

# THE FARM INDEX

U.S. Department of Agriculture/January 1973

TRI-AGENCY READING ROOM

People and Progress

FEB 13 1973

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FOOD COUPON

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**Ready markets await the record supply of feed grains this year.** ERS puts domestic use at 170 million tons, 7 million more than in 1971/72 and the most ever. Exports will rise to an estimated 32 million tons from the previous year's 27 million and from the record 29 million shipped in 1965/66.

Subtracting projected usage (202 million tons) from supply (246 million) leaves a carryover next fall of just 44 million tons. In 4 years out of the last 5, carryover stocks totaled between 48 and 50 million.

The projection for domestic feed grain use assumes a 1-2 percent increase in grain-consuming animal units; continued heavy feeding rates; and the prospect of less wheat feeding this year. On the export side, the bullish outlook mirrors the large sales to the USSR; emergence of China as a buyer; good demand in Europe and Japan; and sharply reduced exportable supplies outside the U.S.

Corn sales to the USSR are estimated at 275 million bushels. Of that, 56 million moved out in August-September—the last 2 months of the 1971/72 season—and the balance will probably be shipped by next summer.

**Red meat output is back on trend.** After dipping in 1972, this year's production will swell as a result of bigger cattle and hog slaughter. Veal and lamb supplies, however, are forecast smaller.

On the specifics, ERS livestock economists figure fed cattle marketings in the first half of '73 will run somewhat above last year's January-June shipments. Hog slaughter through next summer will show only small gains over the 1972 period, but marketings will shoot up in the fall and winter.

Outlook for livestock prices in the first half:

✓ Choice steers at Omaha to top 1972's January-June average of \$35.85/cwt.

✓ Choice feeder steers to stay generally strong in the months ahead, but the increase probably won't match that of 1972 when prices climbed from \$37/cwt. in January to \$42 at midyear.

✓ Slaughter hogs to average higher than in January-June 1972, though the spring price rise is expected to be less than last year's

✓ Lamb prices to hold generally firm with some winter-spring advance keeping prices above year-earlier levels.

**Demand for soybeans is running a neck and neck race with production.** This was the situation in early November: a crop of 1,351 million bushels. Since then the poor harvesting weather may have damaged the crop. In any case, virtually all of the 1972 production will be utilized between now and next August, end of the 1972/73 marketing year.

This, notwithstanding the prospect of record high soybean prices. Farmers' prices in 1972/73 are seen averaging at least \$1 per bushel above the CCC support rate of \$2.25. In 1971/72 farmers got \$3.01 and the year before, \$2.85.

Soybean meal prices, strong and rising, may average at least one-fifth more than last season's record \$90 per ton (44-percent protein, Decatur). But soybean oil prices in 1972/73 might average 10-15 percent under the 11¢ per pound (crude, Decatur) of the past marketing year. Demand is limited mainly by a one-third jump in cotton-

seed oil supplies along with relatively heavy imports of palm oil.

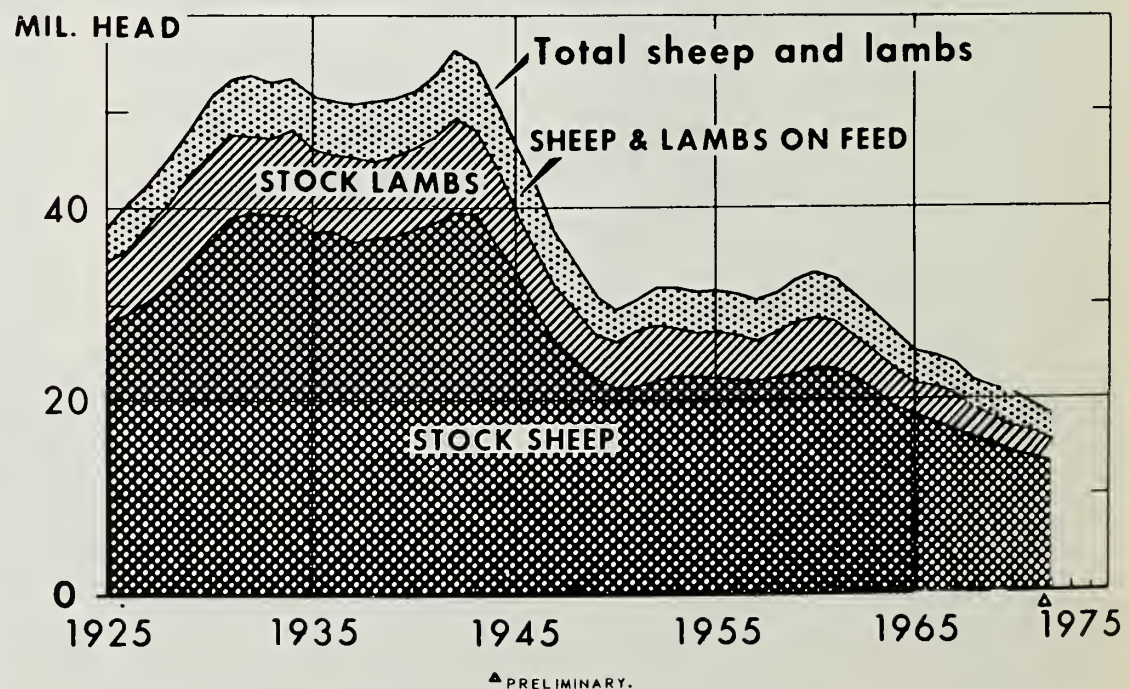
**Soybean crushings** this marketing year—again, based on November conditions—are forecast at a record-breaking 765 million bushels, up from 1971/72's 721 million. Weakened demand for soybean oil will be more than offset by bigger requirements for soybean meal, reflecting a sharp drop in world fish meal supplies.

Exceptionally bright is the export picture for soybeans. USDA projections place exports at about 100 million over the previous year's 416 million and well above the record 434 million in 1970/71.

About 40 million bushels of the prospective increase will go to the USSR. ERS says this purchase, though reflecting temporary crop conditions in that country, has long-range implications because it complements the Soviets' goal of improving protein supplies.

Our soybean exports will, however, be facing tougher competition from Brazil. It exported 1 million metric tons (37 million bushels) in calendar

## SHEEP AND LAMBS ON FARMS, JANUARY 1



**SHEEP LIQUIDATION WILL CARRY INTO 1973, but the great sheep sell-off shows signs of tapering. Lamb prices to growers in 1972 were the highest since 1951. Wool prices, recovering from the depression levels of 1971, were the best since 1966. More of the same in 1973 might be just the incentive needed to at least slow the downtrend in inventory numbers.**

1972 compared with only 213,000 in 1971. Exports this year could rise again, though less steeply.

**Tobacco use this marketing year will hover near last season's 1.9 billion pounds.** The amount of leaf tobacco used per cigarette will trail the 1971/72 level, but an upswing in total cigarette output will compensate.

Cigarette output set a new record in calendar 1972, rising about 4 percent from 1971's 576 billion. Usage in '73 may creep up slightly, assuming—favorable economic prospects, above-average gains for 25-to-44 year olds, and a low level of anti-cigarette announcements.

Retail cigarette prices continue to climb and in 1972 averaged an estimated 4 percent over a year ago. Six States raised cigarette tax rates in 1972, compared with 15 in 1971 and 9 in 1970. By October 1972 the weighted average State cigarette tax was around 12¢ per pack, up from almost 11¢ a year earlier.

Exports of U.S. leaf will drop in 1973 because of higher U.S. prices and keen competition from cheaper tobacco supplies overseas.

The export payment program for tobacco, begun in 1966, will be terminated with the 1973 crop. However, for 90 days after next spring's formal termination notice, exporters may enter into contracts with CCC to export within 48 months specified quantities of tobacco from 1972 and older crops.

**Situation in the egg industry can be described as precarious.** Egg-type hatchings for replacement pullets were up in late '72. These birds will enter the laying flock next spring. Unless there's a sharp increase in culling of older flocks, the result would be greater output with declining prices. In addition, profits will be pinched by much higher feed prices than in '72.

Latest USDA Broiler Marketing Guide advises broiler egg settings in January-March should be cut 2 percent from what they were a year ago at that time. This would still enable a 3-percent boost in broiler meat output. The difference in settings and output would be due to better livability this year and the prospect of heavier marketing weights.

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# The One-Man Farm How Big?



*There's much variation in the optimum size of one-man farms, but all have this in common: They're bigger than the average farm and their watchword is efficiency.*

Meet the man who milks efficiency for all it's worth—he's the operator of the "technically optimum" one-man farm.

Whether a 360-acre rice farm in Louisiana or a 2,000-acre wheat and barley farm in Montana, the optimum one-man farm would seem to hold a long lease on life.

This operation can achieve most of the economies associated with size,

various studies have shown. That's because up to and including the one-man size, the main incentive for farm enlargement is to fully employ the operator's time and his machinery. At that size, the cost per unit of product reaches a low point.

Beyond the one-man size, farms get bigger to achieve larger output and higher total income, even though the unit production costs may be somewhat greater than on the one-man farm.

When it comes to buying production items and to selling their products, large-scale farms do enjoy some price advantages. But the evidence

suggests that these advantages, where they exist, tend to be minor. In themselves they don't provide sufficient reasons for farm enlargement.

**Not run-of-the-mill.** An ERS economist who analyzed optimum one-man farming operations found them to be bigger than the "average" farm in the U.S. They also require much greater capital investment and managerial skills on the operator's part.

As defined by this economist, the technically optimum one-man farm may be thought of as "the man and his complement of machines." In the case of crop farms, it represents the maximum acreage that the man and his machinery can plant, cultivate, and harvest, seasonally and annually.

