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AGRICULTURAL OUTLOOK--1981-85

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WITHDRAWN
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The agricultural outlook has changed dramatically in the past 6 months. In June 1980, the USDA made projections, with yields and utilization based on trends, that world supplies of wheat and coarse grains would be ample in 1980-81. The midpoint of their projections of wheat production was 438 million MT and of utilization about 432 million MT. Stocks would accumulate to 95 million MT which would represent 22 percent of annual use. This would have been above average for the past decade.

Projections on coarse grain centered on a world output of 742 million MT, somewhat shy of projected utilization of 750 MT. The resulting carryover of 80 million MT at the end of the 1980-81 crop year would still have been about 11 percent of annual utilization and close to average of the past decade.

These projections were reasonable, and while some recovery in farm prices was expected, no very optimistic forecasts of farm prices and incomes were being made in view of costs. As a matter of fact, prices in June were above total production costs in only one major enterprise of importance to Michigan agriculture and that was on milk.

World Coarse Grains and Wheat

As summer progressed, dry, hot weather that stretched from the Southeast, the Delta and Texas up through the Central and Western Corn Belt and into the Dakotas substantially reduced the yield prospects for corn and soybeans. While the U.S. wheat crop was essentially "made" at that point, wheat prices were buoyed up by the strength in feed grain and soybean prices. Later in the summer and into the fall it became apparent that the Australian grain crop was hurt by dry weather. China's wheat crop was also down. In a fairly short time a 4 year grains agreement was negotiated with PRC in which the U.S. agrees to ship and China agrees to buy 6-9 million metric tons of grain per year--supposedly mostly wheat. This added as much as 3-4 million MT of grain annually to what we expected to ship to China in this period. Finally, harvest losses in the Soviet Union were much larger than earlier anticipated--so the USSR suffered the second short grain crop in a row.

The USDA reduced their estimate of the world wheat crop to 428 million MT and the coarse grain crop to 705 million MT (Figure 1). The wheat crop was toward the lower end of the range of the June projections and the coarse grain crop was 15 million MT below the low of the range. The short coarse grain crop forced the USDA to adjust their projection of utilization downward. Even with this adjustment, ending stocks of coarse grain for the 1980-81 crop year are projected at 7-8 percent of annual utilization rather than 11 percent. Carryover stocks of wheat are projected at 16-17 percent of annual utilization rather than 22 percent. These carryover levels represent the lowest stock levels since the USDA's world data series began back in 1960 (Figure 2). The outlook shifted from adequacy to near scarcity.

