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Appraisal of Federal All-Risk Crop Insurance Coverages and Premiums in North Dakota

EFFECTIVE WITH THE 1969 CROP YEAR

by

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Herman W. Delvo and Dale O. Anderson[1]

Commercial agriculture requires a major capital investment to produce a crop. The outlay (either cash or through dealer credit) for such items as fertilizer, seed, fuel, and agricultural chemicals is high. Many farmers may not have accumulated adequate cash reserves for future years. Thus, if a year's crop fails and the farmer is unable to repay loans out of accumulated reserves, he can exhaust his credit in a short time, leaving him without a means of financing future operations. Crop insurance may improve the farmer's credit position because he can offer it as security and use the insurance indemnity to repay loans in the event of a crop failure. For the farmer with adequate cash reserves to meet annual production expenses, he risks the loss of these reserves if the crop is lost. Crop insurance can be used to protect the investment in the crop, as well as accumulated reserves, and may stabilize income.

Federal all-risk crop insurance has been available to North Dakota farmers since 1939. Wheat was the first crop insured. For 1969, all-risk insurance programs are available on seven crops. There is also a combined crop insurance program (several crops insured under one contract) available in selected counties.

THE 1969 FEDERAL CROP INSURANCE PROGRAM

Wheat insurance is available in all counties (Figure 1a).[2] Separate coverage levels are provided for wheat on summerfallow and wheat on continuous cropping, except in Burleigh, Emmons, Kidder, Logan, McIntosh, Ransom, Richland, and Sargent counties where one coverage level is applicable to both cropping practices.[3]

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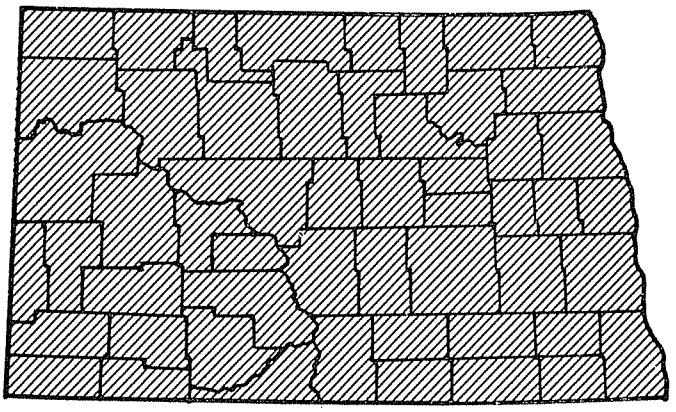
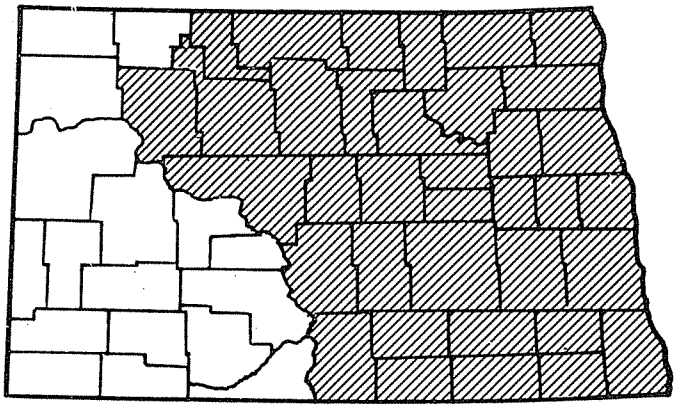
[2]Billings County is included with Stark County for insurance purposes.

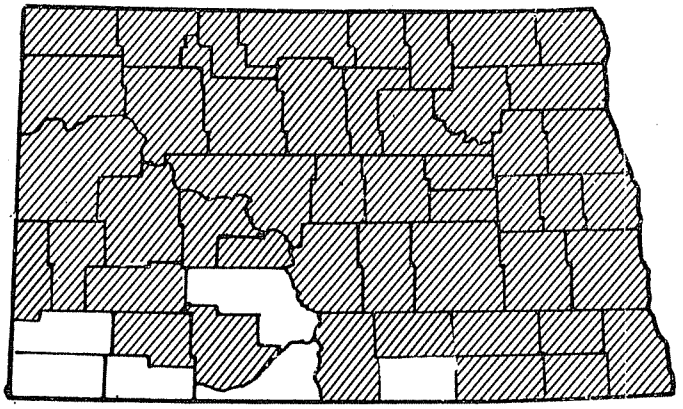
[3]Throughout the report the term "continuous cropping" will be used to refer to the practice of planting a crop on the same acreage that a crop was raised on the previous year.



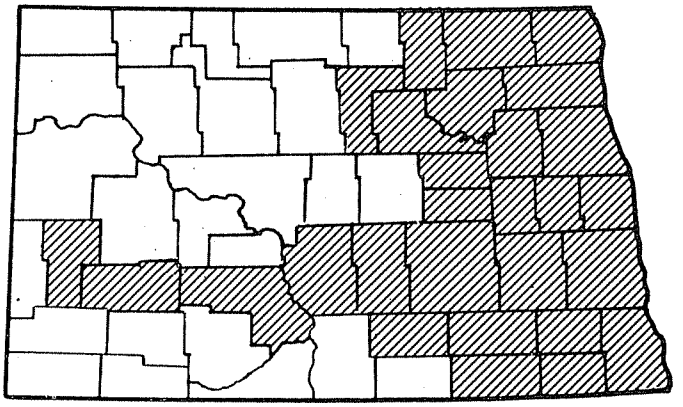
a. Wheat Insurance



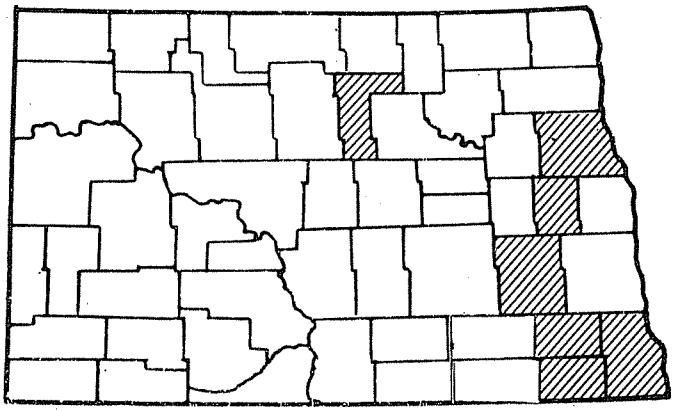
b. Flax Insurance



c. Barley Insurance



d. Oats Insurance



e. Combined Crop Insurance

Figure 1. Counties in Which Various Federal All-Risk Crop Insurance Programs are Available in North Dakota, 1969.

Flax insurance is available in 36 counties for 1969 (Figure 1b). The coverage level is the same for summerfallow or continuous cropping practices.

Barley insurance is available in 46 counties for 1969 (Figure 1c). In 34 counties, the coverage level for barley is the same whether planted on summerfallow or continuous cropping. In 12 counties, separate coverage levels are available for barley planted on summerfallow. Counties with separate coverage include ten in the northwest part of the state (bounded by McKenzie and McLean on the south and Ward and Rolette on the east) plus Golden Valley and Griggs counties. In Golden Valley, only barley planted on summerfallow is insurable.

Oats insurance is available in 27 counties for 1969 (Figure 1d). The coverage level for oats is the same whether planted on summerfallow or continuous cropping.

Combined crop insurance is available in seven counties for 1969 (Figure 1e). In this program several crops are insured under one contract. In all counties the crops included in this insurance program are wheat, barley, flax, and oats. In addition, corn is included in Richland, Sargent, and Ransom counties; rye in Barnes, Pierce, and Richland counties; and soybeans in Richland County.

All-risk crop insurance is also available on corn, soybeans, and sugarbeets. Corn insurance is available in Richland, Sargent, Ransom, and Cass counties for 1969. Soybeans insurance is available in Richland, Cass, and Traill counties. All-risk crop insurance is available for sugarbeets planted on summerfallow in the six Red River Valley counties and for irrigated sugarbeets in McKenzie and Williams counties.

DESCRIPTION OF THE FEDERAL CROP INSURANCE PROGRAM[4]

Where Federal all-risk crop insurance is available it can be purchased by any person who has an interest in an insurable crop. The bushel guarantee is limited to the individual's share of the crop. On rented land, the Federal Crop Insurance Corporation does not require both the tenant and landlord to take out all-risk insurance. The bushel guarantee and premium are prorated in the same proportion as the lease arrangement. For example, if the guarantee is 10.0 bushels per acre and the actual yield is 6.0 bushels, a tenant on a 50-50 crop share lease would receive an indemnity of 2.0 bushels per acre. If the landlord has an all-risk insurance policy, he would also receive 2.0 bushels per acre.

Protection is provided and losses settled by insurance units. An insurance unit is defined as:

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[4]Interview with North Dakota Federal Crop Insurance personnel.

1. All insurable acreage of a crop in a county in which one person has the entire interest at the time of planting, or

2. All insurable acreage of a crop in which two or more persons have the entire interest at the time of planting, excluding any other acreage of a crop in the county in which such persons together do not have the entire interest.

The second part means that if a tenant has three landlords he would have three separate insurance units.

The number of bushels guaranteed per acre varies widely throughout the state. The bushel guarantee is developed by county and is based, in part, upon U. S. Department of Agriculture statistics on long-time average yields and various sources regarding the usual costs of producing the crop in the county. The Federal Crop Insurance Act sets two general upper limits for the guarantee:

1. That it should not exceed the investment in the crop, and

2. That it shall not exceed 75 percent of the average yield in the county.

To convert the bushel guarantee per acre to a dollar coverage, it is multiplied by a fixed price. Farmers can choose from three prices for each crop insured. The price selection per bushel allows the farmer to select the amount of coverage needed to meet his operating expenses. Price selections available to North Dakota farmers are as follows:

Crop	Price Selections/Bushel		
Winter wheat	$1.00	$1.50	$2.00
Spring wheat	1.00	1.50	2.00
Barley	.75	1.00	1.25
Flax	2.25	2.75	3.25
Oats	.40	.60	.80
Rye	.75	1.00	1.25
Corn	.80	1.00	1.20
Soybeans	1.50	2.00	2.50

The premium charge per acre varies directly with the price selection per bushel. In a previous study in North Dakota, farmers indicated that certain price selections were a better buy (relation of premium to dollar coverage per acre) than others; however, when the premium is expressed as a percentage of the coverage, it remains about the same for

all price selections.[5] For example, on barley insurance in Barnes County:

Bushel Guarantee /Acre	Price Selection Per Bushel $.75	$1.00	$1.25	
14.0	$10.50	$14.00	$17.50	- Coverage/acre
	1.40	1.80	2.30	- Premium/acre
	13.3%	12.9%	13.1%	- Premium as a % of coverage

Premium discounts are earned for consecutive years (up to seven years) without a loss, as follows:

Years Without a Loss	Premium Discount
1st and 2nd	5%
3rd and 4th	10%
5th	15%
6th	20%
7th	25%

When a loss occurs, the number of years used in determining the discount is reduced by three years. For example, if a farmer had seven years without a loss for a 25 percent reduction the year following a crop loss, he would be credited with only four years of good experience for a 10 percent reduction in premium. This is important when small losses occur because the amount of indemnity collected by a farmer could be less than the amount he would save through the premium reduction.

NECESSARY CONDITIONS FOR A VALID FEDERAL ALL-RISK CROP INSURANCE CONTRACT

There are certain procedures that a farmer must follow to insure that the policy is in force.

Closing Dates

Closing dates are established after which no new applications for insurance will be accepted for the crop year. These closing dates are considerably in advance of the actual planting date. The closing date

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[5] Delvo, Herman W., and Loftsgard, L. D., All-Risk Crop Insurance in North Dakota, Bulletin No. 468, Department of Agricultural Economics, North Dakota State University, Fargo, North Dakota, March 1967.

is April 15 for all crops, except winter wheat which is September 15, unless the Federal Crop Insurance Corporation announces an earlier closing date due to adverse crop conditions.

Making an application and signing a contract does not mean that the crop is insured. The insurance is not in force until certain conditions are met, which include seeding before certain dates, filing acreage reports, and replanting to the same or substitute crops.

The all-risk crop insurance contract is a continuous contract. Once the farmer has obtained a policy it remains in effect until cancelled by the farmer or the Corporation. Crops may be added or deleted from the basic policy from year to year. To cancel the contract, the farmer must notify the Corporation (or its agent) prior to December 31 of the crop year (cancellations for the 1969 crop year had to be effected by December 31, 1968). However, once the farmer cancels the contract he has until the closing date to reinstate it if he wants all-risk crop insurance for that crop year.

Seeding Dates

In order for a crop to be insured it must be planted by a specified date. Agronomic factors are used to determine these seeding dates, and crops planted after these dates may not be expected to mature before the end of the growing season. The seeding dates vary by crop and area of the state. The final seeding date for small grains (wheat, barley, and oats) is May 31 in all counties, except ten northeast counties (bounded by Bottineau, Pierce, Benson, Nelson, and Walsh) where it is June 10. For corn the final seeding date is May 31, and for soybeans it is June 10 in all counties. The final seeding date for flax is June 10 in all counties. The final seeding date for sugarbeets is May 20 in Williams and McKenzie counties and June 10 in the six Red River Valley counties.

Acreage Report

The insurance period begins at planting time and continues until the crop is harvested. However, an acreage report must be filed before the insurance is in force. This report should be filed as soon as possible after planting and not later than June 15 in the counties west of the Missouri River plus Burke, Divide, and Williams; and June 30 for all other counties. The report contains the location, number of acres, and the farmer's share in the crop. If a loss occurs but the acreage report has not been filed, the crop is not insured and no damages can be collected.

Determining the Acreage

If a farmer does not file an acreage report, an agent of the Corporation contacts the farmer after the deadline for filing and determines if any of the crop has been planted. If the crop has been planted,

the agent fills out the acreage report form and the farmer is liable for the premium even though he did not sign the acreage report. However, if the agent determines that there is a loss, the Corporation is under no obligation to accept the acreage report after the final filing date. These provisions are for the protection of the Corporation. Otherwise, the farmer could wait until the filing deadline and, if crop conditions looked good, not file an acreage report and thus escape paying the premium. On the other hand, if crop conditions looked poor, he could file an acreage report with the possibility of collecting an indemnity.

Replanting to the Same Crop

If the crop is damaged early in the season and if it is practical (other farmers in the area are replanting) to replant the same crop, the farmer must do so. If the crop is not replanted, no indemnity is paid and no premium charged. For replanted crops, the final seeding dates may be different from the original dates cited earlier.

Replanting to a Substitute Crop

For insurance purposes, a substitute crop is one that is insurable in the county. For example, if a farmer in Wells County had wheat insurance and the crop was damaged, barley and flax would be considered substitute crops, while oats would not be a substitute crop (Figures 1a, 1b, 1c, and 1d).

When a crop is damaged, the farmer may, if there is time and if he wants to, replant to a substitute crop. The original seeding dates are applicable for the substitute crop. The indemnity received by the farmer is 50 percent of the guarantee on the original crop. If no substitute crop is available, the indemnity is 100 percent of the guarantee and the farmer can still plant to another crop. The substitute crop is insurable if the farmer already has a contract for that crop. However, if the farmer did not sign a contract prior to the closing date, he cannot insure the substitute crop.

PREMIUM, INDEMNITY, AND CREDIT ASSIGNMENT PROVISIONS OF FEDERAL ALL-RISK CROP INSURANCE

Payment of Premium

The premium owed by the farmer is computed when the crop acreage report is filed and is due when the summary of protection is issued by the Corporation. However, the premium does not become delinquent until March 31 of the following year. This enables the farmer to make the premium payment when it is most convenient.

Indemnities

Indemnities are paid when crop production per acre falls below the bushel guarantee stated on the contract. It was mentioned earlier that indemnities are paid on the basis of insurance units. Thus, if the farmer has 200 acres of wheat and the guarantee was 10.0 bushels per acre, he will be guaranteed 2,000 bushels of wheat. Now, if actual production is 12 bushels per acre on 100 acres and 5 bushels per acre on 100 acres for a total production of 1,700 bushels of wheat, the indemnity will be based on the loss in production of 300 bushels.

To determine the dollar amount of the indemnity, the loss in production is multiplied by the fixed price that the farmer selected when he signed the contract. If the farmer had selected the $1.50 price per bushel, the indemnity will be 300 bushels x $1.50 = $450. If the $1.00 per bushel price selection had been made, the indemnity will be $300.

