Types and characteristics of leasing arrangements have a direct bearing upon the scale of operations and efficiency of resource use in agriculture. Theoretical considerations indicate that the supply curve of agricultural products from share-rented farms could be expected to be more inelastic than the supply from cash-rented farms. A given rise in prices would have less effect on production on share-rented farms than on cash-rented (or owner-operated) farms. If an emergency should necessitate the reorganization of the agricultural economy in order to achieve maximum efficiency, the administering agency must take into account the difference in elasticities of supply from cash- and share-rented farms and the proportion of share renting. This study will provide information on the prevalence of share renting, and through information obtained on division of returns and costs, it will provide a basis for studying the elasticities of supply for each lease.

b. Objectives of study.

The primary purposes of this proposed study are threefold: (1) To provide extension workers with needed information on current and changing leasing practices throughout the region; (2) to delimit geographic areas and types of situations occurring within areas as the basis for sampling for further research; and (3) to help indicate rental problems to be studied further.

c. Development to date.

First consideration to this proposed study was given by the Landlord-Tenant Relations subcommittee on October 8, 1950; it was contained in a report of that organization to the North Central Land Tenure Research Committee on October 9, 1950. At that time the subcommittee was directed to explore the possibilities of the use of census information and to take steps toward initiating a leasing practice survey. 16/

15/ Now the Production Economics Research Branch, Agricultural Research Service.

16/ Minutes, Meeting of the North Central Land Tenure Research Committee, October 9-11, 1950, p. 5.

A meeting of the Landlord-Tenant Relations subcommittee was held November 29, 1950. At this time consideration was given to the use of census information as the population to be sampled, and to further delimitation of the areas of inquiry. Also, provision was made for the formulation and distribution of a project outline. 17/ The Bureau of the Census was asked to make available names drawn for the BAE Farm Mortgage Survey and to provide an estimate of the cost on per name basis of drawing enough additional names to complete the sample.

Following this meeting another meeting was held, in which a questionnaire was developed and distributed to the North Central Region Land Tenure Committee for comment and criticism. 18/ Reference to the pretest of this questionnaire is made in the latter part of this report.

II Procedures and Methods

a. Past action with respect to study.

A questionnaire was prepared in light of the aforementioned general objectives of the survey and an attempt was made to maintain the overall content of questionnaires which had previously been used in the individual States. Fifty copies each of this questionnaire were sent to Kansas, Illinois, Iowa, Missouri, and Nebraska to be pretested. Kansas used a random sample of tenants taken from a list of Farm Management Association members. Illinois and Iowa used a random sample of PMA 19/ lists of tenants covering 2 counties and 1 county, respectively. Missouri made up a list from veteran-on-the-job-training classes. All of the above questionnaires were sent out by mail with the following returns: Kansas 30 percent; Iowa 6 percent; Missouri and Illinois, incomplete. Nebraska made an interpretation test by having 43 questionnaires filled out at 2 on-the-job-training-class meetings.

The mailed response presented fairly conclusive evidence that the questionnaire was too long and that a biased response would undoubtedly result. Answers to many of the questions were incomplete or incorrectly filled out.

b. Sampling procedure.

1. The universe defined. - The universe to be studied in this survey will include all rented land and all persons renting land in the 13 North Central States. The minimum farm size in this universe described is to be 30 acres.

2. Alternative means of delineating the universe. - There are several alternative methods in which this universe may be defined, such as:

(a) 1950 Census gives complete coverage of all tenants and part owners in this area. It is divided by cash and share tenants. These records are centrally located in Washington and this would facilitate the drawing of a sample. An earlier request has been made that work be initiated in drawing a 9-percent sample for Iowa, Minnesota, Missouri, and Nebraska at the convenience of the Bureau of the Census. In a letter from Roy V. Peel, Director, Bureau of the Census, to Mr. Timmons, dated February 27, 1951, information was given that a number of names in all States have been prepared for use in the Mortgage Debt Survey. These names are to form part of the sample for the Farm Leasing Practice survey. No charge will be made for the names already prepared, but because of lack of funds and the large number of resignations in the Bureau of the Census, they will be unable to complete these lists without additional charge to the study of $0.15 per name. In addition, it would require at least 45 more days to complete the lists for the 4 above-named States, not mentioning the additional States to be represented.

(b) PMA lists are located in county PMA offices; they give complete coverage, as of 1950, in Iowa, Kansas, Illinois, and Nebraska. Any county that had either tobacco, corn, or wheat allotments in 1950 should have complete coverage, as interpreted by the Iowa State PMA office. Since these lists are dispersed, drawing a sample would be a little more difficult but should be less costly. An arrangement might be developed with the State offices to have them collect these lists in a central location such as the various State Departments of Agricultural Economics.

(c) Assessors lists should give complete coverage but they would necessitate a 2-stage method of sampling by sampling counties and then sampling within the counties sampled. This would require a much larger sample than one drawn from the two previous methods and it would be left to the individual departments to get the required lists from the county offices.

17/ Minutes, Meeting of the Landlord-Tenant Relations Subcommittee of the North Central Land Tenure Committee, November 29, 1950, p. 3.

18/ Minutes, Meeting of Landlord-Tenant Relations Subcommittee of the North Central Land Tenure Committee, January 20, 1951, p. 3-4.

19/ Now County Agricultural Stabilization and Conservation Committees.

Because of the heterogeneous quality of any one particular list among all States, it is suggested that the particular list to be used be left to the discretion of the individual States. However, this choice should be limited to a list that will give complete coverage or nearly complete coverage of all tenants in the State. Final approval of each list should be made by a technical advisor so that sampling precision might be maintained.

3. Sampling rate. In order to attain previously determined sampling confidence limits for each economic area within each State a sample rate of 9 percent, or a minimum of 900, of the tenants and part-owners is to be used.

c. Information needed to fulfill objectives.

To properly orient this study in line with the objectives as set forth in section I (b), logically precise details should be developed to obtain the desired data. This would be best accomplished by setting forth, as nearly as possible, all the tables needed to summarize the information required under the 4 areas: (1) Allocation of the factors of production and the returns between the tenant and landlord; (2) security of expectations as to tenure; (3) obstacles or incentives for making improvements; and (4) adoption of new practices.

d. Preparation of the questionnaire.

In line with the information needed under the 4 areas above, rigidly defined, a new questionnaire will be formulated covering only those points.

e. Pretesting questionnaire.

