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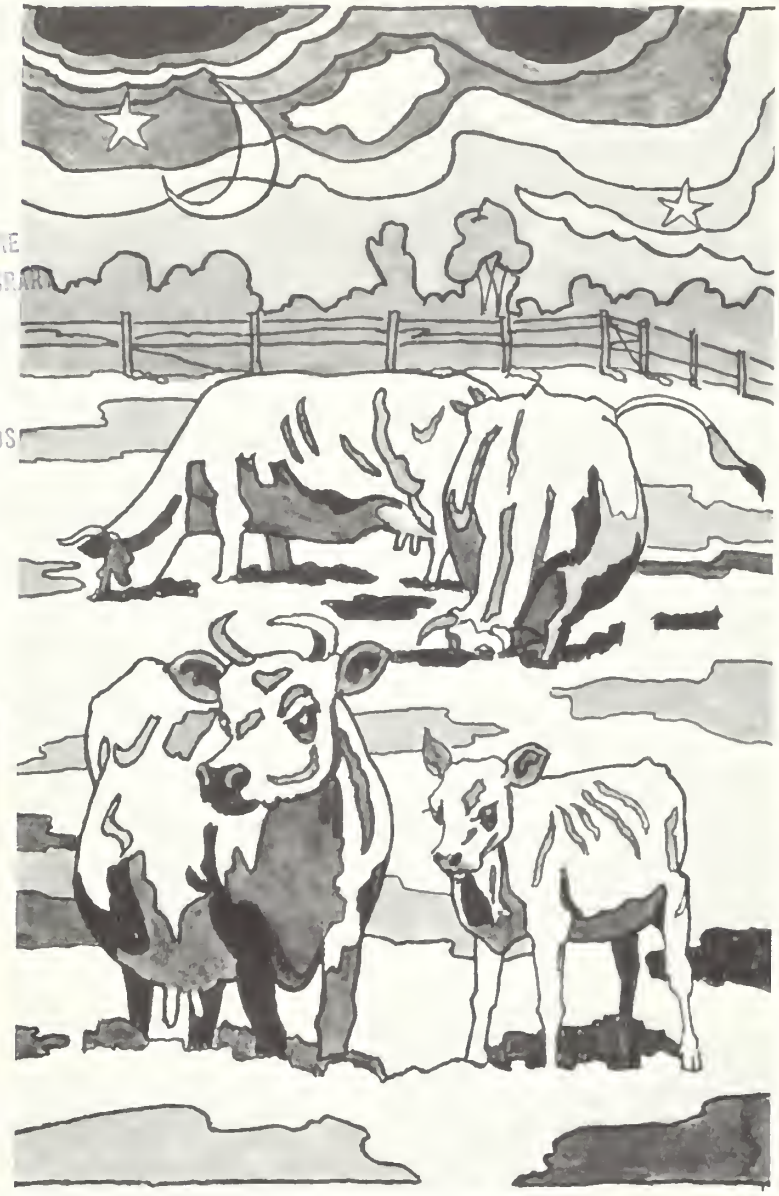

January 13, 1969

U.S. Dairy Products In Export Markets

Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

FOREIGN AGRICULTURE

VOL. VII • NO. 2 • JANUARY 13, 1969

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Use of funds for printing *Foreign Agriculture* has been approved by the Director of the Bureau of the Budget (June 15, 1964). Yearly subscription rate, $7.00 domestic, $9.25 foreign; single copies 20 cents. Order from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

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The WHEATS Of World Commerce

When the Neolithic man of some 6,000-7,000 years ago happened upon a grass that could be used as food, he found today's staple of a billion people. His grass was wheat—the basis for 20 percent of modern man's caloric intake and one of the most widely exported items.

This ancient crop has caused a few problems but has solved a great many more during its lifetime. It has been part of the reason for wars like Hitler's drive for "lebensraum" in Russia and Eastern Europe, while also serving as a building block in national economics the world over. It has become a common food crop in almost every part of the world—from high plateaus in the Tropics to Arctic reaches of the North and from drought areas of Turkey to rainy England. And while springing largely from one genus of grass, it can be used in a wide mix of end products—from flour for bread, cakes, macaroni, or ice cream cones to feed for animals to straw for paperboard.

Wheat is one of the world's most important exports—a prime foreign exchange earner for many countries.

As an export, wheat has long been a kingmaker. It's an important earner of foreign exchange for numerous countries and a top one for the United States, Canada, Argentina, Australia, France—and occasionally—the USSR. Not too many decades ago, the United States played an uncertain part in this picture, as dust storms in the Midwest often brought dramatic crop failures. But breeding programs produced wheat that would prevail in the unpredictable regions, helping the United States become a source of over a third of world wheat exports. The total for U.S. exports today is about 22 million metric tons; for world trade, it is 56 million.

Wheat is a crop with few classes but many subtle differences. All of it, for instance, is of the genus *Triticum,* which in turn is made up of three species, known generally as common, durum, and club wheats.

Common wheats are the most widely produced and used of these types, forming the basis for our bread, biscuit, cake, and most other flours. Their suitability for these various products depends on a number of factors, but three general classifications—hardness, color, and planting time—help distinguish the wheats.

Most important factor is hardness, which along with other characteristics spells out wheat's usefulness in bread flour. This type is appropriately called hard wheat and has a protein

range of about 10-17 percent. It's what made the Great Plains region of the United States and Canada famous and has helped boost export fortunes of the USSR and Argentina. Hard wheat is just that in texture besides being small, plump, and glassy in appearance. Because of its high protein content and gluten strength, hard wheat brings prime prices, but these are counterbalanced by low yields per acre.

The opposite of hard common is soft common wheat, which has a protein content of about 6-11 percent and is sometimes called "bread wheat." Actually, it is used as a filler in bread flour and as the basis for most other flours except semolina. Here, high protein content generally is not so important—nor desired—as factors like texture and water-holding capacity. This type often produces fantastic yields and can tolerate reasonably rainy weather.

Color of the wheat can vary from a brownish red to white in either the soft or hard varieties.

The final classification—planting time—produces two types of common wheat, winter and spring. Winter wheat, which is actually planted in the fall, grows in areas where seedlings can get an adequate start before cold weather sets in; at that stage they become dormant, resuming growth in the spring. Harvesttime is usually from June to August for Northern Hemisphere countries. Spring wheat grows in colder regions like the northern United States, Canada, and Siberia, and while getting off to a late start, it grows faster during the long summer days in time for harvest before the autumn frosts.

Durum—sometimes called "macaroni wheat"—is a hard, flinty grain type varying in color from amber to red and is the basis for macaroni and spaghetti products. This type has been found in Egyptian tombs dating to 2,000 B.C., but it is no doubt much older. Fittingly, one of the important breeders of durum was an Italian, Nazareno Strampelli, who helped introduce it to other areas of the world.

Club wheat is far the least important of the three species. It can be either white or red in color and is usually very soft in nature. In this country, it grows mainly in the Pacific Northwest.

Large-scale varietal development began with the French, quickly spread to other major wheat producers.

Another way of classifying wheat, of course, is according to variety. Here we see small differences in agronomic characteristics—such as growing time, disease resistance, amenability to fertilizer use and irrigation—and many varieties. (Varieties differ also in milling quality and baking quality.) Since the mid-1800's, when crossbreeding started in a big way, several thousand varieties of wheat have been developed, giving farmers more dependable, profitable crops.

France began the search for improved wheat, when the seed firm of Vilmarins launched a breeding program in 1850; 36 years later the Swedish Seed Association at Lund began its outstanding work on wheat. At about the same time—but half a world away—the young nation of Australia was looking into wheat's potential, and a man by the name of William Farrar started a breeding program that was to help make Australia a leading wheat producer and exporter.

In the United States and Canada similar developments were taking place that would lead these countries to ascendancy in world wheat trade.

Kansan farmers, for instance, were unable to grow dependable crops until the introduction of Turkey Hard Red Winter into the United States in the 1870's. After that, production zoomed, and Kansas emerged as our largest wheat-producing State. Another State with a problem was North Dakota—aridness and rust disease kept cutting into spring wheat production there. It was a Russian durum—and Mark Carleton of the USDA—that saved the day, and soon producers all over the State were using durum wheat. So great was the acceptance, in fact, that today North Dakota accounts for 80 percent of this country's durum crop, followed by South Dakota (with 15 percent), Minnesota, and Montana.

The Canadians found a winner in the mid-1800's, when David Fife of Ontario received a shipment of Polish wheat. Most of this was winter wheat except for a few kernels, which were the progenitors of Red Fife—one of Canada's earliest spring wheats. Red Fife proved to be very productive and of high baking quality. Moreover, it was a parent of Canada's most famous wheat of all, Marquis—a variety that was quickly adopted in the United States also. Although no longer produced in any great amount, Marquis even today represents the recognized standard in quality, and Canada's entire wheat-grading system is based on its characteristics.

Developments elsewhere have been equally successful. Through its breeding program, Japan has produced wheats with short, stiff straw that will respond well to high fertilizer usage and produce in the winter between rice crops. Mexico, on the other hand, has become a classical example of what can be done in a developing, semitropical country. Through work with the Rockefeller Foundation, the nation bred semidwarf rust- and lodging-resistant spring wheats for winter sowing, which led to phenomenal yield gains and a wheat-surplus problem. Now, these varieties are being adapted to conditions in India and Pakistan.