The bushel guarantee per acre, specified in the contract, is the preharvest coverage. If the crop is harvested, the bushel guarantee is increased by the following amounts to cover harvesting costs.

Crop	Bushel Increase/Acre
Wheat	1.5
Barley	2.0
Flax	.7
Oats	3.0
Rye	1.5
Corn	3.0
Soybeans	1.5

In addition, quality adjustments are made for test weight, heat damaged kernels, shrunken and broken kernels, and foreign material when determining the crop production for an insurance unit.

Assignment for Obtaining Credit

All-risk crop insurance, in addition to providing protection, is a means of obtaining credit. The insurance contract contains a provision whereby the insured may make an assignment to a creditor. If a loss occurs, the indemnity is generally paid by joint check to the farmer and the creditor who has the assignment.

ADEQUACY OF FEDERAL ALL-RISK CROP INSURANCE TO COVER THE INVESTMENT IN THE CROP

An objective of the Federal Crop Insurance Program is to protect the farmer's investment (production costs) in the crop. This section contains an analysis of average production costs and the various coverage

levels for different crops, by county, to determine the adequacy of the program.

The standard used in this analysis for determining the adequacy of the coverages to meet average production costs was the median price selection per bushel. The median price represents the average level of coverage. A previous study in North Dakota indicated that farmers' actual operating expenses were generally about the same or below the production costs for the area.[6] Since the bushel guarantee stated on the contract is the preharvest guarantee, only preharvest costs are included in the analysis.[7] The production costs considered include:

1. Seed
2. Fertilizer
3. Spray
4. Repairs, fuel, and oil
5. Crop insurance
6. Interest on operating capital
7. Depreciation and interest on machinery and equipment
8. Taxes (land and personal property)

The price selections per bushel that cover the average production costs for various crops and practices included in the all-risk crop insurance program are shown in Figures 2, 3, 4, 5, 6, and 7.[8] Each county is divided into one or more risk areas, depending on the amount of variation in crop production within the county.

Average production costs for spring wheat on summerfallow are covered in about two-thirds of the state with the $1.50 per bushel price selection (Figure 2). The low price selection, $1.00 per bushel, covers production costs in Towner, Cavalier, Nelson, Griggs, and Steele counties. In the southwest, south central, and southeast areas of the state, as well as in parts of McHenry, Pierce, and Pembina counties, the high price selection, $2.00 per bushel, is needed to cover production costs. There are small areas in Divide, Williams, and Pierce counties where none of the price selections shown cover production costs.

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[6] Ibid., p. 37.

[7] Rice, Billy B., and Paul, Rodney R., Crop Costs and Returns, Circulars FM-3-67, 4-67, 5-67, 6-67, 7-67, 8-67, and 9-67, Cooperative Extension Service and Economic Research Service, North Dakota State University, Fargo, North Dakota, October 1967.

[8] The Appendix contains a detailed listing of the dollar coverage per acre with associated bushel guarantee and average production costs for different crops in North Dakota, by counties and areas within counties.

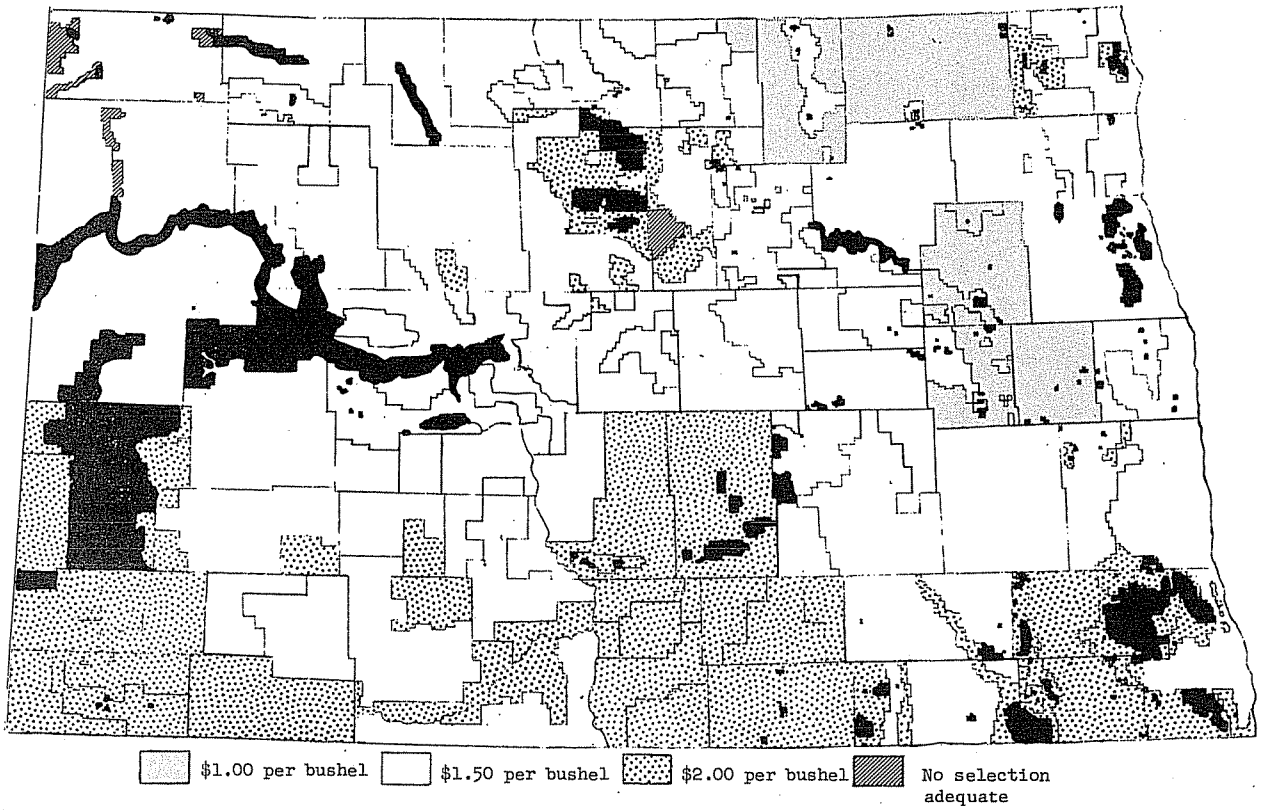

Figure 2. Federal All-Risk Crop Insurance Price Selection Per Bushel Adequate to Cover Average Production Costs Per Acre for Spring Wheat on Summerfallow in North Dakota, 1969. (The solid black areas are unclassified for FCI purposes.)

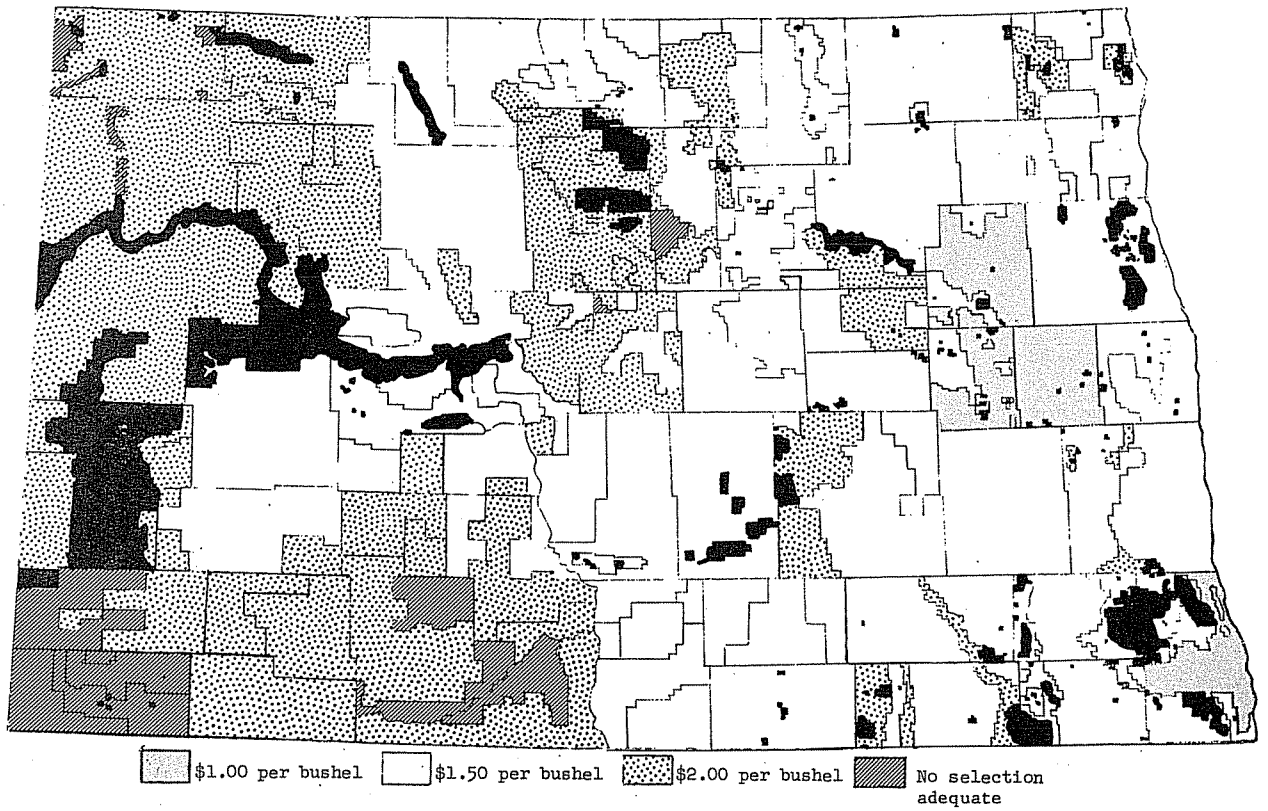

Figure 3. Federal All-Risk Crop Insurance Price Selection Per Bushel Adequate to Cover Average Production Costs Per Acre for Spring Wheat on Continuous Cropping in North Dakota, 1969. (The solid black areas are unclassified for FCI purposes.)

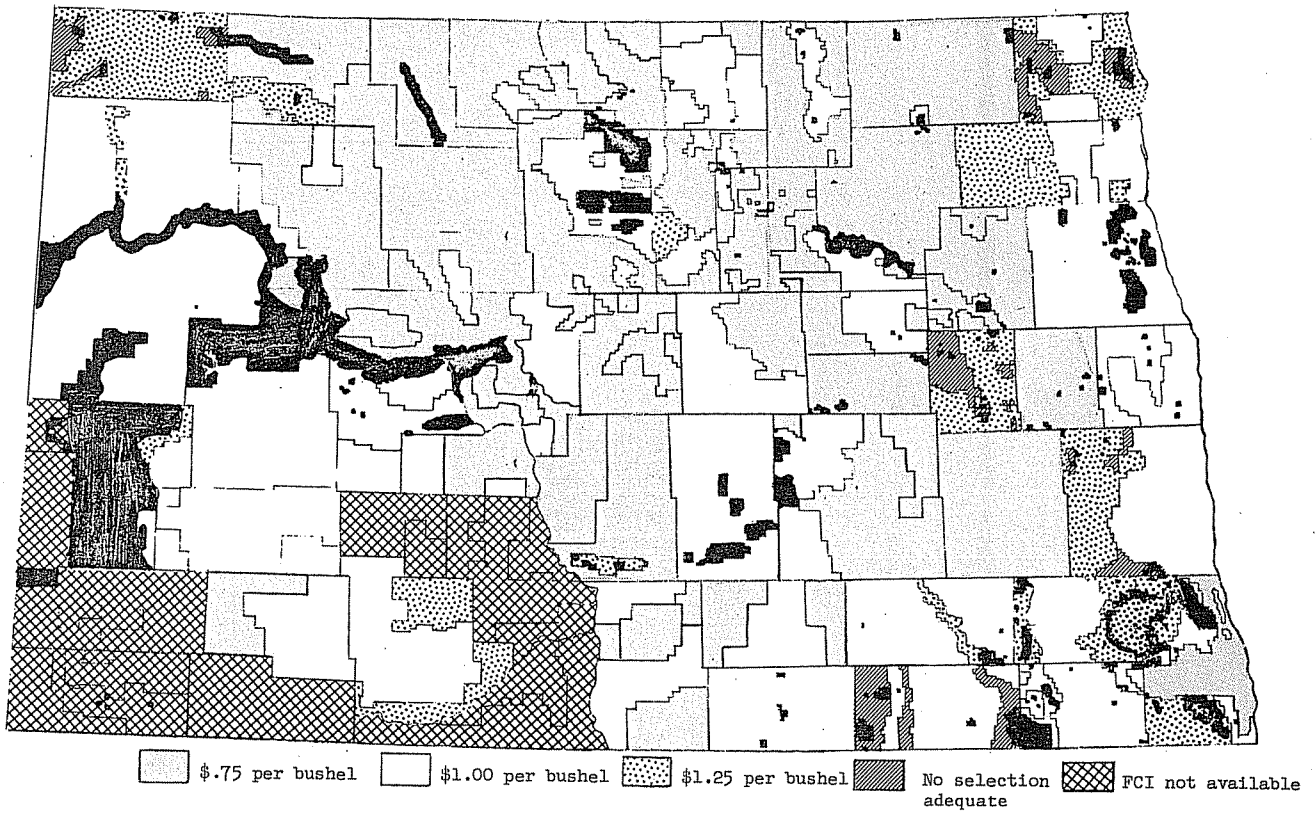

Figure 4. Federal All-Risk Crop Insurance Price Selection Per Bushel Adequate to Cover Average Production Costs Per Acre for Barley on Continuous Cropping in North Dakota, 1969. (The solid black areas are unclassified for FCI purposes.)

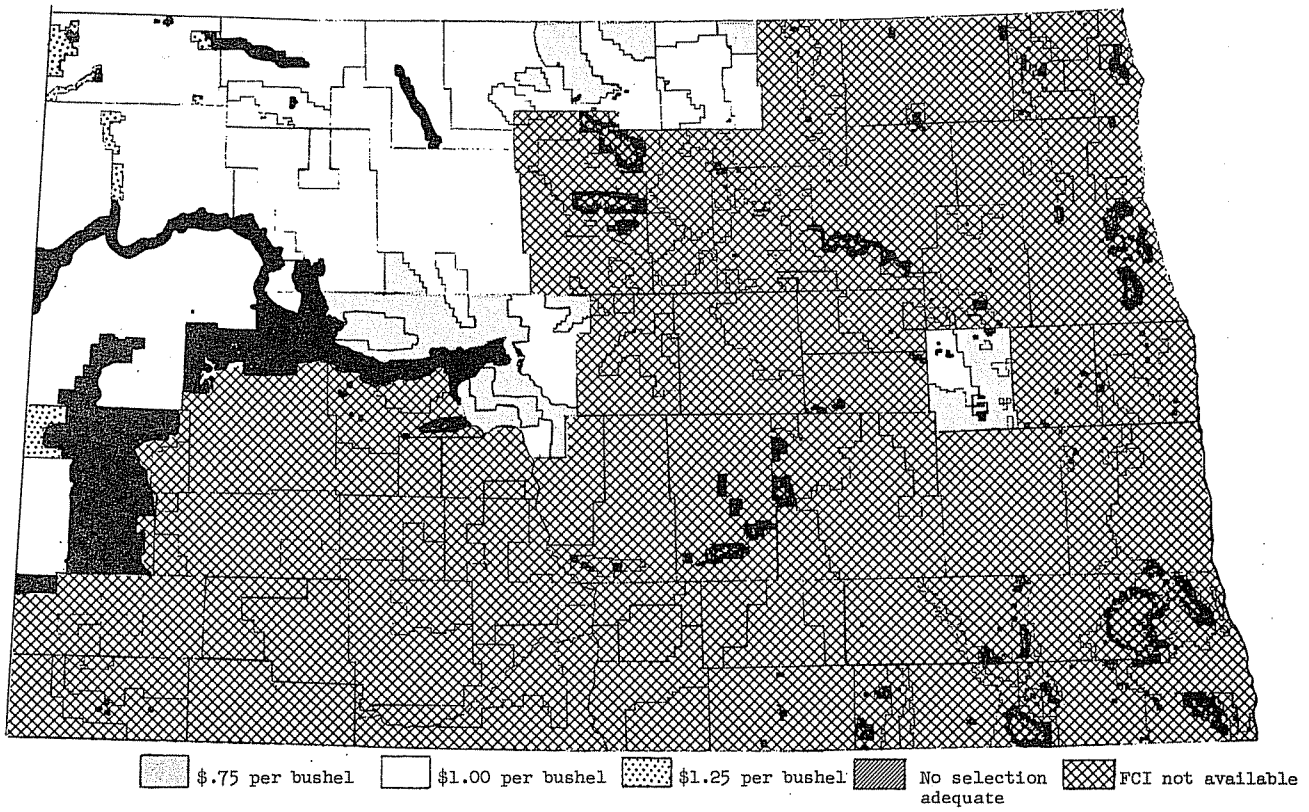

Figure 5. Federal All-Risk Crop Insurance Price Selection Per Bushel Adequate to Cover Average Production Costs Per Acre for Barley on Summerfallow in North Dakota, 1969. (The solid black areas are unclassified for FCI purposes.)

