

PROCEEDINGS
5th World
Fertilizer Conference
1980

The Fertilizer Institute
September 21-23, 1980

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FIFTH WORLD FERTILIZER CONFERENCE
SAN FRANCISCO, CALIFORNIA
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OPENING REMARKS

PRESENTED BY

DR. GINO P. GIUSTI

PRESIDENT, TEXASGULF INC

AT

THE FIFTH WORLD FERTILIZER CONFERENCE

SAN FRANCISCO, CALIFORNIA

SEPTEMBER 22, 1980

OPENING REMARKS
AT THE
1980 WORLD FERTILIZER CONFERENCE
BY

GINO P. GIUSTI
VICE CHAIRMAN OF THE BOARD, THE FERTILIZER INSTITUTE AND
PRESIDENT, TEXASGULF INC.

I AM PLEASED TO WELCOME YOU TO THIS 1980 WORLD FERTILIZER CONFERENCE -- THE FIFTH ANNUAL SUCH CONFERENCE FOR THE FERTILIZER INSTITUTE.

OUR INSTITUTE STAFF IS HERE TO BE OF HELP TO YOU, SO PLEASE CONTACT THEM IF YOU HAVE ANY QUESTIONS. ALSO, IF YOU ARE INTERESTED IN RECEIVING COPIES OF THE PAPERS PRESENTED BY THE SPEAKERS ON OUR PROGRAM TODAY AND TOMORROW, AT YOUR CONVENIENCE, PLEASE COMPLETE THE FORM YOU'LL FIND AT THE REGISTRATION DESK AND THE PAPERS WILL BE SENT TO YOU.

THIS CONFERENCE IS YOUNG -- YOUNG ENOUGH THAT I CAN POINT TO THE CONTINUED GROWTH AND INTEREST OF ATTENDEES WITH A GREAT DEAL OF PRIDE. THE MEETING THIS YEAR IS THE LARGEST INTERNATIONAL GATHERING WE'VE HELD, WITH MORE THAN 1,000 ATTENDING FROM NEARLY 50 COUNTRIES.

ALSO, THIS WORLD CONFERENCE -- AT FIVE YEARS OF AGE -- IS OLD ENOUGH AND ESTABLISHED ENOUGH THAT I CAN POINT TO ITS POPULARITY AS A GATHERING PLACE FOR THE INTERNATIONAL FERTILIZER COMMUNITY. IT SEEMS EVIDENT, TO ME AT LEAST, THAT THOSE IN OUR INDUSTRY REFLECT A GROWING RECOGNITION OF ONE WORLD, ONE INDUSTRY, ONE GOAL -- AND ONE NEED -- THAT IS TO PROVIDE ESSENTIAL PLANT NUTRIENTS TO A WORLD STRIVING TO BETTER FEED A STILL GROWING POPULATION.

EVEN THOUGH SOME COUNTRIES HAVE REDUCED THE GROWTH RATES IN THEIR POPULATION, THE NUMBER OF PEOPLE ON OUR PLANET CONTINUES TO INCREASE AT AN AVERAGE ANNUAL RATE OF NEARLY TWO PERCENT. THIS MEANS THAT MORE THAN 80 MILLION NEW MOUTHS MUST BE FED EACH YEAR. ALSO, THERE IS A DESIRE TO IMPROVE THE NUTRITIONAL LEVELS FOR MUCH OF THE WORLD'S POPULATION.

HENCE, WORLD FOOD DEMAND WILL CONTINUE ITS BRISK GROWTH. AND, THOSE COUNTRIES STRONG IN AGRICULTURAL FOOD PRODUCTION AND EXPORT WILL BE IN AN EXCELLENT POSITION TO FILL THAT DEMAND, PROVIDED THAT THE INPUTS OF FOOD PRODUCTION -- PARTICULARLY FARM- LAND AND FERTILIZERS -- CAN KEEP PACE. UNFORTUNATELY, IN MOST AGRICULTURAL AREAS THERE IS LITTLE ADDITIONAL LAND AVAILABLE FOR FARMING.

THE UNAVOIDABLE CONCLUSION IS THAT THERE MUST BE A GREATER DEPENDENCE ON THE USE OF FERTILIZERS TO PRODUCE FOOD FOR THE GROWING WORLD DEMAND.

THE QUESTION, THEN, BECOMES ONE OF WHETHER THE BASIC RESOURCES AND THE FERTILIZER PRODUCTION CAPACITIES IN THE WORLD ARE AMPLE TO MEET THE TASK WE SEE AHEAD.

YOU'LL HEAR SOME DEFINITIVE PRESENTATIONS FROM OUR SPEAKERS TODAY AND TOMORROW THAT WILL FOCUS ON WORLD NEEDS FOR FOOD AND THE OPPORTUNITIES AND CHALLENGES CREATED BY THIS NEED FOR THE FERTILIZER INDUSTRY.