This questionnaire will be pretested by a small sample drawn as nearly as possible like the final sample. This pretest will be made late this summer and should aid in reducing bias resulting from questionnaire construction.

f. Mailing of questionnaire.

In the late fall, the printed questionnaire will be mailed to the sample selected, as outlined in b. 3. above. One follow-up questionnaire is to be sent to those not responding within 10 days after the first mailing. Additional publicity efforts by radio, newspapers, etc., might also increase the returns. In order that maximum response be obtained from the recipients of the questionnaires, it might be advisable to have the questionnaires mailed out from the State colleges. Cooperation with the BAE might aid in reduction of the cost by using their franking service. This might mean mailing from a central location as Washington, D. C.

g. Bias tests.

Following receipt of returned questionnaires, each participating State is to field interview a small sample of respondents and nonrespondents. This will determine the biases between respondents and nonrespondents and whether interpretation difficulties of respondents exist. Also, it will indicate the degree of correction or qualification required in the survey results.

h. Analysis of questionnaire data.

Analysis of questionnaires might be conducted (1) by the BAE, as was the case with the farm ownership survey, (2) at a regional point such as the Farm Foundation or Iowa Statistical Laboratory, or (3) within each of the participating States. The place of analysis might be determined by whether the questionnaires were mailed from and returned to Washington, some regional place, or from each participating station. Carrying out the machine analysis at one point, either in Washington or within the region, would effect a considerable saving in overhead costs. Regardless of which procedure is followed, standard editing, coding, punching, verifying, sorting, and tabulating methods would need to be followed in terms of the core of comparable information for regional analysis.

Assuming that analysis of data were carried out with I.B.M. methods and procedures, the following phases of analysis would be involved: (1) Editing and coding data; (2) punching and verifying data; (3) sorting and tabulating data; and (4) correcting and qualifying data for biases determined by step II-g above.

i. Preparation and publication of results.

Summaries of questionnaire data and interpretations thereof might be used as follows: (1) State and regional reports of leasing practices for extension use; (2) delimitation of State and regional areas and type-situations of relative homogeneity as the basis for further problems; and (3) indication of rental problems for research as a regional undertaking.

Work Plan
(under Memorandum of Understanding
between the
Agricultural Experiment Stations of
Indiana, Wisconsin, Minnesota, Iowa,
South Dakota, Kansas, and Nebraska
and the former Bureau of Agricultural Economics,
United States Department of Agriculture,
and with the Farm Foundation, Chicago,
Ill., cooperating)

Pertaining to Cooperative Work in Agricultural Economics

Name of project.....Farm Leasing Practices in North Central States

Project personnel

Project leaders.....O. G. Lloyd, Indiana Agricultural Experiment Station
P. M. Raup, Wisconsin Agricultural Experiment Station
A. A. Dowell, Minnesota Agricultural Experiment Station
J. F. Timmons, Iowa Agricultural Experiment Station
R. L. Berry, South Dakota Agricultural Experiment Station
W. H. Pine, Kansas Agricultural Experiment Station
B. L. French, Nebraska Agricultural Experiment Station

Regional project coordinator.....Virgil L. Hurlburt, former Bureau of Agricultural Economics, Ames, Iowa

Technical Advisers.....Joseph Ackerman, Farm Foundation, Chicago, Ill.
Marshall Harris, former Bureau of Agricultural Economics, Washington, D. C.

Location.....States of Indiana, Wisconsin, Minnesota, Iowa, South Dakota, Kansas, and Nebraska

Headquarters.....Ames, Iowa

Effective date.....July 1, 1951

Probable duration.....Two years, with the objective of completing the assembly and statistical tabulations of the data during the first year and completing the analysis and preparing reports the second year.

Need for the study.....

Each year the Extension Services and the Agricultural Experiment Stations in the North Central States receive thousands of inquiries from farmers, other landowners, tenants, bankers, farm managers, and others, for information and advice on how to handle leasing arrangements. The repetition of these inquiries in recent years indicates that there are basic and unsolved problems present in making and maintaining sound landlord-tenant agreements. The signficance of leasing arrangements in the several States is indicated by the fact that leases affect the production from 20 to more than 50 percent of the land in farms in the North Central States.

Prevailing leasing practices change more slowly than do types of farming or production techniques; they also tend to respond slowly to changes in price-cost relationships. Satisfactory arrangements for sharing of costs and returns on new practices are slow in adaptation and adoption. Lack of information about the kinds of leasing practices, their extent and distribution in various parts of the States, and the nature and scope of the lags interfere with the development and application of agricultural programs of production adjustment and, in an emergency, in the defense mobilization effort. Furthermore, imperfections in the division of costs and returns cause needless shifting of tenants from farm to farm, which is unnecessarily costly and retards production changes. The consequences of delays, lack of adjustments, needless moves and decreased production are particularly important when the need for maximum production of all kinds is great.

The study developed from requests by the Extension Service for assistance in solving leasing problems. An inventory and analysis of the existing situations with respect to leasing practices

and leasing problems is a necessary step in the solution of leasing problems; from these will be developed recommendations and suggestions for adjustments and improvements. If agricultural production is to be maximized in the present and continuing defense mobilization program, tenure obstacles to production adjustment must be overcome. A definitive inventory and analysis of leasing practices is also essential to the development of an integrated program of research to serve as an important basis in avoiding duplication of efforts among the several States.

Objectives.....

(1) To determine existing leasing practices by type of situation.

(2) To indicate problems and obstacles in present farm leasing arrangements that prevent achievement of maximum agricultural production.

(3) To provide information and suggested adjustments in leasing practices that will facilitate removal of limitations on production.

(4) To delimit geographic areas in which leasing practices are relatively homogeneous as a basis for future State and regional studies and programs.

Procedure.....

(1) In each participating State, for one or more economic areas as defined by the Census, or for combinations of economic areas, the responsible project leader will prepare a mailing list of the names of farm renters. This will include part-owners. The list of names and addresses will be taken from the PMA records or from the 1950 Census of Agriculture, using a sampling technique as agreed upon by the project leaders, upon the advice of the Ames Statistical Laboratory. A total of 900 names of renters will be obtained for each economic area or combination of areas, to assure an estimated return of 300 schedules per economic area.