Sometimes, one cultural operation will be limiting. For example, the planting dates for spring wheat may be limited to a 10-day period. Anything later sharply reduces the eventual yield. If a man can harvest 500 acres, cultivate 400 acres, but can only plant 300 acres, then the optimum size of his farm is 300 acres.

The man with not enough time or machinery to do the critical farming operations in the allotted days—why can't he resort to custom hiring? He can. However, in theory this farmer over a year's time span would be underemploying his own labor.

**Split-up farm?** Hypothetically the problem of too few working days could also be resolved by having the "farm" in two parts, separated by a climatic zone so that the planting and harvesting seasons don't coincide. This way both parts of the farm could be operated by the same man and his machines, it being necessary only to transport them between the two units.

Another alternative to maximize use of the farmer's time is to grow two crops whose cultural operations don't coincide, such as spring-seeded barley and fall-seeded wheat.

The drawback here is that the secondary crops usually require one or more specialized machines and are less profitable than one-crop farms.

In fact the trend across the U.S. is toward greater specialization and less diversification.

**No rule of thumb.** The size of farm to achieve the ultimate in efficiency varies widely by the type of farming and the farm's location. For example, in regions where dry-land farming predominates, wheat farms may have 1 acre of fallow to each acre in crops. These farms are twice as big as wheat operations in the humid, annual cropping regions.

In cattle ranching the criterion of size is the cow herd. Generally the optimum herd is 300 head, but the pasture to support that many ranges from 150 acres in irrigated areas to 36,000 in the desert areas of the Southwest.

Net farm income for tenant operators is computed in the table shown below.

The return to operator's labor—figured at the equivalent wage rate for hired workers—is not large on specialized crop farms. This is because the work is highly seasonal, providing only half-time productive employment.

There is, however, an opportunity for the tenant operator to earn a fairly substantial return to management on the technically optimum

one-man farm, assuming he can get the capital to equip and operate it. (This study also contains comparable data for one-half and two-man farms, the two-man operation having twice the acreage of the one-man farm.)

**Tenant v. owner.** If these farms were run by debt-free owners instead of tenant operators, the net farm income would show a third component in addition to a return to operator's labor and to his management. This would be the return to land capital, which in the table at right shows up in the expense column as "land rent." Income from land capital explains why many debt-free owner-operators are able to make a living considering their low return to labor. They may have inherited the land capital or accumulated it through appreciation in land values.

The models for technically optimum farms were based on conditions in 1972, and hard to predict are the forces that will increase the optimum size in the future.

**Miracle of machines.** Today's technically optimum one-man crop farm is half again as big as it was just 10 or 15 years ago. It grew in response to increases in the size and capacity

of the tractor and other farm machines. Since the early sixties, for instance, farmers have shifted from four-row to six-row planters and cultivators for corn, soybeans, cotton, and potatoes. Wheat, barley, and rice producers are using wider tillage machines and seeding drills.

**In the 1980's . . .** It is unclear whether the advances in machinery will be as dramatic during the next 10 years, according to the economist who made this study. To some extent, farm machine sizes change in response to buyer demand. This in turn depends on the buyer's ability to get more land, either through rental or purchase. It could be the growing practice of "field renting" tracts of land will facilitate the trend toward larger machines and larger technically optimum one-man crops farms. (1)

## Feeder Cattle Investor Has Range of Choices

Like to make decisions? It's a way of life for those who invest in custom-fed cattle . . . and the many factors that can affect returns on investment can make these decisions difficult.

First off, there's the decision of which feeder cattle will get you top rates of return on invested capital—what sex, weight class, and heredity. The selection can have quite an impact on rates of weight gain and feed conversion you can expect, hence, on the rate of return.

And since cattle prices vary by season, the month of purchase makes a difference as does the number of purchases made during the year. Then there's the matter of fluctuating feed grain prices.

Factors influencing returns on capital is the subject of a study by ERS in cooperation with Colorado State University. In Colorado, one of the leading States in custom feeding, more than a third of the cattle on feed are owned by individuals (mostly farmers and ranchers) other than the feedlot operator.

When it comes to choosing among

## OPTIMUM ONE-MAN TENANT FARMS

Item	Indiana corn- soybeans	Montana wheat- barley	N.W. Kansas wheat-grain- sorghum	Louisiana rice- soybeans	Delta cotton- soybeans
	<i>Dollars</i>				
Land acres	800	1,960	1,950	360	600
Gross income	101,400	43,700	38,200	41,500	76,400
<b>Expenses:</b>					
Land rent	32,000	14,500	7,500	11,700	16,000
Machine charge	20,000	6,800	6,600	5,000	13,000
Hired labor	3,700	1,700	900	500	4,800
Other	25,300	11,200	13,300	9,100	25,000
	<u>81,000</u>	<u>34,200</u>	<u>28,300</u>	<u>26,300</u>	<u>58,800</u>
Net income	20,400	9,500	9,900	15,200	17,600
<b>Return to:</b>					
Operator labor	6,000	2,700	2,700	4,200	4,800
Management	14,400	8,800	7,200	11,000	12,800
<b>Capital managed:</b>					
Land	480,000	245,000	200,000	108,000	255,000
Machinery	130,000	57,000	55,000	50,000	80,000
	<u>610,000</u>	<u>302,000</u>	<u>255,000</u>	<u>158,000</u>	<u>335,000</u>

cattle of different sex and weight classes, the study found the rate of return on capital to be highest for heavy yearling steers (over 700 pounds when placed on feed). The return averaged about 19 percent for the period under review, 1957-71, based on cattle prices at Kansas City. Next most profitable were investments in yearling heifers (500-699 pounds), at nearly 15 percent, followed by yearling steers (500-699 pounds), at 13 percent.

Don't be misled by the averages, however. There are wide year-to-year differences in rates of return.

Steer and heifer calves were

shown to be the least profitable, mainly because of a low rate of turnover and negative price margins.

Ideally, the investors would like to buy feeder cattle when prices reach a seasonal low point and sell when fat cattle prices reach their seasonal high. One purchase a year produces the largest *net* return, since it can avoid all the low return months.

However, this study noted that in terms of *rate* of return on investment, there was some variation in the optimum frequency of purchase among the classes of feeder cattle.

For heavy steers, the average rate of return was highest when bought

three times a year—in February, June, and October. For yearling heifers (the second best investment), again three purchases a year was the optimum number, but the best months were January, May, and September. Yearling steers yielded the highest rate of return when bought four times—in February, May, August, and November.

About feed prices, the study concluded the level of prices doesn't affect the selection of cattle by sex and weight class. But prices do have a heavy impact on the size and rate of returns for feeders of the same sex and weight. For example, the

## PESTICIDE CURBS: ARE ECONOMIC LOSSES INSURABLE?

Lower output or higher costs. Either one or both could be the farmer's fate as the curtain of restrictions falls on the pesticide scene.

Production of many crop farmers could suffer as they switch to less effective pesticides. These substitutes might also cost more than the old standbys. For the rancher, tighter controls on predator poisons could mean heavier mortality in livestock, sheep in particular.

If in the short run individual farmers and ranchers must bear the brunt of economic losses, why not spread them out through an insurance program?

It could be done, suggests one ERS insurance specialist. But this would not be an insurance program in the traditional sense. And relatively few farmers could afford the premiums.

As explained by this specialist, all-risk insurance would be the most feasible type of coverage in that it would protect the farmer or rancher from losses from any cause, regardless of the effect of pesticide regulations. Even this program, however, "would be hampered by lack of actuarial data, heavy losses, and ways of verifying them. In effect it would

not be true insurance in terms of accepted insurance principles . . ."

One fundamental of the insurance business is that the peril causing the loss should be of a random and fortuitous nature and not under the control of the farmer.

In the case of curtailed use of pesticides and predator poisons, it's up to the producer to make adjustments (find substitutes, change management practices, etc.), and in this sense he can exercise some control.

Anybody who considers writing an insurance policy for pest damages is put in position of guarding against situations where the insured can, but fails to, reduce the extent of losses. The insurer must either go to extra expense to weed out high risk cases, or else increase the premium rates. Higher rates would obviously discourage many producers from buying this insurance.

Another principle of traditional insurance: the loss caused by the peril must be determinable and measurable. According to the ERS insurance specialist, "Separating and measuring crop losses caused by pesticide restriction from those that might have occurred under

previous pesticide practices would be all but impossible in most situations."

Principle No. 3: To spread losses equitably among those insured, the insurer needs to estimate the mathematical probability of loss. This ordinarily requires a knowledge of past losses. The existing data on crop yields and sheep production are based on the generally accepted cultural practices—and these often include the use of pesticides. Past experience therefore has limited value in predicting future yields, output, and economic losses when restrictions are put on pesticides and predator poisons.

All considered, an insurance program protecting against losses due to pesticide restrictions would involve many administration problems. The costs of operating such a program would seem to be prohibitive, and would probably need substantial subsidy from the Government.

"If the program were to be self-supporting," says the ERS analyst, "it would fail to attract many participants because of high premium rates and the relatively low amounts of protection available." (3)

rate for heavy yearling steers was around 19 percent per head with an assumed corn price of \$2.30/cwt., and only 11 percent with a price of \$2.60/cwt.

Another key factor affecting returns among cattle of the same sex and weight: hereditary differences.

In the same feedlot, and fed the same rations, yearling steers from different localities and cow herds had weight gains per day ranging from 3.8 pounds per head to 2.6 pounds. Feed conversion varied from a high of 11.7 pounds to a low of 6.2.