In a few years, these and other new varieties will be on their way out, for like many of today's products, they suffer from the whims and constant progress of man. Except for some outstanding breeds like Marquis, a normal lifespan is 10-20 years, and then the variety either loses its disease resistance or is merely replaced by something new and better.

Output is far-flung, extending to every area of the world. However, the temperate regions are top producers.

Interest in wheat breeding reaches far beyond the countries mentioned so far. For two-fifths of the world's cereal acreage is devoted to this crop, making possible wheat seeding and harvesting in some nation during every month of the year.

Generally speaking, the temperate regions with rainfall of 15-35 inches and soils of loam or clay are the best producers of this phenomenal grain. As a result, 90 percent of the wheat crop is grown in North America, Europe, and Asia. More-

over, the temperate Southern Hemisphere countries account for the bulk of remaining production.

Total production is estimated at 294 million tons this year—double the level of 25 years ago and a reflection on the sizable yield increases that have come about in recent years. During the last 25 years, yield per acre has more than doubled in North America, risen over 60 percent in Oceania, and grown 35 percent in Europe—an area that has long been known for its good wheat yields.

One giant producing region is the Great Plains of the United States and Canada, which accounts for over a fifth of world output.

In the *United States,* where production this crop year is a record 43 million tons, 42 States grow what totals up to practically every type of wheat. Thus, the country has devised a marketing system that takes into account durum and the three general classifications of common wheat—hardness, color, and planting time. These market classes are Hard Red Winter, Hard Red Spring, Soft Red Winter, White, and Durum, which are further broken down into subclasses and then into grades based on quality considerations.

Hard Red Winter, grown in the middle and southern Great Plains, is our leading wheat, accounting for about half the total crop and 60 percent of the export. Good bread-baking qualities put this wheat near the top in export demand and have given it huge markets in Japan, West Germany, the United Kingdom, France, and many other countries. Subclasses for it include Dark Hard Winter, Hard Winter, and Yellow Hard Winter.

Hard Red Spring, a product of the northernmost Great Plains States, has about 14-16 percent of U.S. wheat production and 9 percent of exports. It is highly prized for breadmaking and is almost identical to wheat produced in nearby Canada. There are three subclasses: Dark Northern Spring, Northern Spring, and Red Spring.

Accounting for a slightly larger share of production and exports is Soft Red Winter wheat. The United States has sufficient production to sell some of this abroad in about 4 out of every 5 years, and its 1964-68 total came out to roughly 10 percent of wheat exports. This type is grown primarily in the more humid eastern States and has only one marketing class, called Red Winter.

White wheat—which grows in the Far West, Michigan, and New York—has a production equal to about a sixth of the total, while overseas sales are close to 20 percent of wheat exports; subclasses include Hard White, Soft White, White Club, and Western White. Soft white varieties are often grown under high rainfall conditions or irrigation, and yields can be extremely high. Farmers have been known to produce over 200 bushels per acre on test plots, compared with the world average yield of 20.

North Dakota's specialty, durum wheat, accounts for the smallest share of total U.S. production. Some of this is exported each year, although the share runs to only about 4 percent of all wheat exports. There are three subclasses here: Hard Amber Durum, Amber Durum, and Durum.

In exporting wheat, the United States uses these subclasses plus a complex system of grading based on official sampling to make sure the importer knows exactly what he's getting. Each subclass of wheat is given a numerical grade of from 1 to 5 (1 being the highest), or a sample grade based on the test weight of a bushel plus percentage of damaged kernels, foreign matter, and mixtures of other wheats. Moisture content is also specified if the buyer wants it to be less than 13.5 percent. Thus, marketed wheat will end up with a grade like U.S. No. 2 Northern Spring, 13 percent, with the percentage figure indicating moisture content.

Canada, which has a crop of around 17.7 million tons this crop year, has long been an outstanding producer of Hard Red Spring wheat; in fact, over 90 percent of the country's production is of this type, while 5 percent is of amber durum and the remainder of white and soft red wheat.

In world trade circles, the country's spring wheat is known as "Manitoba," which is really a misnomer since the Province of Manitoba is only third-ranking producer of this wheat. Saskatchewan is far the largest, with over half the crop, while Alberta is second largest.

Canadian wheat, the country's top agricultural export, at one time enjoyed a prime spot in the export market and still usually brings the highest price of any wheat in the world. This product competes directly with U.S. hard wheat in many markets, although its high price in many instances has proved a disadvantage: millers are becoming increasingly skilled in blending wheats for bread baking, and consumers apparently are not demanding the high-rising breads that have traditionally come from Canadian wheat flours.

Canadian wheat grades range from Nos. 1 to 5 also, but they change yearly according to crop quality. Thus, in one year, the No. 1 test weight may be 63 pounds, and in another it may be 60. In the United States, on the other hand, grades never change, thus assuring the buyer that he's getting the same quality from year to year. A typical Canadian grade on the export market is No. 2 Manitoba.

Australia and Argentina—the top Southern Hemisphere producers and Major competitors in the export market.

Australia, which expects to harvest a record 14.3 million tons of wheat in 1968-69, is the third largest wheat exporter, with foreign sales ranging from 5 million to 9.5 million tons. It produces plump, white varieties, which give good, high-yielding flour. The wheat varies from soft to hard, but up until recently, differences here were buried in Australia's fair average quality (f.a.q.) cargoes—really just samples of wheat from the different Australian States.

In 1967, however, Australia established wheat classes by regions within the States and set up Prime Hard categories for wheats in two States—New South Wales and Queensland. This made it possible for Australia to compete better with U.S. and Canadian wheats in world markets.

Australia still has no numerical grades for its wheat, although it does separate out off-grade wheat. As in Canada, the grading standards vary each year in line with crop changes.

All six Australian States are wheat producers with Queensland usually having the largest yield and New South Wales

the biggest acreage; Tasmania is the only State with insufficient production for local needs.

In South America—once the major factor in world wheat trade—there is only one regular wheat exporter, *Argentina.*

Historically, Argentina is the world's fourth exporter of wheat, with shipments in the neighborhood of 4 million metric tons. All but 10 percent of its output is in a 400-mile semicircle centered on Buenos Aires, which puts much of the crop within 100 miles of a port.

The wheat is mainly red in color, semihard to hard in protein content, and produced in four zones. These zones are Rosa Fe, which runs northwest of Buenos Aires and west of the Paraná River and accounts for 30 percent of Argentine wheat production; Buenos Aires, a 75-mile strip west of that city where 20 percent of the crop is grown; Bahia-Blanca, which heads southwest over La Pampa into the coastal area and boasts 40 percent of the crop; and Entre Ríos, which lies northeast of the State of Buenos Aires and grows about 10 percent of the wheat.

Argentina sells wheat on the basis of these districts, plus protein content, numerical grades 1 to 3, and samples; quality varies from one zone to another. Many of the buyers for this wheat are right in Argentina's own backyard, with Brazil the top importer, followed by Peru, Chile, Paraguay, and Colombia. Europe also is an important market.

A look at the USSR—world's largest wheat producer—and at some of the major wheat importing countries.

The *USSR,* with its far-flung production, has a tremendous influence on world wheat trade. The country is well known for sudden changes from exporter to importer and vice versa and has built up several sources only to leave them without markets in years of good Soviet crops.

In the late 1930's, that country had a fourth of both the world wheat crop and the export. But the ravages of World War II, poor planning, and unfavorable weather combined to make wheat growing an uncertain business. In intervening years, the country was in and out of the export market, with disastrous crop losses in the early 1960's making it look like a permanent importer. Today, however, it is emerging as a potentially large export competitor, gaining needed supplies from recent large crops of 65 million metric tons and more.

Soviet wheat grows in a vast area, which takes in the winter wheat region of south and southeast European Russia, the Ukraine, and the North Caucasus; and spring wheat areas in the middle Volga, the North Caucasus, the Ukraine, the Urals, and Siberia. Wheat from these areas played an important part in early breeding programs, helping even to establish the U.S. crop.

The Soviets, like the other major exporters, have their own way of grading wheat, which apparently works very well in the export market. Their grades consist of three numbers, first of which stands for type (a 1, for instance, means spring wheat, and a 4, winter wheat). The second number is the grade, which can range downward from 1 to 5, or be 0 if the quality is exceptionally poor. The final number indicates bushel weight and percentage of admixture. Thus, the digit 121 means spring wheat of second best grade and excellent bushel weight; 421, on the other hand, would be a good winter wheat. Normally, Soviet wheat is high in protein, although there can be sharp variations due to the wide range of growing and climatic conditions.

Except for France and a few minor exporters, most of the other countries of the world are net importers and include such important markets as the United Kingdom, West Germany, Japan, Mainland China, and India.

