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# 1995 MICHIGAN LAND VALUES

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Before 1991 there were three sources of Michigan agricultural land values: the Federal Reserve Bank of Chicago district farmland survey; the USDA-ERS estimate of the value of farmland and service buildings; and the state equalized value (SEV) used for property tax purposes. Both USDA and Federal Reserve Bank surveys provide useful information regarding aggregate land values in the state. However, in many instances, users of land value information desire a more disaggregated measure of land values based on land type. The SEV is set by township assessors at 50 percent of the estimated market value of land using comparative sales studies conducted annually. County equalization directors review assessment rolls of local township assessors and make adjustments based on sales data. SEVs are useful in determining representative land values but are handicapped by the historical sales perspective upon which the appraisals are based.

In an effort to measure disaggregated land values by production use, surveys were conducted by Michigan State University in spring 1991, 1992, 1993, and 1994 that collected information on values for sugar beet land, irrigated land, and different types of corn-soybean-hay land. A similar survey was conducted in 1995 which asked for information on corn-soybean-hay, sugar beet, and irrigated land values. Information was also collected on land rents for the various types of land based on production use. The objective of the 1995 survey was to continue to provide information on disaggregated land values in Michigan. The remainder of this paper contains a discussion of the survey, the survey results, and a summary.

**Survey Method**

The sample consisted of members of the Farm Managers and Rural Appraisers Association, agriculture lender participants in the annual Michigan Farm Credit Conference, and county equalization directors in Michigan. After accounting for overlap between the three groups the total sample consisted of 290 potential respondents. A total of 120 questionnaires were returned which had land value information reported. The majority of responses were received from the southern half of the lower peninsula although 22 responses were received from the upper peninsula and

northern half of the lower peninsula. This is a reasonable correspondence between the location of respondents and the actual geographic distribution of agricultural production in the state. It should be noted that some respondents may have been reporting as a pool of individuals who received questionnaires, such as a farm credit service branch office or an appraisal group. It is also important to recognize that the survey respondents in many cases were experts on land values in their areas. These people often had access to a significant amount of land appraisal and transaction information.

Each member of the sample received a cover letter, encouraging their participation in the study, and a two page questionnaire asking for land value information and comments on land values. Respondents were promised a summary of the results of the survey. A followup letter asking for participation in the survey and a second copy of the questionnaire was sent to nonrespondents approximately 4 weeks after the original questionnaire was sent. Copies of the cover letter and questionnaire used in the survey are included in the Appendix.

Information requested on the questionnaire included: the current average value of land; the current range in value; the percent change in value over the last year; the percent change in value expected over the next year; the percent change in the supply of land on the market during the last year; and the average cash rent value of land. The questionnaire requested the information be reported separately for high quality corn-soybean-hay (C-SB-H), low quality C-SB-H, sugar beet, and irrigated land as appropriate for each respondent's area. Five year average historical yields for corn, soybeans, and hay were provided on the questionnaire to help respondents distinguish between higher and lower quality land. The respondents were asked to indicate the county or counties to which their information corresponds. In addition, space was provided for comments on the impacts of higher interest rates, new property tax laws, and general comments on land values in Michigan. The questionnaires were mailed at the end of January 1995.

**Results for Southern Lower Peninsula**

Respondents reporting information on sugar beet and irrigated land were primarily concentrated in the southern lower peninsula while those reporting C-SB-H land information were spread across the state. In order to account for the potential large differences in soil characteristics, the C-SB-H responses were split into two groups: 1) the upper peninsula and northern lower peninsula region (Area 1 in figure 1); and 2) the southern lower peninsula region (Area 2 in figure 1). All sugar beet and irrigated land responses for the state are reported in the Southern Lower peninsula region results.