Significantly, every 10-percent increase in productivity generated as much as a fourfold increase in net return and rate of return on investment.

Thus, many factors affect the rate of return. While hindsight is a guide, a change in any one factor could alter the future. (4)

## Surpluses In Store For Peanuts

The U.S. peanut economy may be heading into troubled waters. According to new projections by an ERS fats and oils specialist, large peanut surpluses could develop over the next 10 to 15 years.

These projections show that peanut production under existing legislation would increase 45 percent by 1985 to 4.7 billion pounds, whereas the domestic edible requirements for peanuts would rise at a slower rate—by approximately one-third to 2.2 billion pounds.

Under current program provisions the surplus would be acquired from farmers by the Commodity Credit Corporation (CCC) and diverted from the edible market into crushing and export channels. If this peanut program remains on its present track, CCC may be diverting approximately half of the U.S. peanut crop by 1985.

Since CCC peanuts are sold at prices much below acquisition costs, the larger volume moving into CCC's hands in the next several years would result in higher diversion

costs to the Federal Government.

Total CCC costs would amount to an estimated \$200 million in 1980 and \$300 million by 1985. In 1971 the losses totaled \$97 million (exclusive of \$15 million for peanut butter purchases).

A number of assumptions went into these projections.

The minimum national acreage allotment would continue at 1.6 million acres. Thus the production gains expected would stem primarily from economic program incentives and higher peanut yields per acre (estimated at 3 percent a year), reflecting use of improved peanut varieties and technology.

Projections also assume:

- ✓ growers' continued approval of marketing quotas;
- ✓ mandatory price support levels authorized between 75 and 90 percent of parity, but kept at the 75 percent rate;
- ✓ sustained annual increases in peanut parity prices and support levels;
- ✓ prices received by farmers averaging at support;
- ✓ CCC acquisitions and diversions at less than half the support price; and
- ✓ 2½-percent annual increase in commercial edible uses. (5)

## Special Census Details Agricultural Service Firms

Firms whose main business is providing agricultural services grossed \$1.1 billion from farmers in 1969, a special Census Bureau survey shows.

These firms provided such services as veterinary care for farm animals, cotton ginning, feed grinding, harvesting, contract labor, and spraying.

In addition, the firms earned another \$1 billion from nonfarmers for such services as veterinary care and lawn and tree care.

In total, there were 32,565 establishments in 1969—with a payroll of \$593 million—whose main function was to provide agricultural services.

They employed 110,000 paid work-

ers who put in 150 days or more and another 313,000 workers who put in less than 150 days.

They also had 31,000 unpaid workers who put in 150 days or more and 6,000 who put in less.

Most of the firms were small, and four out of five were individually owned. Although the average gross income was \$64,000, one out of three of the establishments earned less than \$10,000. Nearly half of the receipts were earned by the 12 percent of the establishments that were operated by corporations.

California had the greatest gross receipts from agricultural services, followed by Texas and Florida. These three States accounted for nearly a third of total gross receipts for agricultural services in the U.S. in 1969.

Of the types of firms averaging over \$200 million, only custom cattle feeding was farm-related. The rest were hospitals for pets and small animals and firms providing shrub and tree services or lawn and garden services.

Other leading farm-related agricultural services—with receipts of around \$100,000—included veterinary care, poultry hatcheries, and fruit sorting, packing, and grading. Less important farm-related agricultural services included cotton ginning, vegetable sorting, packing, and grading, artificial breeding, and farm labor contractors providing crew labor.

The Census survey showed an additional \$87 million in gross receipts from firms that performed agricultural services but did not consider them their most important function. Agricultural services accounted for only a tenth of their total receipts.

Agriculture services are often provided by firms with other business activities. Often the service is included with a product and priced as a unit, for instance feed grinding and fertilizer application. Therefore, firms whose major activity is providing agricultural services render only a part of the total services to farmers. (2)

# Water's Prime Consumer

There's a good reason why agriculture should be vitally concerned with this Nation's water resources: it's the biggest consumer.

Though it might come as a surprise to the city dweller, rural areas consume far more water than cities—a ratio of nearly 6 gallons for every 1 consumed in urban areas.

Water consumed—meaning it does not return to surface or ground water—accounts for about a fourth of the water withdrawn daily in the U.S.

**Water withdrawals.** As for withdrawals, agriculture used 121 billion gallons a day in 1970 and is projected to use 153 billion gallons by 2000. However, by then, steam-electric power plants, showing enormous growth, will be the greatest user.

What's agriculture using all this water for? Irrigation, mostly.

In a breakdown of water withdrawals as contrasted to actual consumption for 1970, ERS notes that rural areas took 38 percent of the 327-billion-gallon daily total, and 95 percent of this was for irrigation.

**Cities a small user.** Urban areas accounted for the remaining 62 percent of water withdrawals, but only 12 percent of this was for municipalities. Industry's self-supplied water accounted for 28 percent (of which nearly a fifth was from saline sources) and steam-electric power use accounted for 60 percent of all urban withdrawals.

Overall in 1970, the Nation withdrew 66 percent of its water from fresh surface sources, 24 percent from ground sources, and 10 percent from saline sources.

In general, we're not withdrawing anywhere near our total water resources. Precipitation for the 48 States amounts to an average of 30 inches a year, or about 4.2 trillion gallons a day. About 21 inches evaporates or is transpired from nonirrigated vegetation. Roughly two-fifths

of this is natural loss, but the remainder provides the moisture for four-fifths of our supply of food and fiber and nearly all of our forest products.

The remaining 9 inches is natural runoff. It averages 1.2 trillion gallons a day and can be considered the effective renewable supply. But there's also substantial accumulated groundwater on reserve, not all of which can be economically tapped. In addition, natural runoff in Alaska is 580 billion gallons a day, almost half that of the 48 States. Alaska's water resources represent the largest block of undeveloped water supply for the U.S.

**Adequate supply.** And so it's apparent that we have an adequate supply, nationally, to meet future withdrawal needs. By the year 2000, it's projected we'll be withdrawing for use 805 billion gallons a day, about two-thirds of our 1.2-trillion-gallon daily rate of runoff, and about 2½ times our 1970 average withdrawal. However, yearly, seasonal, and geographic variations in precipitation present serious problems in managing the use of the Nation's water supply.

Agriculture's role in all this is that it accounts for at least half—and in many cases nearly all—of the water consumption in 13 of the 17 water regions of the 48 States. The only places where agricultural consumption doesn't predominate are in the highly urbanized and industrialized regions of the North Atlantic, Great Lakes, and Ohio Basin.

Agriculture also accounts for almost all withdrawals in the Western States and Hawaii, with the exception of California where rural uses total 70 percent of withdrawals. In the East, urban withdrawals predominate.

Considering its current heavy role, agriculture will be the major consumer of water for many years to

come. Because of this, management and development of water resources in rural areas will continue to be important issues in public policy.

To speak of agricultural use of water, one is really speaking of irrigation, for it accounts for just about all of the water withdrawn for rural areas and for more than 80 percent of all water consumed in the U.S. in a year.

In 1970, the 44 million acres under irrigation used an average of about 3 feet of water for each acre irrigated. About 35 percent of this water came from the ground, and the rest, from surface sources.

Nearly all of the irrigation—90 percent—takes place in the 17 Western States, mainly in concentrated areas in the Texas Gulf and High Plains, southern Arizona, and California's Central Valley.

In the East, the irrigated acreage is concentrated in Florida, Arkansas, and Louisiana, with small operations scattered elsewhere through the cropland areas. In the humid areas, irrigation can prevent crop failures in drought years while increasing yields and improving product quality in average years. It is also used for both frost protection and for control of high temperatures on specialty crops.

Irrigated acreage increased for many years, by an annual average of 700,000 acres during 1939–1969. But more recently the rate of growth has dropped off.

In the East, although irrigated acreage is relatively small, it is nevertheless six times greater than in 1939. Two-thirds of the increase has taken place in Florida's fruit and vegetable area and the rice and soybean areas of Arkansas and Louisiana.

In the West, irrigated acreage doubled from 1939 to 1969, but with wide differences in growth among regions. The Northern and Southern



Plains now have more than a third of the total compared with a tenth in 1939. But in the Mountain and Pacific States, acreage has declined in recent years due to local ground and surface water shortages.

There's a considerable difference in the use of irrigated land across the country. In the West, more than a third is used for low-value hay and pasture and only 10 percent for fruit and vegetable crops.

In the East, only about 10 percent of the irrigated acreage is used for hay and pasture. Specialty crops account for more than half of the total—about equally divided among rice and fruits and vegetables.

In the years ahead, irrigation will continue to be the principal consumer. However, it will take a smaller proportion of total U.S. water withdrawals as other uses, es-

pecially steam-electric power, surge upward.

In contrast to the substantial improvement anticipated in recycling and other efficiencies in industrial uses, irrigation water use efficiency is expected to improve only modestly.

A number of trouble spots have already developed in the way of water quality and water shortages for agriculture, and water quality problems are particularly critical now in the water regions of the Lower Colorado, Rio Grande, North Atlantic, Ohio, Great Lakes, Tennessee, and Southeast, followed by the Upper and Lower Mississippi regions, the Great Basin and California.

Recent aerial photographs have shown that about half the irrigated land in the 17 Western States now has salinity problems. This has been

caused by not enough water being applied in irrigation to flush salts down through the root zone.

**Supply shortage.** The big water problem for the West, though, is one of supply.

In both the Lower Colorado and Rio Grande regions, use exceeds runoff supply considerably and water is used from upstream.