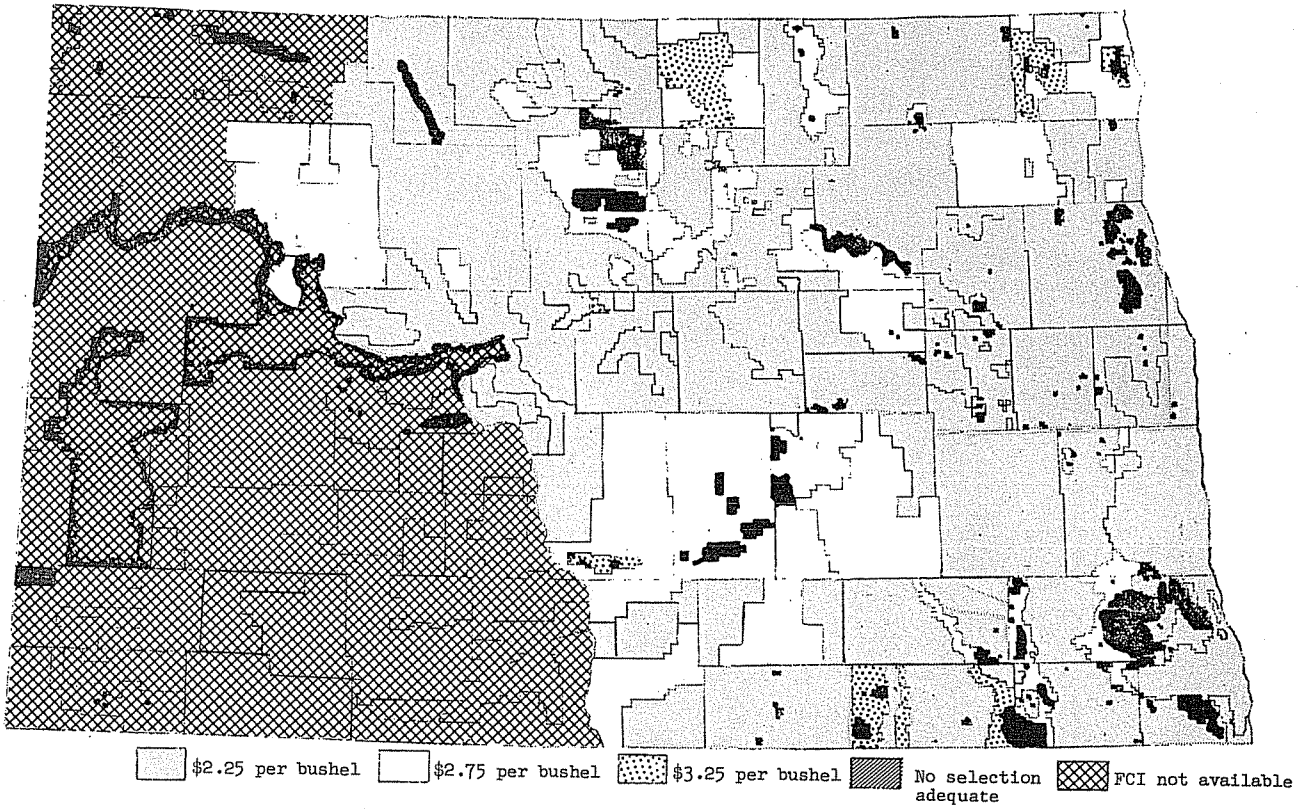

Figure 6. Federal All-Risk Crop Insurance Price Selection Per Bushel Adequate to Cover Average Production Costs Per Acre for Flax in North Dakota, 1969. (The solid black areas are unclassified for FCI purposes.)

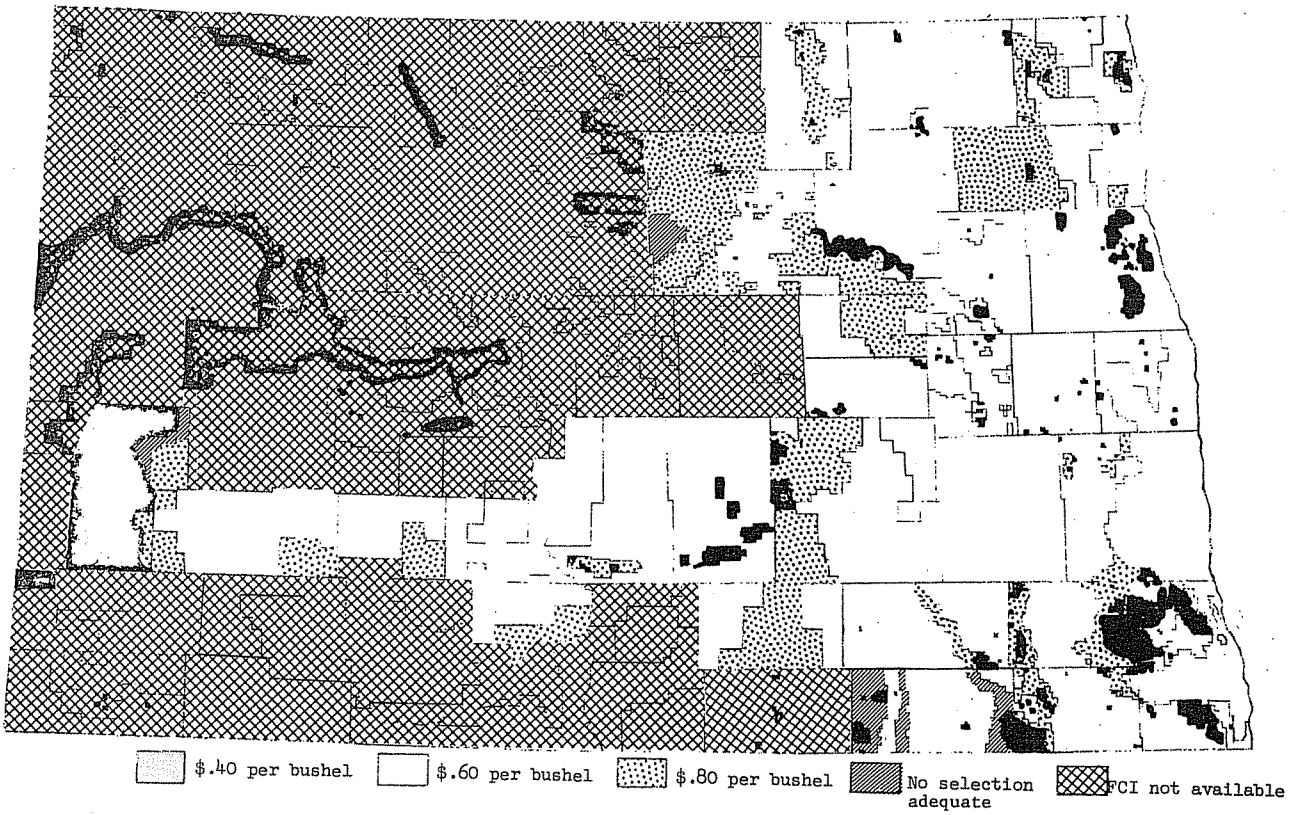

Figure 7. Federal All-Risk Crop Insurance Price Selection Per Bushel Adequate to Cover Average Production Costs Per Acre for Oats in North Dakota, 1969. (The solid black areas are unclassified for FCI purposes.)

The $1.50 per bushel price selection generally covers production costs for wheat on continuous cropping in the eastern one-half of the state (Figure 3). The low price selection, $1.00 per bushel, covers production costs in parts of Nelson, Griggs, Steele, and Richland counties. The high price selection, $2.00 per bushel, is needed to cover production costs in the southwest, northwest, and north central parts of the state. However, in these areas very little spring wheat is grown under a continuous cropping practice. There are small areas in the northwest and larger ones in the southwest where none of the price selections shown cover production costs.

The low price selection, $0.75 per bushel, covers production costs for barley on continuous cropping in about 50 percent of the state (Figure 4). The $1.00 per bushel price selection covers production costs in the eastern, southern, and western parts of the state. In the northwest and extreme eastern parts of the state, the high price selection, $1.25 per bushel, is needed to meet production costs. In some parts of these areas, there is no available price selection adequate to meet production costs. In those counties where separate coverage is available for barley on summerfallow, the $1.00 per bushel price selection generally covers production costs (Figure 5).

Flax production costs are covered by the low price selection, $2.25 per bushel, in about 90 percent of the area where flax is insurable (Figure 6). There are small areas in the southeast, central, north central, and northeast parts of the state where the median or high price selection is needed to cover production costs.

In the counties where oats insurance is available, the median price selection, $0.60 per bushel, generally covers production costs (Figure 7). However, there are areas scattered throughout the state where the high price selection, $0.80 per bushel, is needed to cover production costs.

In the four southeastern counties, where insurance coverage is available on corn for grain, even the highest price selection, $1.20 per bushel, does not cover production costs.[9] Soybeans production costs are generally met with the low or median per bushel price selection in the three counties where soybean insurance is available. No comparison was made of sugarbeet production costs and coverages because the production guarantee is computed separately for each farm insuring sugarbeets, and production cost data for these farms were not available.

In summary, coverage provided by the Federal Crop Insurance Program appears adequate for all crops insured in the state, except on corn for grain, with the low or median per bushel price selection covering production costs.

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[9] No maps were prepared for corn or soybean coverages and production costs. See the Appendix for coverage and cost information.

FEDERAL ALL-RISK CROP INSURANCE AND PRIVATE HAIL INSURANCE RATES[10]

In addition to Federal all-risk crop insurance, farmers in North Dakota can purchase hail insurance protection from private insurance companies. The private hail insurance contract usually includes protection against fire damage.

Farmers, in purchasing crop insurance, should evaluate the protection provided by each type of insurance in relation to the cost of coverage. Under all-risk crop insurance, the farmer stands the first 25 percent of any crop loss because the Federal Crop Insurance Act limits the bushel guarantee to 75 percent of the average yield. Indemnities on all-risk crop insurance are paid when any natural hazard causes yields to fall below the bushel guarantee per acre. The difference between the bushel guarantee and the actual yield, times the per bushel price selection, determines the indemnity. Private hail insurance covers only one hazard, and the indemnity is based on the percentage of damage to the crop times the amount of protection per acre selected by the farmer. However, in the counties west of the Missouri River plus Burke, Divide, and Williams counties indemnities are only paid for losses in excess of 10 percent. Also, Federal all-risk crop insurance indemnity claims are settled on an insurance unit basis, while private hail insurance claims are settled on the basis of the number of acres actually damaged by hail. Thus, private hail insurance indemnities may be paid for an entire field or just a portion of a field.[11]

Although Federal all-risk crop insurance and private hail insurance do not provide the same kind of protection against natural hazards, and indemnities are settled on a different basis, it is still useful to look at the premiums of the two types of insurance to obtain information on the relative cost of each type. The average premiums, by county, for both Federal all-risk crop insurance and private hail insurance are

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[10]Data contained in this and the following section were calculated from material obtained from the:

1. State Office, Federal Crop Insurance Corporation, Bismarck, North Dakota (mimeographed material on bushel guarantees and premiums).

2. Crop-Hail Insurance Actuarial Association, 209 West Jackson Boulevard, Chicago, Illinois (1963-CHIAA No. 72, 1966-CHIAA No. 72, and 1967-CHIAA No. 72).

[11]For a more complete discussion of private hail insurance see:

1. Olson, Carl E., and Sobering, Fred D., What About Hail Insurance for Your Farm?, Circular A-509, Extension Service, North Dakota State University, Fargo, North Dakota, June 1967.

2. Delvo, Herman W., and Loftsgard, L. D., op. cit., pp. 33-42.

expressed as a percentage of the coverage provided. That is, a value of 10 percent for either type of insurance indicates that the average cost is $0.10 for each $1.00 of protection.

The average premiums for private hail insurance on wheat, flax, and oats varies from 4 percent in the Red River Valley to 15 percent, or more, in the southwest (Figure 8). For a majority of the state, the premium rate is between 6 and 10 percent.

For the Federal all-risk insurance program, each county may contain one or more risk areas, depending on the amount of variation in production within the county. The letters A, B, and C represent the low-, medium-, and high-risk areas within each county. The average premium by risk area within each county for all-risk wheat insurance on summerfallow varies from 5 percent in the east to 15 percent in the southwest (Figure 9). For most of the state the premium was between 7 and 12 percent. For wheat on continuous cropping, the average all-risk insurance premium ranged from 6 percent in the east to 15 percent, or more, in the southwest and northwest (Figure 10). Generally, the average premium for most of the state ranged from 8 to 14 percent.

The average premium for all-risk flax insurance is generally between 10 and 20 percent (Figure 11). The lowest premium rates, 10 to 12 percent, are in the Red River Valley. For the rest of the state, the premium rates vary between 14 and 20 percent. Premium rates for oats insurance range from 8 to 9 percent in the eastern part of the state to 20 percent in the western part (Figure 12).

Average private hail insurance rates for barley range from 5 percent in the eastern part of the state to 20 percent in the southwest (Figure 13). For a majority of the state the average rate is between 10 and 14 percent. The average premium for Federal all-risk barley insurance on continuous cropping is the lowest in the Red River Valley at 6 to 10 percent (Figure 14). In the western part of the state, the average premium ranges from 15 to 20 percent. The average premium in the central and southern parts of the state is generally between 12 and 15 percent. Rates for counties that have a separate all-risk coverage for barley grown on summerfallow are not shown. However, they are generally lower than rates for barley grown under a continuous cropping practice.

CHANGES IN FEDERAL ALL-RISK CROP INSURANCE AND PRIVATE HAIL INSURANCE RATES

As with any other business firm, the Federal Crop Insurance Corporation and private hail insurance companies adjust their coverages and premiums to reflect current conditions. A major reevaluation of the bushel guarantee and premiums for the Federal all-risk insurance programs in North Dakota has occurred since 1967. All-risk insurance programs for winter wheat, barley, flax, oats, and soybeans were reworked last

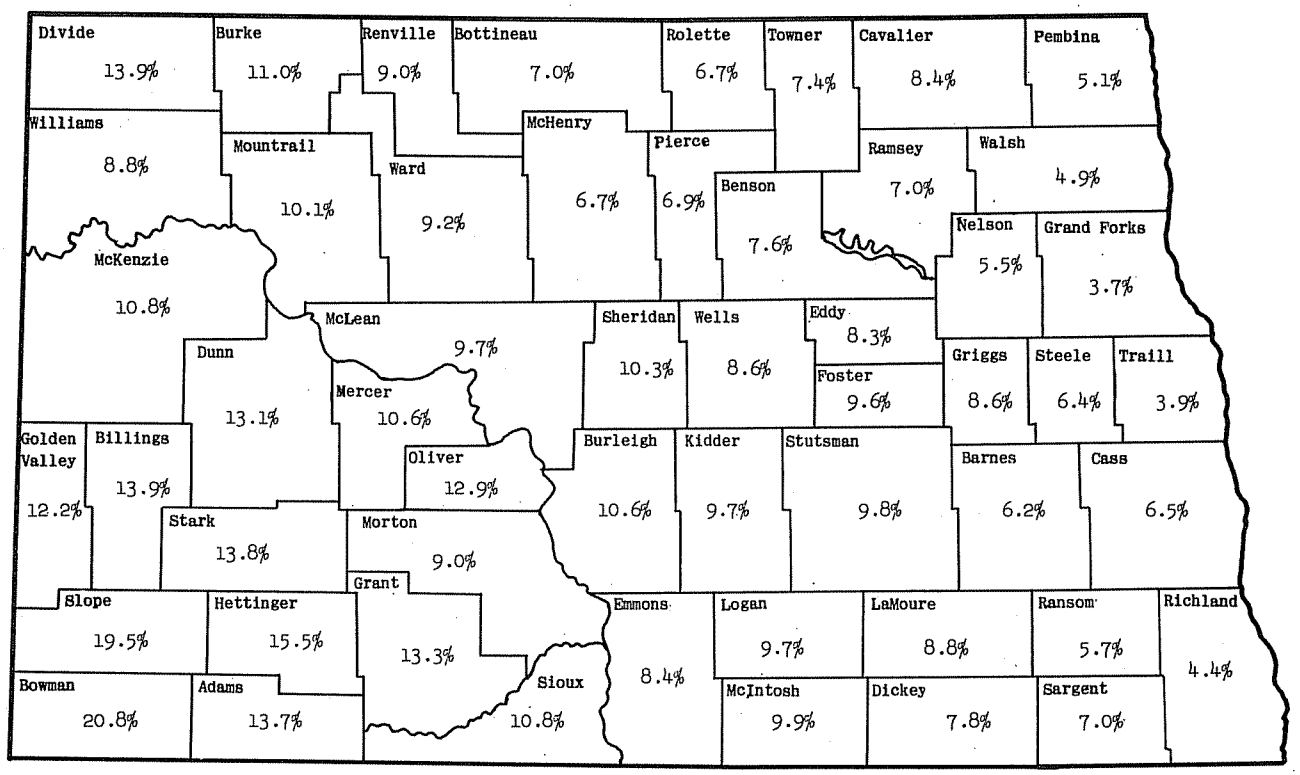

Figure 8. Average Private Crop-Hail Insurance Rates (expressed as a percentage of coverage) for Wheat, Flax, and Oats in North Dakota, by County, 1969.