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Figure 1
Million
MT

WORLD PRODUCTION AND UTILIZATION OF GRAIN

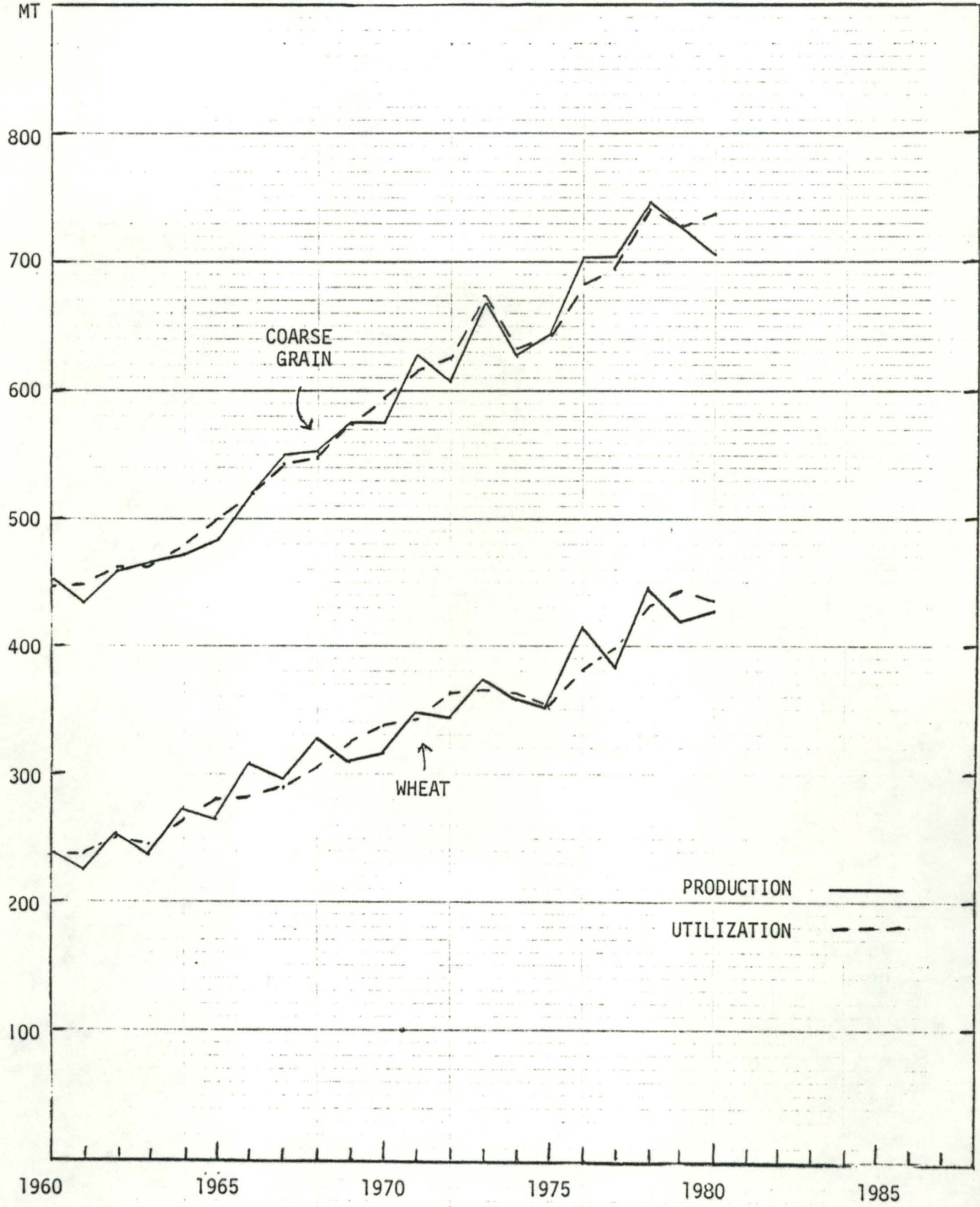
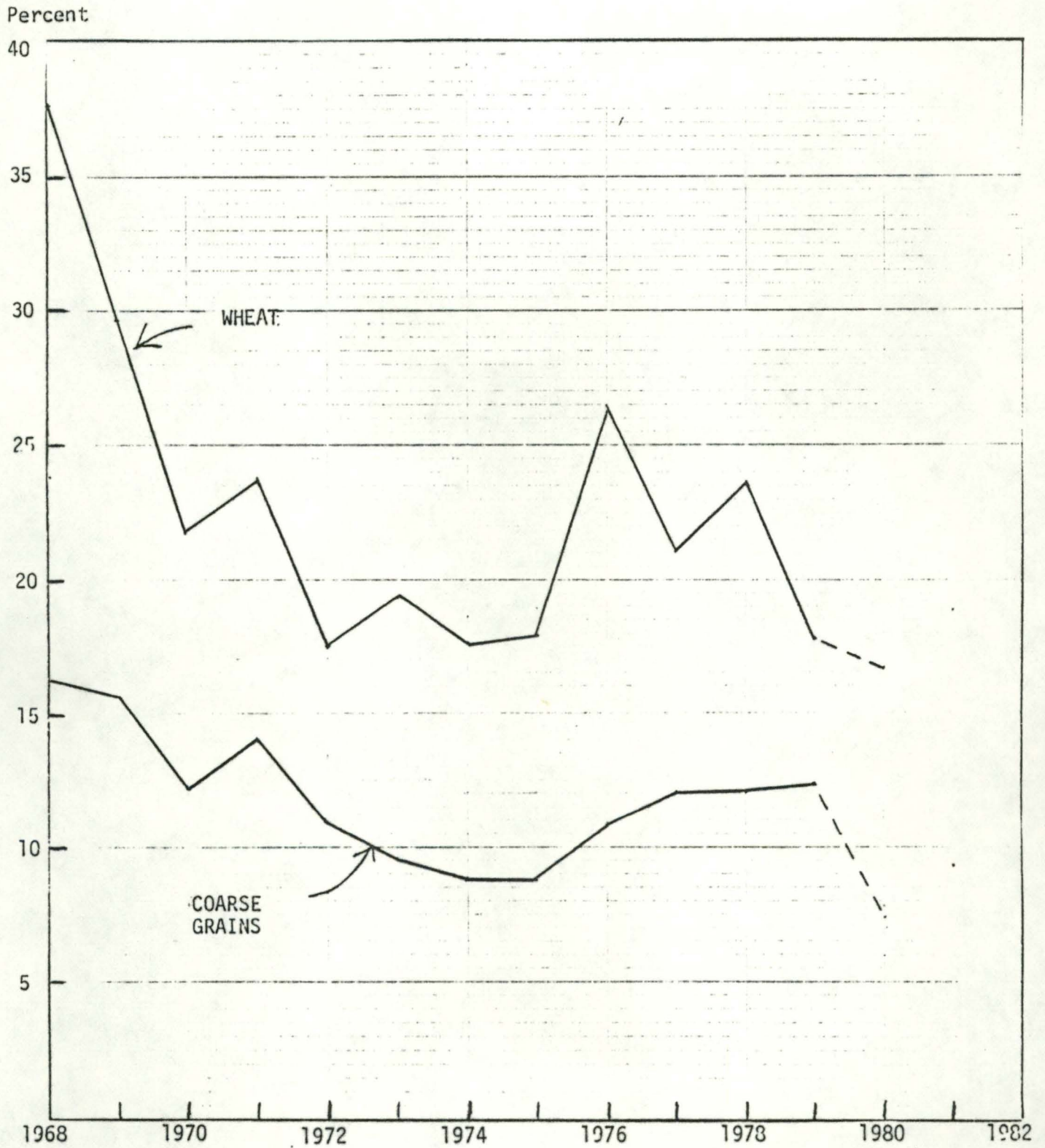