(2) Each of the 900 renters per area on the mailing list will be sent a questionnaire by mail by the responsible project leader in the participating State. The form and content of the questionnaire will be mutually agreed upon to assure comparability among States. There will be a standard set of questions for all States, but allowance will be made to delete questions not pertinent in a given State.

(3) All preliminary work on sampling and on the questionnaire, including a pretest of the questionnaire, will be completed in time to mail the questionnaire between November 17 and November 24. A follow-up questionnaire will be sent by the State project leaders to renters who have not replied in 10 days.

(4) Participating States will field-interview a sample of respondents and nonrespondents to determine presence and amount of bias in replies. An additional bias check will be made in Iowa, by use of a list of renters compiled from the 1950 Census of Agriculture.

(5) Completed questionnaire will be edited, coded, punched on IBM cards, and will be IBM-machine-tabulated. Project personnel will agree upon the number of runs and cross-runs for regional analysis.

(6) Editing and coding will be the responsibility of the project leader in the State, upon the basis of standardized instructions. Punching, verifying, and machine tabulation will be performed at State expense, at State headquarters or at project headquarters, as best suitable.

(7) In addition to State reports prepared by the project leaders in the participating States, a regional report will be prepared, presenting an analysis of the practices and problems which are of regional significance.

Cooperation.....

The participating Agricultural Experiment Stations will make available the time and services of personnel and bear the costs thereof to prepare the mailing lists, send out the questionnaires, perform bias tests as mutually agreed upon by project leaders, edit and code questionnaires for State and regional analysis, and be responsible for costs of tabulating and analyzing returned questionnaires.

The Farm Foundation will be responsible for all travel and subsistence costs of Experiment Station personnel engaged on the project while in interstate and conference travel, will provide necessary rapid communication among project personnel, will provide the time of the Foundation's Executive Secretary for such conference and participation as his other duties will allow. Financial assistance in preparing the regional report will be given insofar as need and available funds permit.

The Bureau of Agricultural Economics will provide the time and travel of one technical assistant, as Regional Project Coordinator, for the duration of the project up to the equivalent of 9 man-months per year; and will provide consultative services of other personnel as their other duties allow.

It is clearly understood by the cooperating parties that the project is initiated on a regional basis by the participating States; that the function of the Farm Foundation and the Bureau of Agricultural Economics is coordinative, technical, and facilitory; and that the cooperation is in the interests of efficacy of pooled effort in research and research reporting.

Questionnaire

(Cooperative Extension Work
in
Agriculture and Home Economics
Agricultural Experiment Station
and
U. S. Department of Agriculture, Cooperating
Farm Rental Practices Study)

Dear Sir:

Those who rent farms ask many questions about rental arrangements. Who pays new expenses? How can agreements be made to cover changes in farming methods? How can improvements be added? How can livestock be handled?

You can help answer these questions. By filling out the following questionnaire you will be helping yourself and other renters. Please take time to complete and send your reply in the enclosed envelope. It does not take a stamp. A copy of the report will be sent to you. Your reply will be appreciated and will be kept confidential.

Sincerely yours,

A. ABOUT YOUR FARM OPERATIONS IN 1951

1. How many acres did you farm in 1951?_____Acres
2. Of this, (a) how many did you own?_____Acres (b) How many did you rent?_____Acres
3. What is your age?_____Years
4. What were the three main products sold from this farm in 1951? (name the specific crop, livestock or livestock product) (a)_____(b)_____(c)_____
5. Number of livestock on hand on December 15, 1951, were: Beef cows_____

   Other beef cattle_____ Dairy cows and heifers_____ Sows_____

   Other hogs and pigs_____ Sheep and lambs_____ Hens_____

   Broilers_____ Other poultry_____

6. From how many landlords did you rent in 1951?_____Number

NOTE: Please answer the remaining questions for only one landlord and for the rental agreement with that landlord, if you rent from more than one. Answer for the one whose name is first in the alphabet. Example: If names are Smith and Jones, answer for Jones.

B. ABOUT THE LANDLORD

1. Check___whether land is owned by: Individual_____Estate_____
   Partnership_____Corporation_____Government_____Other_____
2. How many acres did you rent from this landlord in 1951?_____Acres
3. Check___whether landlord is: Active farmer_____Retired farmer_____
   Business or professional man_____Widow of farmer_____Nonfarm widow_____
   Other_____

4. What relation is landlord to you? _____ To your wife? _____
5. What is landlord's age? _____ Years
6. In making the rental agreement for this land, did you deal: (check)
   (a) Directly with the landlord? _____ (b) With his agent or manager? _____
7. In discussing the operation of this land, do you deal: (check)
   (a) Directly with the landlord? _____ (b) With his agent or manager? _____

C. ABOUT THE RENTAL AGREEMENT WITH THIS LANDLORD

1. Do you live on this rented land? Yes _____ No _____
2. Was the rental agreement with this landlord in writing in 1951? Yes _____ No _____
3. How many years have you rented this land? _____ Years
4. What month of the year does the agreement begin? Month _____
5. What period does agreement cover? 1 year _____ 3 years _____ 5 years _____ Other _____
6. How much notice is required to end the agreement? _____ Months
7. Did you pay cash for the use of all or any part of this land in 1951? Yes _____ No _____
8. If any cash was paid, how much was paid per acre for: Hay land _____ Pasture _____
   Building lots _____. How much for: Buildings _____ Other _____ Total farm _____
9. Crop shares: Indicate below the use of this land in 1951 and the landlord's share of the crops, such as: None, 1/3, 2/5, 1/2, or all

Crop	Acres	Landlord share	Crop	Acres	Landlord share
a. Corn			p. All pasture		
b. Oats			q. Permanent pasture		
c. Soybeans			r. Rotation pasture		
d. Wheat			s. All hay		
e. Barley			t. Alfalfa hay		
f. Rye			u. Other legume hay		
g. Flax			v. Other tame hay		
h. Potatoes			w. Wild hay		
i. Dry beans			x. Sorghum grain		
j. Tobacco			y. Sorghum silage		
k. Sugar beets			z. Sorghum forage		
l. Alfalfa seed			aa. Canning corn		
m. Clover seed			bb. Canning peas		
n. Grass seed			cc. Tomatoes		
o. Hybrid seed corn			dd. Dehydrated alfalfa		

10. Does the landlord own or receive income from any livestock covered by this rental agreement? Yes _____ No _____. If yes, indicate below the landlord's share of ownership and of sales such as 0, 1/3, 2/5, 1/2, or all