Tables 1-4 present the land value information for the southern lower peninsula. Table 1 summarizes the responses corresponding to average prices for the four land types in the southern lower peninsula. Efforts were made to report only the value of land for use in agricultural production. When respondent information suggested the reported values reflected non-agricultural use, the values were removed from the sample. The higher quality C-SB-H land had an average price of $1,064 per acre. Lower quality C-SB-H land had an average price of $732 per acre, over $332 per acre less than the high quality land. Sugar beet land averaged $1,526 per acre and irrigated land averaged $1,348 per acre. Clearly the characteristics of land, which determine its production use, has a significant impact on its value.

In order to provide a measure of the dispersion of land values reported by the respondents, standard deviations were calculated for each type of land. The standard deviation measures how spread out the reported land values are from the average value reported. Roughly two-thirds of the land values reported will fall within one standard deviation on either side of the average land value, while nearly 95 percent of the reported values will fall within two standard deviations on either side of the average value. The standard deviation for the high quality C-SB-H land was $258, while lower quality C-SB-H had a standard deviation of $228. Sugar beet and irrigated land had standard deviations of $268 and $344, respectively. Another measure of dispersion is the coefficient

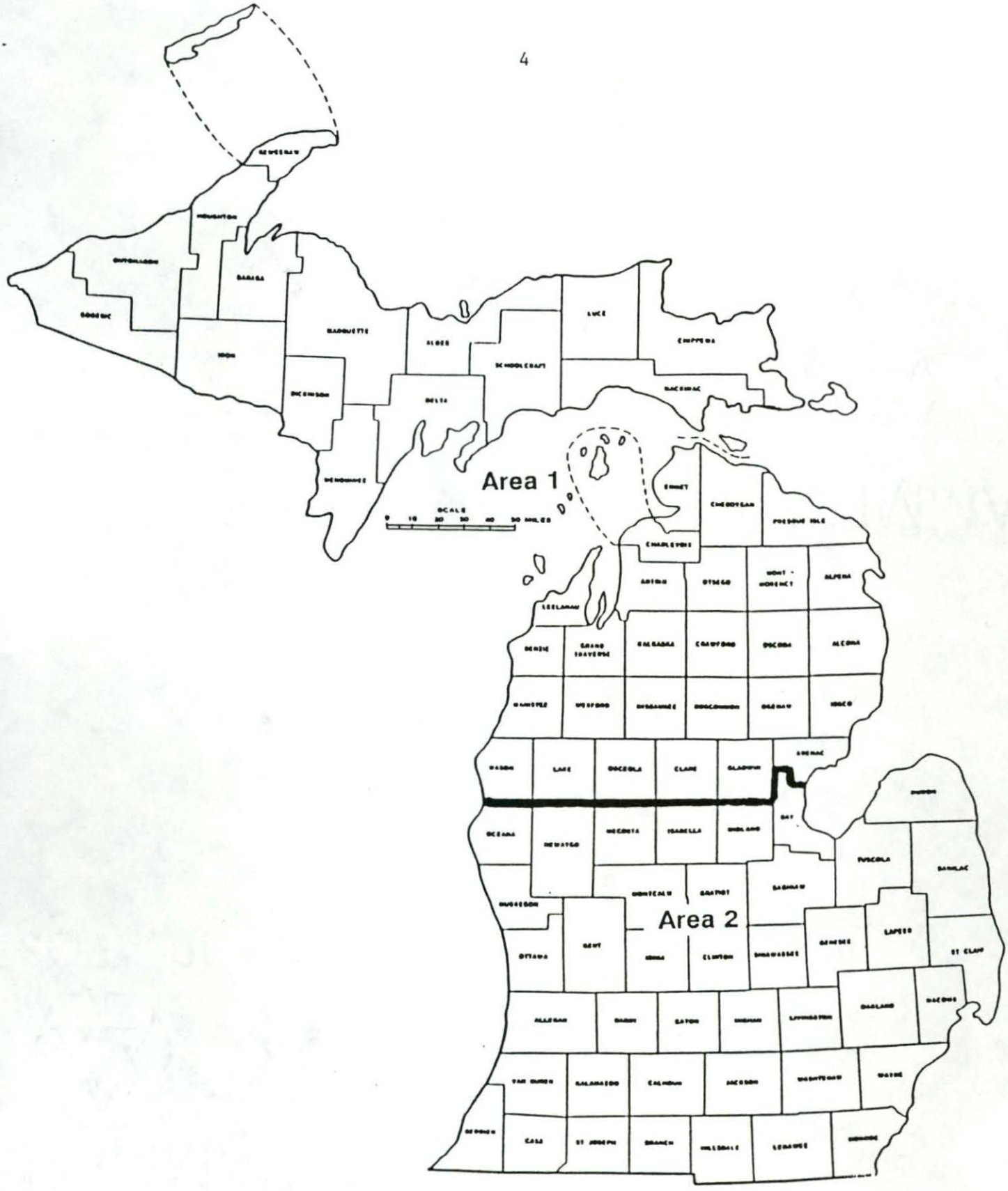


**FIGURE 1. Designation of State Production Areas.**

of variation (CV) which is calculated by dividing the standard deviation by the average value. The CV provides a "standardized" measure of variability. It can be thought of as the amount of variability as a percentage of the average land value. The CV for sugar beet land is 0.18. High quality C-SB-H and irrigated land have CVs of 0.24 and 0.26, respectively. Low quality C-SB-H land has a CV of 0.31. This suggests that sugar beet land values are relatively less variable than for land used to produce other types of commodities. Low quality C-SB-H land values are generally the most variable of the four classes of land in percentage terms. Likewise, high quality C-SB-H and irrigated land values are relatively less variable than low quality C-SB-H land but more variable than sugar beet land values.