Figure 2

WORLD ENDING STOCKS OF WHEAT AND COARSE GRAINS
AS A PERCENT OF ANNUAL UTILIZATION



The implication of the low carryover levels is indicated in Figure 3. Prices on corn and wheat have tended to be inversely correlated with carryover levels, modified by the effect of government nonrecourse loans and reserve programs. In early November, the USDA forecasted U.S. farm corn prices to average between \$3.35 and \$3.75 per bushel for the 1980-81 crop year and farm wheat prices in the \$3.95-\$4.25 range. The MSU Agriculture Model has forecasted on the low side of this range on corn and on the high side on wheat. In any case, corn and wheat prices are expected to be near or above record highs in the 1980-81 crop year.

Rising grain prices will likely pull much of the wheat and feed grain out of the farmer-held grain reserves. As of early November, there were about 600 million bushels of feed grains (15 million MT) and 215 million bushels of wheat (6 million MT) in these reserves. In addition, the CCC owned about 7.7 million MT of feed grain and 5.4 million MT of wheat. Most of the wheat owned by the CCC will not be readily available to the market because it will be a part of an emergency wheat reserve.

Because of the anticipated low carryover at the end of this crop year, prices for the balance of this crop year as well as for the 1981-82 crop year will be sensitive to new crop conditions. Weather here and abroad during the planting and growing season will receive a great deal of attention. The higher prices will encourage an increase in acreage of wheat and coarse grains in 1981. But because no diversion or set aside programs were in effect this past year, there is less flexibility in bringing new land into production as there was back following the 1972-73 crop year when some 57 million acres had been held out of production. Obviously no set aside or diversion program will be in effect in 1981.

The major unknown is what yields will be in 1981. As shown in Figure 4, world yields on coarse grains and wheat have been increasing steadily over time, but do vary from year to year. Wheat yields are more variable than coarse grain yields. Yields in individual countries, of course, are more variable than are world averages.

Note that 1980 represents the second straight year of declines in yields on both coarse grains and wheat. This has only happened once before in the past 20 years and that was on wheat in 1973-75. What are the chances of another short crop in 1982? The fact that world yields have declined two years in a row does not alter the probabilities. However, since yields in 1980 were under the trend, higher yields in 1981 are much more probable than lower yields.

If we can assume that the upward trends in yields will continue and that deviations from these trends will be distributed as in the past, we can make some probabilistic statements about yield prospects for 1981. Combining this information with projected acreages and utilization, the effect on carryover levels and prices can be analyzed.