FERTILIZER IS MORE AND MORE BEING RECOGNIZED AS AN ESSENTIAL WORLD COMMODITY. THE FAO/UNIDO/WORLD BANK WORKING GROUP ON FERTILIZERS ESTIMATED THAT MORE THAN 100 MILLION METRIC TONS OF PLANT NUTRIENTS -- N, P AND K -- OF WHICH WE WILL HEAR MORE ABOUT TODAY AND TOMORROW -- WERE CONSUMED DURING THE 1978/79 FERTILIZER YEAR. THIS SAME GROUP ESTIMATES THAT FERTILIZER DEMAND WILL BE 170 MILLION METRIC NUTRIENT TONS BY THE END OF THE DECADE.

WHILE PAST PRODUCTION OF FERTILIZERS HAS BEEN ABLE TO KEEP PACE WITH INCREASING DEMAND, FORECASTS FOR WORLD CAPACITY

EXPANSIONS INDICATE THAT, AS EARLY AS THE END OF THIS DECADE, DEMAND COULD WELL STRAIN THE INDUSTRY'S CAPABILITY TO PRODUCE.

TRUE, OUR INDUSTRY HAS HEARD SUCH FORECASTS BEFORE -- AND, TRUE, WORLD NEED FOR FERTILIZERS DOES NOT ALWAYS EQUATE WITH THE WORLD'S ABILITY TO PAY FOR INCREASED FERTILIZER SUPPLIES. BUT THE CHALLENGES PRESENTED BY SUCH FORECASTS CANNOT BE IGNORED BY THE INTERNATIONAL FERTILIZER COMMUNITY.

THE PRESSURE ON FARMERS TO PRODUCE FOR GROWING AGRICULTURAL MARKETS IN THE FACE OF RAPIDLY RISING PRODUCTION COSTS IS A MAJOR CHALLENGE.

YET, WORLD FOOD OUTPUT AND TRADE OF AGRICULTURAL PRODUCTS CONTINUE TO BOOM. THE BIG GAINER HAS BEEN THE U.S., WHICH EXPORTS SOMETHING LIKE A THIRD OF ITS GRAIN PRODUCTION. AND EXPORTS OF AGRICULTURAL PRODUCTS FROM THE U.S. TO WORLD MARKETS ARE EXPECTED TO INCREASE FURTHER IN THE NEXT DECADE.

WE KNOW FULL WELL THAT SUCH INCREASES IN U.S. AGRICULTURAL PRODUCTION AND EXPORTS WON'T BE REALIZED WITHOUT SIMILAR INCREASES IN FERTILIZER USE. THE PRESSURE ON OUR INDUSTRY TO EXPAND FERTILIZER PRODUCTION WILL CONTINUE. BY OUR INDUSTRY, I MEAN THE WORLD INDUSTRY. FOR INSTANCE, THE U.S. NO LONGER IS SELF-SUFFICIENT IN

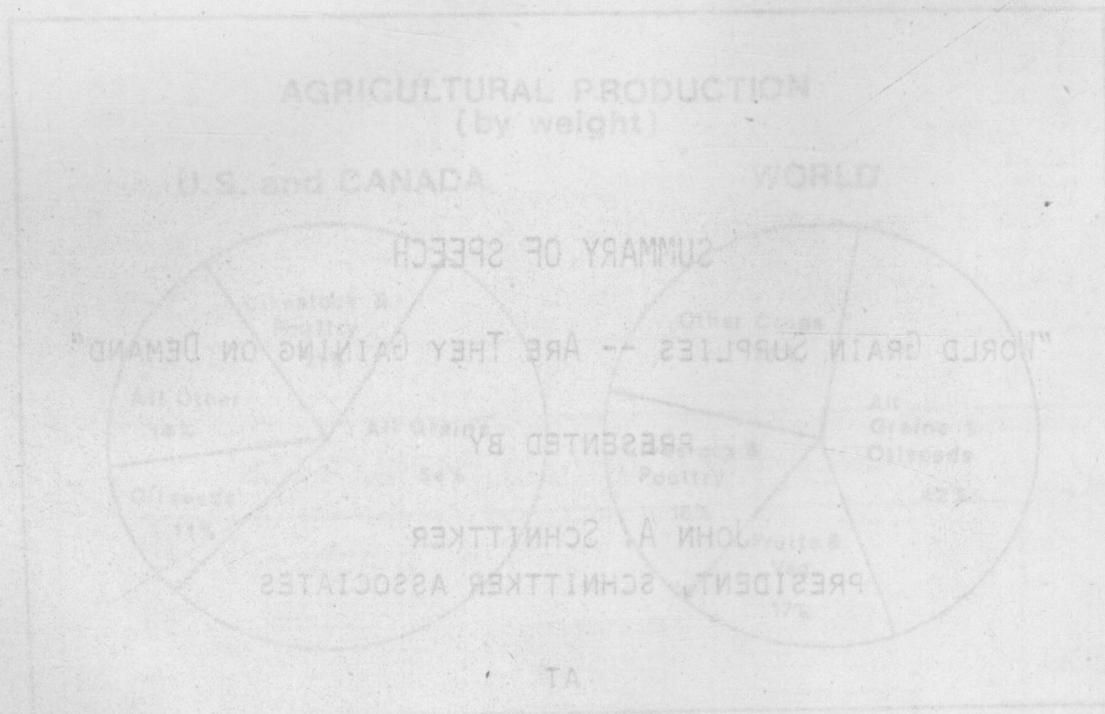
FERTILIZER. ALTHOUGH THE U.S. CONTINUES TO BE A MAJOR EXPORTER OF BOTH PHOSPHATE FERTILIZER AND PHOSPHATE ROCK, IT MUST IMPORT LARGE TONNAGES OF BOTH NITROGEN AND POTASH. IN FACT, THE U.S. IS NOW A NET IMPORTER OF FINISHED FERTILIZER MATERIAL. ACCORDING TO OUR DEPARTMENT OF COMMERCE TRADE DATA, THE U.S. IMPORTED A TOTAL OF 12.5 MILLION METRIC TONS OF FERTILIZERS IN 1979-80 WHILE EXPORTING ABOUT 12 MILLION METRIC TONS, EXCLUDING PHOSPHATE ROCK. PRINCIPAL U.S. SUPPLIERS FOR AMMONIA THIS PAST YEAR WERE THE U.S.S.R., CANADA AND TRINIDAD; THE MAJOR POTASH SUPPLIER CONTINUES TO BE THE WORLD'S SECOND LARGEST PRODUCER, CANADA. WITHOUT THOSE QUANTITIES OF FERTILIZER IMPORTS, THE U.S. WOULD BE UNABLE TO PRODUCE EXPORTABLE QUANTITIES OF FOOD PRODUCTS. THIS IS BUT ONE EXAMPLE OF THE EVER INCREASING INTERDEPENDENCE BETWEEN THE WORLD'S FOOD AND FERTILIZER INDUSTRY.