Table 1. Price Per Acre in the Southern Lower Peninsula

| LAND TYPE | AVERAGE | STANDARD DEVIATION | COEFFICIENT of VARIATION |
|---|---|---|---|
| Corn-S.B.-Hay (above avg.) | $1,064 | $258 | 0.24 |
| Corn-S.B.-Hay (below avg.) | 732 | 228 | 0.31 |
| Sugar Beet | 1,526 | 268 | 0.18 |
| Irrigated | 1,348 | 344 | 0.26 |

Table 2 shows the percent change in value during the last 12 months and the expected increase in value during the next 12 months in the southern lower peninsula. High and low quality C-SB-H land increased in value by an average 4.3% and 3.3%, respectively, during the last year. Irrigated land values increased by a relatively modest 2.8% during the last 12 months, while sugar beet land values showed the strongest gains, increasing by 6.2%. Land value increases are expected to slow during the upcoming year. High quality C-SB-H land is expected to increase by an average of 2.5% over the next year, while low quality C-SB-H land is expected to increase only 2%. Sugar beet and irrigated land values are expected to show average increases of 1.9%.

Table 2. Percent Change In Value in the Southern Lower Peninsula

| LAND TYPE | LAST 12 MONTHS | EXPECTED NEXT 12 MONTHS |
|---|---|---|
| Corn-S.B.-Hay (above avg.) | +4.3% | +2.5% |
| Corn-S.B.-Hay (below avg.) | +3.3 | +2.0 |
| Sugar Beet | +6.2 | +1.9 |
| Irrigated | +2.8 | +1.9 |

Table 3 shows the percent change in the supply of land on the market during the last 12 months in the southern lower peninsula. Both high and low quality C-SB-H land on the market increased an average 0.8% during the last year. Irrigated land on the market increased by 0.5%. On the other hand, the supply of sugar beet land on the market declined by 2.6%, possibly contributing to the strong gains in value of sugar beet land during the last year.

Table 3. Percent Change In Land Supply on the Market in the Southern Lower Peninsula

| LAND TYPE | LAST 12 MONTHS |
|---|---|
| Corn-S.B.-Hay (above avg.) | +0.8% |
| Corn-S.B.-Hay (below avg.) | +0.8 |
| Sugar Beet | -2.6 |
| Irrigated | +0.5 |

Table 4 shows the average cash rent and value to rent multipliers for each type of land. High quality C-SB-H land had an average cash rent of $66 per acre compared to $41 per acre for low quality C-SB-H land. Sugar beet land rented for an average of $113 per acre while irrigated land rented for $115 per acre on average. The cash rent values are roughly in proportion to the corresponding values of each land type.