Kind of livestock	Landlord share of ownership	Landlord share of sales	Livestock products	Landlord share of product sales
a. Dairy cattle			h. Dairy products	
b. Dairy calves			i. Eggs	
c. Beef cattle			j. Wool	
d. Beef calves				
e. Hogs				
f. Sheep				
g. Poultry				

11. Expenses. Indicate the shares of each cash expense on this land, for both you and the landlord, such as: None, 1/3, 2/5, 1/2, or all

Item of expense	Share paid by renter	Share paid by landlord	Item of expense	Share paid by renter	Share paid by landlord
a. Fertilizer			i. Hired labor		
b. Lime			j. Combine grain		
c. Seed, small grain			k. Combine soybeans		
d. Seed corn			l. Hail insurance		
e. Seed, grass			m. Government crop insurance		
f. Seed, legume			n. Livestock insurance		
g. Seed, soybeans			o. Building insurance		
h. Seed, potatoes					

Item of expense	Share paid by renter	Share paid by landlord	Item of expense	Share paid by renter	Share paid by landlord
p. Tractor fuel			dd. Machinery repair		
q. Weed spray material			ee. Building repair		
r. Weed spraying			ff. Building repair labor		
s. Livestock feed			gg. Building repair materials		
t. Breeding fees			hh. New buildings		
u. Veterinary expense			ii. Fence repairs		
v. DHIA dues			jj. Fence repair labor		
w. Milk hauling			kk. Fence repair material		
x. Haying			ll. New fences		
y. Hay baling			mm. Telephone		
z. Field cutting silage			nn. Electricity		
aa. Silo filling			oo. Irrigation water		
bb. Cornpicking					
cc. Potato digging					

12. Machinery and equipment. Indicate the shares of ownership of farm machinery and equipment used on this land, such as: None, 1/3, 2/5, 1/2, or all

Kind of equipment	Share owned by renter	Share owned by landlord	Kind of equipment	Share owned by renter	Share owned by landlord
a. Tractor			p. Movable poultry houses		
b. Truck			q. Movable hog houses		
c. Combine			r. Electric fence		
d. Cornpicker			s. Feed grinder		
e. Field chopper			t. Fruit & vegetable sprayer		
f. Hay baler			u. Irrigation equipment		
g. Weed sprayer			v. Terracing equipment		
h. Manure spreader			w. Fertilizer equipment		
i. Milk cooler			x. Tillage and small tools		
j. Milking machines					
k. Milk house					
l. Thresher					
m. Hay drier					
n. Grain drier					
o. Brooder houses					

D. ABOUT IMPROVING RENTAL AGREEMENTS

1. Are any changes in rental agreements needed to increase the income received by both renters and landlords in your community? Yes_____ No_____

   Describe:_____

2. Are any changes in rental agreements needed to increase soil-conserving practices on rented farms in your community? Yes_____ No_____

   Describe:_____

3. Are any changes in rental agreements needed to encourage keeping more livestock on rented farms in your community? Yes_____ No_____

   Describe:_____

4. Are any changes in rental agreements needed to encourage making improvements in buildings and land on rented farms in your community? Yes_____ No_____

Describe:_____

_____

_____

5. Are you satisfied with your rental agreement? Yes_____ No_____
Why, or why not? Describe:_____

_____

Editing Instructions

Edit with colored pencil, so marks are distinguishable.

Edit consistently, with one symbol which is used for a given item. For example, use X consistently to mean no response. Use Y to mean not applicable; Y is letter preferred by State Lab (R means reject). Retain 0 to mean Zero or none.

Scan the whole questionnaire, especially the final page, before starting to write the editing symbols. Very often there are answers given on the back which will apply to some of the missing or unfilled spaces--as sex of landlord.

In editing process, make sure each question is answered. Fill in an answer when blank but ascertainable from other questions. Use X and Y as needed.

If more than one person works on the editing job, at the beginning have one do a county and the second to check him, and vice versa--to insure that the two or more persons use the same techniques and judge the same way.

Some of the questionnaires will have to be discarded. If the kind of rental can be determined, then, as a general rule it will be wise to retain the schedule for coding.

In some cases the missing items can be ascertained. If the answer is clearly evident, write it in--as in case of a dollar rent figure being shown for question C-8 but C-7 being left blank, then check yes. Otherwise, edit X or Y as the case may be. In some of the replies there will be inconsistencies. Use your judgement as to what to do with these. If there are 2 or 3 things to check against each other, it may be possible to iron out the inconsistency. Otherwise, both answers (in conflict) may have to be edited as X.

Experience with a couple of counties will probably develop guides, and then the editor can go back over the first counties after completing several more, to see that the same methods and judgements have been used.

Number the questionnaires.-When the cut-off day on return of schedules has arrived, and the editing is completed, then go through and number the questionnaires, by counties. Arrange them alphabetically, by counties and number consecutively. This will help to cut out duplications.

Type of farming.-Experience with editing demonstrates that we cannot be certain about type of farming from the information available. Therefore, we will use question A-4 to indicate major products sold.

Type of renter.-At the left margin, just above the question A-1, write either part-owner, or full tenant, as the case may be. Abbreviate O for part-owner. T for tenant. Determine the O by whether or not any land is owned. Then look at number of landlords. If more than one, mark it M. If only one S. Multiple and single landlord, part-owner and full renter, will be used for cross runs.

Type of lease.-Determine from the answers to C-7, C-8, C-9 and C-10 the type of lease. Sometimes information also appears on the back page.

Cash.-When only cash rental is paid.

Crop share.-When only a share of one or more crops is paid. It is nothing more than a crop share, even though the landlord contributes to the cash expenses.

Cash-crop-share.-If share of crop is paid, and there is a cash payment for hay or pasture or use of buildings. In most instances the figures will be large enough to indicate clearly that cash rent is part of the regular rental agreement. In some cases, the respondent may indicate that he has paid a

cash rent when in fact he has only paid some of the cash expense on building repair. Try to ferret these out and call them crop share. Retain as cash-crop-share only those with more than a nominal payment of cash--but South Dakota and Nebraska are not to be excluded if a payment of just a few cents per acre is reported for cash rent of range.