I WOULD BE REMISS IF I DID NOT MENTION ANOTHER OF THE MAJOR RAW MATERIAL INPUTS OF FERTILIZER PRODUCTION, SULFUR. ALSO AN ESSENTIAL INTERNATIONAL COMMODITY. ABOUT ONE TON OF SULFUR IS CONSUMED TO PRODUCE ONE TON OF P_2O_5 AS PHOSPHORIC ACID AND, IN FACT, ABOUT ONE HALF OF THE TOTAL SULFUR CONSUMED IN THE WORLD GOES TO PRODUCE FERTILIZER. WE WILL HEAR MORE ABOUT THIS ESSENTIAL ELEMENT LATER THIS MORNING.

OUR INDUSTRY IS WELL AWARE OF ITS RESPONSIBILITIES AS AN

INTERNATIONAL SUPPLIER OF ESSENTIAL COMMODITIES WHICH ARE ABSOLUTELY VITAL TO THE LIVELIHOOD OF MAN AND HIS FUTURE GENERATIONS. RECOGNITION OF THIS RESPONSIBILITY IS UNDERSCORED BY OUR PROMINENT SPEAKERS TODAY AND TOMORROW, AND BY YOUR PARTICIPATION IN THIS FIFTH WORLD FERTILIZER CONFERENCE.

AGAIN, WELCOME, AND THANK YOU FOR YOUR ATTENDANCE.



THE FIFTH WORLD FERTILIZER CONFERENCE

SAN FRANCISCO, CALIFORNIA

REMARKS BY JOHN A. SCHNITTKER, PRESIDENT OF SCHNITTKER ASSOCIATES, INC., AT THE WORLD FERTILIZER CONFERENCE, SAN FRANCISCO, CALIFORNIA, SEPTEMBER 27, 1960.

SUMMARY OF SPEECH

"WORLD GRAIN SUPPLIES -- ARE THEY GAINING ON DEMAND"