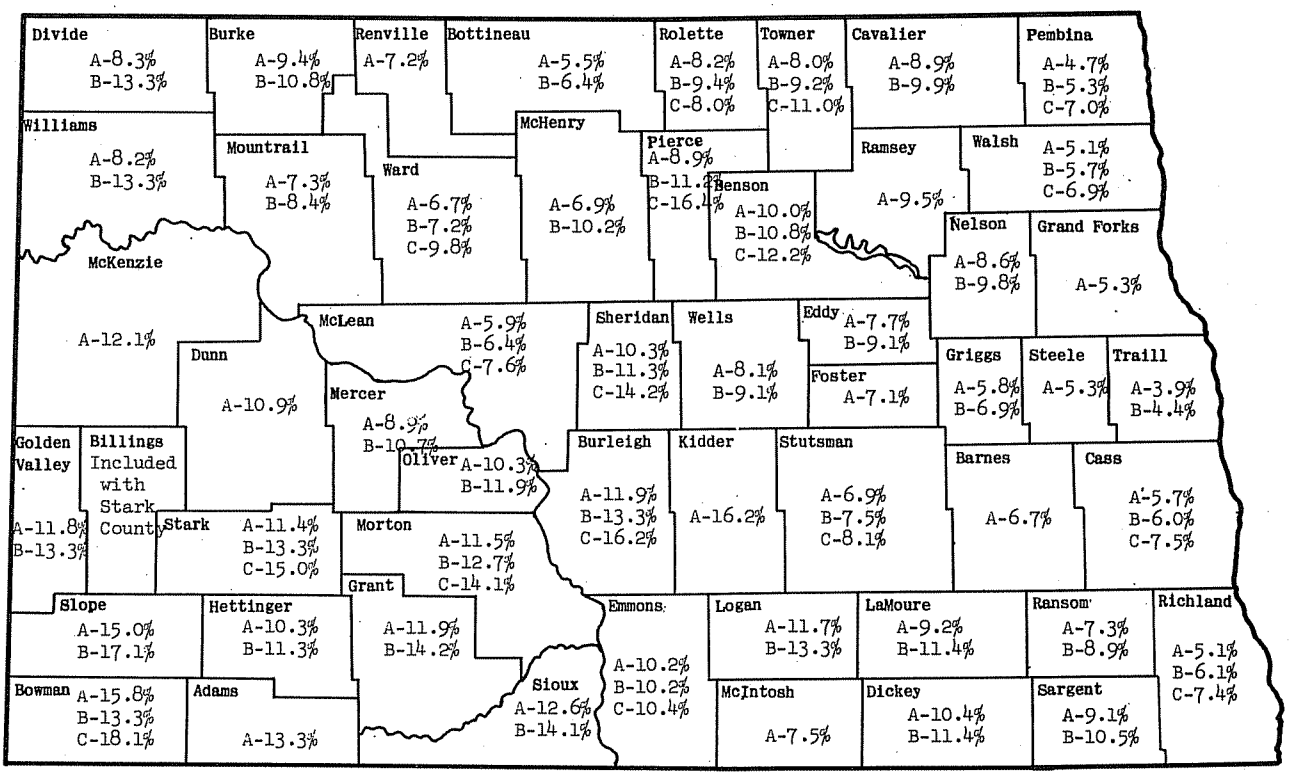

Figure 9. Federal All-Risk Crop Insurance Rates (expressed as a percentage of coverage) for Wheat on Summerfallow in North Dakota, by County and Low(A)-, Medium(B)-, and High(C)-Risk Areas within Counties, 1969.

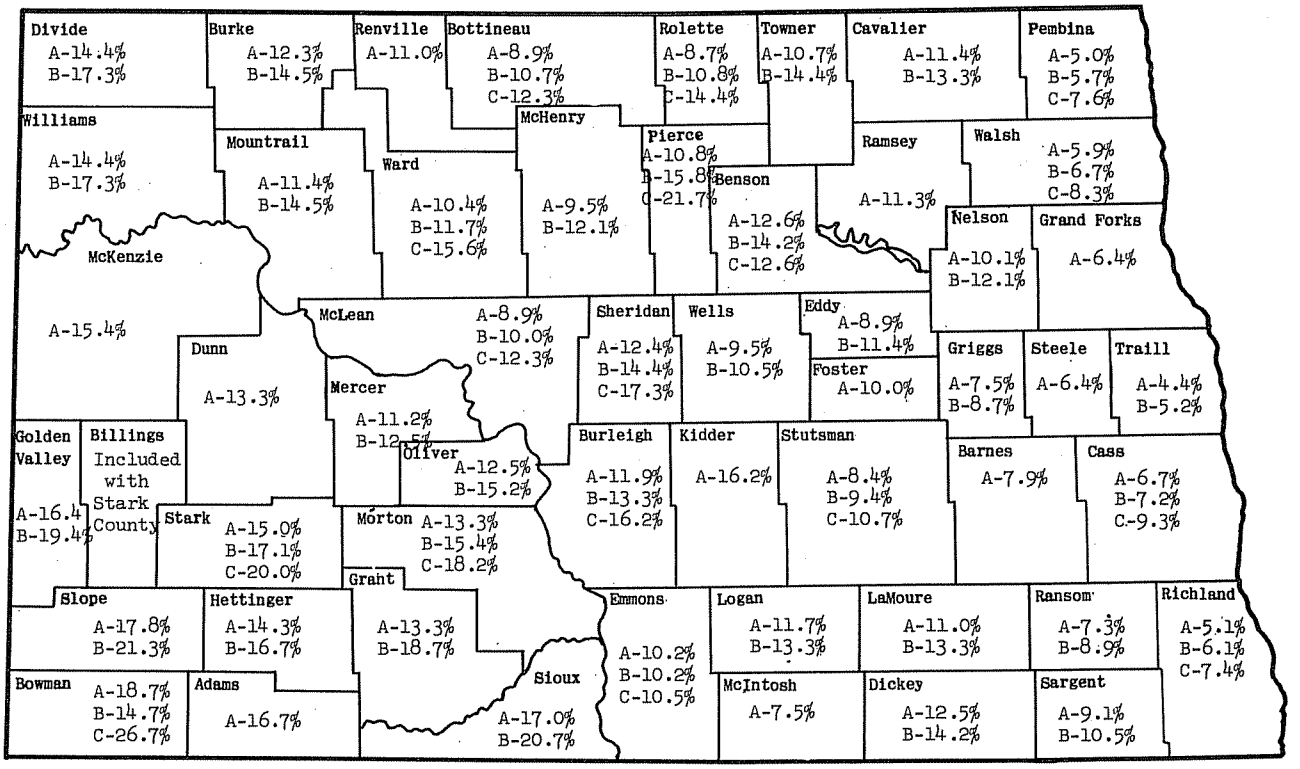

Figure 10. Federal All-Risk Crop Insurance Rates (expressed as a percentage of coverage) for Wheat on Continuous Cropping in North Dakota, by County and Low(A)-, Medium(B)-, and High(C)-Risk Areas within Counties, 1969.

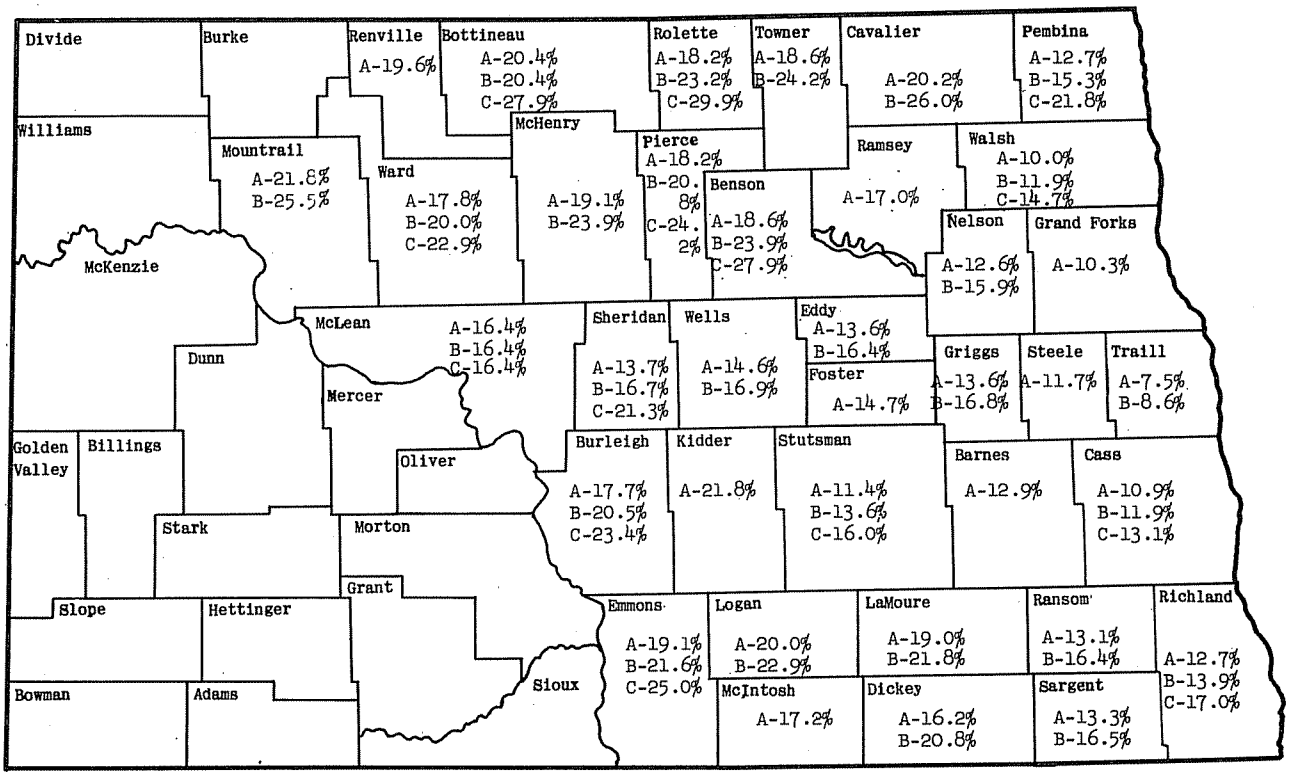

Figure 11. Federal All-Risk Crop Insurance Rates (expressed as a percentage of coverage) for Flax in North Dakota, by County and Low(A)-, Medium(B)-, and High(C)-Risk Areas within Counties, 1969.

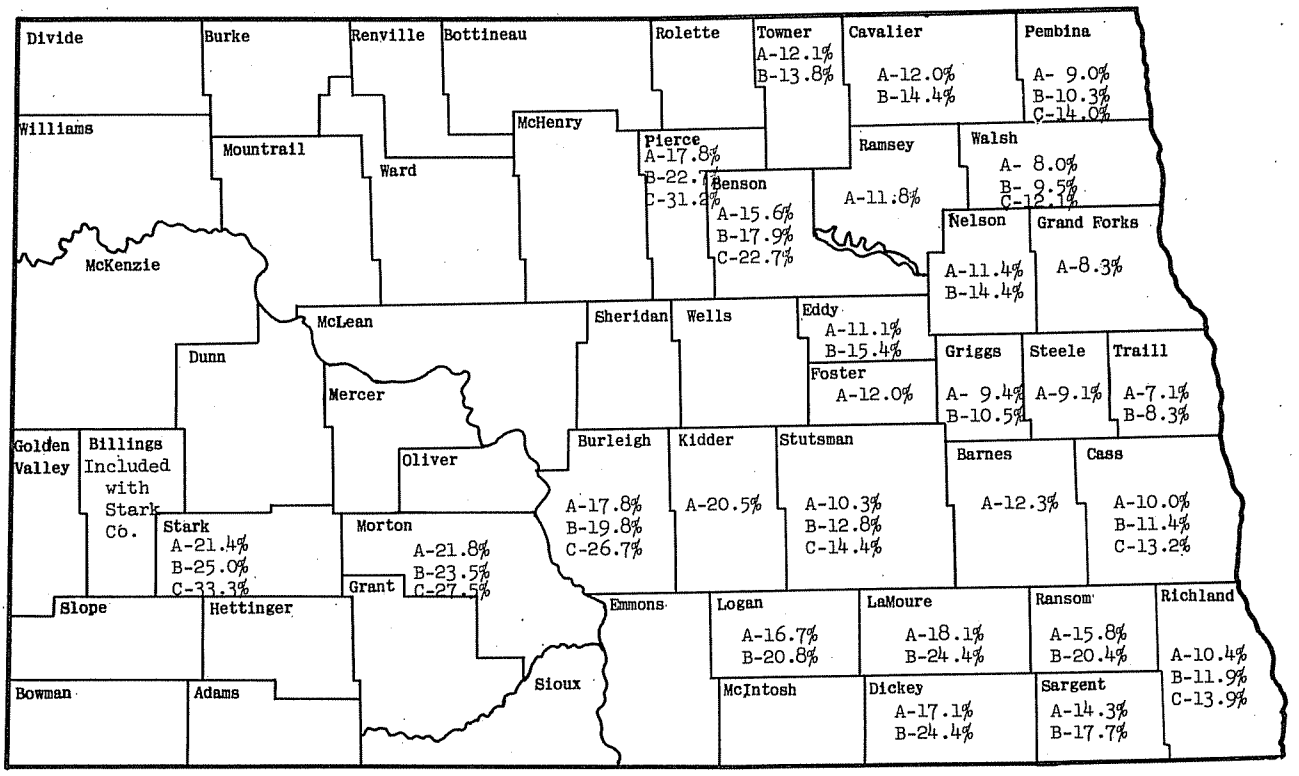

Figure 12. Federal All-Risk Crop Insurance Rates (expressed as a percentage of coverage) for Oats in North Dakota, by County and Low(A)-, Medium(B)-, and High(C)-Risk Areas within Counties, 1969.