In the Texas High Plains, a heavily irrigated area of some 20 counties, groundwater sources are being depleted and some areas are reverting back to dryland farming.

In the Lower Colorado region, which has one of the highest population growth rates in the Nation, existing needs already overpower the dependable water supply that includes flows from the Upper Colorado region.

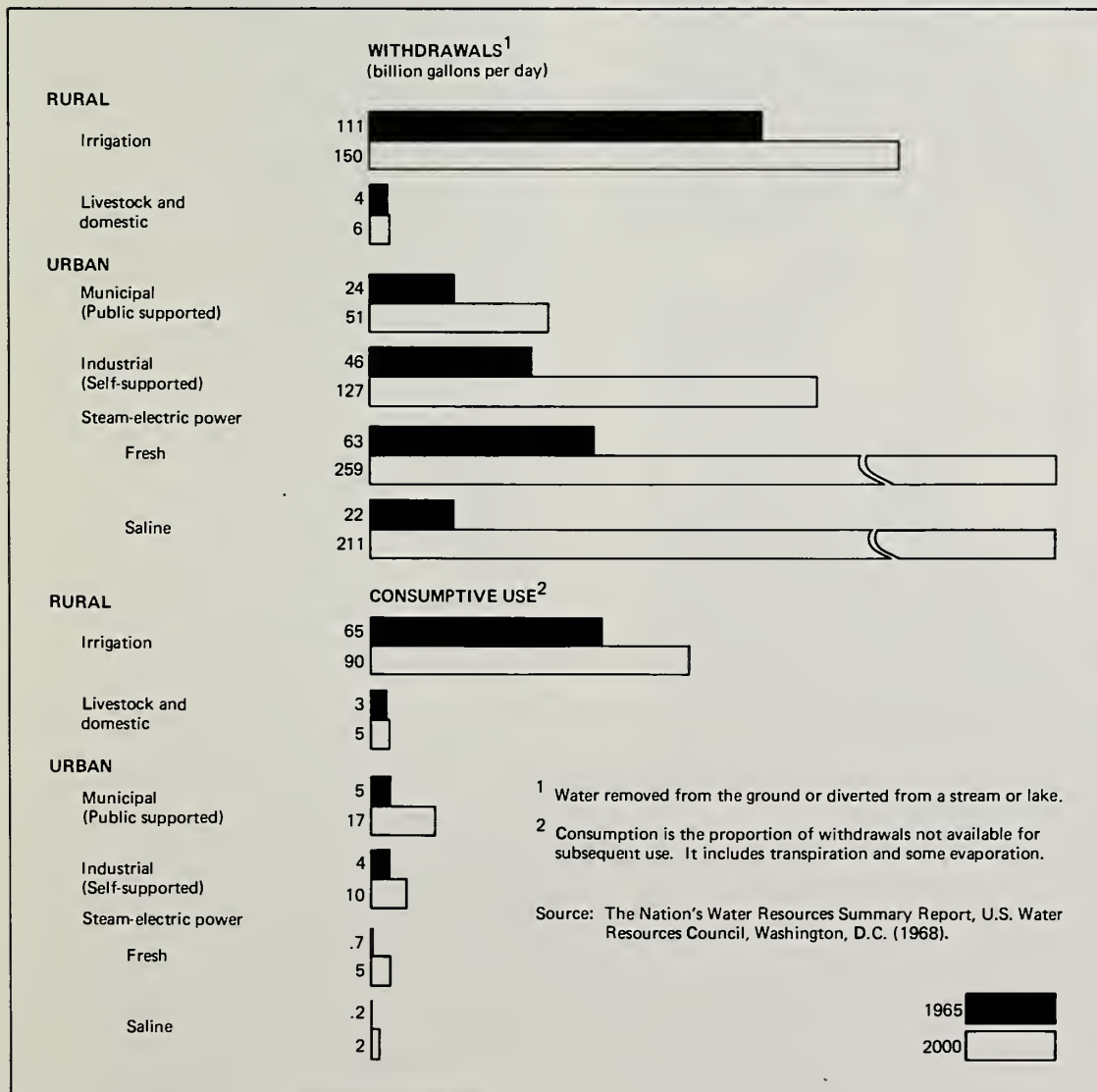
In contrast, the Lower Mississippi Region is second only to Alaska in terms of a low ratio of withdrawals to supply. It's a strategic area for development of the Nation's economy, and tremendous growth is expected with the enormous capacity of the Mississippi River to satisfy water requirements.

**Farming shifts.** This isn't the first time in recent years that water resources have had a profound effect on the location and productive capability of agricultural enterprises.

Cotton production, for instance, has shifted from the Southeastern States to the Mississippi Delta, the Texas High Plains, Arizona, and California. Irish potato production has moved from Maine and other Eastern States toward the Pacific Northwest because of the comparative advantage of irrigation in this region.

National policies regarding irrigation, drainage, and other agricultural water management measures are important factors in the development of adequate water supplies. Current policies envision more local-State-Federal cooperation in planning studies to assess the need for major storage and conveyance works to serve groups of communities. (6) [Second in a series.]

## Water Uses: 1965 vs. the year 2000



## Ways To Finance Water/Sewer Systems

If a crash program were launched today to upgrade water and sewer systems in rural communities, it would take upwards of \$12 billion to get the job done by 1983.

Benefiting from the program would be the more than 17,000 communities that now lack but need water facilities, and an additional 23,000 needing sewer systems. These

could be provided at a cost of somewhat over \$8 billion, based on "needs surveys" made by USDA's Farmers Home Administration. The rest of the \$12 billion would go to some 30,000 communities whose existing systems should be improved or enlarged.

Assuming these needs are to be met, the big question is how such a massive program could be financed by the Federal Government.

ERS explores the options in a recent report. The researcher se-

lected 19 plans for close analysis.

Generally, loans are cheaper than grants as long as both cover 100 percent of the system's cost. For various reasons, a mix of grants and loans vastly complicates the situation.

From the Government's standpoint, the least expensive option would involve direct loans at market rates of interest. To meet entire program needs of \$12 billion, direct Federal costs would be an estimated \$1.4 billion for the direct loan approach if interest at 5½ percent.

The most expensive financing plan would be interest-free loans (estimated at \$18.8 billion with an 8-percent interest subsidy). Next most costly would be a 100-percent "grants only" program (\$12.8 billion).

However, 100-percent grants would be the most expensive when considering the income tax earnings the Government receives from the interest paid bondholders. This way the Government would actually show a net gain under nine of the financing options. For example, the \$1.4 billion loss figure in the case of direct loans at 5½ percent would change to a \$4 billion net profit. At 8-percent interest—the most optimistic assumption—the Federal Government would realize a net gain of \$6.7 billion.

From the viewpoint of the local recipients the above rankings would be reversed, and the least-cost plan would be "grants only."

One difficult question is how much communities could do on their own if given a certain percentage of the total project costs as a Federal grant. The exact size of the average percentage grant possible, before Federal costs exceed those found under the market rate loan alternative, is difficult to determine because it is a function of many factors. Assuming only direct Federal costs, the grants may have a break-even point of approximately 10 percent of total project costs. If Federal recovery of interest via the income tax is considered, the grants possibly could range up to 50 percent of total project costs. (7)

## Farm Real Estate Taxes Grew at Slower Rate in '71

State and local taxes on farm real estate edged up in 1971 for the 29th year in a row, but the percentage gain was the least since 1964.

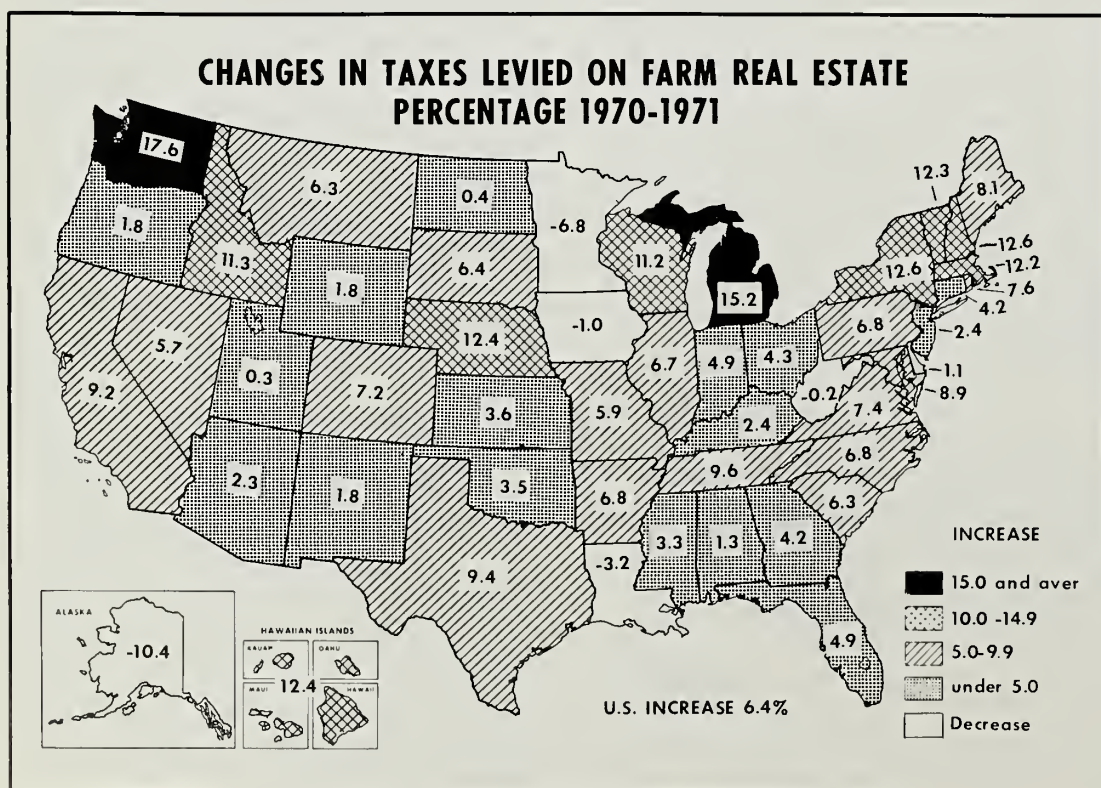
In its latest report on farm real estate taxes, ERS said taxes levied on land and buildings came to nearly \$2.7 billion in 1971, or 6.4 percent more than a year earlier.