PRESENTED BY

JOHN A. SCHNITTKER

PRESIDENT, SCHNITTKER ASSOCIATES

AT

THE FIFTH WORLD FERTILIZER CONFERENCE

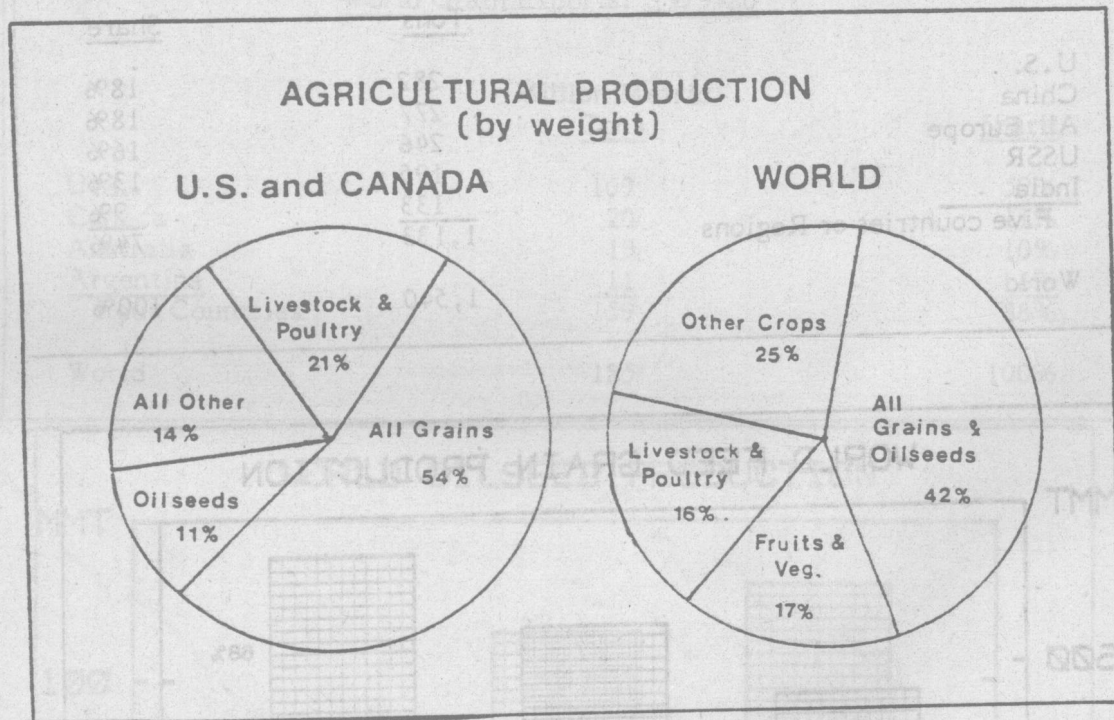
SAN FRANCISCO, CALIFORNIA

SEPTEMBER 22, 1980

WORLD GRAIN SUPPLIES* (ARE THEY GAINING ON DEMAND?)

KEY ELEMENTS OF THE WORLD FOOD SYSTEM

GRAINS AND OILSEEDS ARE THE FOUNDATION OF THE WORLD'S FOOD SUPPLY IN NATIONS AS DIVERSE AS THE UNITED STATES AND CHINA, EUROPE, INDIA, AFRICA, AND LATIN AMERICA. GRAINS REPRESENT OVER 50 PERCENT OF THE FOOD CONSUMED DIRECTLY; GRAINS AND OILSEEDS ACCOUNT FOR ABOUT HALF THE WORLD'S MEAT, POULTRY, AND MILK SUPPLIES.



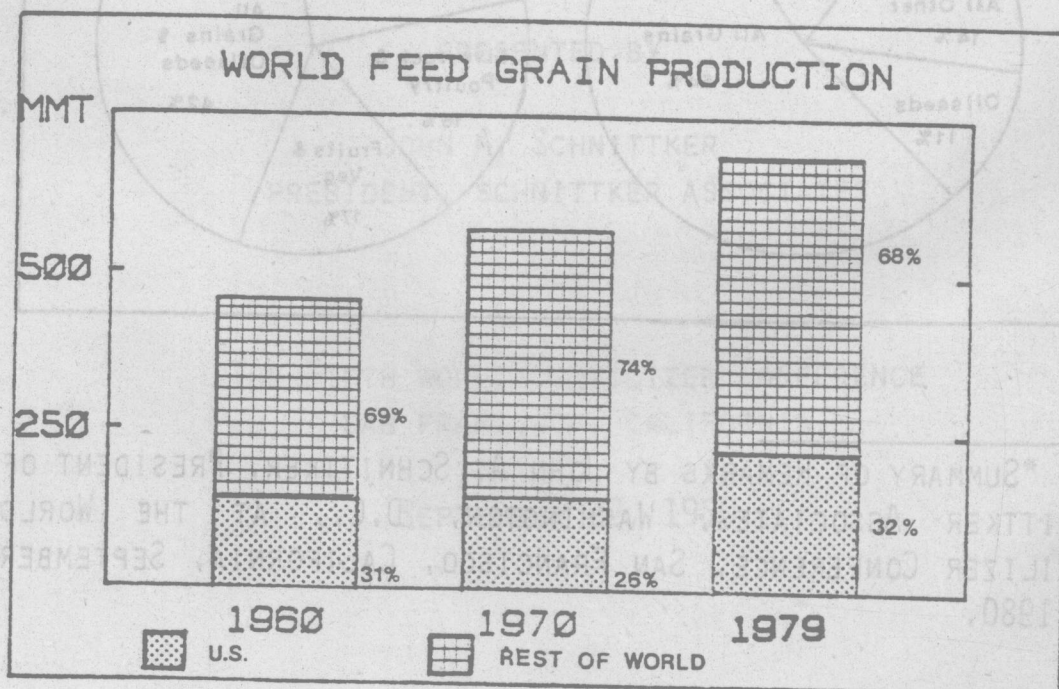
*SUMMARY OF REMARKS BY JOHN A. SCHNITTKER, PRESIDENT OF SCHNITTKER ASSOCIATES, WASHINGTON, D.C., AT THE WORLD FERTILIZER CONFERENCE, SAN FRANCISCO, CALIFORNIA, SEPTEMBER 22, 1980.