Livestock share.-Part of the rent is paid as a share of the receipts from major livestock enterprises. It is not a livestock share if the paternal landlord has only a cow, a sow, or a flock of hens. Livestock share usually involves a set share of inputs and outputs--and is not a case of sharing only the eggs. But, if it is a poultry farm, only the egg sales might be shared, and it is in fact livestock share.

Labor share.-Pays no cash rent, and owns none of the livestock and machinery. He gets a share of the income from crops and from livestock in payment for his labor. There will likely be borderline cases in which the laborer or renter gets a low share of the whole thing, or maybe furnishes equipment too, but these are more likely to fall into the other category of livestock share, or of crop share.

Special or other: Put into this group the ones in which the operator furnishes only his labor and management, gets a set annual salary, and receives a percentage of the net profits.

SECTION A. (USE X FOR NO RESPONSE. USE Y TO MARK NOT APPLICABLE.)

A-1 Circle the acres. Check against answer to A2 rented, and B2, from this landlord. For one-landlord, full-tenant deals the acreages should be the same on A2 and B2.

A-2 Circle acres owned. If that item is blank and A1 and A2b are the same, then edit acres owned as Zero.

Circle acres rented. If blank and there is only one landlord, the answer is obtainable from B2, if answered there. Mark X if not ascertainable--for example, if blank and there is more than one landlord.

A-3 Circle age. Mark X for nonresponse. If it is blank and somewhere on the form there is indication that the tenancy is a partnership, or a company, mark as Y.

A-4 Circle the answer for the items given. Mark X for the blank spaces if it is evident that more than one crop or product is sold. But, for the wheat farm, in which wheat is the only item sold, the answer to parts b and c become Zero.

A-5 Circle the numbers given for beef cows, other beef cattle, dairy cows and heifers, sows, other hogs, and pigs. Write in a yes or no to answer, Are there any sheep, hens, broilers, or other poultry on hand; these will be tabulated only as to yes or not present on the farm. If some livestock are reported, and there are some blank spaces, the blank probably means that there are none of that kind, so mark such blank spaces Zero. If all spaces on livestock are left blank, mark each one X. If there is a note saying there are no livestock, mark each blank as 0. Some of the forms will take careful study to determine whether to mark the missing items on livestock numbers as None or as no response X; particularly in livestock share lease.

A-6 Circle number of landlords. If blank X it. If blank and acreage given for A-1, A-2, and B-2 are the same, then the answer probably is One landlord, not X. Some of the answers of 2 or more will probably have to be changed by editing. If 2 sisters own the land together, in one ownership undivided, then the answer is really 1 instead of 2. Some of these can be changed--if it is clear the respondent erred.

SECTION B.

At head of section, on left, edit in the sex of the landlord. Let M equal male and F equal woman. Circle the letter. If owner of land is a corporation or government, edit this as Y. If B-1 is blank or B-3 is blank, mark it X. If sex cannot be determined, mark it as 9, which can mean indeterminable (by code).

B-1 Circle the answer given, if it agrees with some of the other answers. Check the father-son agreements, to see that it is NOT answered as partnership in ownership of land--look back on page one to see that the son has answered that he owns no land. Some may answer "other," if they know the title is in joint tenancy: If so, and they give an age for the landlord, and say they deal with the landlord, edit it INDIVIDUAL.

B-2 Check acreage back against acre figures. Circle. In a few cases it might help to look back on the acreage on the mailing list from PMA, especially if only one landlord.

B-3 Circle the answer given. Edit X for no response. Note that if the answer to the question B-1 is something besides individual, the answer should be other here.

Between B-3 and B-4 enter in the left margin, edit a yes and no to question, Is the landlord related to the tenant? If there can be no relation, as in the case of the government agency as owner and dealing with an agent, then the edited answer becomes Y. Circle it.

B-4 Circle the answer given to the first half of the question. Edit only the first half, because it will be necessary to code and punch only one relationship. Write in the appropriate answer if respondent gives only relation to wife. The answer to many, who answer individual as an owner, will be NONE--for no relation. It will be Y if landlord is a corporation and operator deals with an agent. Cases of no response, mark as X.

B-5 Circle the age of the landlord. If blank, and the landlord is supposedly an individual, mark it X. Mark as Y if landlord is a government or partnership or corporation and thus has no age.

B-6 Circle one of the items. But notice that answer may have to be changed or it may be both. Suppose an estate is the owner; renter is one of the heirs and deals with one of the other heirs as administrator; technically then, he deals with agent. If owner is a corporation, operator must deal with agent.

B-7 Same idea as B-6. But notice that the answer to B-6 and B-7 can be different. Operator can deal with agent in leasing, and then with the owner or landlord in operating the farm. Edit X for no response. Some may answer both and be correct.

SECTION C.

C-1 Circle one of the answers, Yes, No, or X it.

C-2 Circle one of the answers, or mark as X.

C-3 Circle the number of years reported. Translate if given as a "since 19**."

C-4 Circle month names. X no response. Ones marked as None Named, edit as Zero.

C-5 Circle the numerical answer as given. For those answers which say that none is specified, none named, mark as Zero. The real answer in such case is that nothing has been said in the lease, whether oral or written, as to length--and we are dealing with content of lease. For those cases in which the reply is "continuous" or "as long as we agree," or "indefinite," Edit as for other. Edit X for no answer.

C-6 Circle number of months given. If answer is none mentioned or not specified, the answer must be edited as 9 to indicate not included. If the answer space is blank, it must be edited as X--no response. If he says no notice, or instant, edit as Zero to indicate that agreement can be ended instantly.

C-7 Circle either yes or no. Most cases of blank answer here can be edited by looking at the answers to other questions. Check against C-8, for the Crop share leases. If it is a livestock share, probably answer is No, but there may be exception. Some may need to be edited as X.

C-8 If answer to C-7 is yes, there must be one or more dollar answers. Circle those given for rates per acre. If several are given and the rest are blank, edit the missing ones as ZERO in most cases--because the general practice seems to be that respondents merely leave blank many of the spaces that do not have specific answer--that is, they do not say there is zero rent for the use of buildings.

If answer to C-7 is yes and none of the blanks are filled, then look to see if cash rent has apparently been paid--check pasture and hay item in C-9, among other points--and then mark all the items as X. If answer to C-7 is No, then the answer to each item in C-8 is Y.

Mark out, or delete in some way any answer to item for rent to total farm where respondent has summed hay and pasture rates to make a total.