The United Kingdom produces a sizable amount of winter wheat, but this is low in baking quality and must be supplemented by other types. As a result, the country has traditionally been a vying ground for the world's leading wheat exporters. U.K. imports of about 4.3 million tons make it the Free World's largest commercial wheat purchaser, but Canada and Australia enjoyed preferences here up until the Kennedy Round of GATT. The Kennedy Round led to promised reduction in these preferences, which will give the United States a chance to expand its market share from the 15 percent of recent years.

West Germany grows hard and soft wheats that are comparable to those produced in humid areas of the United States. Like the United Kingdom and other European producers, it suffers often from too-damp weather and has just about exhausted its ability to increase acreage. The country must, therefore, import large quantities of strong gluten wheat and ranks as the second largest purchaser in Europe. About 80 percent of its 1.8-million-ton import is hard wheat, and close to a fourth of this comes from the United States.

Another huge market lies in the Far East in *Japan,* where imports of wheat have grown steadily over the years to around 4.0 million tons. This makes Japan the Free World's No. 2 commercial importer of wheat and normally a market for more than 30 percent of U.S. dollar wheat exports. Practically all U.S. wheats find buyers here and are incorporated into a large number of end products including noodles, bread, biscuits, cakes and pastries, and animal feed.

In *Mainland China,* over half the farm area is sown to wheat, with most of the production in North China. The country is also a huge wheat importer, exhibiting a shrewdness that comes closer to capitalism than Communists would want to admit—for the large wheat imports enable China to turn around and earn a profit by exporting its higher priced rice. In recent years, the country has imported an average of 5 million metric tons of wheat, primarily from Canada, Australia, Argentina, and France.

A final importer of importance is *India,* which at one time was self-sufficient in wheat but got into a pinch a few years back because of poor weather and the needs of a rapidly increasing population. Those lean years started an unprecedented import trade, which reached a peak of 10 million tons and continues large despite a bumper wheat crop in India last year. The United States supplies the bulk of this wheat under the Public Law 480 program.

Despite its heavy reliance on imports, India boasts large wheat areas, especially in the fertile Ganges Valley. Its wheat is mainly a semihard, dry, and flinty product that is well adapted to the Indian staple, chapati.

Thus, we see wheat—still the bread of mankind, despite affluent society's diversion from cereals to meat and the scientist's prediction that all natural foods may someday be archaic. —B.H.

Africa and West Asia

Agricultural Production Indices for 1968

This is the first in a series of four articles that give regional and country information on agricultural production performance in 1968. The index numbers presented here are based on preliminary crop estimates available before December 1968. Revised estimates received from the countries will be used to adjust the production indices later this year.

Preliminary world indices and some regional trends were given in Foreign Agriculture, *January 6, 1969, page 4.*

Africa and West Asia, with 25 percent of the world's land area and about 12 percent of the world's population, includes both areas of food deficit and food surplus. For example, the United Arab Republic imports over 2 million tons of wheat annually to help feed its 32 million people; but the Republic of South Africa regularly exports a large surplus of fruits and is a consistent exporter of corn.

Africa—disparate trends

Total agricultural production in Africa fell from an index number of 127 in 1967 to 126 in 1968 (1957-59=100). Agricultural production per person had an even greater drop—down three points to 100; and food production per person slumped three points to 99.

The countries and areas in which agricultural production indices declined most markedly were: South Africa (a drop from 158 in 1967 to 138 in 1968); and the combined areas of Rhodesia, Zambia, and Malawi (a skid from 145 to 125). In South Africa a much smaller corn crop, down from 9.6 million tons in 1967 to only 5.2 million in 1968, helped reduce farm production. Another important crop, grain sorghum, dived from 844,000 tons in 1967 to 193,000 in 1968. In Rhodesia, Zambia, and Malawi smaller total farm outturn is largely due to reduced corn and tobacco production in 1968.

Other countries had considerable rises in their agricultural production: Morocco's index jumped from 112 in 1967 to 148 in 1968; Tanzania and Uganda each had production gains of about 6 percent over the year before. In Morocco the increase in total agricultural production was chiefly because of the climb in wheat output from 1.1 million metric tons in 1967 to 1.8 million tons in 1968, the doubling of the barley crop to 2.2 million tons in 1968, and the rise in orange output from 646,000 to 726,000 metric tons. In Tanzania none of the more important crops showed a marked increase, but most crops showed some advancement. In Uganda, a leap in the coffee crop from 149,000 metric tons in 1967 to 180,000 tons in 1968 pushed up the index of agricultural production.

The countries having the highest production indices for 1968 are the Ivory Coast, 189, Kenya, 166, and the Sudan, 155. At the other end of the scale for Africa is the Congo (Kinshasa), 82. The countries that have traditionally been the big agricultural producers in Africa had the following indices in 1968: South Africa, 138 and down 20 points from 1967; Nigeria, 116 and the same as in 1967; and the United Arab Republic, 115 and the same as in 1967.

For specific commercial crops that are important in Africa, coffee production was 1.1 million tons in 1968, or up 2 percent from 1967; cotton production was up 5 percent from 1967 to 972,000 tons; and cocoa production was down 5 percent from 1967 to 890,000 tons. The corn crop, which is important in eastern and southern Africa, was 16.7 million tons in 1968, or 22 percent below the 1967 figure.

West Asia—gains and losses

Possibly 99 percent of agricultural production in the area comes from the following countries: Cyprus, Iran, Iraq, Israel, Jordan, Lebanon, Syria, and Turkey. Indices given for the region are based on figures for these eight countries.

Total agricultural production for West Asia was up one point from 1967 to an index of 137 in 1968. Agricultural production per person, however, fell two points from the year before to 104 in 1968; and food production per person slid two points to 102 in 1968.

The two countries with the largest gains in production were Iran and Iraq. Iran's index rose from 133 in 1967 to 145 in 1968, mostly because good weather boosted grain production to a record level and most other crops also flourished. Iran is a major agricultural country in the area. Iraq's index climbed from 106 in 1967 to 112 in 1968. Increased production of wheat and dates contributed to the advance.

Jordan had the most drastic decline in its production index—from 224 in 1967 to 137 in 1968. A slump in olive crops from 99,000 tons to 40,000 and a fall in wheat output in 1968 by 50 percent contributed to the drop. Turkey, the chief agricultural producer of the region, had less favorable weather than in 1967, which caused a slip in its production index from 135 in 1967 to 132 in 1968.

Two major crops in West Asia had divergent trends during 1968. Wheat production in the region stepped down from 14.9 million to 14.6 million tons, mostly because of the reduced crop in Turkey. But cotton output rose from 661,000 tons in 1967 to 693,000 tons in 1968.

—Robert E. Marx
Foreign Regional Analysis Division
Economic Research Service

AGRICULTURAL PRODUCTION INDEX NUMBERS FOR SELECTED COUNTRIES OF AFRICA AND WEST ASIA, CALENDAR YEARS 1964–68
(1957–59 = 100)

Region and country	Total agricultural production					Agricultural production per person				
	1964	1965	1966	1967	1968[1]	1964	1965	1966	1967	1968[1]
Africa	119	119	120	127	126	103	101	99	103	100
Congo (Kinshasa)	78	76	77	79	82	68	64	64	64	65
Ivory Coast	159	168	153	190	189	139	143	128	155	151
Kenya	132	137	151	163	166	111	112	120	125	124
Morocco	111	123	100	112	148	94	101	80	87	111
Nigeria	122	119	126	116	116	108	103	107	96	95
Rhodesia, Malawi, Zambia	141	140	147	145	125	116	112	114	109	91
South Africa	115	118	124	158	138	100	100	103	128	109
Tanzania	124	124	140	134	141	105	102	112	104	106
Uganda	119	121	121	121	128	103	102	99	97	100
United Arab Republic	115	118	115	115	115	99	98	94	92	89
West Asia	120	122	127	136	137	102	101	102	106	104
Iran	106	116	121	133	145	90	96	98	103	109
Iraq	105	110	103	106	112	86	88	80	80	82
Israel	167	176	168	196	202	135	137	128	147	148
Jordan	251	202	139	224	137	212	166	111	174	103
Syria	164	156	121	121	112	137	126	95	92	83
Turkey	119	117	130	135	132	101	97	106	107	102

[1] Preliminary; based on information available before Dec. 1, 1968.

Lester R. Brown, Administrator of USDA's International Agricultural Development Service, shares with the reader some thoughts on—

The New Era in World Agriculture

The world recently entered a new agricultural era. It is difficult to date precisely this new era since many of the contributing factors have been years in the making. But in terms of measurable phenomena, such as sudden advances in food production in several major developing countries, the old era ended in 1966 and the new began in 1967.

The new era is characterized by explosive increases in production of principal crops in the larger developing countries of Asia. The 1968 Pakistan wheat harvest was up 37 percent over the previous record, possibly an increase without precedent in any major country. India's 1968 wheat crop was up 35 percent over the previous record; its total foodgrain harvest, up 12 percent. Ceylon's rice crop was increased 34 percent during the past 2 years. The Philippines, with two consecutive dramatic gains in its rice crop, has apparently ended half a century of dependence on rice imports.

Favorable weather contributed to the record 1968 harvests in some countries like India, but it is only one factor; these countries are now achieving takeoffs in yield per acre comparable to those achieved in the developed countries during the first half of this century. Increases in per acre wheat yields in Pakistan and India and of rice yields in the Philippines over the past 2 years may have exceeded those of the preceding several decades.