LOCATION OF WORLD GRAIN PRODUCTION

FIVE COUNTRIES OR REGIONS WITH LESS THAN HALF THE WORLD'S POPULATION PRODUCE THREE-FOURTHS OF THE WORLD'S GRAINS EACH YEAR. PRODUCTION IN OTHER COUNTRIES IS IMPORTANT, BUT ANY SERIOUS THREAT TO THE AGGREGATE WORLD FOOD SUPPLY WILL USUALLY BE CAUSED BY CROP FAILURES IN ONE OR TWO OF THE MAJOR GRAIN PRODUCING COUNTRIES.

World Grain Production: 1979-80 and 1980-81

	Million Metric Tons	Share
U.S.	282	18%
China	277	18%
All Europe	246	16%
USSR	195	13%
India	133	9%
Five countries or Regions	<u>1,133</u>	<u>74%</u>
World	1,540	100%

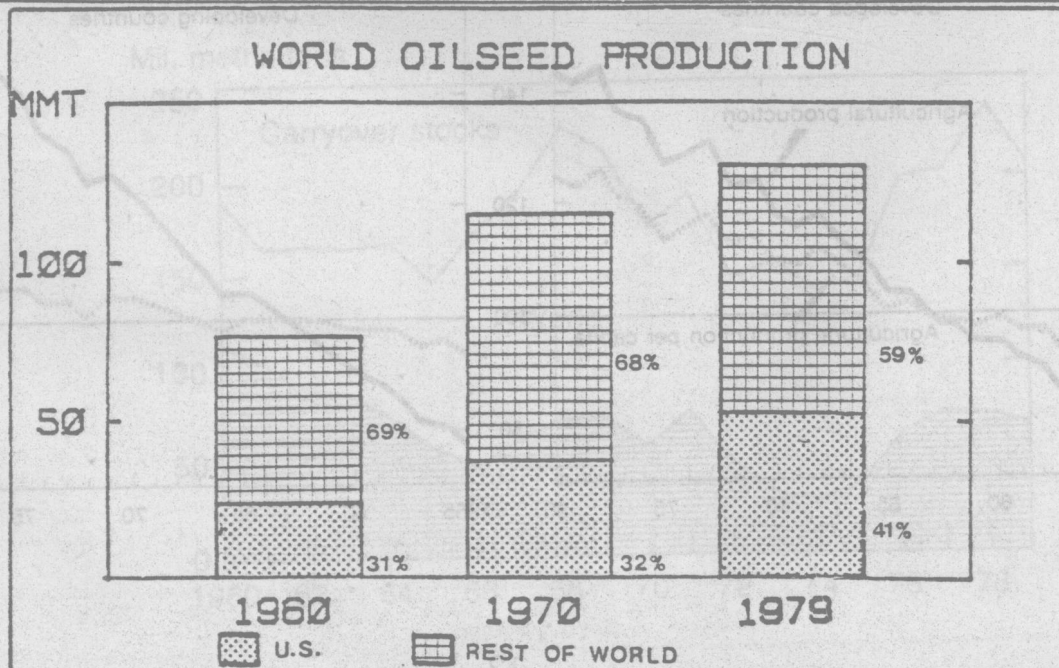


SOURCES OF GRAIN EXPORTS

LESS THAN 10 PERCENT OF THE WORLD'S GRAIN ENTERS INTO INTERNATIONAL TRADE EACH YEAR, BUT FOUR COUNTRIES PROVIDE OVER 85 PERCENT OF THAT GRAIN. THE U.S. PROVIDES OVER HALF OF ALL GRAIN EXPORTS AND ABOUT TWO-THIRDS OF ALL OILSEED EXPORTS. THIS PLACES A HEAVY RESPONSIBILITY ON THE U.S. TO CARRY RESERVE STOCKS TO MEET SHORTAGES AT HOME OR IN OTHER COUNTRIES. COARSE GRAINS (MAINLY CORN) NOW MAKE UP 55 PERCENT OF THE WORLD'S GRAIN TRADE, WITH THE REST MOSTLY WHEAT. RICE TRADE IS NEGLIGIBLE, AND RICE SHORTAGES ARE USUALLY FOLLOWED EITHER BY INCREASED TRADE IN WHEAT OR BY HUNGER.