An answer to rent for total farm is applicable only when it is a cash rent lease. An answer to total farm item fits only when cash for the whole farm is only rent paid. If cash rent is paid for whole farm, there is no crop share, no livestock share, and the renter probably pays all of the cash expense and owns all equipment. If cash rent for whole farm is the only rent paid, then the answers to the other items in C-8 must be edited as Y. It is not applicable because we have not asked for a rate on cropland.

Note that a per acre amount is called for in case of cash rent for pasture and hay. If he answers total, edit to per acre.

If a per acre rental is given for the total farm, and none of the other items are marked, then multiply this cash rent per acre by the acreage given in B-2 to get a total figure for farm as whole.

C-9 To left of question, edit in a yes or no answer: Does tenant pay a share rent? Answer is only yes or no. An all cash rent, answer is NO. Livestock share is YES.

C-9 Share of crop. Circle the share of the crops listed for which an acreage is reported. Mark X of no response for ones in which share is missing but acreage is given, if it is a crop share. Some give acreage even if it is straight cash--edit Y. If a cash rent is paid for hay and pasture, then the answer is a zero share rent for hay and pasture. If no cash rent is paid, then landlord probably gets a share of the hay, and that may be a Zero share. If no acres and no shares and it is not an all cash rent, mark blank spaces as NOT applicable--Y. If it is a livestock share lease and respondent has not indicated the shares of the crop, then this gets edited to read the same share as of livestock income--if acreages of crops are given to show which ones are grown; otherwise, it becomes necessary to mark the blank individual crop shares as X because we do not know which ones are on the farm.

If both acreage and crop share are blank, mark the item as Y--especially if respondent has written none or 0 as acres.

If it is a straight cash rent the answer to shares of crop is Y.

Delete the extra answers on write ins. They will not be tabulated.

In some cases the acres of crops listed may be larger than the total given for acres rented from this individual. The explanation may be in the double cropping. In that case, probably a lower rental is paid for cash on hay land, and the landlord received some share of the hay seed. We are counting only the shares, so this slight duplication on acres is okay. There may also be an error, in which total acreage of crops listed is far greater than the above figure--which probably means that he is giving acres for his whole farm when he rents from more than one landlord. The guess is that the shares would still apply.

Notice, that under this arrangement, we are assuming that the respondent answers on acre and shares that apply to his farm. If there are no soybeans, he merely leaves the spaces blank--which says in fact that Y is answer.

Examine each schedule to see that the respondent has reported the share going to the landlord. In one of the replies the tenant reports his own share. Some also answer in acres. This can easily be translated to a fraction share.

If answer to share is given in acres, edit to fractions.

If he pays a cash rent for pasture and hay (C-7 and C-8) but gives no acre or share figure in C-9, edit pasture and hay items as X.

C-10 Circle one answer, yes or no. If not answered, the blank can usually be filled in--maybe by noting the answers written to the individual items. If whole question is blank, and he has said elsewhere that it is a straight cash lease, then the edited answer becomes No. If all blank and you can't tell, edit X. If answer to general question is No, then answer to individual items becomes Y. That is, landlord share is Not applicable when he owns none and gets no income. If some of the blanks are filled for ownership, when landlord owning a share and the share of income is not given, then the edited answer to income share becomes an X. If both ownership share and income share are blank for a few items and the others are given, then assume that there is none of those kinds and again the answer is Y. If it is a crop share lease, and from a parent as landlord, and the landlord gets a few eggs, then again edit it as a case of landlord owning none of the livestock.

For C-10 Be sure and edit the share of both ownership and of sales. If landlord owns none of the livestock, merely edit Y if not applicable. If he owns some of the livestock, then make comparisons with the numbers reported on page 2. If write-in answers in "half of everything" for a stock share lease, then landlord supposedly owns half and gets half of income from all the types of livestock that are reported on page 1.

Notice that landlord may not own nor share in the sales of the poultry. In that case, share is 0. The answers to question C-10 will need to be studied, in some cases, to edit.

C-11 Study the answer to this question before attempting to edit it. See if the general pattern of the answer can be discerned--that is--has the respondent given the answer for all of the items that apply? If so, then merely mark Y for the spaces that are left blank. If only a couple are answered, edit all rest as X. But some of the spaces that are left blank on some of the forms can be determined by answers to other questions. For example, some interpret the grass seed item to include legume and then leave the legume seed space blank. Actually, the landlord pays a share of this and it can be edited in from the other answer.

Maybe the small grain seed item is left blank and everything else is filled in. And from the crops side you can see that he grows oats and wheat. In that case, mark the small grain seed as an X if not answered. Likewise for other missing expense items which are obvious--mark as X if no response. Maybe the respondent forgets to fill in the right half of the items on expenses. In that case he has apparently overlooked the list. Edit as X, for not answered.

In a couple of cases respondents have written in a none at the head of a list of items--apparently to mean that there was none of this--these get edited as Y.

Notice that in the case of hail insurance the answer often is written in that each pays his own share, and the share of the crops are not the same. We will take care of this by providing a code for the share of hail insurance. Circle such answers. In short--the ANSWERS to 11 will have to be studied.

C-12 Edit in Yes or No answer--Does landlord own any of the equipment? Circle. Again--If whole thing is unanswered, edit as X. If landlord owns one item, and it is a building, edit it as No, for in fact it amounts to tenant owning all the machinery and equipment.

If some are answered and some are blank, call the blank ones Y, where both blanks of any particular item are omitted.

If tenant pays all of certain items, landlord share of course is zero.

If tenant replies none as answer to both, then edit as Y--not applicable.

C-12 Likewise with items in 12, sometimes some editing will have to be done to get the right answers.

The main question involved is when to edit as Y and when as the X of no response. Clearly, if none is written for both shares, the answer is Y.

If both spaces are blank, it may be X or Y, depending upon the general plan which the respondent has followed in answering. If there are no nones written in any of the questions, it probably means that blank means none or not applicable.

C-11 Edit in a Yes or No answer to questions--Does landlord pay any cash expense. Use X if whole thing is left unanswered. Circle this overall answer. But IF the landlord pays only one very minor expense, and that is in connection with the maintenance of the physical plant, then edit that case as a No answer, and each item then gets edited with the answer Y, because in fact, tenant pays all.

Do not circle all answered items in this question.

Edit to show the landlord's share if he does share. We will not tabulate tenant share.