Thus far, the most rapid advances have been concentrated in Asia, a region containing more than half the world's people. But countries elsewhere—Mexico in Latin America and Kenya and the Ivory Coast in Africa—are also enjoying the fruits of modern agricultural technology. Within the next several years, the agricultural revolution will likely spread to most of the less developed world.

The new era is dynamic, providing new opportunities for farm families, promising to bring into the marketplace literally hundreds of millions of people who heretofore have eked out a subsistence living, consuming all that they produce.

Second generation problems

But at the same time, the agricultural revolution has brought with it many new or second generation problems. Often these are problems of success. Such is the case in a number of countries where rapid increases in grain production are overloading the existing, antiquated marketing systems.

In some areas, where farmers traditionally marketed one-third of their crop, their crop increased by one-third as a result of adopting new production technologies. This means the marketable surplus has suddenly doubled. Few marketing systems are equipped to handle abrupt increases of this size. Over the past 15 years, many of the larger coastal cities in Asia have become increasingly dependent on imported foodstuffs with their populations at times living quite literally from "ship to mouth." As countries begin to generate surpluses in the rural interiors, a distribution system must be developed which will permit movement of such surpluses to the large coastal cities.

Another second generation problem, quickly coming into focus in several countries, is the lack of farm credit. During the early stages of innovation and adoption of new production practices, the larger farmers—usually well situated financially—are characteristically the first to use new inputs. Once use of a new input such as fertilizer begins to expand beyond the larger farmers, then the need for credit becomes acute. Without it some small farmers are, in effect, denied access to the new technologies.

A third problem beginning to plague a number of countries as grain production surges ahead is declining prices. Many countries have instituted price support programs for wheat and rice during the last few years while market prices have been relatively high. As market prices now begin to drop to the support level, many governments are hard pressed to maintain the price guarantees given farmers. As production expands, countries must also wrestle with such questions as, What is a desirable price level? and, How should the internal support level relate to world market prices?

The new varieties, frequently less acceptable to consumer tastes than the familiar indigenous varieties, are often discounted in the marketplace. Over time, the discount usually diminishes as consumer tastes adjust to the new varieties or breeding efforts alter them to suit local preferences.

As new agricultural technologies are adopted, their benefits are not distributed evenly. Those farmers with the more fertile soils and the more reliable year-round water supplies stand to benefit most. The economic gap between the better farms and farmers and the more marginal ones is almost certain to widen in the developing countries as it seems to have in the United States over the past half century.

This is not a definitive listing of second generation problems facing developing countries, but it does illustrate some of the more pressing ones.

The U.S. role

The agricultural revolution in the developing countries is strongly supported by the United States. Both public and private U.S. interests have combined to help launch what may be the most successful U.S. involvement overseas since the Marshall Plan.

The U.S. involvement in Asia, where the farm revolution is most advanced, is quite varied.

Since 1960, AID, USDA, and land grant universities have together trained some 4,000 Asian agriculturalists in a wide range of agricultural and related fields. Land grant universities have helped develop competent counterpart institutions in several developing countries. USDA/AID advisors have helped formulate agricultural policies needed to provide farmers with incentive prices, making the use of modern technology profitable.

U.S. agribusiness firms are supplying a large proportion of the agricultural inputs—fertilizers, pesticides, irrigation equipment, and farm implements needed to generate and sustain

this revolution in the countryside. An estimated two-thirds of all the fertilizer plants being built in Asia outside Japan and Mainland China are being built by U.S. firms, either on their own or in collaboration with local firms.

The exciting new technologies at the heart of the farm revolution—the high-yielding varieties of rice, wheat, corn, and grain sorghum—have been developed largely by the Ford and Rockefeller Foundations.

What we have learned

Thus, over the past few years we have learned a great deal about agricultural development. Perhaps more importantly we have learned to adapt and apply a great deal we already knew.

We have long known, for instance, that farmers would use modern technology only if it were profitable to do so. This was the foundation for building American agriculture. We are now beginning to apply this knowledge in the less developed countries as well. The performance of farmers in the most remote areas of Asia, Africa, and Latin America is demonstrating that farmers do indeed respond to profit.

We can approach any given developing country today with confidence, knowing that we can put together a combination of agricultural policies and agricultural technologies which will "get agriculture moving"—assuming, of course, a genuine interest on the part of the recipient country. Without this interest, generating an agricultural takeoff is difficult, if not impossible.

We have learned within the past few years that it is much better to concentrate assistance efforts than to spread these efforts over a wide range of crops and activities. The prospect of a successful assistance effort increases severalfold when we select a single crop, often the food staple, such as wheat in Turkey or rice in the Philippines and then concentrate resources—research, credit, administrative capability, information services, etc.—behind the effort to greatly expand production of that crop.

We failed to recognize in the earlier years of our assistance programs that an important constraint on development programs was the shortage of administrative capability within the government of the recipient country. It is also much easier to obtain the personal interest and support of a President or Prime Minister for a single program dealing with a leading crop than for several dozen fragmented development projects scattered throughout the economy.

Another advantage of concentrating on a single crop with specific and often ambitious targets is that progress becomes quite measurable. With specific targets, those working on the project can both derive satisfaction from their accomplishments and analyze and correct shortcomings. Concentration also helps gain support, within both donor and recipient countries, for aid programs.

We have also learned that food aid can be more than just a means of disposing of surpluses or filling hungry stomachs. It represents $1.5 billion of leverage to bring about much-needed policy changes and agricultural reforms in recipient countries. Now we exchange commodities for commitments by governments to take specific steps to improve agriculture in the recipient countries, such as providing incentive prices to farmers, building farm-to-market roads, eliminating the import tax on agricultural inputs, or any of scores of other actions required to eliminate bottlenecks.

Another lesson we have learned is that a successful U.S. assistance effort requires involvement of the entire U.S. agricultural community.

Recognition by AID, USDA, and businessmen that the U.S. agribusiness community must be even more involved than at present has led to the recent formation of the Agribusiness Council. Consisting of some 50 of the largest international agribusiness firms in this country, the Council is headquartered in New York.

Economic growth and farm trade

We have seen that investment of our resources holds significance for U.S. farm exports. It is difficult to give away farm products to people living at the subsistence level, much less sell them anything. Only as they enter the marketplace and develop some purchasing power can they be expected to buy our products.

Few, if any, countries can supply from indigenous production the wide variety of agricultural products their people will demand as their incomes rise. Not even the United States, with one of the most productive and diversified farm economies in the world, comes close to satisfying the demands of its people. U.S. agricultural imports, exceeding $4 billion yearly, include commodities such as coffee, bananas, tea, rubber, and copra, which are not produced here at all.

The countries with outstanding agricultural performances in recent years—Japan, Taiwan, Israel, and more recently Mexico, South Korea, and Pakistan—have, with the exception of Mexico, tripled their purchases of farm products over the past 8 years.

U.S. COMMERCIAL AGRICULTURAL EXPORTS TO SELECTED COUNTRIES [1]

Country	Average 1956–60	1966	1967
	Mil. dol.	*Mil. dol.*	*Mil. dol.*
Japan	335	900	863
South Korea	10	20	42
Taiwan	4	30	68
Pakistan	5	9	13
Israel	10	44	38
Mexico	69	79	70

[1] *Agricultural Statistics*, 1967; 1967 data from *U.S. Foreign Agricultural Trade by Countries, Calendar Year 1967*, Oct. 1968.

U.S. farm exports for dollars have climbed 80 percent over the past decade, largely because of the rising levels of prosperity in scores of countries around the world. Any really massive future expansion of U.S. dollar farm exports is dependent on the modernization of the developing economies, bringing their subsistence-oriented populations into the world market economy.

Future production prospects

Are the recent agricultural advances in the developing countries a temporary phenomenon, or a new trend? They appear to be the latter. The agricultural revolution seems to have gone too far now to be arrested. Too much is at stake, too much has been invested, the expectations of too many people have been aroused.

Sources of potential food production increases in the future are quite numerous. Prominent among these will be the steadily growing acreage planted to the ever more efficient crop

varieties. This expanding acreage of fertilizer-responsive varieties, combined with the prospective reduction in cost of nitrogen fertilizer, will broaden the profitable opportunities for fertilizer use.

Cultural practices will improve as farmers reexamine traditional practices and experiment with new ones. The development of multiple cropping as a science will greatly increase the potential food production capacity.

The production revolution, now confined largely to major cereal crops, will spread to other crops such as root crops, pulses, and oilseeds. A major AID/USDA research effort designed to develop higher yielding varieties of pulses (lentils, chickpeas, etc.) and improved cultural practices are already promising some impressive breakthroughs. As this project moves ahead in both Iran and India, the prospects for raising critically low protein intake levels are improving steadily.

Opportunities exist for vast improvements in water storage and management and control facilities, particularly at local levels.

But perhaps the most significant aspect of the farm revolution is the psychological effect it may have on government leaders in the developing countries. If modern technology should enable these countries to solve their food problem—a problem many considered nearly insoluble—then it may give government leaders confidence in the ability of modern technology to solve some of their other difficulties.