The effective rate of tax rose to \$1.21 per \$100 of value from 1970's \$1.18. Taxes per acre of farmland averaged \$2.63 for the 50 States in 1971—up 16¢.

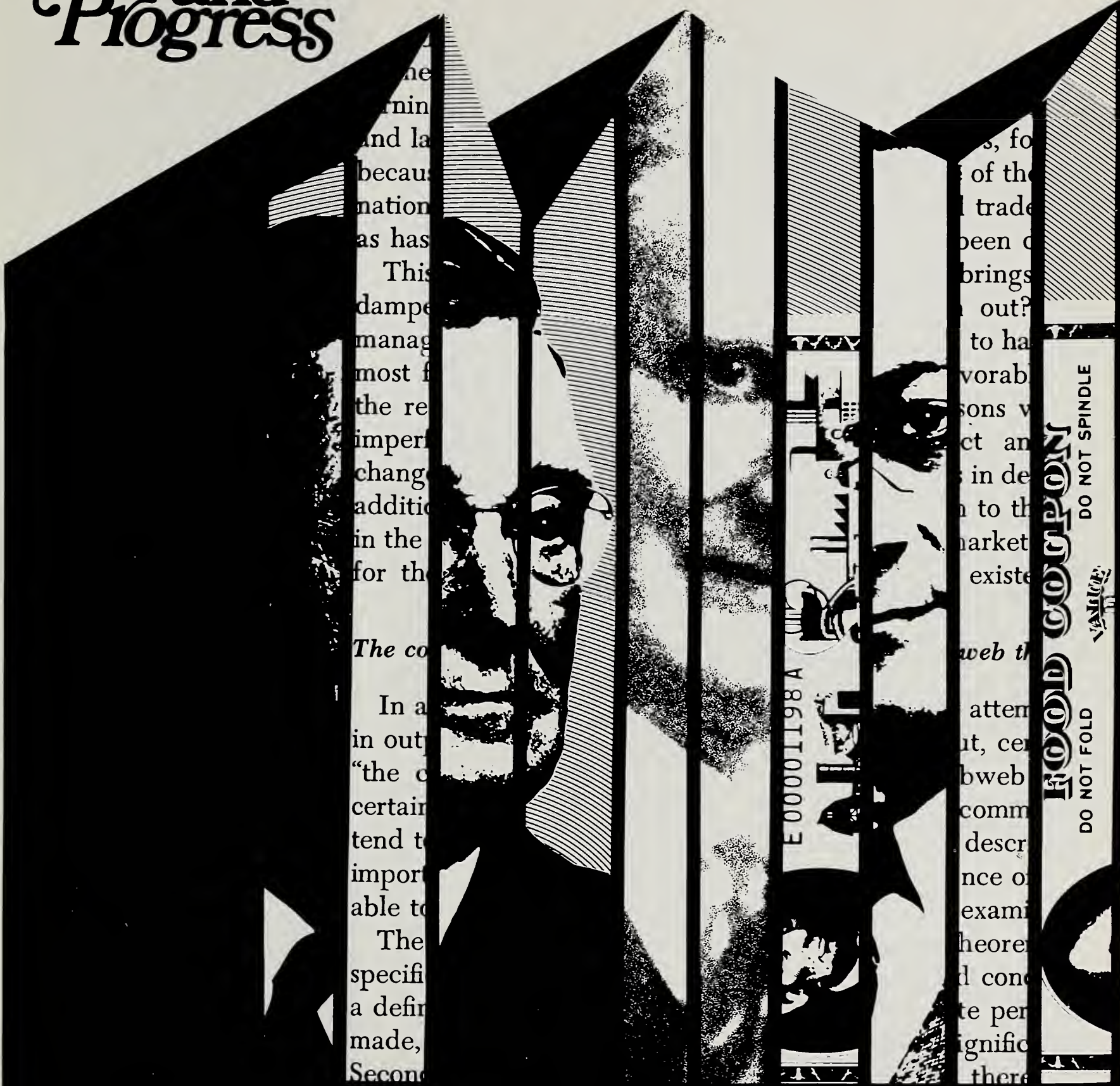
Per acre taxes advanced in 45 States, with the sharpest increases in Washington (18 percent).

Taxes went down in five States. The drop in Minnesota reflects a new law enabling the State to take over a larger share of school operating costs and cut local school taxes. In Iowa assessment procedures were updated and a property tax-relief plan instituted.

Louisiana's decrease was apparently due to the replacement of the Statewide property tax with a tax on natural gas production. In Alaska the decline probably reflects the application of a 1967 law providing for special assessment of farmland, and growth of a State revenue sharing program to local governments begun in 1969. (8)



# People and Progress



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DO NOT SPINDLE  
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"The history of agricultural economics in America covers a short period of time. It is not too much to say that this branch of science did not exist before 1900. All the more astonishing, then, is the fact that today, as we can calmly admit, America has outstripped all other

countries in this field . . ." So wrote a somewhat bemused German economist, Sigmund von Frauendorfer, in 1928. Many of the first American agricultural economists were not economists at all, at least not in terms of their formal training. They were

horticulturalists, agronomists, and workers in animal husbandry who got interested in farm management.

Take William J. Spillman, for example. Born on a Missouri farm in 1863 and educated at the University of Missouri, Spillman cut his professional teeth as an agronomist.

While teaching at Washington State College in the late 19th century, he worked on developing new winter wheat varieties, making major contributions to genetic science in the process. In fact, when USDA hired him in 1902, it gave him the title, "agrostologist"—an expert on grasses.

**Par excellence.** Spillman noticed during the days he spent studying wheat that in any group of farmers, a few would be using superior management techniques. In Washington, he gathered a cadre of men and instructed them to search out these farmers across the country, study their methods and publish the results. Spillman, who in 1905 became head of the new Office of Farm Management, supervised a flood of pioneering management studies that came from these efforts. A *Model Dairy Farm*; *Building up a Run-down Plantation*; and *Cropping Systems of New England* were several of the better known management manuals that his office published during the early 20th century.

**Shades of Spillman.** Today Spillman is probably best remembered for a small book he brought out in 1927. Called *Balancing the Farm Output*, it urged farmers to reduce production in order to raise their incomes. In effect, it was the first formulation of the domestic allotment plan that later became a cornerstone of U.S. agricultural policy.

Agronomists like Spillman seemed to have a relatively easy time shifting from studies of crop rotations to studies of cropping systems and from there to viewing the farm as a total unit. And this probably ex-

plains the trailblazing role they played in farm management.

Their work had a strong streak of common sense. It was intended as much for working farmers as anybody else.

The man who brought the analytical tools of general economics to farm management and agricultural marketing was John D. Black whose 1926 volume, *Introduction to Production Economics*, anticipated many of the theories of production and the farm firm that became bywords with well-trained economists during the next decade.

Black was a brilliant scholar with an uncanny ability to open up new areas for investigation, and he left his mark on almost every aspect of agricultural economics. Yet he started out as a rhetoric teacher at Western Reserve University and the Michigan College of Mines.

He returned to school when he was 32 and 3 years later, in 1919, took his Ph.D. in economics from the University of Wisconsin. Through his writing and teaching he influenced more than a generation of agricultural economists.

**Black's Mentor.** One of Black's own teachers at Wisconsin was Henry C. Taylor, called by some the father of agricultural economics. Educated in the U.S., England, and Germany, Taylor was a leader among the first academically trained economists to apply their skills to agriculture. He was the first professor of agricultural economics in a land

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**FOUR MEN WHO PAVED THE WAY:** *John D. Black (top left), innovator and teacher; Henry C. Taylor (top right), father of agricultural economics; William J. Spillman (bottom left), explorer in farm management; Mordecai Ezekiel (bottom right), pioneer in statistical theory.*

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grant institution, and in 1905, while on the Wisconsin faculty, he published *An Introduction to Agricultural Economics*, the earliest comprehensive treatment of the field.

Taylor moved to Spillman's old job as head of the Office of Farm Management in 1919. In 1922 he was picked to lead USDA's new Bureau of Agricultural Economics (BAE) which was a major center of American agricultural economic research.

**Genesis of Outlook.** Early in 1923, the BAE began gathering information on the acreage farmers had planted in various crops in 1922 and on the intended plantings for 1923. This data formed the basis of the first Outlook Conference held April 20-21, 1923.

While drawing together material for the initial Outlook Report, BAE's economists discovered a major problem.

Previously, most of USDA's research had assumed a stable demand situation and given special attention to supply variations. But the farm depression of the early twenties indicated that demand could have a dominant influence on prices, and that discovery raised a raft of questions.

The job of spearheading investigation into this new area fell to O. C. Stine, a product of the University of Wisconsin and Director of BAE's Division of Statistical and Historical Research. He put together a staff that included men who went on to become leaders in their fields.