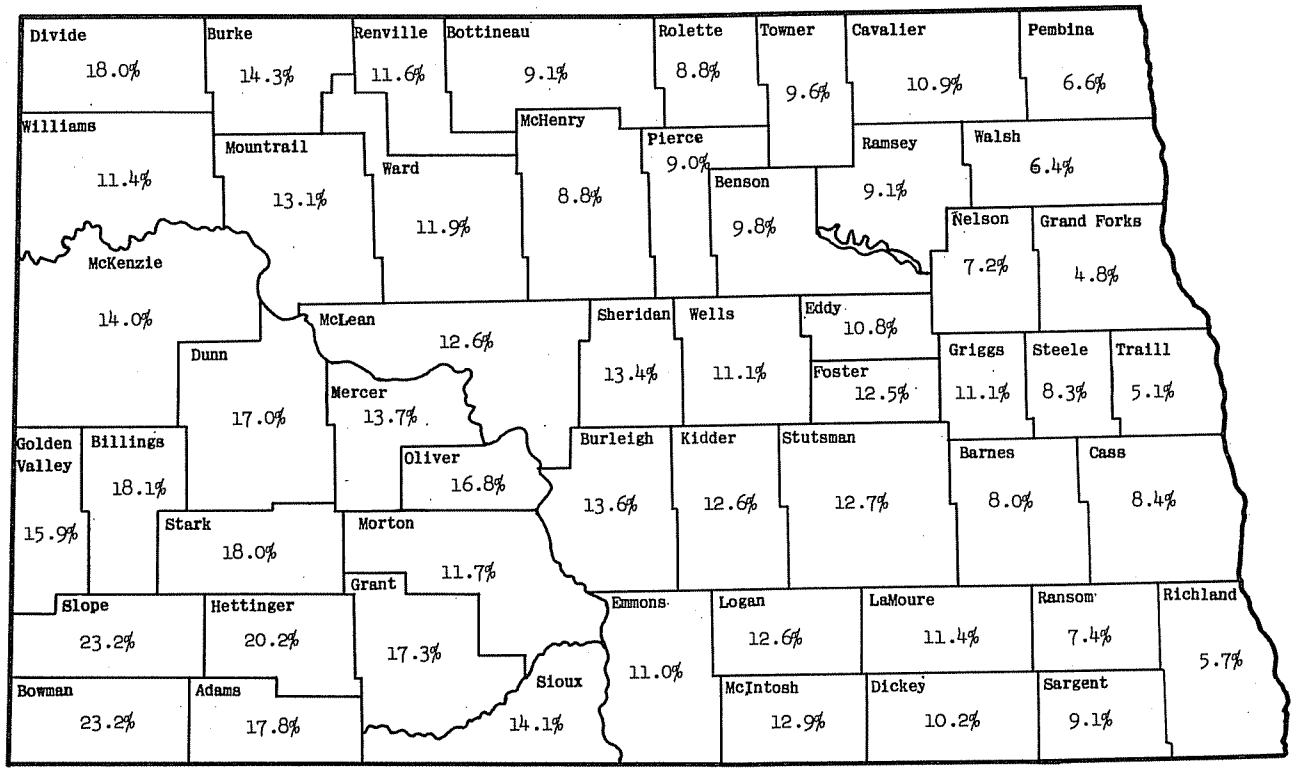

Figure 13. Average Private Crop-Hail Insurance Rates (expressed as a percentage of coverage) for Barley in North Dakota, by County, 1969.

for the 1967 crop year. The spring wheat, corn, and combined crop insurance programs were reevaluated for the 1969 crop year. The most recent change in "Rates and Rules for Crop-Hail Insurance" in North Dakota were made effective for the 1967 crop year.

To determine the pattern of Federal all-risk and private hail insurance premiums, the changes in premium rates were analyzed for the periods 1963 to 1966 and 1966 to 1969.[12]

Between 1963 and 1966 the average private hail insurance premiums for wheat, flax, and oats were increased in 33 counties and decreased in 14 counties (Figure 15). The average premium increase per county was 0.6 percentage point with the average decrease being 0.2 percentage point. Average private hail premiums were increased in 38 counties and decreased in 10 counties between 1966 and 1969. The average premium increase was 0.5 percentage point and the average decrease was 0.4 percentage point.

For Federal all-risk wheat insurance on summerfallow, the average premium was decreased in 36 counties between 1963 and 1966 and in 46 counties between 1966 and 1969 (Figure 16). The average percentage point decrease was 0.6 and 1.2 for 1963-1966 and 1966-1969, respectively. There were ten counties that experienced increases in average premiums between 1963 and 1966 and five counties between 1966 and 1969 with the increases being 0.4 and 0.7 percentage point, respectively.

The average premium for Federal all-risk wheat insurance on continuous cropping was decreased in 29 counties and increased in 16 counties between 1963 and 1966 with the average percentage point change being 0.6 and 0.7, respectively (Figure 17). Between 1966 and 1969 the average premiums were decreased in 41 counties and increased in 9 counties. The average percentage point decrease was 1.2 and the increase was 1.1.

The average premiums for Federal all-risk flax and oats insurance changed little between 1963 and 1966 (Figures 18 and 19). However, between 1966 and 1969 the average premium for flax was reduced in 24 counties and increased in 8 counties. The average decrease in premiums was 1.6 percentage points and the increase was 0.9 percentage point. For oats insurance the average premium was reduced in 22 counties and increased in one county between 1966 and 1969. The average percentage point decrease was 1.0 and the increase was 1.1.

The average private hail insurance premium was increased in 31 counties and decreased in 3 counties between 1963 and 1966 in those counties where all-risk barley insurance was available (Figure 20). The average percentage point increase was 0.9 with the average decrease being 1.1. Between 1966 and 1969 average private hail rates were increased in

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[12] The number of counties included in the analysis for the two periods is not the same because the all-risk insurance program was expanded. Only counties where all-risk insurance is available are included in the analysis.

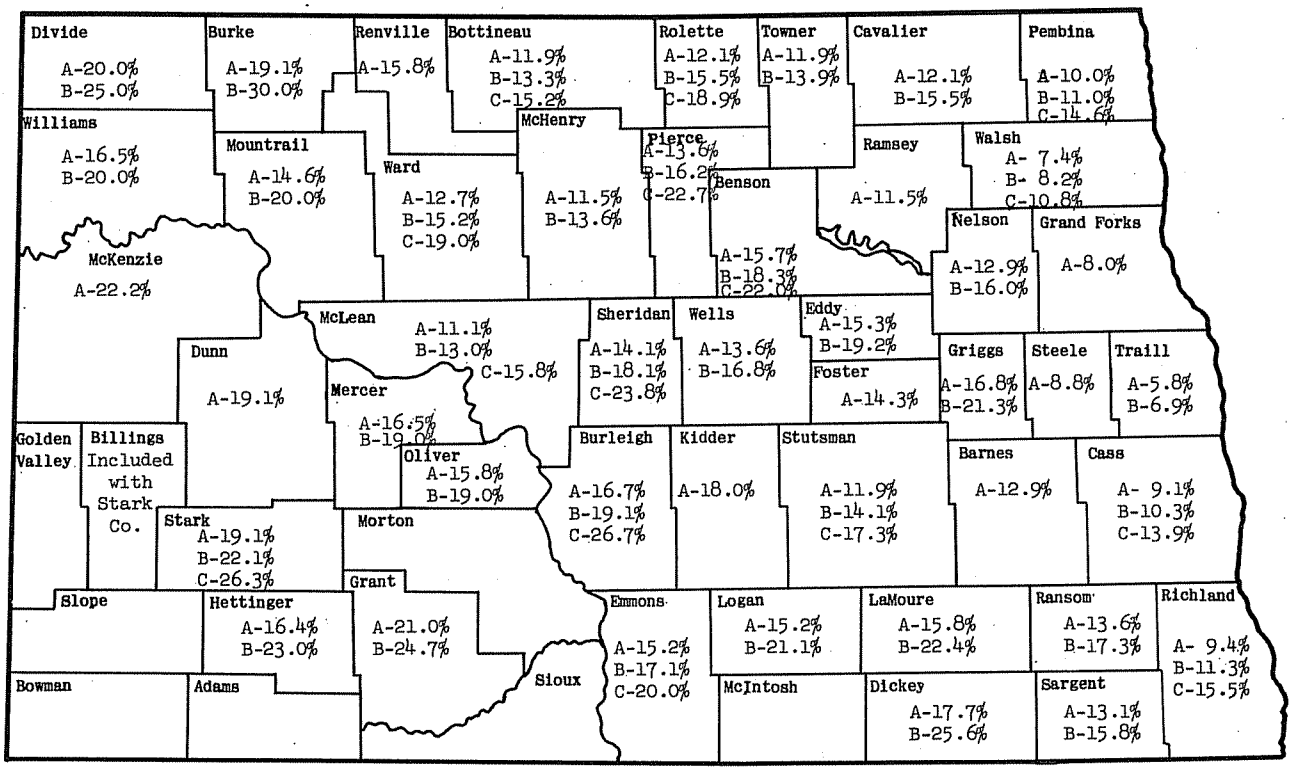

Figure 14. Federal All-Risk Crop Insurance Rates (expressed as a percentage of coverage) for Barley on Continuous Cropping in North Dakota, by County and Low(A)-, Medium(B)-, and High(C)-Risk Areas within Counties, 1969.

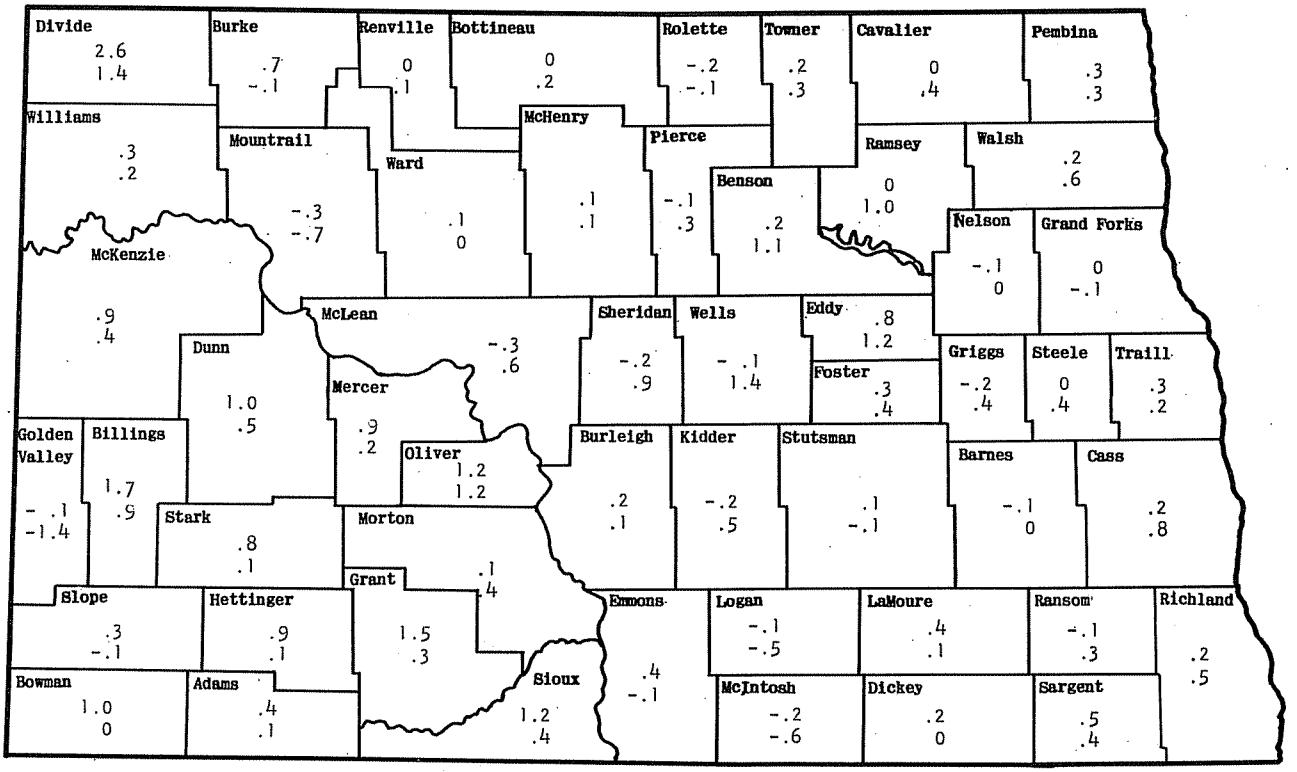

Figure 15. Average Percentage Point Change in Private Crop-Hail Insurance Rates for Wheat, Flax, and Oats in North Dakota, by County, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

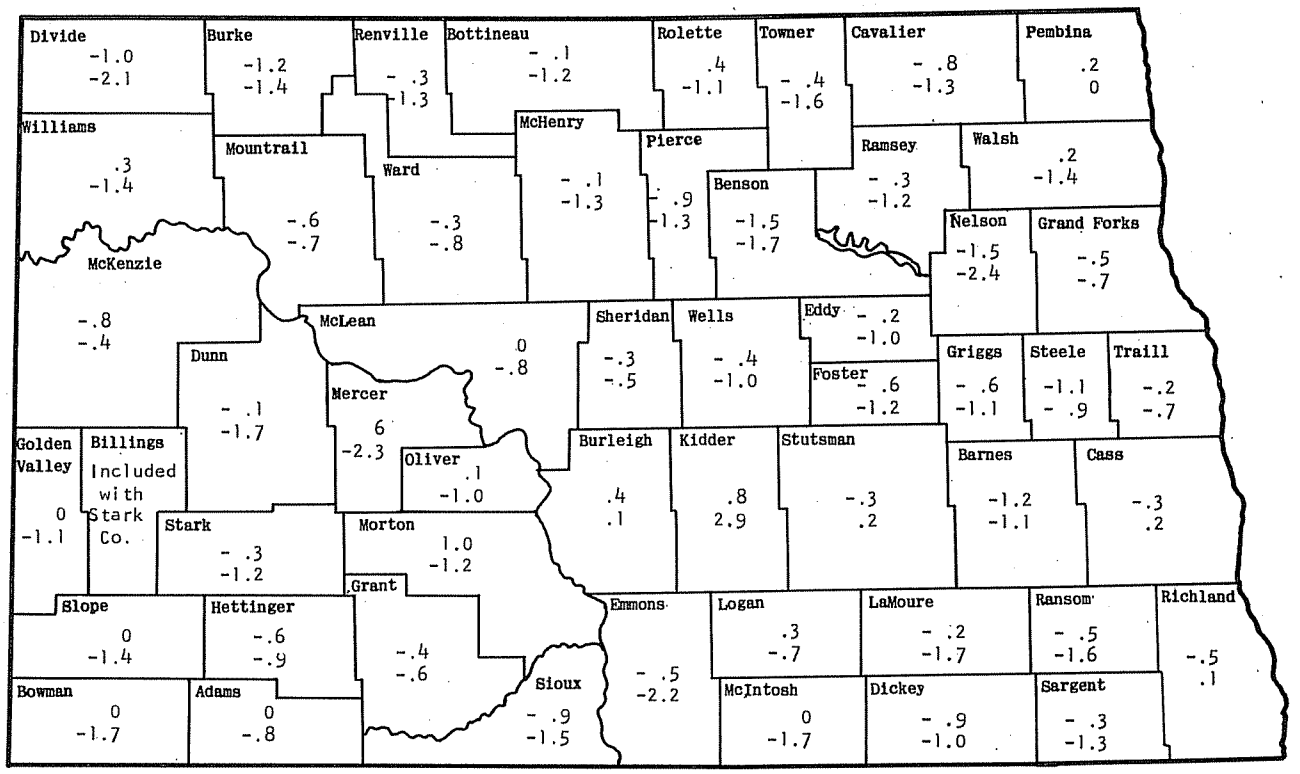

Figure 16. Average Percentage Point Change in Federal All-Risk Crop Insurance Rates for Wheat on Summerfallow in North Dakota, by County for the Low(A)-Risk Area, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