Figure 3
\$/Bu

U.S. FARM PRICES OF WHEAT AND CORN

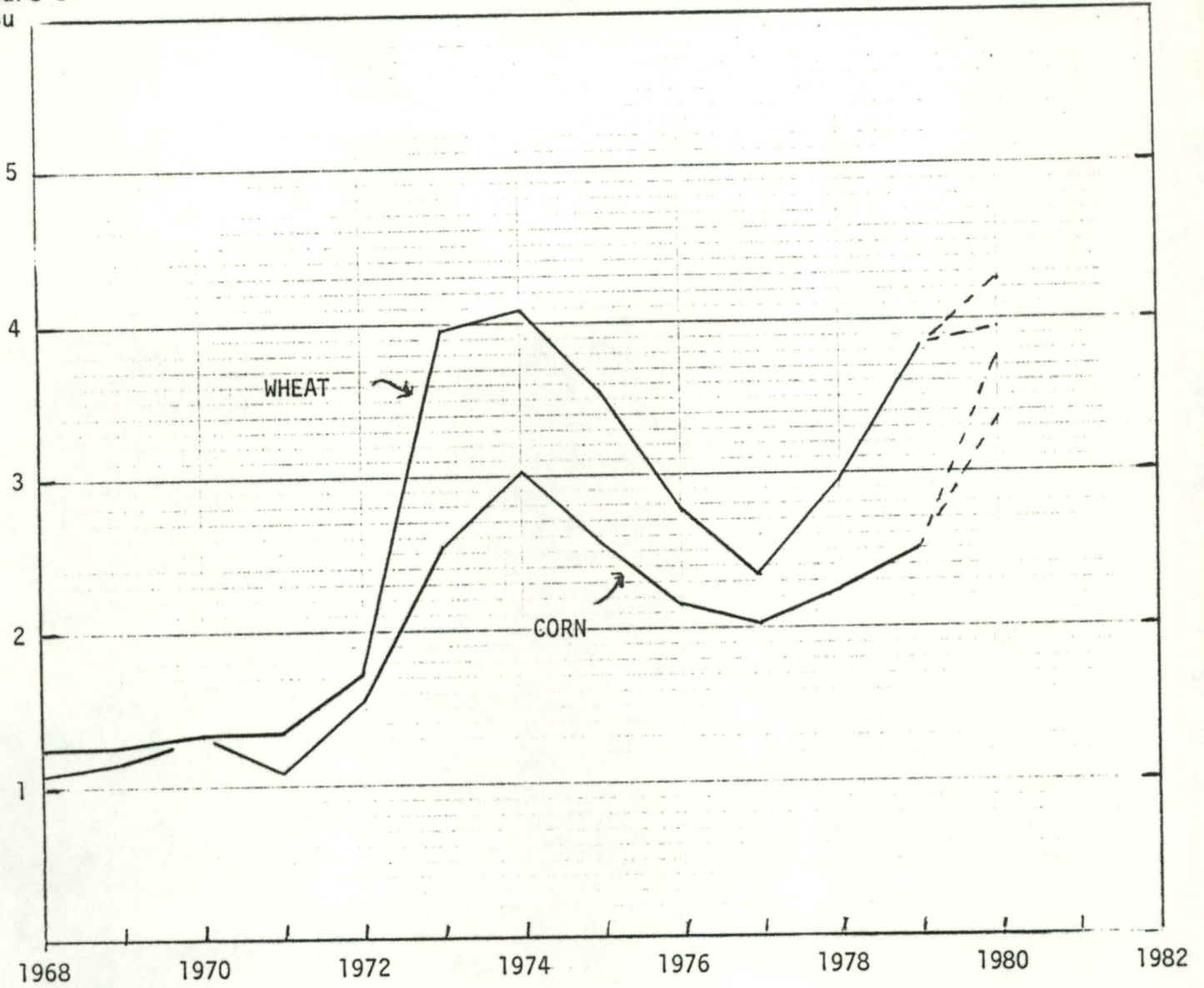
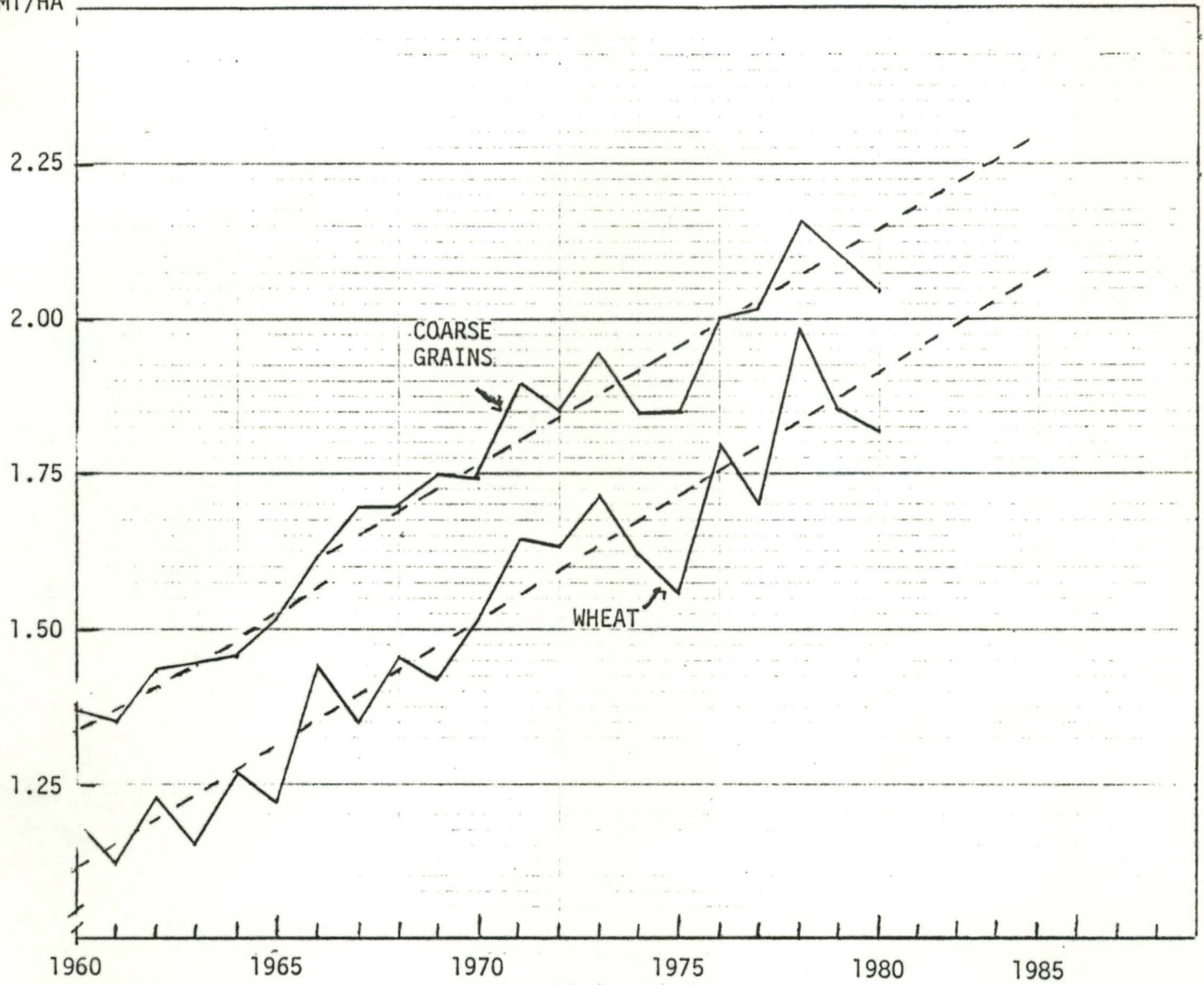