**Pathfinders.** There was a New Englander, for instance, an ex-ambulance driver with the French Army, named Frederick Waugh whose ideas on graduated pricing laid the foundations in the 1930's for the Food Stamp Plan. There was Louis Bean, Lithuanian-born and fresh from Harvard's Business School, who today is one of the country's top political analysts. And there was Mordecai Ezekiel who became economic advisor to Agricul-

ture Secretary Henry Wallace during the New Deal.

As these men and others like them pushed back the frontiers of price research, they made contributions to statistical theory that have been felt far beyond the realm of agricultural economics.

With an assist from Howard R. Tolley, Ezekiel devised the technique known as multiple correlation analysis, a method of discovering the relationship between statistical variables. That led to Bean's creation of the scatter diagram, which simplified Ezekiel's process through the use of graphic analysis. Then, in 1938, Ezekiel gained further renown with a concept he called the cobweb theorem explaining the interaction of production and prices.

During the twenties and thirties, BAE economists and their counterparts at universities around the country provided the basis for Federal programs that remain in effect even now.

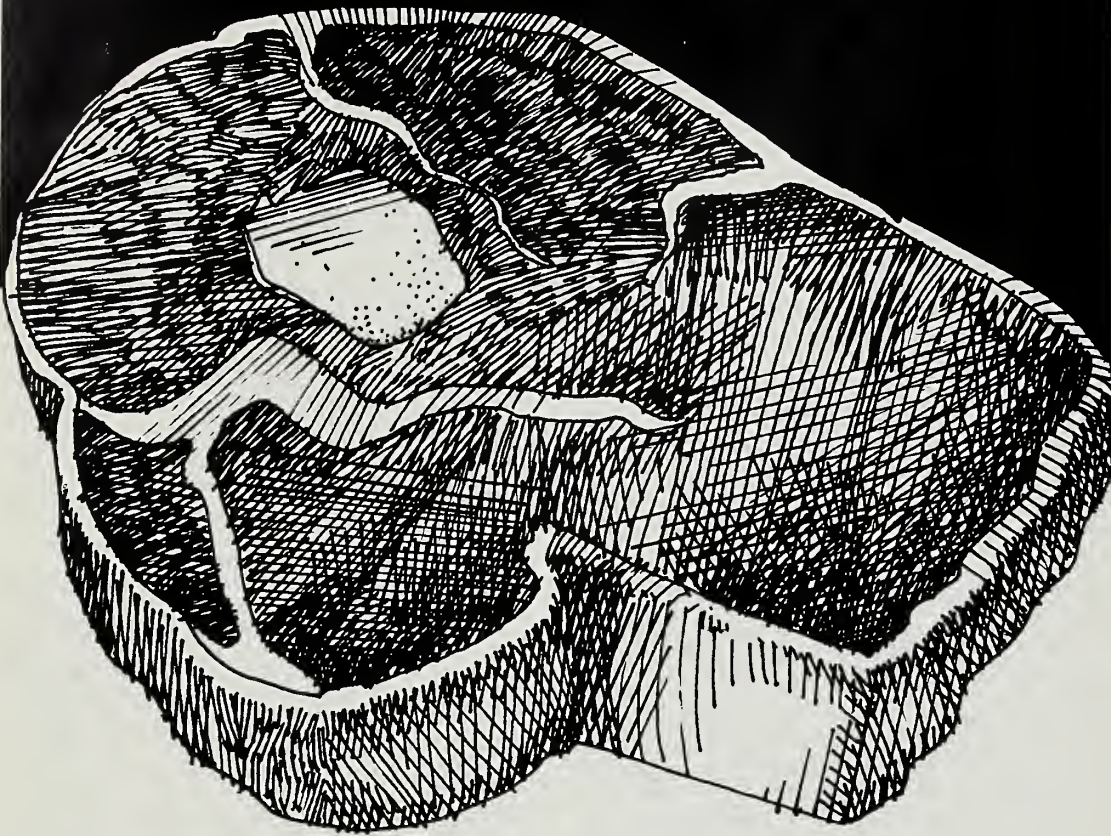
**Hairy economics.** Since that time of major breakthroughs, the technical tools of agricultural economics have gained enormous sophistication. Linear programming, econometrics, improved sampling methods and the like are workaday aids to contemporary researchers.

Yet the traditional concerns still challenge. Taking only one example, in the early 1950's, Iowa State's Earl Heady published *Economics of Agricultural Production and Resource Use* and thus revolutionized the teaching of a subject that had been among the first to interest early agricultural economists.

Today Heady and a multitude of others are expanding the limits of agricultural economics, clearing with bulldozers a path that their predecessors began with hatchets and hoes. (9)

[*Second of a series. Next month: Outlook and Situation work at ERS.*]

## A Roast By Any Other Name...



This is a picture of a:

- Chuck pot roast
- California pot roast
- Cross cut, boneless
- Shoulder cross rib
- Arm pot roast

Depending on which part of the country you live in, your answer could be any of these. The reason—according to a new ERS study—is that a single primal cut of beef such as chuck can go by as many as 41 different names at the retail meat counter.

In a 1-year survey concluded in April 1972, ERS looked at advertisements by 10 major retail food chains in 8 cities around the country. Of nearly 1,000 newspaper ads studied, 212 different names were listed for steaks, 151 for roasts, and 94 for other fresh beef items such as brisket.

The conclusion: the proliferation of names for retail beef can be confusing to the consumer. The study said a more standardized system of nomenclature would give the buyer a

better idea of the cut of beef the name actually represented.

During the survey, no one name for steaks or roasts—including such widely recognized names as chuck roast—was found listed the same way by all the chains. Even within the same chain, the names varied.

Identical names were sometimes given for various primal sources. Swiss steak, which was included in 120 ads, was at times listed without a primal source, and at other times as coming from the arm, shoulder, round, and bottom round.

The beef items studied originated from eight primal cuts: chuck, rib, short loin, sirloin, round, brisket, short plate, and flank. If the National Livestock and Meat Board has its way, primal cuts like these will be listed on every retail package of beef.

The Meat Board—an industry association based in Chicago—has been campaigning since last January in favor of voluntary use of standardized names on all meat labels. To that end, the Meat Board formed an ad hoc committee to compile a second edition of a master list of meat names for retail meat identity labeling. Although still cumbersome (it contains 610 meat names), the list could form a basis for ending confusion due to names that tell the consumer nothing about the cut of meat he is buying.

Gone, among others, would be Swiss steaks, choppies, and coulotte steaks, names that manage to trip up even professionals in the meat industry.

Two States, New York and Massachusetts, have enacted legislation to end labeling confusion. Both States' laws permit the retailer to name the cut, but require that if a name is used on the package other than the primal cut, the primal cut must also be identified.

This lets the buyer of a cross-cut rib roast know he's getting chuck.

The New York law stipulates that retail names "shall not be false, misleading, deceptive, or confusing in any way." Fanciful names, like cou-

lottes, are prohibited.

The latest word from the Meat Board is that they will be urging retailers to adopt the new standards in early 1973. The nomenclature would be keyed to the anatomical designation of meat, like the two States' laws, and would require labeling that includes the species of meat (beef, pork, etc.); the primal cut; and a recognizable common name of the packaged cut.

Until the time when such a system becomes common practice, what is a consumer's best bet?

According to White House Consumer Affairs Adviser Virginia Knauer, buy beef according to the kind of primary cut it is—and avoid fanciful names which suggest that the meat may be a cut or two above what it actually is.

Or, a chuck roast by any other name is still a chuck roast. (10)

### *Label Laws*

The labeling standards proposed by the National Livestock and Meat Board are in line with what USDA has been doing right along.

Before meat leaves a USDA inspected processing plant, it must carry an approved label which states the species of meat as well as the primal cut in most cases along with the retail cut. For example, in the name "beef rib eye roast" beef would be the species; rib eye the primal cut; and roast the retail cut.

It is at the retail packaging level that additional names may be added and others eliminated.

At present, most retail meats are packaged after they leave the plant. The trend, according to the Department's Animal and Plant Health Inspection Service, is for more meat to be packaged at the plant level.

When buying beef, if the descriptive label (as distinct from the USDA grading mark) has USDA's official mark of inspection on it, that is the buyer's assurance that it was packaged at a Federally inspected plant and conforms to USDA labeling and packaging regulations. (11)

## GROCERY SHOPPING IN THE INNER CITY

If you do your grocery shopping in the inner city, you're more apt to encounter the very small, independent foodstore. And in smaller stores, food prices are more often higher, variety of products more limited, quality of food assortment poorer, and services more restricted than in larger stores.

That's the indication from an ERS food retailing study of Cleveland where more than 300 shoppers and more than 300 store representatives were interviewed in the inner city and surrounding area.

The study also delved into the reasons behind the differences and made recommendations to improve the situation—suggestions that would apply in other parts of the country as well.

For a number of reasons, the inner city stores were losing about \$24 million worth of business annually to surrounding stores in higher income areas, the study found. The more than half a million inner city residents were spending \$110 million in grocery stores but only \$86 million of it in inner city stores.

The stores were losing 22 percent of the available market because some residents chose and were able to patronize stores in higher income areas. This market, the study noted, could be recaptured if the stores improved enough to attract residents back to shop closer to home.

The small, independent store in the inner city stood out in the study as showing the most variance from other stores.

They charged about 4 percent more than independents in the surrounding higher income area and 6 to 9 percent more than inner city chains.

Compared with independents in the surrounding higher income areas, they were more apt to offer credit, accept food stamps, and have packers at the checkout counter. But a higher proportion of the independ-

ents in the higher income areas provided check cashing, air conditioning, shopping carts, car loading space, and home delivery.