Drought-Stricken Chile Faces Up to Potato Shortage

If bread is the staff of life, the potato runs a close second. And potatoes are extremely short in Chile. Thus, Chilean stomaches, and to a less extent their pocketbooks, are beginning to feel the effect of Chile's worst drought in memory.

Boiled beef and potatoes (cazuela), as Chilean as wine and the cueca, were absent from many tables during the first 2 weeks in December, when all potato sales were stopped, and servings in restaurants, prohibited. However, now that potatoes are again appearing on the market, consumers can buy them at government-fixed prices which are less than half the November prices and somewhat below December 1967.

Potato harvest cut by two-thirds

Chile's population centers in and around Santiago and Valparaiso are normally supplied potatoes during December and January from the new potato crop in an area 300 miles north to 100 miles south of Santiago. The December-January potato harvest, however, was badly affected by the drought that stifled all agricultural production in Chile's Central Valley. As a result, the December-January potato harvest in this area is estimated at 19,800 metric tons, or only a third of the crop in the same months last season. With an estimated consumption requirement of 60,000 tons and a beginning stock of 6,000 tons of potatoes, the current deficit for December and January amounts to 34,200 tons.

However, according to the state purchasing agency (ECA), the entire deficit will not be covered by imported potatoes. Currently, imports during December and January are estimated at 14,000 tons, or less than half the total deficit.

Most of the rest of the deficit will probably be made up by the belt tightening that is now going on in Chile.

Potato holiday, potato fever

This belt tightening represents government efforts to stop the spiral in potato prices, which normally occurs at the last of each year and was accentuated this season by prospects of an extremely short crop. A "potato holiday" was officially announced on November 22 by the Ministry of Economy, which decreed that during December and January potatoes would not be served in restaurants, cafeterias, or other eating places operated by or for any agency of the Chilean Government and that potatoes would not be sold to the Armed Forces.

This restriction was followed by a complete ban on the sale of all potatoes in the Provinces of Santiago, Valparaiso, and Aconcagua for 12 days, from December 2 through 13. The ban also covered the transport of potatoes into or within the three affected Provinces. Only one exception was made and that was for purchases by the ECA, which promised to buy all potatoes for sale at official prices.

Advance notice—on November 20—of the forthcoming potatoless days set off a flurry of activity. Consumers bought potatoes by the carload, cleaning out stocks throughout Santiago as they prepared for the potato holiday.

Market price rolled back

If early December was a difficult one for the "meat and potato" people, at least they had the prospect of reduced prices when the marketing ban was lifted. The new prices, which became effective on December 14, were fixed by the government at a maximum of ES32.00 per bag wholesale and ES0.50 per kilogram retail—a rollback of 55 percent and 62 percent, respectively, from late November prices.

Producer response to this move was as might have been expected. Farmers pointed out that despite the extremely high prices in late 1968, prices during most of that year had been too low to cover cost of production and that this was an important factor in the potato shortage. Furthermore, they said that the new ceilings would keep real prices below those paid a year earlier and further discourage production.

The Ministry of Economy responded by saying that the drought situation was serious and the consumer had started to suffer as a result of potato and other food shortages. The government therefore saw as its obligation the supplying of needed potatoes at reasonable prices.

An additional point made by the Ministry was that farmers were harvesting potatoes before optimum size in order to take advantage of the high prices. One purpose of the 2-week holiday was to stop such practices and permit potatoes to reach larger sizes.

The potato crisis in Chile is just one example of what has happened as a result of the drought that gripped this country. According to the Ministry of Agriculture, the drought reduced irrigated area 44 percent and livestock and agricultural production 50 percent. Hundreds of thousands of animals starved because of sunburnt pastures, and grain acreages and truck-crop acreages were drastically reduced. Now the problem facing the government is to keep prices down and check inflation while at the same time encouraging farmers to produce more next year.

—By Waldo S. Rowan

U.S. Agricultural Attaché, Santiago

Past and prospects

U.S. Dairy Products in Export Markets

Declining U.S. production and reduced stockpiles coupled with keen price competition have diminished the U.S. role as a major exporter of dairy products. But this lost ground in the foreign market has been more than taken up by the other top producers—particularly France and fellow EEC members —which have produced surpluses so large that dairy product exports today are selling at wide discounts and carrying large export subsidies.

This unfavorable situation has brought a worldwide reappraisal of milk production and export goals. In the United States, lower production and reduced exports have led to a cutback in dairy market development activities and to a shift in direction of remaining promotional programs. In the nations plagued by overproduction, the reappraisal has prompted efforts to reduce milk output and to unload dairy product surpluses.

These efforts, however, have been less than satisfactory, and commercial world trade for several years hence may be faced with the problem of too much butter, nonfat dry milk, and other dairy products.

Four years of declining U.S. output

Milk production in the United States has been on a downward trend since 1964, with no upturn yet in sight. For 1968, production totaled an estimated 118 billion pounds, or 0.7 percent below the 119 billion produced in 1967. And the outlook is for no substantial change in production in 1969.

As U.S. milk production has declined so has the dairy product stockpile. On October 1, 1968, stocks were estimated to be off 700 million pounds, milk equivalent, from the previous year's 9.9 billion. Moreover, commercial and government needs are believed to have further reduced U.S. holdings, and the year-end total may be down to about 7.5 billion pounds, milk equivalent, compared with 8.3 billion in December 1967.

These trends have been sharply felt in U.S. foreign trade. In 1967, U.S. dairy product exports declined for the third consecutive year to a low of 510 million pounds, milk equivalent, for a value of $115 million. This was less than 10 percent of the record 1964 volume of 7 billion pounds. Sharpest drop was in 1967 butter exports, which at 3 million pounds were only 22 percent of the 1966 volume and 5 percent of 1965's. Shipments of evaporated and condensed milk also nosedived in 1967, to 62 million pounds from 133 million. Exports of nonfat dry milk managed a 5-percent gain to 409 million pounds as a result of increased donations under Title II of Public Law 480; but only 20 million pounds of nonfat dry milk were sold for dollars, with the greatest decline in Japan, where sales were only 3 percent of the 1966 volume.

Other countries expand output

In sharp contrast to the U.S. situation is the steady buildup in stocks of other major milk producers. This expansion has been brought on by a variety of factors, including larger production, government support programs, decreased feeding of whole milk to calves, and decreasing per capita consumption of milk. The growing volume of milk is increasingly being processed into butter and nonfat dry milk or cheese, then stored or disposed of at unrealistically low prices.

As a result of these trends, world milk production in 1968 scored its sixth consecutive increase, rising 2 percent above the previous year's level to an estimated 713 billion pounds. This computation is based on estimates from the 36 countries that over the past 10 years have accounted for about 85 percent of world cow milk production.

In Eastern Europe, total milk production in 1968 is believed to have been about 3 percent above the 1967 level. Largest producer in the world, the USSR continues to expand output because of government stimulation of better farming practices.

Western Europe's production, which currently accounts for almost a third of the world total, also rose an estimated 3 percent. Largest producer here and the third largest in the world is France, which once again had an unwieldy 5-percent gain in output. West Germany, second biggest producer in this area, had a 3-percent increase over 1967, as did the Netherlands.

These large gains within the Common Market have created many a problem, not only for the Community itself but for other countries as well.

Butter stocks within the EEC have been particularly burdensome. This area (excluding Italy) had an estimated 783 million pounds of butter in stock on October 1, 1968, compared with 758 million a month earlier and 506 million the year before. Meanwhile, latest figures for nonfat dry milk show that these stocks have also increased at a rapid rate. In France, for instance, government-held stocks on December 15, 1968, totaled 307 million pounds, more than triple the 102 million pounds of nonfat dry milk stockpiled a year earlier.

EEC PRODUCTION OF MILK AND DAIRY PRODUCTS

Product	January-June		Percent change
	1967	1968	
	Mil. lb.	*Mil. lb.*	*Percent*
Milk	79,257	81,525	+ 2.9
Butter	1,349	1,452	+ 7.6
Cheese	1,821	1,803	— 1.0
Nonfat dry milk	1,209	1,560	+29.0

The EEC dairy surplus has slowed the Community's progress toward common agricultural prices. The new milk and dairy regulations that were to have established a unified dairy market went into effect on July 29, 1968. But the chaotic price situation for dairy products prompted several governments to request exemption from the new regulations. These were granted, and the Community still is without a unified dairy market.

In addition to these problems, the EEC has had to use an aggressive subsidization program to dispose of dairy products in world markets. The program has been an expensive one for the Community and has disrupted dairy product markets the world over. As of November 1, the program was costing the Community about 60 cents per pound of butter exported. And it has led to exports at extremely low prices. For example,

France offered 55-pound blocks of butter to Peru in August 1968 for a mere 18.6 cents per pound. At the same time Peru was getting such a bargain, French consumers were paying an average of $1.01 per pound for butter, and wholesalers were paying 84 cents.