Figure 4
MT/HA

WORLD GRAIN YIELDS



Most likely, yields will be near the trend lines in 1981 and this will generate enough production to add to stock levels. On coarse grain, the probability that yields will be 2.18 MT (trend line) plus or minus .04 MT is about two thirds.^{1/} This would produce enough coarse grains to cover anticipated utilization and add a small increment to carryover. However carryover levels would remain well below those of the 1977 to 1979 crop years and corn prices would likely hold above \$3.00 per bushel.

On wheat, there is a two-thirds probability that world yields would be 1.95 (+ .06) MT.^{1/} Such a crop would probably result in wheat prices holding near \$4.00 per bushel.

The chance that coarse grain yields will be below 2.14 MT is about one in six. If this occurred, prices would have to move up to ration scarce supplies and this could easily mean \$4-\$5 corn. A short wheat crop below 1.89 MT would also have about a one chance in six of developing and this could push wheat up to the \$5-\$7 range. The upper end of these price forecasts represents about the same "real prices" as in 1974-75 when corn prices reached \$3 and wheat prices reached \$4. Since then, the Consumer Price Index has increased about 80 percent.

The chances of large crops with coarse grain yields above 2.22 MT and wheat above 2.01 MT would have a one in six probability for each crop. Crops of this size could push corn prices below \$3.00 but not below the loan rate which is currently \$2.50. Wheat prices would range between the \$3.00 loan and \$4.00. Prices on both corn and wheat would also depend on the amount of grain which would enter the reserve program.

Over the next 5 years, the MSU Agriculture Model indicates that the world has the capacity to keep up with expanding utilization on coarse grains and wheat without sharply accelerating prices. Because the demand for coarse grain is growing more rapidly than for wheat, the challenge is somewhat greater on coarse grain. The supply-demand balance will be closer than in the 1960's and in some years of the 1970's with coarse grain stocks holding near 10 percent of annual utilization and wheat stocks near 20 percent of annual utilization. This means that in years of poor crops, prices could be quite volatile.

Corn prices received by farmers are expected to range between \$3 and \$4 and farm wheat prices between \$4 and \$5 per bushel over the next 5 years. Prices will be in the higher ends of these ranges by 1985. No major changes are anticipated in the new farm bill which will be enacted in 1981.

Soybeans

As with coarse grains and wheat, the complexion of the soybean market changed abruptly this past summer. The U.S. carryover of soybeans at the end of this past crop year was at a record level and helped to offset the small 1980 crop. Even so, supplies are tight and farm prices are expected to average between \$8.50 and \$9.00 in the 1980-81 crop year.

^{1/}The possibility that variation in yields have increased in recent years suggests that this range may be a bit narrow under current conditions. This analysis is for illustrative purposes. A more definitive study of yields in individual countries is underway in the MSU Agriculture Model.

U.S. soybean production is expected to increase sharply in 1981, with average weather, and then expand at a pace somewhat slower than in the past. The growth in crushings and exports are also projected in the MSU Agriculture Model to slow down from past trends. Prices received by farmers are expected to drop back from 1980-81 levels on the 1981 crop, then move up to about \$10 per bushel in 1985. Soybean meal prices at Decatur, Illinois are expected to average about \$250-\$275/ton in 1980-81. After some decline in 1980-81, prices are expected to move up to around \$300/ton by 1985.

Livestock

The unexpected rise in feed prices in the last half of 1980 will have an impact on livestock production next year, although much of the momentum from cattle and hog cycles was already underway. After a sharp 5 year liquidation in beef cows, the July 1 inventory revealed an option in the beef herd. The summer's drought coupled with disappointing prices for cow-calf operators has dampened the optimism in the cattle business. Only a slow growth in beef cow numbers is expected for calendar 1980 followed by a relatively modest buildup over the next 5 years.

The slowdown in economic growth and competition from other meats are having an impact on the demand for beef. Slim feeding margins may result in a reduction in placements of cattle on feed in the near future. Fed cattle prices which averaged just under \$70 in 1980, are expected to move up into the \$70-\$80 range in 1981 and edge up to the \$90-\$100 level by 1985, based on the MSU Agriculture Model.

In spite of a remarkable recovery in hog prices in the last half of 1980, rising feed prices will make 1980 a year of low returns for the hog enterprise. Hog producers cut fall farrowings by 10 percent and this rate of reduction will likely carry into 1981. Prices on barrows and gilts averaged just under \$40 in 1980 and are expected to average in the mid \$50's in 1981. Normally, \$50 hogs would be expected to generate an expansion. However, rising costs of new facilities, along with feed, may keep the reins on hog production even in 1982. Prices are expected to reach \$60 before the cycle turns. By 1985, hog prices are forecast to reach the \$70 level.

Milk is one farm product that is indexed to inflation. Support prices on milk are based on the Parity Index. The U.S. average farm price of milk was about \$13.00 per hundredweight in 1980 and was tied to the support price. With the rising inflation rate affecting farmers' costs, the Index of Prices Paid by Farmers (Parity Index) will continue to push milk supports higher. The average farm price of milk will likely average around \$14.25 per hundredweight in 1981.

Accumulating surpluses of dairy products will likely prompt the new administration and Congress to change the program when it expires in the fall of 1981. At least, we would not expect milk prices to be increasing as rapidly after 1981 as before. We would project the U.S. average cost of producing milk about \$12 per hundredweight in 1980, to about \$15 in 1985. We would expect that a price support program would likely generate prices at least as high as these costs.