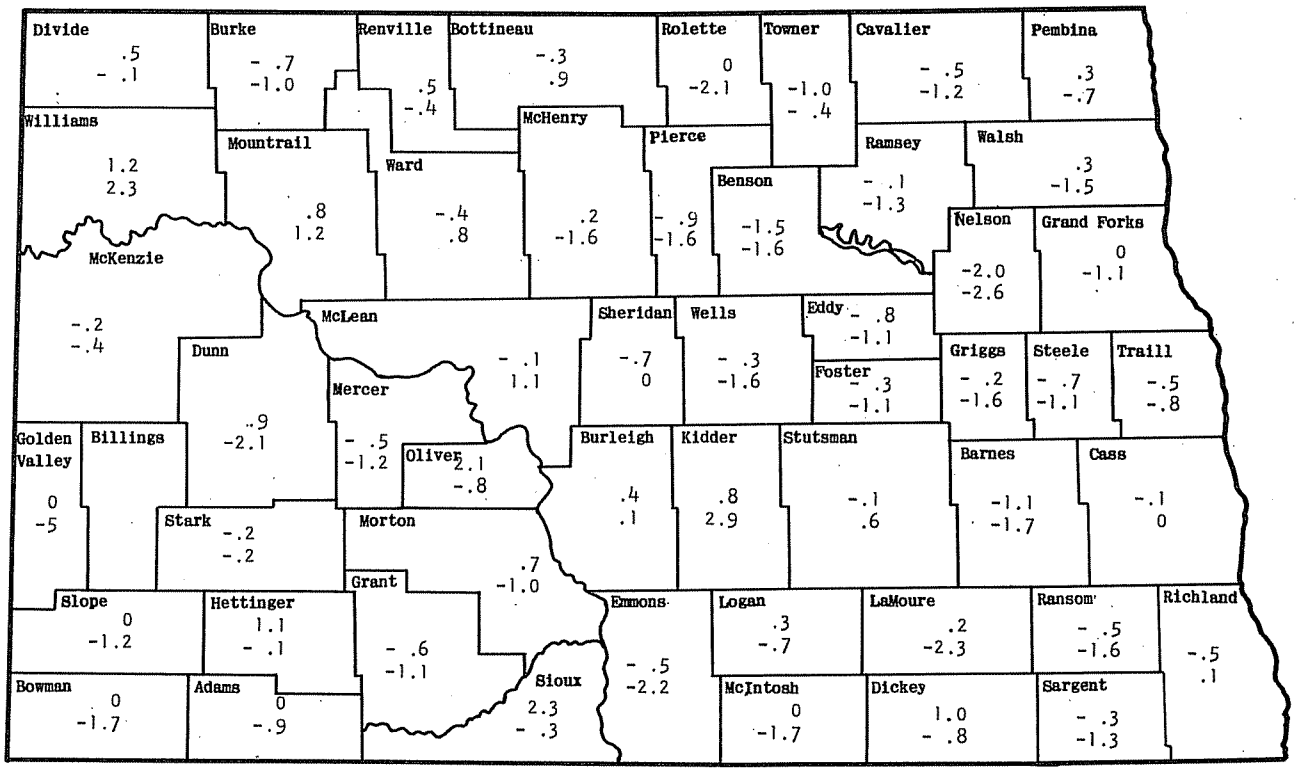

Figure 17. Average Percentage Point Change in Federal All-Risk Crop Insurance Rates for Wheat on Continuous Cropping in North Dakota, by County for the Low(A)-Risk Area, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

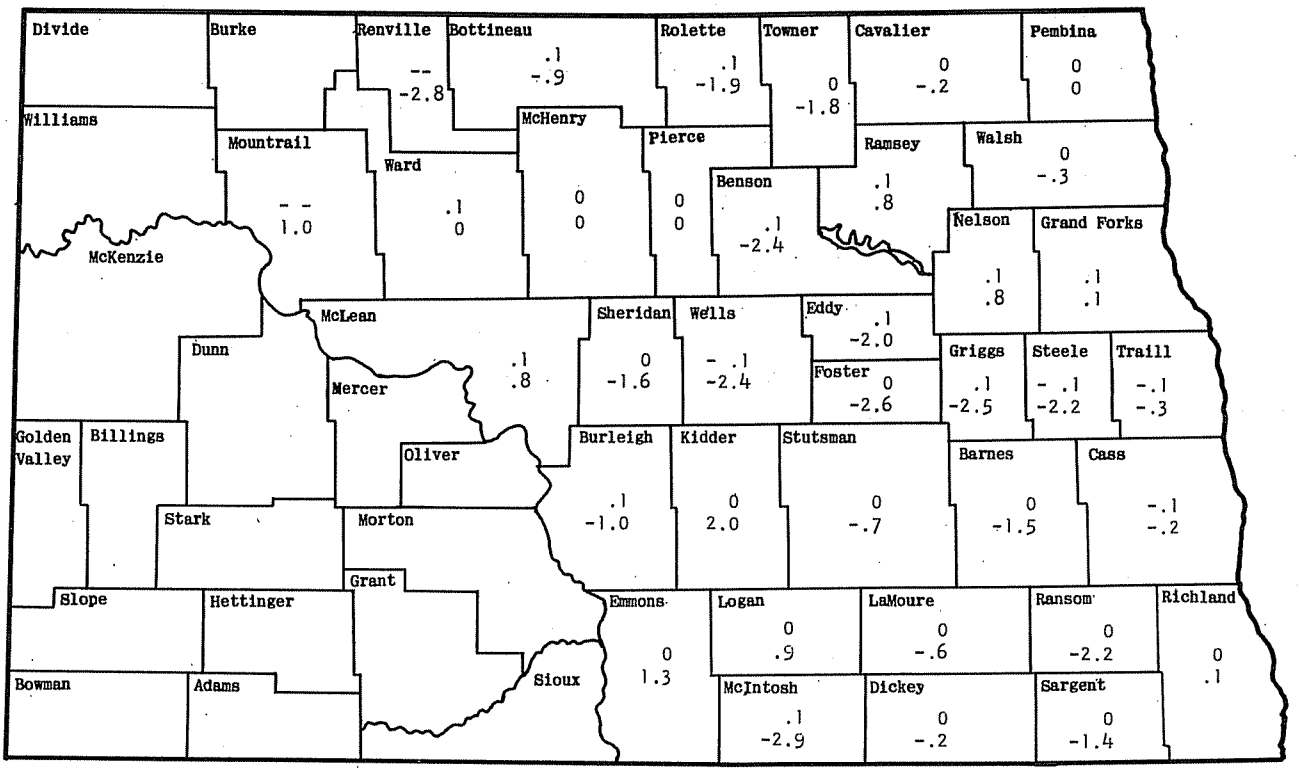

Figure 18. Average Percentage Point Change in Federal All-Risk Crop Insurance Rates for Flax in North Dakota, by County for the Low(A)-Risk Area, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

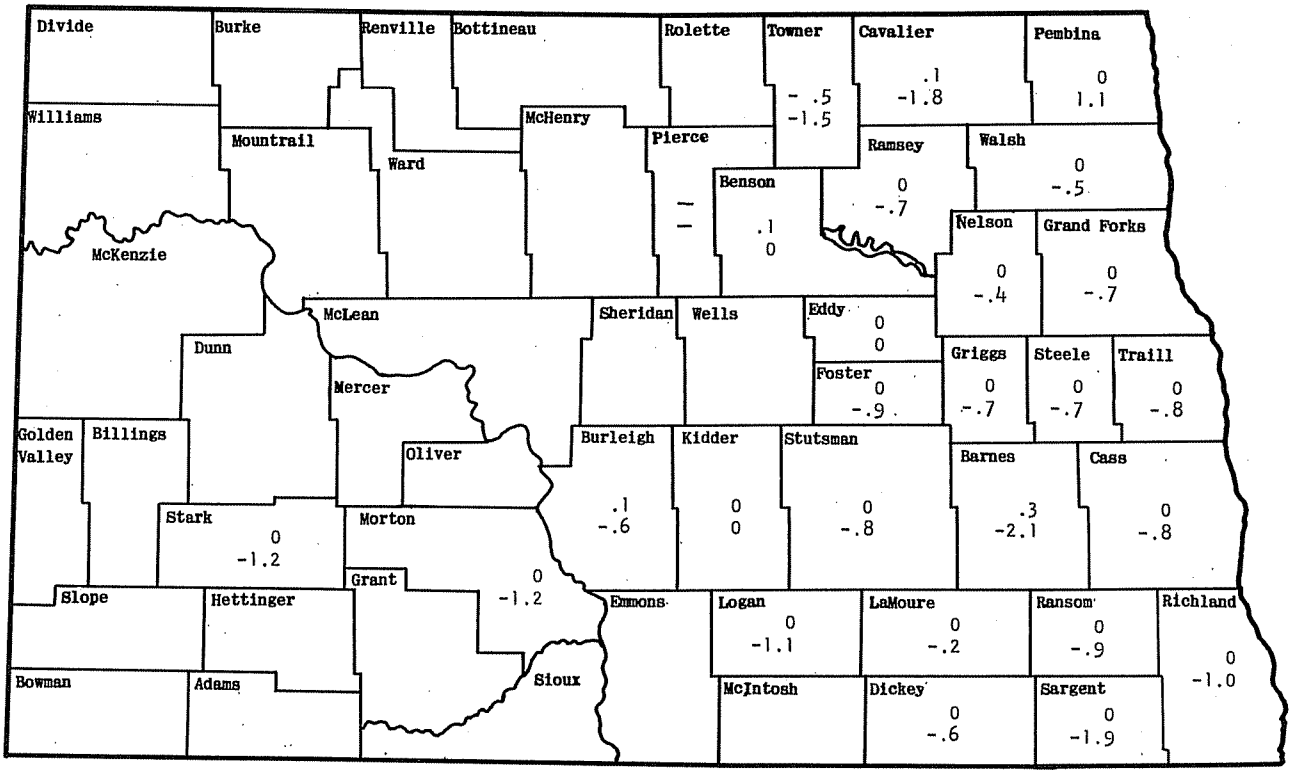

Figure 19. Average Percentage Point Change in Federal All-Risk Crop Insurance Rates for Oats in North Dakota, by County for the Low(A)-Risk Area, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

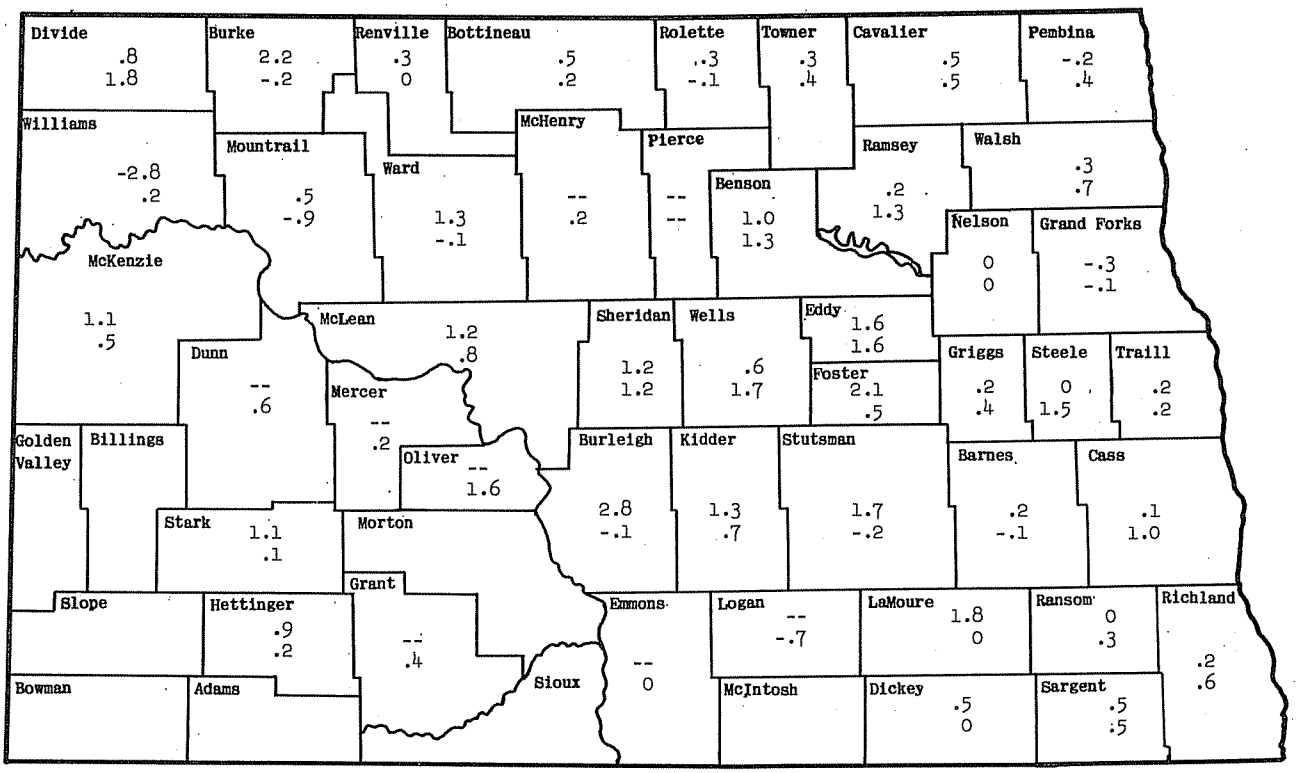

Figure 20. Average Percentage Point Change in Private Crop-Hail Insurance Rates for Barley in North Dakota, by County, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

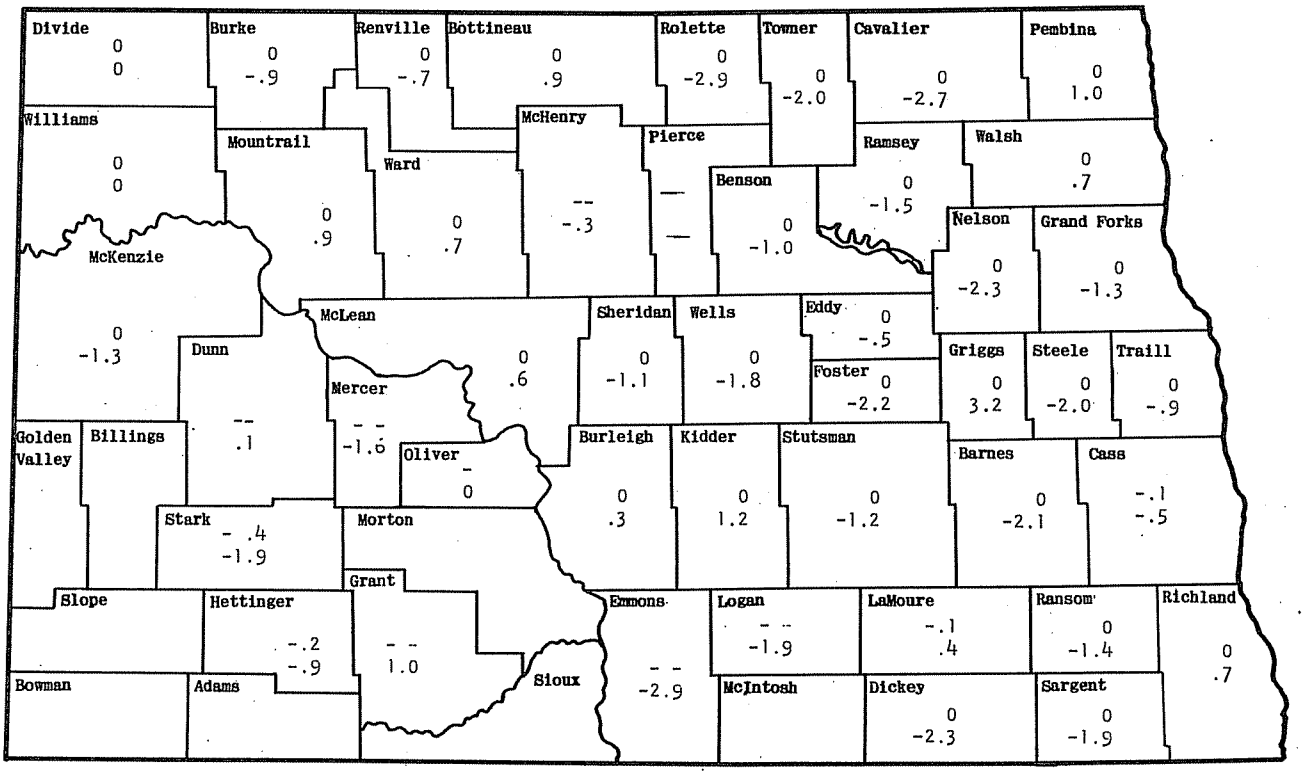

Figure 21. Average Percentage Point Change in Federal All-Risk Crop Insurance Rates for Barley on Continuous Cropping in North Dakota, by County for the Low(A)-Risk Area, 1963-1966 and 1966-1969.

Top figure: change between 1963 and 1966.
Bottom figure: change between 1966 and 1969.

30 counties and decreased in 9 counties. There was little change in the average Federal all-risk barley insurance rates between 1963 and 1966 (Figure 21). Average premiums were decreased in 28 counties and increased in 13 counties between 1966 and 1969. The average percentage point decrease was 1.6 with the increase being 0.9.

SUMMARY AND CONCLUSIONS

Federal all-risk crop insurance is available for the major crops grown in North Dakota. Wheat insurance is available in all counties. For flax, barley, and oats all-risk insurance is available in the major production areas of the state. All-risk insurance for corn, soybeans, and sugarbeets is available in selected counties.