World Grain Exports: 1979-80

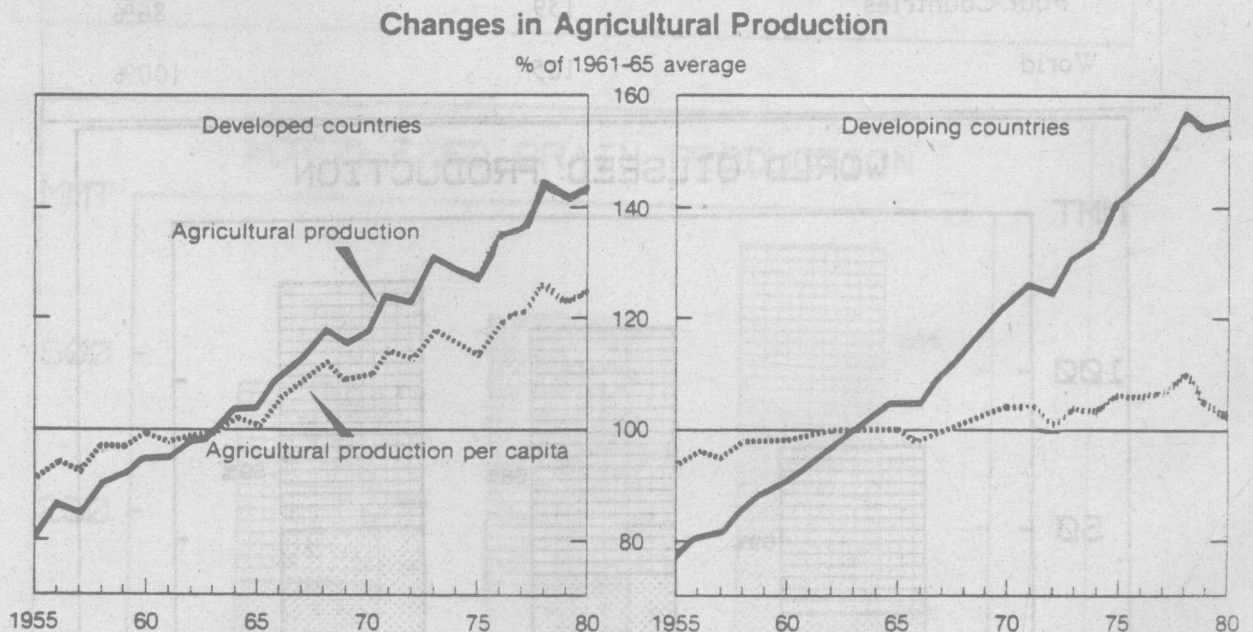
	Million Metric Tons	Share
U.S.	109	59%
Canada	20	11%
Australia	19	10%
Argentina	11	6%
<u>Four Countries</u>	<u>159</u>	<u>86%</u>
World	185	100%



PRODUCTION TRENDS

NEW AGRICULTURAL TECHNOLOGIES, EXPANDED USE OF KNOWN TECHNOLOGIES, AND A TENDENCY TOWARD RAPID INCREASES IN PRODUCTION DOMINATED THE U.S. AND WORLD AGRICULTURAL SCENE DURING THE PAST 25 YEARS, WITH THE EXCEPTION OF A FEW YEARS IN THE EARLY 1970'S, WHEN CROP LOSSES IN A NUMBER OF COUNTRIES COMBINED TO REDUCE GRAIN PRODUCTION. THE TENDENCY TOWARD CHRONIC SURPLUSES AND LOW PRICES WAS MOST PRONOUNCED IN THE U.S. AND OTHER GRAIN EXPORTING COUNTRIES. IN MANY DEVELOPING COUNTRIES, AGRICULTURAL PRODUCTION INCREASED QUITE RAPIDLY BUT WAS READILY ABSORBED BY INCREASED PER CAPITA CONSUMPTION.

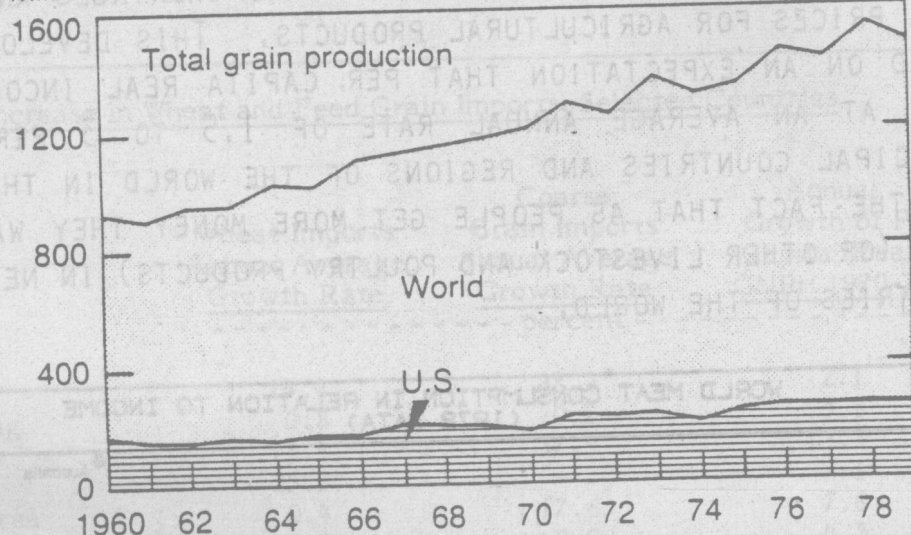
DURING THE MID-1970'S, IT APPEARED THAT THE RATE OF INCREASE IN YIELDS PER ACRE OR HECTARE WAS DECLINING SLOWLY. RECORD YIELDS AND PRODUCTION IN MANY COUNTRIES FROM 1976 THROUGH 1980, HOWEVER, HAVE SHOWN THAT OVERALL AGRICULTURAL PRODUCTION CONTINUES TO INCREASE AT ITS LONG-TERM RATE.