Total world exports mount

The EEC's expanded production plus increases elsewhere have led to unprecedented gains in world dairy product exports. In 1967, new records were set for shipments of all major products except condensed whole milk, and total dairy-product sales from leading exporters reached 50 billion pounds, milk equivalent. This was a 9-percent increase over the previous year's trade of 46 billion pounds. New Zealand continued as the top exporter and the United Kingdom remained the most important market, accounting for more than half of all dairy product imports.

Among the individual products, butter trade in the Free World increased to 1,442 million pounds in 1967—a gain of 11 percent from 1966. Cheese trade rose 6 percent to 1.4 billion pounds, but this product still managed to maintain a firmer position in world trade than most other dairy products; top cheese exporters were the Netherlands, New Zealand, and France. Trade in nonfat dry milk showed the sharpest gain, climbing 21 percent to 1.4 billion pounds; France, West Germany, and New Zealand accounted for over two-thirds of the world total for this product. Trade in dry whole milk rose 7 percent from 1966 to 363 million pounds; exports of evaporated whole milk—65 percent of which were from the Netherlands—rose 20 percent to 720 million pounds; and exports of condensed whole milk fell 20 percent to 445 million pounds.

Dairy team recommends new strategy

As the world dairy product surplus steadily increased and export prices declined, the United States found there was little chance of remaining competitive in export sales. It was apparent that at current domestic price levels and with reduced Commodity Credit Corporation inventories of dairy products available at subsidized export prices, overseas promotion would not develop commercial markets for U.S. dairy products. Therefore, it was considered desirable to evaluate the dairy market development program in terms of the changing world supply and demand situation.

For this purpose, in March 1967, a two-man team (one man from industry and one from government) was sent to Chile, Peru, and Ecuador, and a three-man team (two from industry and one from government) went to the Netherlands, Denmark, Lebanon, Australia, New Zealand, and Japan.

Purpose of their visits was to determine the feasibility of maintaining the Dairy Society International (DSI)—cooperator with FAS in overseas market development for dairy products—offices at Beirut, Lebanon, and Santiago, Chile. The teams were also asked to make a judgement as to new approaches on market strategy for the promotion of U.S. dairy products.

In submitting their combined final report, the teams recommended that the Santiago and Beirut offices be closed. They cited the following factors as the basis for this recommendation:

- Any "roll back" in EEC milk production is extremely difficult because of that area's great number of small dairy farmers and the common dairy policy's provisions for continued exports of dairy products at low prices;
- Conversations in Denmark, Australia, and New Zealand revealed these countries' determination to protect their world market positions by meeting any price competition;
- Low-priced dairy products are being exported from the Communist countries for the sole purpose of obtaining foreign exchange;
- The trend of U.S. milk production is such that substantial supplies available for export at subsidized prices seem remote; and
- It seems doubtful that domestic prices in the foreseeable future will fall to levels that would make U.S. products—principally butter, cheese, and nonfat milk—competitive in the world market without heavy subsidies, principally to meet EEC subsidized competition.

In accordance with the report's recommendations, the two DSI offices have been closed and program expenditures sharply reduced. A new market development agreement between FAS and DSI envisions that exploratory market promotion activities may be carried out for U.S. specialty products like sterilized whole milk, flavored drinks, and dietetic drinks; infant formulas; dry ice-cream mixes; malted milk compounds; and selected specialty cheeses. The direction and scope of such promotions are still to be developed—dependent on analysis of markets and market opportunities.

Actions taken elsewhere

Some steps are also being taken in other countries to remedy the continuing unstable market situation.

In December 1967, Austria made butter available at reduced prices to people on old-age pensions. However, only about half of the eligible beneficiaries made use of the offer, and barely 300 tons of butter were used. Then, for the first 13 days in April, the consumer price of fresh butter was reduced to two-thirds of the official price, resulting in consumption of some 1,200 additional tons of butter. Finally, to encourage the use of nonfat dry milk in animal feeding, the Austrian Government imposed a 0.9-cent tax in July 1968 on each pound of imported protein feedstuffs of vegetable origin. The proceeds from this tax, estimated at about $1.5 million to $1.9 million annually, are being used to subsidize the use of nonfat dry milk in animal feeds.

In Switzerland, a campaign to encourage butter consumption at reduced prices was started on January 20, 1968, and by September had reduced stock an estimated 2,500 tons below the previous year's level. To encourage the use of local whole milk in rearing of calves, the levy on nonfat dry milk imports was increased on April 1 from $7.33 to $9.43 per hundred pounds. Funds budgeted to the Food Aid Program were recently increased so that additional supplies of dairy products could be distributed in developing countries.

The EEC has also considered additional means of product disposal. Steps to alleviate troublesome butter surpluses so far include sales of butter at low prices to the needy, gifts to the developing countries, and selling butterfat mixtures at low prices for calf feeds.

While these actions may provide temporary relief, they will not remedy the cause of the dairy product surplus. Until such time as more realistic production control policies are established, the buildup of stocks can be expected to go on, and these expanding stocks will continue to disrupt the world market for dairy products.

"No fruit is more to our English taste than the Apple. Let the Italian have his Fig, the Jamaican may retain his farinaceous Banana, and the Malay his Durian, but for us the English Apple."

Presented by the Apple & Pear Development Council, with apologies to E. A. Bunyard.

United Kingdom Launches Apple and Pear Promotion

By WILLIAM L. SCHOLZ
Assistant U.S. Agricultural Attaché
London

The Union Jack-clad fruits that adorn this page are key symbols being used all over England during the fruit marketing year 1968-69 in the first-ever national publicity campaign for English apples and pears. U.S. growers have been following with interest this competitive effort to increase the demand for apples and pears in Britain—largest U.S. market in Europe for both fruits.

Sponsoring the program is Britain's Apple and Pear Development Council, set up in February 1967 by the Minister of Agriculture, Fisheries, and Food to better inform the British people of the deciduous fruits England produces and the expanding industry behind them.

A recent survey shows that over 30 percent of British housewives are unaware that apples are grown commercially in England. Yet over the past 10 years, U.K. production of dessert apples has been increasing at an average annual rate of 4 percent, and output of pears is on a sturdy uptrend which is expected to continue.

British liking for apples—of both imported and domestic origin—is longstanding. The Romans introduced apples into Britain during the occupation. Monasteries kept up the orchards during the Dark Ages, establishing a number of choice varieties by the end of the 13th century. And King Henry VIII was such an enthusiastic supporter of this fruit that his chief fruiterer "tooke a peese of ground belonging to the King" in Kent and established an orchard which "is the chiefe mother of all those kinds of fruits in Kent and divers other places."

The Council wants to better acquaint today's Briton with his country's apples and pears and to give him an appreciation of the high quality of British deciduous fruit and of the hard work necessary to its production.

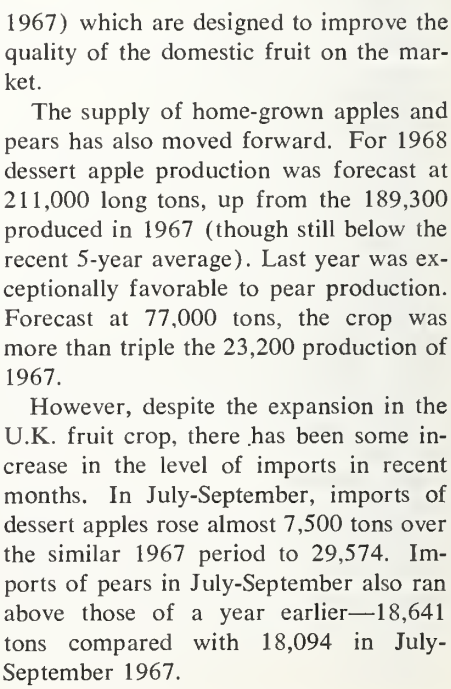
Drawn up in 1967, plans to promote these ideas were held back a year because of spring frost and a short crop. Then, a year later, in August 1968, the program got underway.

With the equivalent of US$240,000 to spend, the Council outlined a promotion allocating 85 percent of its budget to point-of-sale materials and 55 "Apple Girls," who formed a merchandising force to call on 25,000 retailers—as well as wholesale markets and truck drivers—to distribute the point-of-sale materials.

Next step consisted of two 4-week bursts of postering in the London and Midlands areas. The first came with the season's beginning—when the Worcester variety of apples reached the market. The second announced the late autumn arrival of the Cox's Orange Pippin apples and the Conference pears.

Special envelope franking, use of the Union Jack symbol on packaging materials, a film tracing the fruit growers' year, and a dental health campaign joined with press advertising and in-store demonstrations to complete this first cycle of promotion.

Outside the promotion plan, but also very helpful to growers, have been the new grading regulations (effective July 1967) which are designed to improve the quality of the domestic fruit on the market.



Above, display case being set up; top, Apple Girls learn to grade fruit.

The supply of home-grown apples and pears has also moved forward. For 1968 dessert apple production was forecast at 211,000 long tons, up from the 189,300 produced in 1967 (though still below the recent 5-year average). Last year was exceptionally favorable to pear production. Forecast at 77,000 tons, the crop was more than triple the 23,200 production of 1967.

However, despite the expansion in the U.K. fruit crop, there has been some increase in the level of imports in recent months. In July-September, imports of dessert apples rose almost 7,500 tons over the similar 1967 period to 29,574. Imports of pears in July-September also ran above those of a year earlier—18,641 tons compared with 18,094 in July-September 1967.