About half of the inner city independents were struggling to earn a modest living, the study found, and their problems were those of sparse volume levels, severe price competition from chains and voluntary stores (stores banded together by a wholesaler), poor purchasing position, and increasing problems with vandalism, pilferage, and crimes which affect the cost of operation as well as personal safety.

These very small foodstores comprised a higher proportion of the total stores in the inner city than they did further out. While there were more stores of every type—chain, voluntary or cooperative, and independent—per square mile in the inner city than the outer city, most chains were near the fringe of the low income area, leaving the central section with relatively few chain-stores.

What can the inner city foodstores do to change their image and attract more customers? The study made these recommendations:

**Develop and promote a management training program for inner city food retailers.** A major problem of the inner city food retailing system was the management of many of the smaller stores which prevented generation of enough capital to grow. Half of the inner city's independent stores were grossing less than \$100,000 a year in sales, 40 percent were in dilapidated buildings, about a third were observed to be dirty and untidy, with inadequately maintained stocks of merchandise, half used no promotional activities and a third carried fewer than 500 items in stock.

**Continue and expand educational programs for low income families designed to help them adopt food purchasing patterns more in line with their needs.** The study found

that families in the inner city could compensate for differences in food stores by being more selective in choosing stores that were available to them and by exercising prudence in their food buying.

The study strongly recommended that present educational and informational programs be continued, but that new programs may be necessary to explain such aspects of food purchasing as unit pricing, open dating, how to select food products, Government grading, and nutrient values.

**Organize a cleanup, fixup campaign among inner city retail food stores.** This program could be put into effect immediately to make the area a more acceptable place to shop. Stocks could be arranged at this time for a markedly improved shopping environment.

**Encourage inner city food retailers to improve their merchandise selection.** Inner city homemakers who did most of their shopping in an independent or voluntary foodstore reported that these two types of stores tended to fall short in providing adequate merchandise assortments. The study noted that while some of the smaller independent and voluntary stores couldn't maintain inventories comparable to supermarkets, they could make improvements in their buying and inventory that would enable them to maintain fresher stocks of fresh fruits, vegetables, meats, and other foods.

**Consideration should be given to providing a transportation program for the disadvantaged.** Since no distribution pattern of supermarkets could place everyone who had no car or no nearby public transportation within walking distance of a store, one possibility would be to provide some sort of direct support to help the one-sixth to one-third of the inner city residents who were disadvantaged in transportation to travel to one or more stores which have adequate assortments of merchandise.

**Explore the advisability of providing direct subsidies to low income families to improve food purchasing**

**patterns.** More than 15 percent of the low income families did not purchase food economically because they had to purchase much of their food supplies on a day-to-day basis or had to patronize small independent stores. Still others had to purchase most of their food biweekly or semi-monthly because of the payment period for welfare checks and the food stamp program. This placed pressure on such families to request credit, even though it meant paying somewhat higher prices in small independent stores that maintained credit operations. Some relief from the problem of matching income with food purchasing patterns could free low income families from constraints which prohibited or seriously deterred efforts to develop economical food purchasing patterns and to purchase their food supplies at more favorable prices. One possibility would be to set aside some portion of welfare payments for food purchases.

**Encourage the construction of a large, modern supermarket in the general vicinity of East 55th Street and Euclid Avenue.** If the needs of inner city homemakers are to be better served and if foodstores are to attract lost business back to the inner city, new attractive facilities are essential. The study found that a site in the heart of the inner city would have every opportunity to be successful, based on the shopping patterns of residents. The drawing power of the supermarket could be further enhanced if it were made a part of a large neighborhood or community shopping center where the grouping of stores would permit use of adequate exterior lighting and joint security measures which should help reduce risks due to crime.

This long-range improvement would require the concerted attention and efforts of many individuals and groups both in the private and public sectors, recognizing that many problems of the inner city food retailing system are an integral part of the larger and more complex problems experienced by urban centers. (16)

## Coffee Prices Mirror Size of Upcoming Crop

Changes in U.S. consumer coffee prices may reflect anticipated changes in Brazil's production.

Brazil is the world's largest coffee producer, accounting for about a third of world output. It's subject to irregular changes in production due to frost and drought, while production in other countries is relatively stable.

For example, today's coffee prices are based on the size of the Brazilian crop to be harvested this summer, and were largely determined last July.

That's when a severe frost settled over Parana, Brazil's chief coffee region. The 1972 crop—then being harvested—largely escaped harm. In fact, output was bigger than a year earlier, and contributed to the world's largest coffee crop since the mid-1960's.

The upcoming crop suffered the damage. Brazilian harvest begins in May, and the anticipated yield is 3 to 5 million bags (132.3 lbs. each) short of last year's total.

The prospect of a smaller crop for 1973 touched off immediate price advances on the world coffee market. During third quarter '72, wholesale prices for green coffee rose roughly 8¢ a pound to 56¢. Prices for Mexican coffee jumped 14¢ a pound, while African robustas edged up only 3¢.

Late in the third quarter, wholesale prices retreated slightly, and hovered at that level for the remainder of the year. Retail coffee prices rose only slightly in the third quarter but fourth quarter average prices increased significantly in response to higher green coffee prices. Consumer coffee prices will probably remain well above year-earlier levels at least through June.

A killing frost and rapid reaction of coffee prices also occurred in 1969. That year, however, wholesale prices were slower to respond, and gains were sharpest in the last quarter of the year. Steeper retail prices followed in 1970. (13)



## Nutrients Added to Foods Trend Upward

Chances are you're eating more enriched or fortified foods—even if you haven't changed eating habits.

The trend is toward adding nutrients to more foods; for example, cereal products, juices, and drinks. There's a growing trend, for instance, to add enough ascorbic acid to fruit juices and drinks to equal or surpass the ascorbic acid content of freshly squeezed orange juice.

From a recent survey, the Consumer and Food Economics Institute, Agricultural Research Service,

notes that there was 40 percent more thiamin, 25 percent more iron, 20 percent more niacin, 15 percent more riboflavin, 10 percent more vitamin A value and ascorbic acid, 4 percent more vitamin B<sub>6</sub>, and 2 percent more vitamin B<sub>12</sub> in the 1970 food supply than if there had been no enrichment or fortification of foods.

Thus, enriched and fortified foods are making a significant contribution to the nutritional quality of the national diet.

This is particularly true of enriched grain products, because they are eaten in some form daily by most people. The survey estimated

that 65 percent of white flour (either as family flour, as commercial flour, or as commercially baked white bread or other bakery products) was enriched in 1970 compared with 60 percent in 1961. Other cereal products also showed substantial gains in enrichment ingredients from 1966 to 1970. Use of riboflavin and iron was up nearly two-thirds, while thiamin use gained a third. About one-half of the total amounts reported in 1970 for use in these products was used for ready-to-eat and hot cereals, a third for macaroni products, one-tenth for rice, and one-tenth for cornmeal and hominy grits. (15)

CAN A VEGETABLE BE FASHIONABLE? Well, it can certainly be "in" or "out," as a look at the past decade's vegetable eating habits shows.

Lettuce is definitely "in," and apparently a staple in many homes. Per capita consumption in 1971 reached nearly 23 pounds, 3 pounds above that of 1960.

Most of the other salad ingredients have also gained popularity since 1960, particularly cucumbers and peppers. Onions' gain is probably attributable to their versatility. Consumption now totals more than 12½ pounds per person. Fresh tomato consumption hasn't changed much, although 1971 was a light year for U.S. tomato production, and consumption went down to 11.4 pounds compared to 1970's 12.3 pounds.

Other fresh vegetables, however, have shown some decrease in consumption per capita. These include snap beans, down from 2.6 pounds in 1960 to 1.6 pounds per person in 1971. Sweet corn and cabbage have fared similarly.

Among the more important canned vegetables,

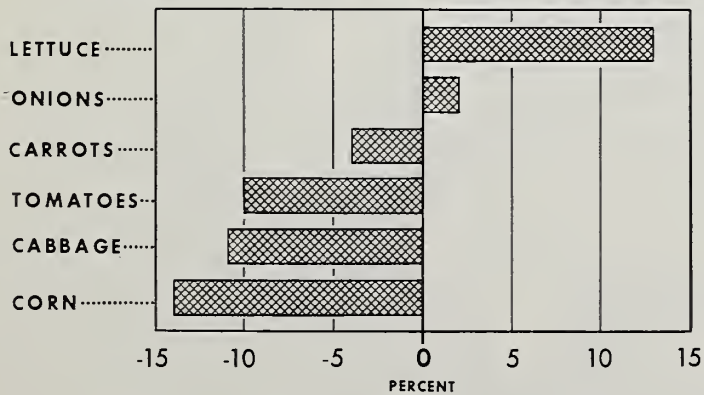
pickles have shown the greatest increase, up nearly 50 percent to 5.6 pounds per person in 1971. This is owing in part to their growing use as a garnish at fast food restaurants.

In absolute terms, though, canned tomato products were the biggest gainer in the 1960's, going up about a sixth, or about 6 pounds per person. This increase reflects the liberal use of catsup and the big jump in pizza consumption. Both canned and frozen sweet corn also registered sizable gains in the 1960's.