If both the tenant and the landlord share are blank, edit as Y when list is fairly complete and if it is apparent the item is not applicable.

If both landlord and tenant share are answered as none, edit as Y.

If tenant pays all, edit landlord share as ZERO.

If it is a straight cash rent, with no expenses shared, all items are Y.

SECTION D.

D-1 Circle the Yes or the No answer. If blank, edit as X.

D-2 Through D-4 same as D-1 edit Yes or No or No response, X.

For D-5 edit Yes or No or undecided.

Notice that some answers to D-1 and D-5 are both yes and no or uncertain or undecided. Edit these as (3).

The rest of the job of editing on this section as a whole is to be handled as part of the job of coding. We will need to set up categories of answers. The X for no response will probably be the most common single answer to the explanation parts.

While editing, if answer is obscure or hard to read, figure out the answer and write it in plainly, so that the same labor does not have to be done again in the coding process.

Coding Sheets

Coded by_____
Checked by_____

CARD NO.	COLUMN NUMBER	Question and Code Guide
1	1	Card Number
	2	State
		1 Indiana 3 Kansas 5 Nebraska 7 Wisconsin 2 Iowa 4 Minnesota 6 South Dakota
	3	Economic Area
	4-6	County
	7-8	Farm Number
	9	Type of Lease
		1 Cash 3 Crop-share-cash 5 Labor share 2 Crop share 4 Livestock share 6 Special or other
	10	Tenure of Operator and Number of Landlords
		1 Tenant, 1 Landlord 3 Part-owner, 1 landlord 2 Tenant, Multiple landlords 4 Part-owner, Multiple landlords
	11-14	A-1. Acres farmed
	15-18	A-2. Acres owned: 0000 None XXXX No response
	19-22	A-2. Acres rented: 0000 None XXXX No response
	23-24	A-3. Age of operator XX No response
		A-4. Source of income
		X No response 2 Hay 5 Dairy 8 Sheep 0 None 3 Special crop 6 Beef 9 Poultry 1 Cash grain 4 Fruit or vegetable 7 Hog
	25	First product sold
	26	Second product sold
	27	Third product sold
	28-30	A-5. Number beef cows
	31-34	Number other beef cattle
	35-37	Number dairy cows and heifers
	38-40	Number sows
	41-43	Number other hogs and pigs
		Do they have these animals?
		1 Yes 2 No X No response Y Not applicable
	44	Sheep and lambs
	45	Hens
	46	Broilers
	47	Other poultry
	48	Number of landlords
		9 more than 8 X no response
	49	B-1. Description of landlord
		X No response 2 Estate 4 Corporation 6 Other 1 Individual 3 Partnership 5 Government

1 50-53 B-2. Acres rented from this landlord.

54 B-3. Business of landlord
X No response 3 Business or professional man 6 Other
1 Active farmer 4 Farm widow
2 Retired farmer 5 Nonfarm widow

55 Sex of landlord
1 Male 2 Female 9 Indeterminate X No response
Y Not applicable

56 Is landlord related to tenant?
X No response Y Not applicable 1 Yes 2 No

57 B-4. Relation to landlord
X No response 1 Father 4 Mother-in-law 7 Child
Y Not applicable 2 Mother 5 Grandparent 8 Uncle or Aunt
0 No relation 3 Father-in-law 6 Brother or sister 9 Other

58-59 B-5. Age of landlord: XX No response YY Not applicable

60 B-6.
X No response 1 Landlord 2 Agent 3 Both

61 B-7.
X No response 1 Landlord 2 Agent 3 Both

62 C-1. Lives on rented land. X No response 1 Yes 2 No

63 C-2. Agreement in writing. X No response 1 Yes 2 No

64-65 C-3. Years rented this land. XX No response

66 C-4. Month rental agreement begins.
X No response 1 Jan. or Feb. 3 May or June 5 Sept. or Oct.
0 No month named 2 Mar. or Apr. 4 July or Aug. 6 Nov. or Dec.

67 C-5. Length of lease
X No response 2 2-3 Years 4 Indefinite
0 None specified 3 4-5 Years 5 Other
1 1 Year

68 C-6. Length of Termination Notice.
X No response 2 3-4 months 5 9-10 months 8 By agreement
0 Instant 3 5-6 months 6 11-12 months 9 Not in lease
1 1-2 months 4 7-8 months 7 Over 1 year

69 C-7. Cash rent paid. X No response 1 Yes 2 No

70 C-9. Was any share of crop paid? X No response 1 Yes 2 No

71 C-10. Did Landlord own livestock or share income?
X No response 1 Yes 2 No

72 C-11. Did landlord pay any cash expense?
X No response 1 Yes 2 No

73 C-12. Did landlord own any machinery?
X No response 1 Yes 2 No

D. Rental Problems
X No response 1 Yes 2 No 3 Undecided
74 D-1. Changes to increase income?
75 D-2. Changes to conserve resources?
76 D-3. Changes to encourage livestock?
77 D-4. Changes to encourage improvements?
78 D-5. Are you satisfied with lease?

Coded by_____
Checked by_____

CARD NO.	COLUMN NUMBER	Question and Code Guide
2	1	Card number
	2	State
	3	Economic area
	4-6	County
	7-8	Farm number
	9-10	C-8. Cash for hayland? X No response Y Not applicable
	11-12	Cash for pasture? X No response Y Not applicable
	13-14	Cash for building lots? X No response Y Not applicable
	15	Was cash paid for use of buildings? X No response Y Not applicable 1 Yes 2 No
	16	Was cash paid for other? X No response Y Not applicable 1 Yes 2 No
	17-20	Cash rental for whole farm. XXXX No response YYYY Not applicable
		C-10. Shares livestock owned by landlord: X No response 1 1/4 4 1/2 7 3/4; Y Not applicable 2 1/3 5 3/5 8 4/5; 0 None 3 2/5 6 2/3 9 all
	21	a. Dairy cattle
	22	b. Dairy calves
	23	c. Beef cattle
	24	d. Beef calves
	25	e. Hogs
	26	f. Sheep
	27	g. Poultry
		C-10. Share income from livestock X No response 1 1/4 4 1/2 7 3/4; Y Not applicable 2 1/3 5 3/5 8 4/5; 0 None 3 2/5 6 2/3 9 all
	28	a. Dairy cattle
	29	b. Dairy calves
	30	c. Beef cattle
	31	d. Beef calves
	32	e. Hogs
	33	f. Sheep
	34	g. Poultry
	35	h. Dairy products
	36	i. Eggs
	37	j. Wool
	38	D-1. Changes to increase income. X Blank; no response 3 None needed; 1 A good answer 4 Can't be done; 2 Don't know 5 Answer given has no meaning; 6 Answer given is entirely erroneous
		D-1. Suggested changes to increasing income. X No response, change not listed 1 Change listed
	39	Provide for sharing expenses.
	40	Increase length of lease
	41	Increase amount of termination notice
	42	Improve rotation; more legume; improve soil
	43	Landlord provide more production facilities
	44	Miscellaneous reasons
	45	D-2. Changes to conserve resources X No response 3 None needed; 1 A good answer 4 Can't be done; 2 Don't know 5 Answer given has no meaning; 6 Answer given entirely erroneous