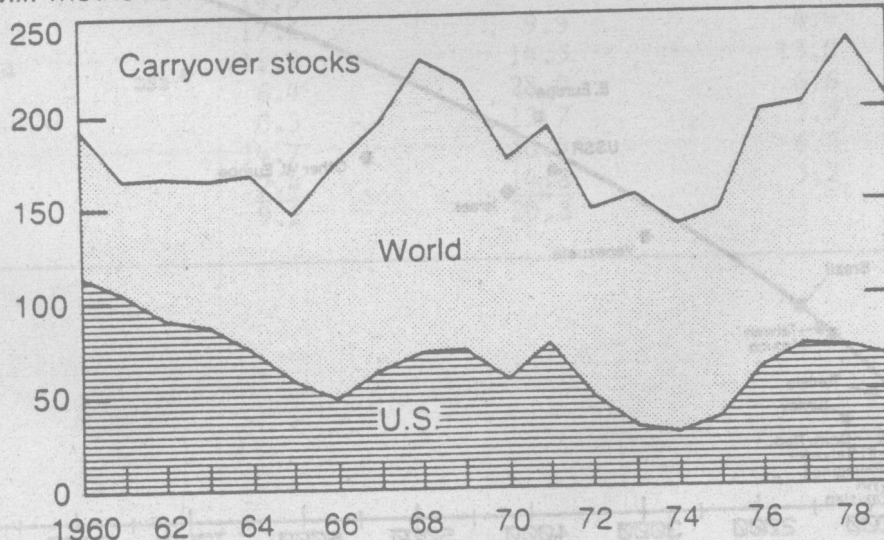
GRAIN PRODUCTION AND CARRYOVER STOCKS

WORLD GRAIN PRODUCTION WAS FAR MORE UNSTABLE IN THE 1970'S THAN IN THE PREVIOUS DECADE. THE FIVE HARVESTS FROM 1976 THROUGH 1980, HOWEVER, WERE THE FIVE LARGEST ON RECORD. IN 1977 AND 1978, STOCKS OF GRAIN ROSE FROM THE VERY LOW LEVELS OF 1973-75. NEAR-RECORD GRAIN HARVESTS IN 1979-80 AND 1980-81 WILL BE ENTIRELY USED UP, HOWEVER, AND STOCKS WILL BE REDUCED; PRICES HAVE RISEN AND WILL REMAIN STRONG.

