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BREAD — MORE THAN JUST WHEAT

The retail price of bread in the United States has risen every year except one since 1945, according to the U.S. Department of Agriculture. The retail price paid by a housewife for a 1-pound loaf of white bread in 1967 was typically 22.3 cents — almost two-thirds more than the 13.5 cents average price during 1947-49. The rising costs of marketing services — which account for the major part of the retail price of a loaf of bread — have accounted for virtually all of the gain.

Although the retail price of bread mounted sharply, the farm value of the wheat and other ingredients used in bread showed little change. Two decades ago, the farm value of all ingredients going into a 1-pound loaf of bread was 3.3 cents; during the first 9 months of 1967, this farm value averaged only 3.5 cents. The value of wheat — which accounted for around four-fifths of the value of all farm-produced ingredients — was 2.8 cents per 1-pound loaf. As a result of the differential growth rates of the farm value of ingredients and nonfarm marketing charges, the farm value of the ingredients used in a loaf of bread in 1967 was less than 16 percent of the total retail cost of the bread, compared with a share of a little more than 24 percent in the 1940's.

The USDA points out that the trip which wheat takes when it leaves the farm gate until it becomes bread on the baker's shelf involves a series of handling and processing steps, each of which increases the cost of the final product. Most of these steps cost more to perform today. The cost of such items as transportation, storage, handling of ingredients, and processing ingredients other than flour, together with the cost of nonfarm-produced ingredients, totaled 1.6 cents in 1967, up from 1.1 cents in 1947-49. The miller received about 0.6 cent of the retail price of bread for turning the wheat into flour, little different from 20 years ago.

The largest proportion of the cost of bread is incurred at the bakery and through subsequent outlays for transporting the product to the retail outlet. Between the time that the flour and other raw ingredients have been received by the baker and a finished loaf of bread is ready to be sent to the retail outlet, the raw materials have been stored, processed for baking, and baked. The resulting bread has been sliced, wrapped, and delivered. For performing these functions, the baker-wholesalers received 12.0 cents, or almost 54 percent of the retail price of a loaf of bread in 1967, compared with 6.3 cents, or nearly 47 percent, during the 1947-49 period.

When the cost of ingredients is excluded, the largest part of the baker's expenses consists of wages and salaries. These outlays, at 6.2 cents per loaf, accounted for slightly more than one-half of the baker's total margin, although mechanization has been used increasingly to offset rising labor costs.

Delivery and selling functions continue to be a costly part of providing bread to the ultimate consumer despite recent improvements in the volume of bread delivered per route. Salaries and commissions of the driver-salesmen on the bread routes account for about as much of the

FEDERAL RESERVE BANK OF DALLAS
DALLAS, TEXAS

FARM VALUE AND TOTAL MARKETING COST
OF A 1-POUND LOAF OF WHITE BREAD

Item	1947-49		January-September 1967	
	Cents	Percent of total	Cents	Percent of total
Farm value for all ingredients of farm origin	3.3	24.5	3.5	15.7
Charges for transportation, storage, handling of ingredients, processing ingredients other than flour, and for nonfarm ingredients	1.1	8.1	1.6	7.2
Miller's spread	.6	4.4	.6	2.7
Baker - wholesaler's spread	6.3	46.7	12.0	53.8
Retailer's spread	2.2	16.3	4.6	20.6
Retail price	13.5	100.0	22.3	100.0

SOURCE: U.S. Department of Agriculture.

sales dollar as do wage payments. In-plant wages, together with deliverymen's salaries and commissions, make moving a loaf of bread from the bakery to a retail outlet on the far side of a major consuming area more costly than transporting the wheat equivalent of the bread from North Dakota to the East Coast.

Of the total retail cost of a loaf of bread in 1967 — 22.3 cents — the retailer received 4.6 cents as his share. This amount was more than double that in the late 1940's. The accompanying table summarizes the various elements which make up the cost of a 1-pound loaf of white bread.