The coverage provided by the Federal all-risk crop insurance program appears adequate in relation to production costs for all crops, except corn for grain, insured in the state with the low or medium per bushel price selection covering production costs. There are areas in the state where the high per bushel price selection is needed to meet production costs. However, the crop (or cropping practice) is generally of minor importance in these areas.

Rates (premium expressed as a percentage of coverage) for Federal all-risk wheat insurance are about the same as private hail insurance in most of the state, ranging from 5 percent in the eastern part to 15 percent in the western part of the state. However, the farmer stands the first 25 percent of any crop loss, under the all-risk policy, because the Federal Crop Insurance Act limits the bushel guarantee to 75 percent of the average yield. In counties west of the Missouri River plus Burke, Divide, and Williams counties private hail insurance indemnities are only paid for losses in excess of 10 percent. Flax and oats rates for Federal all-risk crop insurance are about 5 to 10 percentage points higher than those for private hail insurance. Federal all-risk barley insurance rates on continuous cropping are about 2 to 5 percentage points higher than private hail insurance rates in most of the state.

Farmers, in developing an insurance program, should keep in mind that private hail insurance protects against only one hazard, while Federal all-risk crop insurance provides protection against all hazards. Thus, the farmer has to decide whether the additional protection provided by Federal all-risk crop insurance against all hazards is worth the higher premium. A method of using both private hail and Federal all-risk crop insurance might be to take the lowest per bushel price selection to provide a "floor" for protecting operating expenses; and if the crop looks good later in the growing season, take out private hail insurance to protect the expected return or "profit".

APPENDIX

APPENDIX TABLE 1. SPRING WHEAT ON SUMMERFALLOW IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969

		DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
County	Ave Prod Cost/A	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00
Adams[5]	14.33	8.5	8.50	12.75	17.00								
Barnes	16.50	14.0	14.00	21.00	28.00								
Benson	15.46	14.0	14.00	21.00	28.00	13.0	13.00	19.50	26.00	11.5	11.50	17.25	23.00
Bottineau	15.46	14.5	14.50	21.75	29.00	12.5	12.50	18.75	25.00	10.0	10.00	15.00	20.00
Bowman[5]	14.33	8.0	8.00	12.00	16.00	8.0	8.00	12.00	16.00	7.0	7.00	10.50	14.00
Burke	14.67	12.0	12.00	18.00	24.00	10.5	10.50	15.75	21.00				
Burleigh	13.99	9.5	9.50	14.25	19.00	8.5	8.50	12.75	17.00	7.0	7.00	10.50	14.00
Cass	21.50	16.5	16.50	24.75	33.00	15.5	15.50	23.25	31.00	12.5	12.50	18.75	25.00
Cavalier	15.46	15.0	15.00	22.50	30.00	13.5	13.50	20.25	27.00				
Dickey	17.36	11.5	11.50	17.25	23.00	10.5	10.50	15.75	21.00				
Divide	14.67	10.5	10.50	15.75	21.00	6.5	6.50	9.75	13.00				
Dunn	14.33	11.0	11.00	16.50	22.00								
Eddy	16.50	13.0	13.00	19.50	26.00	11.0	11.00	16.50	22.00				
Emmons	13.99	8.5	8.50	12.75	17.00	8.5	8.50	12.75	17.00	7.0	7.00	10.50	14.00
Foster	16.50	14.0	14.00	21.00	28.00								
G. Valley[5]	14.33	8.5	8.50	12.75	17.00	7.5	7.50	11.25	15.00				
Grand Forks	21.50	17.5	17.50	26.25	35.00								
Grant	14.33	9.5	9.50	14.25	19.00	8.0	8.00	12.00	16.00				
Griggs	16.50	16.0	16.00	24.00	32.00	13.5	13.50	20.25	27.00				
Hettinger	14.33	11.0	11.00	16.50	22.00	10.0	10.00	15.00	20.00				
Kidder	13.99	7.0	7.00	10.50	14.00								
LaMoure	16.50	13.0	13.00	19.50	26.00	10.5	10.50	15.75	21.00				
Logan	13.99	8.0	8.00	12.00	16.00	7.0	7.00	10.50	14.00				
McHenry	15.46	12.5	12.50	18.75	25.00	8.5	8.50	12.75	17.00				
McIntosh	13.99	8.0	8.00	12.00	16.00								
McKenzie	14.33	10.5	10.50	15.75	21.00								

(continued)

APPENDIX TABLE 1. SPRING WHEAT ON SUMMERFALLOW IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969 (continued)

County	Ave Prod Cost/A	DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
		Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00
McLean	14.67	13.5	13.50	20.25	27.00	12.5	12.50	18.75	25.00	10.5	10.50	15.75	21.00
Mercer	14.33	12.0	12.00	18.00	24.00	10.0	10.00	15.00	20.00				
Morton	14.33	11.0	11.00	16.50	22.00	10.0	10.00	15.00	20.00	9.0	9.00	13.50	18.00
Mountrail	14.67	11.0	11.00	16.50	22.00	9.5	9.50	14.25	19.00				
Nelson	15.46	17.0	17.00	25.50	34.00	15.0	15.00	22.50	30.00				
Oliver	14.33	11.0	11.00	16.50	22.00	9.5	9.50	14.25	19.00				
Pembina	21.50	17.0	17.00	25.50	34.00	15.0	15.00	22.50	30.00	11.5	11.50	17.25	23.00
Pierce	15.46	12.0	12.00	18.00	24.00	9.5	9.50	14.25	19.00	6.5	6.50	9.75	13.00
Ramsey	15.46	14.0	14.00	21.00	28.00								
Ransom	17.36	11.0	11.00	16.50	22.00	9.0	9.00	13.50	18.00				
Renville	15.46	13.0	13.00	19.50	26.00								
Richland	17.36	13.0	13.00	19.50	26.00	11.0	11.00	16.50	22.00	9.0	9.00	13.50	18.00
Rolette	15.46	15.5	15.50	23.25	31.00	13.5	13.50	20.25	27.00	11.5	11.50	17.25	23.00
Sargent	17.36	11.0	11.00	16.50	22.00	9.5	9.50	14.25	19.00				
Sheridan	13.99	11.0	11.00	16.50	22.00	10.0	10.00	15.00	20.00	8.0	8.00	12.00	16.00
Sioux	14.33	9.5	9.50	14.25	19.00	8.5	8.50	12.75	17.00				
Slope[5]	14.33	8.0	8.00	12.00	16.00	7.0	7.00	10.50	14.00				
Stark-Billings	14.33	10.5	10.50	15.75	21.00	9.0	9.00	13.50	18.00	8.0	8.00	12.00	16.00
Steele	16.50	17.5	17.50	26.25	35.00								
Stutsman	16.50	13.5	13.50	20.25	27.00	12.5	12.50	18.75	25.00	11.5	11.50	17.25	23.00
Towner	15.46	15.0	15.00	22.50	30.00	13.0	13.00	19.50	26.00				
Traill	21.50	19.0	19.00	28.50	38.00	16.5	16.50	24.75	33.00				
Walsh	21.50	19.5	19.50	29.25	39.00	17.5	17.50	26.25	35.00	14.5	14.50	21.75	29.00
Ward	15.46	14.0	14.00	21.00	28.00	13.0	13.00	19.50	26.00	9.5	9.50	14.25	19.00
Wells	16.50	14.0	14.00	21.00	28.00	12.5	12.50	18.75	25.00				
Williams	14.67	10.5	10.50	15.75	21.00	6.5	6.50	9.75	13.00				

[1]The dollar coverage per acre is determined by multiplying the corresponding price selection/bushel by the bushel guarantee/acre.

[2]Number of bushels FCIC will guarantee prior to harvest. If crop is harvested, 1.5 bushels is added to the total to cover the cost of harvesting.

[3]Includes only preharvest costs and taxes on land. Source: Rice, Billy B., and Paul, Rodney R., Crop Costs and Returns, Circulars FM-3-67, 4-67, 5-67, 6-67, 7-67, 8-67, and 9-67, Cooperative Extension Service, Economic Research Service, North Dakota State University, Fargo, North Dakota, October 1967.

[4]FCIC divides counties into various areas according to the risk involved in crop production and adjusts the bushel guarantee accordingly.

[5]Coverage and cost applicable for winter wheat.

APPENDIX TABLE 2. SPRING WHEAT ON CONTINUOUS CROPPING IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969

County	Ave Prod Cost/A	DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
		Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00	Bu Guar Per Acre	Price Selection/Bu 1.00	1.50	2.00
Adams[5]	11.41	6.0	6.00	9.00	12.00								
Barnes	11.85	11.0	11.00	16.50	22.00								
Benson	11.27	9.0	9.00	13.50	18.00	8.0	8.00	12.00	16.00	6.5	6.50	9.75	13.00
Bottineau	11.27	9.0	9.00	13.50	18.00	7.5	7.50	11.25	15.00	6.5	6.50	9.75	13.00
Bowman[5]	11.41	5.0	5.00	7.50	10.00	5.0	5.00	7.50	10.00	4.0	4.00	6.00	8.00
Burke	11.41	6.5	6.50	9.75	13.00	5.5	5.50	8.25	11.00				
Burleigh	10.54	9.5	9.50	14.25	19.00	8.5	8.50	12.75	17.00	7.0	7.00	10.50	14.00
Cass	17.96	14.0	14.00	21.00	28.00	13.0	13.00	19.50	26.00	10.0	10.00	15.00	20.00
Cavalier	11.27	10.5	10.50	15.75	21.00	9.0	9.00	13.50	18.00				
Dickey	12.97	8.5	8.50	12.75	7.00	7.5	7.50	11.25	15.00				
Divide	11.41	6.0	6.00	9.00	12.00	5.0	5.00	7.50	10.00				
Dunn	11.41	8.0	8.00	12.00	16.00								
Eddy	11.85	9.0	9.00	13.50	18.00	7.0	7.00	10.50	14.00				
Emmons	10.54	8.5	8.50	12.75	17.00	8.5	8.50	12.75	17.00	7.0	7.00	10.50	14.00
Foster	11.85	10.0	10.00	15.00	20.00								
G. Valley[5]	11.41	6.5	6.50	9.75	13.00	5.5	5.50	8.25	11.00				
G. Valley[5,6]	11.41	7.5	7.50	11.25	15.00	6.5	6.50	9.75	13.00				
Grand Forks	17.96	14.5	14.50	21.75	29.00								
Grant	11.41	7.0	7.00	10.50	14.00	5.0	5.00	7.50	10.00				
Griggs	11.85	11.5	11.50	17.25	23.00	10.0	10.00	15.00	20.00				
Hettinger	11.41	7.0	7.00	10.50	14.00	6.0	6.00	9.00	12.00				
Kidder	10.54	7.0	7.00	10.50	14.00								
LaMoure	11.85	8.5	8.50	12.75	17.00	7.0	7.00	10.50	14.00				
Logan	10.54	8.0	8.00	12.00	16.00	7.0	7.00	10.50	14.00				
McHenry	11.27	7.0	7.00	10.50	14.00	5.5	5.50	8.25	11.00				
McIntosh	10.54	8.0	8.00	12.00	16.00								
McKenzie	11.41	6.5	6.50	9.75	13.00								

(continued)

APPENDIX TABLE 2. SPRING WHEAT ON CONTINUOUS CROPPING IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969 (continued)

		DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
	Ave		Price Selection/Bu				Price Selection/Bu				Price Selection/Bu		
County	Prod Cost/A	Bu Guar Per Acre	1.00	1.50	2.00	Bu Guar Per Acre	1.00	1.50	2.00	Bu Guar Per Acre	1.00	1.50	2.00
McLean	11.41	9.0	9.00	13.50	18.00	8.0	8.00	12.00	16.00	6.5	6.50	9.75	13.00
Mercer	11.41	9.5	9.50	14.25	19.00	8.5	8.50	12.75	17.00				
Morton	11.41	7.5	7.50	11.25	15.00	6.5	6.50	9.75	13.00	5.5	5.50	8.25	11.00
Mountrail	11.41	7.0	7.00	10.50	14.00	5.5	5.50	8.25	11.00				
Nelson	11.27	12.5	12.50	18.75	25.00	10.5	10.50	15.75	21.00				
Oliver	11.41	8.5	8.50	12.75	17.00	7.0	7.00	10.50	14.00				
Pembina	17.96	16.0	16.00	24.00	32.00	14.0	14.00	21.00	28.00	10.5	10.50	15.75	21.00
Pierce	11.27	8.0	8.00	12.00	16.00	5.5	5.50	8.25	11.00	4.0	4.00	6.00	8.00
Ramsey	11.27	10.0	10.00	15.00	20.00								
Ransom	12.97	11.0	11.00	16.50	22.00	9.0	9.00	13.50	18.00				
Renville	11.27	8.5	8.50	12.75	17.00								
Richland	12.97	13.0	13.00	19.50	26.00	11.0	11.00	16.50	22.00	9.0	9.00	13.50	18.00
Rolette	11.27	10.0	10.00	15.00	20.00	8.0	8.00	12.00	16.00	6.0	6.00	9.00	12.00
Sargent	12.97	11.0	11.00	16.50	22.00	9.5	9.50	14.25	19.00				
Sheridan	10.54	7.0	7.00	10.50	14.00	6.0	6.00	9.00	12.00	5.0	5.00	7.50	10.00
Sioux	11.41	5.5	5.50	8.25	11.00	4.5	4.50	6.75	9.00				
Slope[5]	11.41	6.0	6.00	9.00	12.00	5.0	5.00	7.50	10.00				
Stark-Billings	11.41	8.0	8.00	12.00	16.00	7.0	7.00	10.50	14.00	6.0	6.00	9.00	12.00
Steele	11.85	13.5	13.50	20.25	27.00								
Stutsman	11.85	9.5	9.50	14.25	19.00	8.5	8.50	12.75	17.00	7.5	7.50	11.25	15.00
Towner	11.27	10.0	10.00	15.00	20.00	7.5	7.50	11.25	15.00				
Traill	17.96	16.5	16.50	24.75	33.00	14.0	14.00	21.00	28.00				
Walsh	17.96	17.0	17.00	25.50	34.00	15.0	15.00	22.50	30.00	12.0	12.00	18.00	24.00
Ward	11.27	9.0	9.00	13.50	18.00	8.0	8.00	12.00	16.00	6.0	6.00	9.00	12.00
Wells	11.85	10.5	10.50	15.75	21.00	9.5	9.50	14.25	19.00				
Williams	11.41	6.0	6.00	9.00	12.00	5.0	5.00	7.50	10.00				

[1]The dollar coverage per acre is determined by multiplying the corresponding price selection/bushel by the bushel guarantee/acre.

[2]Number of bushels FCIC will guarantee prior to harvest. If crop is harvested, 1.5 bushels is added to the total to cover the cost of harvesting.

[3]Includes only preharvest costs and taxes on land. Source: Rice, Billy B., and Paul, Rodney R., Crop Costs and Returns, Circulars FM-3-67, 4-67, 5-67, 6-67, 7-67, 8-67, and 9-67, Cooperative Extension Service and Economic Research Service, North Dakota State University, Fargo, North Dakota, October 1967.

[4]FCIC divides counties into various areas according to the risk involved in crop production and adjusts the bushel guarantee accordingly.

[5]Coverages and cost applicable for winter wheat.

[6]Coverages for wheat after corn and wheat after potatoes.