A useful tool for making comparisons among the different sets of land values is the "value to rent ratio". Value to rent ratios were calculated by dividing average land values by the average cash rents and then averaging over each land type. The average value to rent ratio for high and low

quality C-SB-H land was 17 and 19 respectively. Sugar beet land showed a value to rent ratio of 15 while irrigated land had a ratio of 13.

Value to rent ratios are a direct function of the future cash flows the land is expected to generate. Higher expected future cash flows are "capitalized" into the value of the land today, increasing its value relative to the current year's cash flow. In other words, higher expected future cash flows translate into higher value to rent ratios. The relatively high value to rent ratios for C-SB-H land thus suggest four possible situations: 1) the market actually anticipates that the cash flows for C-SB-H production will grow at a faster rate than sugar beet and irrigated land; 2) the C-SB-H land may be switched to alternative production with higher expected cash flows, e.g. sugar beets, in the future; 3) non-farm uses of the land in the future may provide higher cash flows than those expected from C-SB-H production; or 4) the market views the future cash flows from C-SB-H production to be less risky than the cash flows from sugar beet and irrigated land and is therefore willing to pay a higher price.

Table 4. Cash Rent And Value Multiplier in the Southern Lower Peninsula

| LAND TYPE | AVERAGE CASH RENT | AVERAGE VALUE/RENT RATIO |
|---|---|---|
| Corn-S.B.-Hay (above avg.) | $66 | 17 |
| Corn-S.B.-Hay (below avg.) | 41 | 19 |
| Sugar Beet | 113 | 15 |
| Irrigated | 115 | 13 |

Note: Average value to rent ratios were calculated using only the questionnaires with completed responses to both the average value and average rent per acre questions.

**Results for the Upper Peninsula and Northern Lower Peninsula**

Tables 5-8 show the information for C-SB-H land in the upper peninsula and northern lower peninsula. It should be emphasized that the total number of responses reported in these regions was only 22 and not all respondents provided information for each question. Table 5 reports the

average price per acre. High quality C-SB-H land averaged $482 per acre while low quality C-SB-H land averaged $375 per acre. As expected, the average values per acre in the upper peninsula and northern lower peninsula are significantly below those reported for the southern lower peninsula. The difference between average value of high and low quality C-SB-H land in the upper peninsula and northern lower peninsula was around $107 per acre, about one-third the difference in the southern lower peninsula. This suggests there is not much difference between what is viewed as high or low quality land and that most of the land in these areas is "low" quality compared to land in the southern lower peninsula.

The CVs for high and low quality land are 0.41 and 0.39, respectively. This suggests C-SB-H land values in these areas tends to be more variable, as a percentage of average value, than land values in the southern lower peninsula.

Table 5. Price Per Acre in the Upper Peninsula and Northern Lower Peninsula

| LAND TYPE | AVERAGE | STANDARD DEVIATION | COEFFICIENT OF VARIATION |
|---|---|---|---|
| Corn-S.B.-Hay (above avg.) | $ 482 | $ 200 | 0.41 |
| Corn-S.B.-Hay (below avg.) | 375 | 145 | 0.39 |

Table 6 shows high and low quality C-SB-H land in the upper peninsula and northern lower peninsula increased in value 5.6% and 3.8% during the last year, above the values reported for the southern lower peninsula. High quality C-SB-H land is expected to increase in value by 4.3% during the next 12 months, while a 2.9% increase is expected for the lower quality C-SB-H land, again above the expected increases for C-SB-H land in the southern lower peninsula.