Soybeans Resist Weeds

Two soybean varieties, Bragg and Semmes, perform better than other varieties when Johnson grass and cocklebur are present, reports the U.S. Department of Agriculture. These weeds cause serious problems that cost southern soybean growers hundreds of thousands of dollars each year.

Results of studies conducted at the Mississippi Agricultural Experiment Station show that soybean varieties differ in their ability to compete with weeds. This fact suggests that certain varieties may be preferable to others for planting in areas infested with specific weeds.

Of six soybean varieties tested, Bragg and Semmes both showed superior competitiveness. Semmes performed a little better than Bragg in competition with cockleburs. Lee, another soybean variety tested, did best on weed-free plots. In competition with weeds, however, Bragg and Semmes both outproduced Lee. These two varieties grow more rapidly than others and are, therefore, more competitive. The different soybean varieties were grown in plots that were weed-free, as well as in plots that were infested with Johnson grass and cocklebur.

Mow or Spray?

Pasture weeds sap nutrients and moisture which should be available for desirable grasses. Neal Pratt, Extension Agronomist at Texas A&M University, stated that weeds in pastures can be controlled more effectively with herbicides than by mowing or shredding.

Although one mowing operation may be less expensive than a herbicide application, regrowth of mowed weeds usually requires repeated mowings. Weeds sprayed properly with

the appropriate chemicals are usually controlled for most or all of the growing season, according to Mr. Pratt.

In citing relative costs, the specialist noted that a typical mowing operation costs from 85 cents to $1.00 per acre. Costs of chemicals and their application may range from $1.25 to $2.00 per acre; however, three mowings are usually needed to control weeds satisfactorily, thereby boosting the total cost of control by mowing to $2.40 to $3.00 an acre. An effective program of chemical weed control has an additional advantage over mowing in that mowing usually is required during the time when the need for doing other farm chores is also urgent.

Mr. Pratt cautions herbicide users to observe existing laws and regulations and to follow the directions on the manufacturers' USDA-approved label. A visit to the county agricultural agent for latest recommendations on chemical use, grazing restrictions, and related aspects of establishing an effective chemical weed-control program can pay significant dividends.

Scrapie Research Helps in Study of Human Disease

Research on scrapie, a centuries-old scourge of sheep, may provide leads for studying neurological diseases in human beings, reports the U.S. Department of Agriculture. In the many years that livestock scientists have studied scrapie, one of the most significant findings is the similarity between certain symptoms of scrapie in sheep and goats, encephalopathy (brain disease) in minks, and kuru in human beings.

Scrapie, a fatal disease of the central nervous system, was first diagnosed in the United States in May 1947. The disease was introduced by imported sheep from Canada and Great Britain and is still a major threat to the U.S. sheep industry.

Characterized by its name, scrapie in sheep and goats causes compulsive rubbing against fixed objects. This practice results in patchy losses of fleece, as well as other skin damage, giving the diseased animal a ragged look. Other clinical signs are hypersensitivity, apprehension, trembling, lack of coordination, an occasional drowsy syndrome, and eventual collapse and death. Also associated with the disease are microscopic vacuoles and other bilateral degenerative changes in the brains and spinal cords of affected animals.

According to the USDA, the most insidious factor about scrapie in animals and currently incurable neurological diseases in human beings is the long incubation period. By the time signs or symptoms are detected, the infecting cells have already invaded the brain and caused permanent damage.

Bulls Versus Steers

The Oklahoma Agricultural Experiment Station has made growth and carcass studies on a large number of beef bulls, steers, and heifers. Results of these studies show that bulls produced significantly more lean meat than did either steers or heifers. Carcass fatness between steers and heifers was little different. Bulls rated highest in carcass cutability and yield of round while steers were highest in dressing percentage. There was little difference between bulls and heifers in these areas.

Steers and heifers had a consistent advantage over bulls in carcass grade. Steers graded average Choice; heifers, low Choice; and bulls, at the low end of high Good. The lower carcass grade for bulls apparently was a result of their deficiency in marbling.