2 45 D-1. Suggested changes to conserve resources.
X No response, change not listed 1 Change listed
46 Increase length of lease.
47 Share costs of conservation practices
48 Improve rotation; improve soil
49 Educate the landlord
50 Increase government payments for conservation
51 Miscellaneous

52 D-3. Changes to encourage more livestock.
X No response 3 None needed
1 A good answer 4 Can't be done
2 Don't know 5 Answer given has no meaning
6 Answer given is entirely erroneous

D-3. Suggested changes to encourage more livestock.
X No response, change not listed 1 Change listed
53 Increase stock share leases; share stock income
54 Increase length of lease
55 Eliminate the 100-percent cash-crop-system of farming
56 Landlord provide more livestock facilities
57 Decrease cash rent for hay and pasture
58 Miscellaneous

59 D-4. Changes to encourage building and land improvements.
X No response 3 None needed
1 A good answer 4 Can't be done
2 Don't know 5 Answer given has no meaning
6 Answer given is entirely erroneous

D-4. Suggested changes to encourage improvements.
X No response, change not listed 1 Change listed
60 Increase length of lease
61 More livestock share leases
62 Landlord provide, maintain, retain improvements
63 Landlord furnish materials; tenant do work
64 Miscellaneous

65 D-5. Satisfied with lease.
X No response 3 Clearly erroneous
1 A good answer Y Dissatisfied
2 Answer given has no meaning

D-5. Reasons for satisfaction with lease.
X Reason not listed Y Dissatisfied 1 Reason listed
66 No problems involved; landlord cooperative; etc.
67 I can operate it just as if I owned it
68 Reservations or faults not large and can be handled
69 Have to be satisfied, farms are scarce
70 Miscellaneous reasons

71 D-5. Dissatisfied with lease.
X No response 1 A good answer 3 Erroneous answer
Y Satisfied 2 Answer as given has no meaning

D-5. Reasons for dissatisfaction with lease.
X Reason not given Y Satisfied 1 Reason listed
72 Lease too short
73 No improvements; poor improvements
74 Landlord not interested in conserving or improving farm
75 Expenses are not shared properly or fairly
76 Cash rent on hay and pasture is too high
77 No opportunity for joint planning
78 Miscellaneous reasons

79 Type of lease.
1 Cash 3 Crop-Share-Cash 5 Labor Share
2 Crop share 4 Livestock Share 6 Special or other

80 Tenure of Operator and Number of Landlords
1 Tenant, 1 Landlord 3 Partowner, 1 Landlord
2 Tenant, Multiple Landlords 4 Partowner, Multiple Landlords

Coded by_____
Checked by_____

CARD NO.	COLUMN NUMBER	Question and Code Guide
3	1	Card number
	2	State
	3	Economic area
	4-6	County
	7-8	Farm number
		C-9. Crop shares.
		X No response 0 None 2 1/3 4 1/2 6 2/3 8 4/5
		Y Not applicable 1 1/4 3 2/5 5 3/5 7 3/4 9 All
	9	a. Corn
	10	b. Oats
	11	c. Soybeans
	12	d. Wheat
	13	e. Barley
	14	f. Rye
	15	h. Potatoes
	16	i. Dry beans
	17	k. Sugar beets
	18	l. Alfalfa seed
	19	p. All pasture
	20	t. Alfalfa hay
	21	v. Other tame hay
	22	w. Wild hay
		C-11. Share expenses.
		X No response 0 None 2 1/3 4 1/2 6 2/3 8 4/5
		Y Not applicable 1 1/4 3 2/5 5 3/5 7 3/4 9 All
	23	a. Fertilizer
	24	b. Lime
	25	c. Seed, small grain
	26	d. Seed corn
	27	e. Seed, grass
	28	f. Seed, legume
	29	h. Seed, potatoes
	30	i. Hired labor
	31	j. Combine grain
	32	l. Hail insurance
	33	p. Tractor fuel
	34	q. Weed spray material
	35	r. Weed spraying
	36	s. Livestock feed
	37	t. Breeding fees
	38	u. Veterinary expense
	39	y. Hay baling
	40	bb. Corn picking
	41	cc. Potato digging
	42	dd. Machinery repair
	43	ee. Building repair
	44	ii. Fence repairs
	45	nn. Electricity
	46	oo. Irrigation water, regular
	47	pp. Terracing
	48	qq. Irrigation water, extra
	49	rr. Electricity, irrigation pump
	50	ss. Combining dry beans
		C-12. Machinery and equipment.
		X No response 0 None 2 1/3 4 1/2 6 2/3 8 4/5
		Y Not applicable 1 1/4 3 2/5 5 3/5 7 3/4 9 All
	51	a. Tractor
	52	b. Truck
	53	c. Combine

3	54	d. Cornpicker
	55	e. Field chopper
	56	f. Hay baler
	57	g. Weed sprayer
	58	h. Manure spreader
	59	k. Milk cooler
	60	j. Milking machines
	61	i. Milk house
	62	m. Hay drier
	63	n. Grain drier
	64	o. Brooder houses
	65	s. Feed grinder
	66	u. Irrigation equipment
	67	w. Fertilizer equipment
	68	x. Tillage and small tools

69 Type of lease.

1	Cash	3	Crop-Share-Cash	5	Labor Share
2	Crop share	4	Livestock Share	6	Special or Other

70 Tenure of Operator and Number of Landlords

1	Tenant, 1 Landlord	3	Partowner, 1 Landlord
2	Tenant, Multiple Landlords	4	Partowner, Multiple Landlords