U.S. Cotton Still Facing Tough Export Competition

U.S. cotton is still facing an uphill battle in world competition with manmade fibers and cotton from other producing countries, report two export trade teams after visits to Europe and the Far East. The teams of cotton specialists returned in early December after visits to six European and six Far Eastern nations. (See *Foreign Agriculture,* Dec. 2, 1968, page 8, for a listing of team members and their itineraries.)

The U.S. specialists all agree that the long-run solution for the current low level of U.S. cotton exports lies in continuity of adequate U.S. export supplies, good availability in a range of staple lengths, competitive prices, and better merchandising and promotion.

Regaining or retaining cotton's share of the textile market will be difficult but not impossible, they feel. U.S. cotton prices have become more competitive recently in Europe; on the other hand, competition is strong, especially that of hand-picked, roller-ginned cottons from other producing countries.

For the immediate future, the teams found no basis for any improvement in previous estimates placing 1968-69 U.S. cotton exports at about 3.3 million bales (480 lb. net).

Report from Europe

The team visiting Europe noted that U.S. cotton sales to the six countries on their route had decreased to less than $30 million in 1967 from an annual average of about $46 million in the preceding 5-year period.

In Europe, U.S. cotton has lost markets to cotton from other producing countries, as well as to the manmade fibers, the team pointed out. U.S. exports to this area have been abnormally low mainly because U.S. prices have been higher than those for cotton produced in other countries. However, with the more competitive U.S. prices of recent weeks, the team was assured that strong interest in U.S. cotton will reawaken if prices remain favorable and adequate supplies of desired qualities are available to consumers in European countries.

Many mills are now using longer, stronger cotton and are therefore interested in the U.S. trend toward increased production of cotton stapling 1-1/16 inches and longer and with tensile strengths of 85,000 P.S.I. or more. But there are some mills which use substantial quantities of cotton stapling 1 inch or less. The team reported that these mills urged the United States not to discontinue production of the shorter staple, "economy" cottons.

Spinners repeatedly emphasized their desire that U.S. cotton be identified as to variety, area of growth, and even by gin of origin. It was felt that such identification would allow grouping of similar cottons to enhance possibility of receipt by the buyer of more even-running lots. Efforts to satisfy this demand for known-origin cotton and variety identification by the U.S. shippers, as well as better communication between buyers and shippers concerning the users' needs, would improve the competitive position of U.S. cotton.

The U.S. bale package continues to be an item of concern to foreign customers, according to the team; and the importance of improvement in its adequacy should not be taken lightly.

Report from the Far East

The Far Eastern nations visited comprise the largest U.S. cotton export market. These countries buy two-thirds of their cotton from the United States, for a total of $225 million worth in 1967.

Members of the team returned confident that the cotton market in the Far East will increase substantially and hopeful that the United States will continue to be a major supplier. The demand for textiles will increase, as living standards in these populous nations rise.

Far East importers were pleased to learn of the good-quality 1968 U.S. crop and of the planned increase in U.S. acreage planted to cotton in 1969. They are interested in a continuity of supply and would like to see U.S. cotton supplies brought to a level of adequacy and then maintained at that level. Achieving such a supply level, the team said, would be an effective weapon to counter one of the manmades' strongest selling points—their reliable supply availability. The Far East countries have shown interest in manmade fibers, but increase in their use has been appreciably less than in Europe and the United States.

However, although cotton importers in the Far East are interested in the United States as a supplier, they look also to other sources. They can, will, and do switch from U.S. cotton to other growths when the price and quality of U.S. cotton are not competitive. Price fluctuations such as occurred last year are highly injurious to U.S. cotton's position in world markets.

Nations which have been buying cotton under the Public Law 480 agricultural aid program would like to continue these purchases. Also, special credit arrangements help give the United States a competitive advantage and allow it to make sales which would otherwise be lost to other suppliers.

Hampshires to Japan

The handsome Hampshire boar at right munches on oblivious of his Iowa seller, Dale Westre, and his Japanese buyer, Uichiro Abe of the Saitama Animal Husbandry Station, Ltd. When the picture was taken, the new champion boar of the 1968 National Barrow Show at Austin, Minn., had just been sold for $6,250, breaking both Hampshire and show price records.

This was one of four Japanese firms buying U.S. Hampshires at the show and elsewhere last year, following an FAS-sponsored visit to Japan in 1967 by Harold Boucher of the Hampshire Swine Registry. More than 50 Hampshires moved to Japan last fall—including 13 briefly hognapped when a joyriding teenager borrowed the truck carrying them.

CROPS AND MARKETS SHORTS

Weekly Report on Rotterdam Prices

During the week of December 24 to 31, offer prices of all U.S. wheat declined while other wheat offers remained unchanged. Both U.S. Spring and Hard Winter lost 2 cents, and the price for Soft Red Winter was down 3 cents.

Argentine corn increased 1 cent, while U.S. No. 3 Yellow remained unchanged and South African White was still unquoted.

A listing of prices follows.

Item	Dec. 31	Dec. 24	A year ago
	Dol. per bu.	*Dol. per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 2 Manitoba	2.03	2.03	2.08
USSR 121	1.94	1.94	2.00
U.S. No. 2 Dark Northern Spring, 14 percent	1.93	1.95	1.96
U.S. No. 2 Hard Winter, 14 percent	1.92	1.94	1.85
Argentine	1.78	1.78	1.84
U.S. No. 2 Soft Red Winter	1.75	1.78	1.76
Corn:			
U.S. No. 3 Yellow	1.37	1.37	1.42
Argentine Plate	1.51	1.50	(1)
South African White	(1)	(1)	1.49

[1] Not quoted.

All quoted c.i.f. Rotterdam for 30- to 60-day delivery.

Spanish Dried Fruit Production Down

Adverse end-of-season weather conditions curtailed 1968 Spanish production of dried fruits. Total production of dried apricots, figs, and raisins is estimated at 15,400 short tons, 20 percent below that of 1967 and 13 percent below 1966.

Raisin production is estimated at 8,300 tons, 7 percent below the 1967 crop of 8,900 and 21 percent below the 5-year 1962-66 average. Current reports indicate production of Malagas totaled 5,500 tons and Denias, 2,800. Dried fig production is estimated at 6,100 tons, 26 percent below the 1967 crop of 8,300. Production of dried apricots is estimated at 1,100 tons.

Lower exports of all three fruits are indicated during the 1968-69 season. Current forecasts indicate 1968-69 season raisin exports of 3,100 tons, 18 percent below those of 1967-68 and 24 percent below average. Exports of dried apricots and figs totaled 2,500 and 3,800 tons respectively during 1967-68. Venezuela, Norway, Brazil, and Mexico are the principal export markets for Spanish figs. France displaced the United Kingdom as the leading foreign market for raisins during 1967-68.

SPANISH DRIED FRUIT PRODUCTION

Item	1966	1967	1968
	1,000 short tons	*1,000 short tons*	*1,000 short tons*
Apricots	2.1	2.1	1.1
Figs	7.7	8.3	6.1
Raisins:			
Malaga	5.1	6.6	5.5
Denia	2.6	2.3	2.8
Total	7.7	8.9	8.3
Grand total	17.5	19.3	15.5

SUPPLY AND DISTRIBUTION OF SPANISH RAISINS

Item	Average 1962-66	1966-67	1967-68	Forecast 1968-69
	1,000 short tons	*1,000 short tons*	*1,000 short tons*	*1,000 short tons*
Beginning stocks (Sept. 1)	2.0	1.7	0.1	0.1
Production	10.5	7.7	8.9	8.3
Imports	—	—	—	—
Total supply	12.5	9.4	9.0	8.4
Exports	4.1	2.8	3.8	3.1
Domestic disappearance	7.0	6.5	5.1	5.2
Ending stocks (Aug. 31)	1.4	.1	.1	.1
Total distribution	12.5	9.4	9.0	8.4

The Spanish Government reduced its export duty for Malaga raisins by 1.5 percent in August 1968 and established an exporter's register for Malaga raisins.

U.S. Tobacco Exports Up in November

Against the threat of a pending U.S. dock strike, exports of unmanufactured tobacco from the United States totaled 71.3 million pounds during November 1968, compared with 66.8 million in November 1967. Shipments in October 1968 were only 38.8 million pounds, representing a decline from the unusually high movement in the previous 2 months.

The declared value of exports in November of $68.2 million represented an increase of about one-third over the same month of 1967.

Cumulative totals for the 11-month period (January-November 1968) indicated an increase of 6.5 percent in quantity and about 32.5 percent in value over the same period of 1967.