Table 6. Percent Change In Value in the Upper Peninsula and Northern Lower Peninsula

| LAND TYPE | LAST 12 MONTHS | EXPECTED NEXT 12 MONTHS |
|---|---|---|
| Corn-S.B.-Hay (above avg.) | +5.6% | +4.3% |
| Corn-S.B.-Hay (below avg.) | +3.8 | +2.9 |

Table 7 contains the estimated percentage change in supply of C-SB-H land on the market in the upper peninsula and northern lower peninsula. High quality and land supply decreased 3.6% while low quality land supply increased a modest 0.8% during the last 12 months. The change in supply of low C-SB-H land on the market in the upper peninsula and northern lower peninsula were comparable to the supply changes reported for the southern lower peninsula, while high quality C-SB-H land showed a relative decline in the upper peninsula and northern lower peninsula.

Table 7. Percent Change In Land Supply on the Market in the Upper Peninsula and Northern Lower Peninsula

| LAND TYPE | LAST 12 MONTHS |
|---|---|
| Corn-S.B.-Hay (above avg.) | -3.6% |
| Corn-S.B.-Hay (below avg.) | +0.9 |

Table 8 shows the cash rent and value to rent ratio for high and low quality C-SB-H land in the upper peninsula and northern lower peninsula. High quality C-SB-H land had an average cash rent of $34 per acre while the average cash rent for low quality C-SB-H land was $22 per acre, both significantly below the values reported for the southern lower peninsula which is consistent with the relative land values in each area. The value to rent ratios for high and low quality C-SB-H land were 30 and 23, respectively. These values suggest high growth rates in expected cash flows for C-SB-H production or the anticipation of some more profitable future use of the land.

Table 8. Cash Rent And Value Multiplier in the Upper Peninsula and Northern Lower Peninsula

| LAND TYPE | AVERAGE CASH RENT | AVERAGE VALUE/RENT |
|---|---|---|
| Corn-S.B.-Hay (above avg.) | $34 | 30 |
| Corn-S.B.-Hay (below avg.) | 22 | 23 |

**Interest Rates**

Interest rates rose significantly during the latter half of 1995. Survey respondents were asked to comment on what impact higher interest rates were having on land values. With a few exceptions, the general consensus is that the relatively higher interest rate levels have not impacted land values significantly at this point. A number of respondents felt that the rising rates have slowed the number of land transactions in some areas. Several respondents suggested that many buyers pay cash for land and this is limiting the impacts of higher interest rates on land values.

**Property Taxes**

Changes in the property tax laws during 1994 reduced the level of property taxes on farmland. The survey respondents were asked to comment on what impacts the changes in property taxes have had on land prices. Most respondents indicated that the impacts of new property tax laws on land values have been marginal in most areas. One factor is that land currently enrolled in PA 116 has not benefited from the lower property tax because the land owners were already paying a comparable effective tax rate after receiving the PA 116 refund. There is some evidence that the lower property taxes have caused an increased interest in farmland by outside investors. For example, one respondent reported that a large insurance company, who had no interest in Michigan farmland prior to the tax change, purchased a large tract of land as an investment for their pension fund after the tax change was adopted.

**General Comments**

The survey respondents were also asked to provide general comments on land values in their area or in the State. A strong general theme existed in the respondent's comments related to non agriculture use for farmland. Purchase of agriculture land for residential and/or recreation land uses is significant in many areas and is exerting upward pressure on land prices. In some areas, the

value of non tillable (wooded brush) land is worth the same amount as cropland. Development pressure appears to be increasing rapidly and extending further into rural areas along the urban fringe in many areas. Many areas are seeing farmland being purchased and then split into 1 to 10 acre plots for homesite development. It is becoming more common for non-farm investors to purchase land for future speculative development purposes and then rent the land to farmers in the short run. The general feeling was the land values for agriculture-use have generally been stable or increasing modestly in recent years.

**Conclusions**

Land values in Michigan continued to trend upward based on results of the 1995 survey. C-SB-H land in the southern lower peninsula showed gains of 3.3% for low quality land and 4.3% for high quality land during the last year. Irrigated land rose at a relatively modest rate of 2.8%, while sugar beet land saw a strong gain of 6.2%. Rental rates in the southern lower peninsula averaged $41 per acre for low quality C-SB-H land and $66 per acre for high quality C-SB-H land. Sugar beet and irrigated land had comparable average rental rates of $113 and $115 per acre.