Mil. metric tons



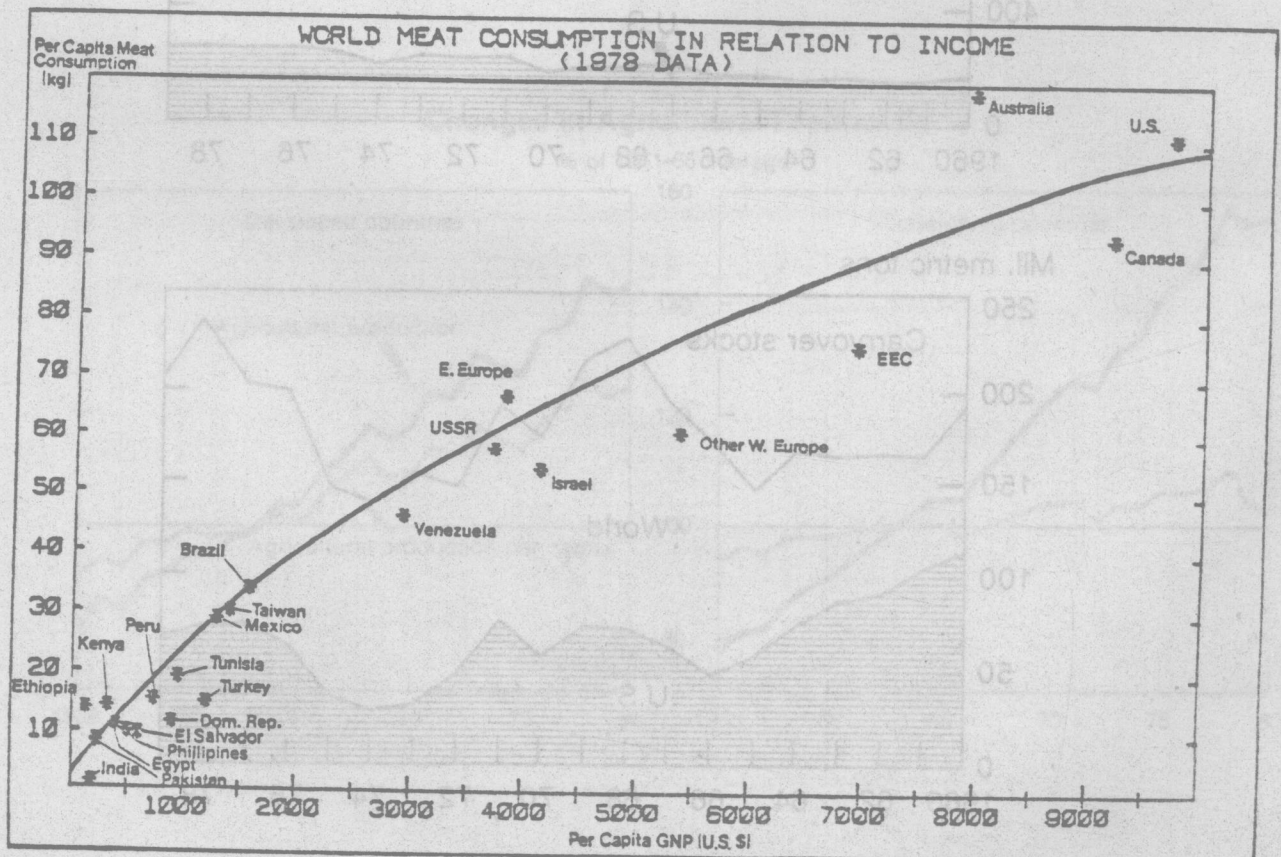
Mil. metric tons



BASIS FOR RAPID INCREASES IN WORLD DEMAND FOR FOOD

WORLD FOOD DEMAND IS EXPECTED TO INCREASE RAPIDLY, PARTLY DUE TO RISING POPULATIONS AND PARTLY TO RISING INCOMES. IT IS A UNIVERSAL RULE THAT AS INCOMES RISE, PEOPLE WANT TO INCREASE THEIR CONSUMPTION OF MEAT AND POULTRY, AS ILLUSTRATED IN THE CHART.

THE WORLD AGRICULTURAL AND FOOD SECTOR, THEREFORE, IS IN THE EARLY STAGES OF A MAJOR TRANSFORMATION. IN THE 1980'S, IT WILL BE MARKED BY A TENDENCY TOWARD SHORTAGES AND RISING REAL PRICES FOR AGRICULTURAL PRODUCTS. THIS DEVELOPMENT IS BASED ON AN EXPECTATION THAT PER CAPITA REAL INCOMES WILL RISE AT AN AVERAGE ANNUAL RATE OF 1.5 TO 3 PERCENT IN PRINCIPAL COUNTRIES AND REGIONS OF THE WORLD IN THE 1980'S AND THE FACT THAT AS PEOPLE GET MORE MONEY THEY WANT MORE MEAT (OR OTHER LIVESTOCK AND POULTRY PRODUCTS) IN NEARLY ALL COUNTRIES OF THE WORLD.



COUNTRY EXAMPLES

THIS IS ILLUSTRATED BY A NUMBER OF DEVELOPING COUNTRIES THAT INCREASED THEIR ANNUAL IMPORTS OF FEED GRAIN BY ABOUT 20 PERCENT WHILE INCREASING ANNUAL WHEAT IMPORTS BY AN AVERAGE OF ONLY 9 PERCENT DURING THE MID-1970'S. INCREASED DEMAND FOR FOOD IN CHINA AND RUSSIA ARE, OF COURSE, EXTREMELY IMPORTANT ELEMENTS IN THE OVERALL EXPANSION OF DIRECT AND INDIRECT GRAIN CONSUMPTION.

Increase in Wheat and Feed Grain Imports; Selected Countries

	Wheat Imports Annual Average Growth Rate	Coarse Grain Imports Annual Average Growth Rate	Annual Growth of Per Capita (Real) GNP: 1970-77
		percent	
Algeria	14.4	38.2	2.1
Hong Kong	0.8	0.2	5.8
Iran	11.4	37.9	13.3
Iraq	25.3	-	7.1
South Korea	0.4	17.6	7.6
Libya	12.3	-2.0	4.5
Malaysia	4.5	8.0	4.9
Mexico	10.6	46.8	1.2
Morocco	14.9	-	4.2
Nigeria	17.6	9.9	4.4
Saudi Arabia	11.2	14.5	13.0
Singapore	6.4	28.0	6.6
Taiwan	0.3	13.7	5.5
Tunisia	14.7	50.4	6.5
Venezuela	2.4	14.8	3.2
Total	9.2	20.8	