The advantage of bulls in weight gain, feed efficiency, and carcass cutability indicates that the feeding of young bulls for slaughter may hold promise for increasing efficiency of production. At the present time, however, merchandising of bull meat may pose a problem unless established marketing channels become available, points out the Oklahoma experiment station.

Warmer spring temperatures and prolonged damp weather are providing almost ideal conditions for increases in screwworm flies. Officials of the screwworm eradication program emphasize the need for livestock growers to be even more alert for possible screwworm cases and to take worm samples for transmission to the laboratory in Mission, Texas.

Catfish Farming in Texas

The production of catfish for commercial purposes continued to make rapid growth in Texas during 1967, says W. G. Klussman, Extension Specialist in Wildlife Conservation at Texas A&M University. From about 300 acres in production in 1960, catfish farming in the State increased to an estimated 3,000 acres in 1967. Mr. Klussman reports that from 20 million to 25 million pounds of catfish were harvested in 1966, compared with only a few thousand pounds in 1963.

For many people in Texas, fish farming is a profitable sideline; but for many more, it is a full-time business. At an initial stocking rate of 1,500 yearling catfish, a farmer can expect an average annual yield of 1,600 pounds of fish per acre. With prevailing market prices ranging between 35 cents and 75 cents per pound and the cost of raising the fish from 25 cents to 30 cents a pound, profits may vary between $80 and $800 a year per acre. The specialist says that this wide variation in expected profits is probably the result of the lack of organization in this new industry in Texas and the variations in management and marketing abilities of the individual producers.

Fire Detector Developed

Secretary of Agriculture Freeman has announced the development of air-borne electronic eyes for the automatic detection of incipient forest fires. A high-flying aircraft, operated by Project Fire Scan, employs an infrared device to pinpoint small fires when visibility is obscured by darkness, smog, haze, or dense drift smoke from other fires.

During the forest fire emergency in the Northwest last year, Forest Service scientists utilized a specially equipped flying laboratory to detect more than 150 fires. All of the experimental missions were performed at night over forests in Idaho, Montana, Oregon, and Washington. Most of the detected fires were caused by lightning.

The USDA says that combinations of heat-sensing and electro-optical techniques are used in the prototype system developed for fire detection research. An infrared line scanner, mounted in the fuselage of a twin-engine aircraft, is coupled to a display unit which permits imagery of fires and terrain to be viewed on a screen. A rapid film-processing unit records the imagery. Fire detection is made automatic by a target discrimination module which flashes a red light when a hot target is sensed by the scanner and places marks on the imagery to show its location. A doppler radar navigation system permits the precise course of the airplane to be determined continuously during the fire-detection patrols.

Tastier "Goobers"

Tastier peanuts and peanut products, as well as higher nut yields, have resulted from irrigation and soil treatments for control of plant disease. This finding stemmed from studies conducted by scientists at Texas A&M University under a contract from the U.S. Department of Agriculture. Results of tests by a taste panel showed that either irrigation or soil fumigation improved the flavor of peanuts which were fried or roasted or processed into peanut butter. When both irrigation and soil fumigation were used, the flavor of the peanuts was better than when either treatment was used alone. The fumigant used was pentachloronitrobenzene, which is often used to control southern blight. Starr, a variety of Spanish peanuts, was used in the tests.

Mature peanut kernels are the most flavorful, and irrigation or irrigation combined with fumigation increased the percentage of mature peanuts at harvest by almost 30 percent. The Texas A&M researchers noted that slow, careful curing is necessary to develop fully the flavor potential of peanuts and to minimize the development of injurious mold.

Someday, homemakers may be serving cubed eggs to their families, reports Texas A&M University. Researchers have learned that they can improve upon nature's eggshell packaging. Food technologists can freeze shelled eggs into cubes, wrap them in plastic, and eliminate much of the present lack of appeal and cost of handling shell eggs.