The volume of U.S. exports of tobacco products also improved in November. The export value of all tobacco prod-

U.S. EXPORTS OF TOBACCO PRODUCTS

Kind	November		January-November		Change from 1967
	1967	1968	1967	1968	
Cigars and cheroots					*Percent*
1,000 pieces	6,911	5,412	72,541	64,247	−11.4
Cigarettes					
Million pieces	1,824	2,089	21,602	23,921	+10.7
Chewing and snuff					
1,000 pounds	7	2	260	209	−19.6
Smoking tobacco in pkgs.					
1,000 pounds	152	83	1,214	1,571	+29.4
Smoking tobacco in bulk					
1,000 pounds	732	1,701	14,293	18,648	+30.5
Total declared value					
Million dollars	10.3	12.6	124.5	145.3	+16.7

Bureau of the Census.

ucts was $12.6 million, an increase of about 22 percent over November of last year. So far in 1968 the cumulative value of tobacco products exported totals $145.3 million or an increase of 16.7 percent over the same 11-month period of 1967. Shipments of cigars, chewing tobacco, and snuff continued to decline with losses in the January-November period of about 11 percent and 20 percent, over the same period of 1967.

U.S. EXPORTS OF UNMANUFACTURED TOBACCO
[Export weight]

Kind	November		January-November		Change from
	1967	1968	1967	1968	1967
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*Percent*
Flue-cured	53,152	52,774	374,415	393,087	+ 5.0
Burley	2,180	5,016	41,350	40,119	— 3.0
Dark-fired Ky.-Tenn.	2,024	1,628	19,624	19,168	— 2.3
Va. Fire-cured [1]	400	221	3,950	4,659	+17.9
Maryland	2,338	1,844	14,333	13,650	— 4.8
Green River	0	1	858	503	—41.4
One Sucker	230	313	1,029	1,042	+ 1.3
Black Fat	189	170	3,546	2,365	—33.3
Cigar wrapper	304	315	3,515	4,205	+19.6
Cigar binder	134	35	1,754	2,126	+21.2
Cigar filler	21	18	659	589	—10.6
Other	5,862	8,987	37,704	53,760	+42.6
Total	66,834	71,322	502,737	535,273	+ 6.5
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Percent*
Declared value	51.3	68.2	352.2	466.5	+32.5

[1] Includes sun-cured. Bureau of the Census.

Volcano Harms Nicaraguan Cotton Crop

Nicaragua's 1968-69 (August-July) cotton crop estimate has been reduced 50,000 bales (480 lb. net) to 450,000 bales as a result of damage by volcanic ash from the Cerro Negro volcano. The current estimate compares with 470,000 bales in 1967-68 and the 1964-65 record of 565,000. This season's crop will be harvested from around 340,000 acres, down from 360,000 a year earlier. Average yield is 635 pounds an acre, compared with the low yield of 627 pounds in 1967-68 and the record of 822 pounds set in 1964-65.

Japan continues to be the major market for Nicaraguan cotton, accounting for about 60 to 70 percent of total exports in the past 4 years. Other countries that import Nicaraguan cotton include West Germany, Portugal, Thailand, and Italy. Nicaragua's exports totaled 402,000 bales in 1967-68 and 505,000 bales in 1966-67.

Cotton consumption is placed at around 18,000 bales in 1967-68, up about 3,000 bales from the previous year.

C.i.f. prices in Osaka for Nicaraguan cotton SM 1-1/16 inches during November averaged 26.78 cents per pound, down from 29.48 cents in November 1967.

U.S. Cotton Exports Continue Slow

U.S. raw cotton exports in November totaled 186,000 running bales, up from the 152,000 shipped in October but sharply below the 298,000 bales exported in November 1967 and the smallest export total for that month since 1955-56.

U.S. cotton shipments in the first 4 months (August-November) of 1968-69 were at a 6-year low of 813,000 bales, down from the 1,094,000 shipped during the same period a year earlier. Exports to major U.S. raw cotton customers in Europe, except Poland, for the 4-month period were lower compared with the same period of 1967-68. Shipments to Japan, India, and Canada for the August-November months were also below the level of a year earlier. However, exports to the Philippines and Hong Kong rose.

U.S. COTTON EXPORTS BY DESTINATION
[Running bales]

Destination	Year beginning August 1				
	Average 1960–64			Aug.-Nov.	
		1966	1967	1967	1968
	1,000 bales	*1,000 bales*	*1,000 bales*	*1,000 bales*	*1,000 bales*
Austria	23	4	1	1	0
Belgium-Luxembourg	121	52	45	13	9
Denmark	14	8	10	4	1
Finland	17	15	11	4	0
France	319	163	148	39	32
Germany, West	269	159	100	33	9
Italy	345	263	253	78	27
Netherlands	110	31	36	5	5
Norway	13	10	7	2	2
Poland & Danzig	125	78	77	26	57
Portugal	21	1	8	(1)	3
Spain	74	1	7	1	3
Sweden	81	71	75	27	13
Switzerland	74	79	60	23	11
United Kingdom	244	153	125	39	14
Yugoslavia	112	139	64	4	0
Other Europe	17	11	25	6	1
Total Europe	1,979	1,238	1,052	305	187
Australia	61	17	17	11	0
Bolivia	7	9	0	0	0
Canada	353	297	142	61	25
Chile	18	3	1	(1)	(1)
Colombia	3	1	0	0	0
Congo (Kinshasa)	6	34	13	(1)	0
Ethiopia	9	9	22	4	7
Ghana	1	15	12	2	7
Hong Kong	148	183	299	70	87
India	314	289	342	94	5
Indonesia	40	161	70	0	4
Israel	15	2	4	1	1
Jamaica	4	5	1	(1)	(1)
Japan	1,192	1,293	1,103	267	194
Korea, Republic of	261	372	351	141	145
Morocco	12	14	35	4	2
Pakistan	14	3	18	(1)	0
Philippines	123	134	154	27	42
South Africa	41	38	23	4	1
Taiwan	209	373	378	67	61
Thailand	34	70	90	25	23
Tunisia	2	15	14	6	0
Uruguay	6	0	0	0	0
Venezuela	8	1	(1)	0	(1)
Vietnam, South	46	66	24	1	6
Other countries	18	27	41	4	16
Total	4,924	4,669	4,206	1,094	813

[1] Less than 500 bales.

Crops and Markets Index

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Argentina Expects Bountiful Grain Harvest in 1968-69

After a year of below-average harvests and exports of grains (1967-68), Argentina now looks to large supplies of wheat and possibly of corn.

The wheat harvest, which began in October, has been officially estimated at 8.2 million metric tons for 1968-69, or 17 percent more than in 1967-68 and 4 percent greater than the past 5-year average. The bumper wheat crop is chiefly due to unusually favorable weather. New foreign sales regulations and lower taxes on wheat exports may help Argentinian wheat sellers to move larger volumes into international markets.

Argentina's other most important grain export commodity is corn. Last year's crop was limited by a drought that began in December 1967. Now crop conditions are excellent, and farmers have increased their acreage of feedgrains. The corn area is estimated at nearly 11.8 million acres. But the corn harvest does not begin until March, and weather may not continue good in the intervening period.

Wheat harvest moves from north to south

Harvest began at the northern fringe of the wheat area in October. The first 1968 wheat to arrive on the market was from Santiago del Estero. In November harvesting became general in provinces farther south—Santa Fe, Córdoba, and Entre Ríos. In December the southern wheat areas, Buenos Aires and La Pampa, were in harvest activity. Southern Buenos Aires was in especially excellent condition.

As the wave of new wheat moves into domestic markets and storage, the center of interest is how much of the wheat can be profitably exported. Of the total harvest now estimated at 8.2 million metric tons, probably about 4.0 million to 4.2 million will be used for domestic food, feed, seed, or will otherwise disappear within the country. Thus, about 4 million metric tons would have to be sold abroad to prevent a further buildup of carryover stocks. Also available for export is some of the carryover from the 1967 harvest, which has been estimated at 1.2 million metric tons.

Export encouragement for wheat

A factor that should alter the situation from that in 1967-68, when only about 2.2 million metric tons of wheat were exported, is reduction in the export tax on wheat from 18 to 6 percent. This move took place in late October of 1968 and opened the way for shippers to reenter the export market at competitive prices. During the previous export season shippers found that they could not pay both the high domestic price and the high export tax and at the same time sell wheat profitably.

The chief problem now, according to Argentinian export shippers, is finding markets in the face of strong competition from other wheat-growing and wheat-exporting countries of the world.

Argentina usually sells at least 1 million tons of wheat each year to Brazil through a special trade arrangement. Other South American countries that have been important markets in the past are Peru, Chile, and Colombia.

Europe is a traditional market for Argentine wheat and some years buys sizable quantities. Usually all of the export supply of durum wheat (500,000 to 600,000 tons each year) goes to Italy.

For a number of years Argentina has been trying unsuccessfully to break into the big Japanese bread wheat market. This year a small trial shipment of high-protein wheat was made to Japan after negotiations; however, Japanese protein-content requirements may be an obstacle to significant development of this trade.

Oats, barley, and rye

In Argentina oats, barley, and rye are double-purpose crops used both for forage and for commercial sales. This crop year's acreage of oats is down slightly, but the acreages of barley and rye are moderately up in comparison to last year's. Although growing conditions on the whole have been very good for the three grains, early use of them as forage will probably keep coming harvest levels to about last season's. The grains have not been important export commodities in recent years.

—Based on dispatch from JOSEPH C. DODSON
U.S. Agricultural Attaché, Buenos Aires

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