APPENDIX TABLE 3. SPRING BARLEY ON SUMMERFALLOW AND CONTINUOUS CROPPING IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969

		DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
County[5]	Ave Prod Cost/A	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25
Barnes	10.56	14.0	10.50	14.00	17.50								
Benson	9.85	14.0	10.50	14.00	17.50	12.0	9.00	12.00	15.00	10.0	7.50	10.00	12.50
Bottineau													
(SF)	14.36	19.0	14.25	19.00	23.75	17.5	13.12	17.50	21.88	14.5	10.88	14.50	18.12
(CC)	9.85	13.5	10.12	13.50	16.88	12.0	9.00	12.00	15.00	10.5	7.88	10.50	13.12
Burke													
(SF)	12.82	15.5	11.62	15.50	19.38	12.0	9.00	12.00	15.00				
(CC)	8.77	11.0	8.25	11.00	13.75	7.0	5.25	7.00	8.75				
Burleigh	8.67	12.0	9.00	12.00	15.00	10.5	7.88	10.50	13.12	7.5	5.62	7.50	9.38
Cass	16.85	17.5	13.12	17.50	21.88	15.5	11.62	15.50	19.38	11.5	8.62	11.50	14.38
Cavalier	9.85	14.0	10.50	14.00	17.50	11.0	8.25	11.00	13.75				
Dickey	12.38	13.0	9.75	13.00	16.25	9.0	6.75	9.00	11.25				
Divide													
(SF)	12.82	14.0	10.50	14.00	17.50	11.0	8.25	11.00	13.75				
(CC)	8.77	7.5	5.62	7.50	9.38	6.0	4.50	6.00	7.50				
Dunn	9.62	11.0	8.25	11.00	13.75								
Eddy	10.56	15.0	11.25	15.00	18.75	12.0	9.00	12.00	15.00				
Emmons	8.67	10.5	7.88	10.50	13.12	10.5	7.88	10.50	13.12	9.0	6.75	9.00	11.25
Foster	10.56	14.0	10.50	14.00	17.50								
G. Valley													
(SF)	12.43	13.0	9.75	13.00	16.25	11.0	8.25	11.00	13.75				
Grand Forks	16.85	17.5	13.12	17.50	21.88								
Grant	9.62	10.0	7.50	10.00	12.50	8.5	6.38	8.50	10.62				
Griggs													
(SF)	15.35	21.0	15.75	21.00	26.25	17.0	12.75	17.00	21.25				
(CC)	10.56	9.5	7.12	9.50	11.88	7.5	5.62	7.50	9.38				
Hettinger	9.99	14.0	10.50	14.00	17.50	10.0	7.50	10.00	12.50				

(continued)

APPENDIX TABLE 3. SPRING BARLEY ON SUMMERFALLOW AND CONTINUOUS CROPPING IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969 (continued)

County[5]	Ave Prod Cost/A	DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
		Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25
Kidder	8.67	10.0	7.50	10.00	12.50								
LaMoure	10.56	12.0	9.00	12.00	15.00	8.5	6.38	8.50	10.62				
Logan	8.67	10.5	7.88	10.50	13.12	9.0	6.75	9.00	11.25				
McHenry	9.85	13.0	9.75	13.00	16.25	11.0	8.25	11.00	13.75				
McKenzie													
(SF)	12.43	12.5	9.38	12.50	15.62								
(CC)	9.62	9.0	6.75	9.00	11.25								
McLean													
(SF)	12.82	22.0	16.50	22.00	27.50	18.0	13.50	18.00	22.50	14.5	10.88	14.50	18.12
(CC)	8.77	13.5	10.12	13.50	16.88	11.5	8.62	11.50	14.38	9.5	7.12	9.50	11.88
Mercer	9.62	11.5	8.62	11.50	14.38	10.0	7.50	10.00	12.50				
Mountrail													
(SF)	12.82	15.5	11.62	15.50	19.38	12.5	9.38	12.50	15.62				
(CC)	8.77	11.0	8.25	11.00	13.75	8.0	6.00	8.00	10.00				
Nelson	9.85	15.5	11.62	15.50	19.38	12.5	9.38	12.50	15.62				
Oliver	9.62	12.0	9.00	12.00	15.00	10.0	7.50	10.00	12.50				
Pembina	16.85	16.0	12.00	16.00	20.00	14.5	10.88	14.50	18.12	11.0	8.25	11.00	13.75
Pierce	9.85	12.5	9.38	12.50	15.62	10.5	7.88	10.50	13.12	7.5	5.62	7.50	9.38
Ramsey	9.85	13.0	9.75	13.00	16.25								
Ransom	12.38	14.0	10.50	14.00	17.50	11.0	8.25	11.00	13.75				
Renville													
(SF)	14.36	16.5	12.38	16.50	20.62								
(CC)	9.85	12.0	9.00	12.00	15.00								
Richland	12.38	18.0	13.50	18.00	22.50	15.0	11.25	15.00	18.75	11.0	8.25	11.00	13.75
Rolette													
(SF)	14.36	20.0	15.00	20.00	25.00	16.5	12.38	16.50	20.62	14.5	10.88	14.50	18.12

(continued)

APPENDIX TABLE 3. SPRING BARLEY ON SUMMERFALLOW AND CONTINUOUS CROPPING IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969 (continued)

County[5]	Ave Prod Cost/A	DOLLAR COVERAGES PER ACRE										
		AREA A				AREA B				AREA C		
		Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25	Bu Guar Per Acre	Price Selection/Bu .75	1.00	1.25
Rolette (CC)	9.85	14.0	10.50	14.00	17.50	11.0	8.25	11.00	13.75	9.0	6.75	9.00	11.25
Sargent	12.38	14.5	10.88	14.50	18.12	12.0	9.00	12.00	15.00				
Sheridan	8.67	13.5	10.12	13.50	16.88	10.5	7.88	10.50	13.12	8.0	6.00	8.00	10.00
Stark-Billings	9.62	11.0	8.25	11.00	13.75	9.5	7.12	9.50	11.88	8.0	6.00	8.00	10.00
Steele	10.56	16.0	12.00	16.00	20.00								
Stutsman	10.56	16.0	12.00	16.00	20.00	13.5	10.12	13.50	16.88	11.0	8.25	11.00	13.75
Towner	9.85	13.5	10.12	13.50	16.88	11.5	8.62	11.50	14.38				
Traill	16.85	19.0	14.25	19.00	23.75	16.0	12.00	16.00	20.00				
Walsh	16.85	19.0	14.25	19.00	23.75	17.0	12.75	17.00	21.25	13.0	9.75	13.00	16.25
Ward (SF)	14.36	21.0	15.75	21.00	26.25	17.5	13.12	17.50	21.88	14.5	10.88	14.50	18.12
(CC)	9.85	15.0	11.25	15.00	18.75	12.5	9.38	12.50	15.62	10.0	7.50	10.00	12.50
Wells	10.56	15.5	11.62	15.50	19.38	12.5	9.38	12.50	15.62				
Williams (SF)	12.82	13.5	10.12	13.50	16.88	10.5	7.88	10.50	13.12				
(CC)	8.77	8.5	6.38	8.50	10.62	7.0	5.25	7.00	8.75				

[1]The dollar coverage per acre is determined by multiplying the corresponding price selection/bushel by the bushel guarantee/acre.

[2]Number of bushels FCIC will guarantee prior to harvest. If crop is harvested, 1.5 bushels is added to the total to cover the cost of harvesting.

[3]Includes only preharvest costs and taxes on land. Source: Rice, Billy B., and Paul, Rodney R., Crop Costs and Returns, Circulars FM-3-67, 4-67, 5-67, 6-67, 7-67, 8-67, and 9-67, Cooperative Extension Service and Economic Research Service, North Dakota State University, Fargo, North Dakota, October 1967.

[4]FCIC divides counties into various areas according to the risk involved in crop production and adjusts the bushel guarantee accordingly.

[5]Coverages and cost applicable for winter wheat.

APPENDIX TABLE 4. FLAX IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969

		DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
	Ave		Price Selection/Bu				Price Selection/Bu				Price Selection/Bu		
County	Prod Cost/A	Bu Guar Per Acre	2.25	2.75	3.25	Bu Guar Per Acre	2.25	2.75	3.25	Bu Guar Per Acre	2.25	2.75	3.25
Barnes	9.74	4.8	10.80	13.20	15.60								
Benson	8.66	4.5	10.12	12.38	14.62	3.5	7.88	9.62	11.38	3.0	6.75	8.25	9.75
Bottineau	8.66	4.1	9.22	11.28	13.32	4.1	9.22	11.28	13.32	3.0	6.75	8.25	9.75
Burleigh	8.56	3.7	8.32	10.18	12.02	3.2	7.20	8.80	10.40	2.8	6.30	7.70	9.10
Cass	11.84	6.0	13.50	16.50	19.50	5.5	12.38	15.12	17.88	5.0	11.25	13.75	16.25
Cavalier	8.66	4.5	10.12	12.38	14.62	3.5	7.88	9.62	11.38				
Dickey	10.22	4.5	10.12	12.38	14.62	3.5	7.88	9.62	11.38				
Eddy	9.74	4.8	10.80	13.20	15.60	4.0	9.00	11.00	13.00				
Emmons	8.56	4.2	9.45	11.55	13.65	3.7	8.32	10.18	12.02	3.2	7.20	8.80	10.40
Foster	9.74	4.7	10.58	12.92	15.28								
Grand Forks	11.84	5.3	11.92	14.58	17.22								
Griggs	9.74	5.1	11.48	14.02	16.58	4.1	9.22	11.28	13.32				
Kidder	8.56	3.5	7.88	9.62	11.38								
LaMoure	9.74	4.6	10.35	12.65	14.95	4.0	9.00	11.00	13.00				
Logan	8.56	4.0	9.00	11.00	13.00	3.5	7.88	9.62	11.38				
McHenry	8.66	4.0	9.00	11.00	13.00	3.2	7.20	8.80	10.40				
McIntosh	8.56	3.8	8.55	10.45	12.35								
McLean	8.75	4.0	9.00	11.00	13.00	4.0	9.00	11.00	13.00	4.0	9.00	11.00	13.00
Mountrail	8.75	3.5	7.88	9.62	11.38	3.0	6.75	8.25	9.75				
Nelson	8.66	4.9	11.02	13.48	15.92	3.9	8.78	10.72	12.68				
Pembina	11.84	6.0	13.50	16.50	19.50	5.0	11.25	13.75	16.25	3.5	7.88	9.62	11.38
Pierce	8.66	4.0	9.00	11.00	13.00	3.5	7.88	9.62	11.38	3.0	6.75	8.25	9.75
Ramsey	8.66	4.5	10.12	12.38	14.62								
Ransom	10.22	5.0	11.25	13.75	16.25	4.0	9.00	11.00	13.00				
Renville	8.66	3.9	8.78	10.72	12.68								
Richland	10.22	6.0	13.50	16.50	19.50	5.5	12.38	15.12	17.88	4.5	10.12	12.38	14.62
Rolette	8.66	4.6	10.35	12.65	14.95	3.6	8.10	9.90	11.70	2.8	6.30	7.70	9.10

(continued)

APPENDIX TABLE 4. FLAX IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969 (continued)

County	Ave Prod Cost/A	DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
		Bu Guar Per Acre	Price Selection/Bu 2.25	2.75	3.25	Bu Guar Per Acre	Price Selection/Bu 2.25	2.75	3.25	Bu Guar Per Acre	Price Selection/Bu 2.25	2.75	3.25
Sargent	10.22	5.2	11.70	14.30	16.90	4.2	9.45	11.55	13.65				
Sheridan	8.56	4.5	10.12	12.38	14.62	3.7	8.32	10.18	12.02	2.9	6.52	7.98	9.42
Steele	9.74	5.3	11.92	14.58	17.22								
Stutsman	9.74	4.8	10.80	13.20	15.60	4.0	9.00	11.00	13.00	3.4	7.65	9.35	11.05
Towner	8.66	4.3	9.68	11.82	13.98	3.3	7.42	9.08	10.72				
Traill	11.84	5.8	13.05	15.95	18.85	5.1	11.48	14.02	16.58				
Walsh	11.84	6.2	13.95	17.05	20.15	5.2	11.70	14.30	16.90	4.2	9.45	11.55	13.65
Ward	8.66	4.5	10.12	12.38	14.62	4.0	9.00	11.00	13.00	3.5	7.88	9.62	11.38
Wells	9.74	5.0	11.25	13.75	16.25	4.3	9.68	11.82	13.98				

[1]The dollar coverage per acre is determined by multiplying the corresponding price selection/bushel by the bushel guarantee/acre.

[2]Number of bushels FCIC will guarantee prior to harvest. If crop is harvested, 1.5 bushels is added to the total to cover the cost of harvesting.

[3]Includes only preharvest costs and taxes on land. Source: Rice, Billy B., and Paul, Rodney R., Crop Costs and Returns, Circulars FM-3-67, 4-67, 5-67, 6-67, 7-67, 8-67, and 9-67, Cooperative Extension Service and Economic Research Service, North Dakota State University, Fargo, North Dakota, October 1967.

[4]FCIC divides counties into various areas according to the risk involved in crop production and adjusts the bushel guarantee accordingly.

APPENDIX TABLE 5. OATS IN NORTH DAKOTA, DOLLAR COVERAGES[1] PER ACRE WITH ASSOCIATED BUSHEL GUARANTEE[2] AND AVERAGE PRODUCTION COSTS[3], BY COUNTIES AND AREAS[4] WITHIN COUNTIES, 1969

County	Ave Prod Cost/A	DOLLAR COVERAGES PER ACRE											
		AREA A				AREA B				AREA C			
		Bu Guar Per Acre	Price Selection/Bu .40	.60	.80	Bu Guar Per Acre	Price Selection/Bu .40	.60	.80	Bu Guar Per Acre	Price Selection/Bu .40	.60	.80
Barnes	9.97	19.0	7.60	11.40	15.20								
Benson	9.30	16.0	6.40	9.60	12.80	14.0	5.60	8.40	11.20	11.0	4.40	6.60	8.80
Burleigh	7.94	15.0	6.00	9.00	12.00	13.5	5.40	8.10	10.80	10.0	4.00	6.00	8.00
Cass	12.80	25.0	10.00	15.00	20.00	22.0	8.80	13.20	17.60	19.0	7.60	11.40	15.20
Cavalier	9.30	18.0	7.20	10.80	14.40	15.0	6.00	9.00	12.00				
Dickey	11.10	18.5	7.40	11.10	14.80	13.0	5.20	7.80	10.40				
Eddy	9.97	18.0	7.20	10.80	14.40	13.0	5.20	7.80	10.40				
Foster	9.97	18.0	7.20	10.80	14.40								
Grand Forks	12.80	22.0	8.80	13.20	17.60								
Griggs	9.97	19.5	7.80	11.70	15.60	17.5	7.00	10.50	14.00				
Kidder	7.94	13.0	5.20	7.80	10.40								
LaMoure	9.97	17.5	7.00	10.50	14.00	13.0	5.20	7.80	10.40				
Logan	7.94	15.0	6.00	9.00	12.00	12.0	4.80	7.20	9.60				
Morton	8.08	14.5	5.80	8.70	11.60	13.5	5.40	8.10	10.80	11.5	4.60	6.90	9.20
Nelson	9.30	19.0	7.60	11.40	15.20	15.0	6.00	9.00	12.00				
Pembina	12.80	24.0	9.60	14.40	19.20	21.0	8.40	12.60	16.80	15.5	6.20	9.30	12.40
Pierce	9.30	14.0	5.60	8.40	11.20	11.0	4.40	6.60	8.80	8.0	3.20	4.80	6.40
Ramsey	9.30	17.0	6.80	10.20	13.60								
Ransom	11.10	20.0	8.00	12.00	16.00	15.5	6.20	9.30	12.40				
Richland	11.10	24.0	9.60	14.40	19.20	21.0	8.40	12.60	16.80	18.0	7.20	10.80	14.40
Sargent	11.10	21.0	8.40	12.60	16.80	17.0	6.80	10.20	13.60				
Stark-Billings	8.08	14.0	5.60	8.40	11.20	12.0	4.80	7.20	9.60	9.0	3.60	5.40	7.20
Steele	9.97	22.0	8.80	13.20	17.60								
Stutsman	9.97	21.0	8.40	12.60	16.80	17.0	6.80	10.20	13.60	15.0	6.00	9.00	12.00
Towner	9.30	16.5	6.60	9.90	13.20	14.5	5.80	8.70	11.60				
Traill	12.80	26.0	10.40	15.60	20.80	22.0	8.80	13.20	17.60				
Walsh	12.80	25.0	10.00	15.00	20.00	21.0	8.40	12.60	16.80	16.5	6.60	9.90	13.20

[1]The dollar coverage per acre is determined by multiplying the corresponding price selection/bushel by the bushel guarantee/acre.

[2]Number of bushels FCIC will guarantee prior to harvest. If crop is harvested, 1.5 bushels is added to the total to cover the cost of harvesting.

[3]Includes only preharvest costs and taxes on land. Source: Rice, Billy B., and Paul, Rodney R., Crop Costs and Returns, Circulars FM-3-67, 4-67, 5-67, 6-67, 7-67, 8-67, and 9-67, Cooperative Extension Service and Economic Research Service, North Dakota State University, Fargo, North Dakota, October 1967.

[4]FCIC divides counties into various areas according to the risk involved in crop production and adjusts the bushel guarantee accordingly.