Land values in Michigan have shown steady growth throughout the 1990s. Table 9 shows the percentage change in land values, by land type, for the period 1991-95 in the southern lower peninsula. Land values for each type of land have shown increases each year during the period. Low quality C-SB-H land increased at a simple average rate of 2.7% during the period. High quality C-SB-H land and irrigated land rose at simple average rates of 3.7% and 3.8%, respectively during the period. Sugar beet land showed the most volatility in terms of rate of increase, but had a simple average rate of growth of a strong 5% during the 5 year period.

Table 9. Percentage Change in Land Value from 1991-95 in the Southern Lower Peninsula

| | Land Type | | | |
|---|---|---|---|---|
| Year | C-SH-H Below | C-SB-H Above | Sugar Beet | Irrigated |
| 1991 | 3.00 | 5.00 | 9.00 | - |
| 1992 | 1.61 | 2.54 | 3.00 | 3.38 |
| 1993 | 1.42 | 1.97 | 1.86 | 3.55 |
| 1994 | 4.06 | 4.61 | 4.77 | 5.43 |
| 1995 | 3.25 | 4.30 | 6.17 | 2.82 |

# APPENDIX

February 1995

address~

Dear salutation~:

Enclosed is the annual land value survey for Michigan farmland. If you have provided data in the past -- thanks -- we appreciate your continued effort. If you have not responded to our requests in the past -- we welcome your valued opinion.

Land values are an important indicator of the economic strength of the economy. To help provide this information, we are asking you to take a few minutes and give us your estimates on the value and rental rates of farmland used to grow corn, soybeans, hay, and/or sugarbeets in your area. The survey results are used in research extension, and teaching programs at Michigan State and other institutions. In addition, the results provide reference information for bankers, appraisers, and land owners across the state. **We will send a survey summary to all those who respond to the questionnaire.**

While your participation in the survey is purely voluntary, we do value your opinion and would appreciate a prompt response. Your participation will be strictly confidential and you will remain anonymous on the report of the survey findings. We thank you for your voluntary agreement to participate by completing and returning the questionnaire. Enclosed is a self addressed, stamped envelope in which you can return the survey. Thanks for your help.

If you have any questions, please call Harvey (517) 353-1619, Hanson (517) 353-1870, or Hepp at (517) 353-7185.

Sincerely,

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Enclosure

**FARM LAND VALUE QUESTIONNAIRE**
**January 1995**

Make the best estimates you can for your area.

Indicate which county or counties you are reporting on._____

Above Average and Below Average refers to land you expect to produce yields above or below the state average respectively. Five year averages (1988-92) for corn, soybeans and hay in Michigan are:

| | Average Yield/Acre | |
|---|---|---|
| Corn | 103 | bu. |
| Soybeans | 35 | bu. |
| Hay | 3.24 | tons |

| Type of Land | Current Average Value | Current Range in Value | | Percent Change in Value (Indicate + or -) | | Percent Change in the Supply of Land on the Market in Last 12 Months Indicate + or - | Average Cash Rent |
|---|---|---|---|---|---|---|---|
| | | High | Low | Last 12 Months | Expected in Next 12 Months | | |
| | $/acre | $/acre | $/acre | % Change | % Change | % Change | $/acre |
| A. Corn-S.B.-Hay<br>Above Average | | | | | | | |
| Below Average | | | | | | | |
| B. Sugar Beet (if applicable) | | | | | | | |
| C. Irrigated (if applicable) | | | | | | | |

(over)

Please comment on the impact that urbanization is having on the land market in your area and Michigan:

_____

_____

_____

General Comments on Land Values in your area and Michigan:

_____

_____

_____

Would you like a summary of the survey results?

Yes ☐
No ☐

If you are interested in a copy of the survey results, please provide your name, correct address and telephone number.

Address:

_____ Phone:_____.

_____

_____