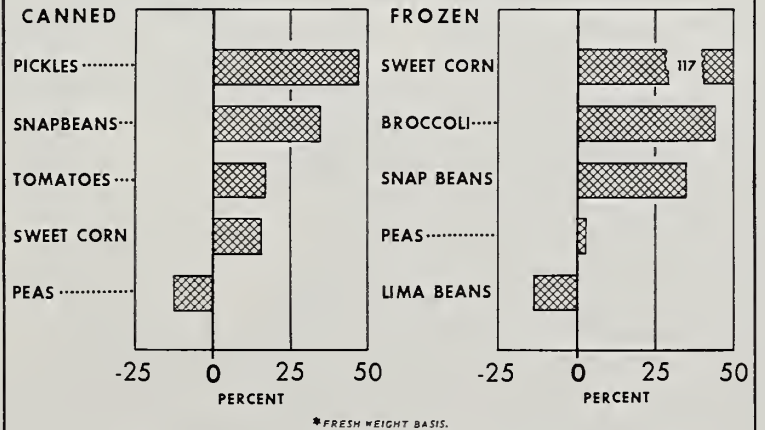
Economical mechanical harvesting helped snap beans into the popularity column, with canned beans up to 4 pounds per person and frozen beans up to 1.2 pounds. Also the calorie-conscious among us realize that this vegetable is one they can use generously.

The sixties was the decade in which per capita use of processed vegetables equaled—and then exceeded—fresh vegetable use for the first time. By the close of 1971, processed vegetables accounted for 54 percent of total vegetable consumption. (14)

**CHANGES IN FRESH VEGETABLE CONSUMPTION PER CAPITA SINCE 1960\***



**CHANGES IN PROCESSED VEGETABLE CONSUMPTION PER CAPITA SINCE 1960\***



**O**n balance, U.S. farm trade will benefit from world currency realignments—despite some offsetting factors.

The well-being of our agricultural trade has traditionally depended on stability in the international monetary system. Trade generally flourishes when the system functions smoothly, and plummets when the system breaks down.

For example, the postwar monetary system conceived at Bretton Woods, N.H., in 1944 gave the world nearly a quarter century of monetary stability. World trade boomed, and the value of U.S. farm exports nearly tripled during 1944-71.

During this period, the U.S. dollar emerged as the dominant currency in world commerce, and became the yardstick by which the values of

# Monetary Reform; How it Augurs for Farm Trade

other currencies were measured. Soundness of the dollar was virtually beyond question in the earlier years.

Confidence in the dollar began to weaken, however, when in 1960 the number of dollars in foreign countries exceeded the value of our gold

holdings. Confidence was further shaken in 1971 when it became apparent that the U.S. would incur its first balance of trade deficit in many decades.

Economic difficulties weren't confined to the U.S. Several other nations were struggling to maintain established par values. Three major currencies were floating—as was the price of gold in private markets. Clearly, the monetary system in 1971 needed overhauling.

Against this backdrop, representatives of the world's ten leading industrial nations convened to begin work on a new international monetary system. The so-called Group of Ten reached an agreement on Dec. 18, 1971, at Washington, D.C.'s Smithsonian Institution.

The agreement resulted in a re-



alignment of major world currencies—the U.S. dollar was devalued against gold 8.57 percent—and the establishment of an interim monetary system.

The temporary system set more flexible margins for foreign currency exchange rates—a move designed to help countries solve balance of payments problems more easily. The wider margins allow currencies in foreign exchange markets to fluctuate 2.25 percent above or below par values. The previous limit was 1 percent.

**Consequences for the farm sector.** The currency realignments generate a two-sided impact on U.S. farm trade by affecting both overseas demand and our competitive position in world markets.

With devaluation of the dollar, U.S. commodities become cheaper in terms of the currency of the importing country. Presumably, this provides stimulus for foreign nations to buy more American products.

However, 47 countries then devalued their currencies, with the result that prices for American goods in these markets remained unchanged. About a third of all U.S. farm exports go to these countries.

Moreover, eight foreign nations devalued more than the U.S., making American commodities more costly than before. These countries take less than 4 percent of our agricultural exports.

On the positive side, 62 nations did not devalue, so their currencies became more valuable relative to ours. These countries take nearly two-thirds of all U.S. farm shipments.

**Offsetting factors.** Nearly 5 percent of our agricultural exports to the 62 nations, however, move under P.L. 480, and are not affected by changes in exchange rates. An additional 30 percent of U.S. farm shipments to these nations are hampered by such nontariff trade barriers as domestic support programs.

The net result: of total farm shipments to the 62 nations, only 65 percent—or 43 percent of all U.S. com-

modity exports—are free to benefit from dollar devaluation.

Commodities that stand to gain the most are soybeans, soy products, and cotton—products not grown in other developed nations. Grains, however, are generally subject to nontariff barriers.

**Prospects mixed.** Even in the absence of nontariff barriers, prospects for lifting our export volume aren't altogether rosy. For one thing, consumers in developed countries where incomes are relatively high are not likely to accelerate consumption of certain items just because prices drop slightly.

Moreover, there's no guarantee that lower prices will be passed on to consumers. Importers, wholesalers, retailers, etc., might widen their profit margin by continuing to sell at the same price, thus giving the consumer no incentive to buy more.

A devaluation will not improve our competitive position in relation to third country suppliers unless these suppliers appreciate their currencies relative to the dollar. Few did so. Even when they did, the U.S. might still be at a disadvantage because some of these third country rivals have greater access to certain markets.

For example, the U.S. is unable to gain advantage over France in grain sales to West Germany, though France allowed the dollar to devalue. Why? The European Community's Common Agricultural Policy gives preference to France as a member nation.

**Moves by rivals.** France and Australia are the leading grain competitors who let the dollar devalue. Other major rivals that allowed devaluation include Turkey (tobacco) and Spain and Morocco (citrus fruits).

Major competitors that devalued along with the dollar—thus offsetting possible trade benefits—are Argentina and Canada (grains), Greece (tobacco), Brazil, Mexico, and the Sudan (cotton), Egypt (citrus fruits), and Thailand (rice).

The impact of more flexible exchange rates on U.S. farm trade is

not without drawbacks. For one thing, the wider margins make the value of future payments less certain for both exporter and importer. Thus, some trade might not take place that otherwise would have.

Though narrower exchange margins might give more impetus to trade, they may also dampen a nation's expansionary money policies that promote fuller employment.

**Trade growth.** Meantime, as negotiators press for an acceptable balance between flexibility and rigidity, the interim monetary reform system appears to be working smoothly enough to permit trade expansion.

Even during fiscal '72, when most major currencies floated for part of the year, U.S. farm exports surged past the \$8 billion mark. And with the present world supply situation, the outlook for U.S. agricultural trade in fiscal '73 appears even brighter. (17)

## U.S. Exporters Could Provide France Larger Portions of Midday Meals

Frenchmen are borrowing a recipe from the U.S. workingman's midday menu. Their noontime meal includes increasing portions of frozen prepared dishes and a variety of other convenience foods.

With the changes in French diets the climate for U.S. food exports to France is changing for the better.

It used to be almost everyone in France received 2 hours for his midday meal break, time enough to go home to eat and return to work.

But with the growth of urban areas and a shortening of the traditional lunch break, Frenchmen are having to rely on institutional mass feeding in offices, factories, and schools.

Rising costs of meal preparation and shortages of skilled chefs will force many food service businesses to turn more and more to factory prepared foods as away-from-home eating increases.

Trade sources estimate the number of meals consumed away from

home—chiefly midday meals—will climb from approximately 4 billion in 1970 with as many as 6 billion by 1975. Schools and restaurants will each serve about 30 percent.

France probably won't be able to meet the mounting demand for many of these products, so imports will be needed.

That's where U.S. convenience foods enter the picture.

France's growing institutional market offers "significant opportunities and challenges" to U.S. manufacturers and exporters, a recent ERS study concludes. Items for which demand is rising at above average rates include frozen prepared foods, and frozen meats, seafoods, and vegetables; packaged products, such as soups, desserts, and potatoes; sauces and seasonings and prepared appetizers; and dietetic and low calorie foods.

In selling to the institutional market, U.S. exporters should—

- ✓ concentrate on the faster growing, more modern sectors, such as office and factory cafeterias and new restaurants and hotels;

- ✓ exchange detailed information about their products with major distributors and food service businesses;

- ✓ be prepared to have their products market tested to see whether they meet French specifications and customer tastes. The ideal product is one that approximates the dishes now prepared by French chefs.

There are, however, numerous trade restrictions in France that will interfere with marketing imported food products. They include tariffs, quotas, variable levies, and strict regulations on food additives. (19)

## EC Expansion to Crimp Certain U.S. Exports

January 1, 1973, is a date that will mark "the single most important event so far in the history of the European Community," says a specially prepared article by ERS.

Titled "The New Common Market: What it Means to the U.S.

Farmer," the article analyzes the trade impact on U.S. agriculture of the addition of Britain, Denmark, and Ireland to the original six members of the European Community (EC). Their entry to the EC formally takes place January 1.

Most of the news is not good.

U.S. tobacco sales to the new members, which totaled \$130 million in fiscal 1972, are likely to decline in the near future as a result of the EC's expansion. The EC has adopted programs to encourage domestic tobacco production. It has also made arrangements with certain tobacco-producing countries that will stiffen the competition for U.S. tobacco.

The grains picture centers on the United Kingdom, where both wheat and feed grain production are expected to rise. In addition, the imposition of variable levies on imports will make U.S. grains less competitive.

The United Kingdom also dominates the lard situation. Britain, world's largest importer of lard, would virtually cease all imports of U.S. lard for food use (last fiscal year, \$16 million) if present EC levy protection is extended to Britain.

Our markets for fresh and canned fruits will probably be hurt somewhat. A combination of higher prices inside the EC, steeper duties, and preferential arrangements will not favor imports. The U.K. alone bought \$13 million worth of U.S. fruit products in fiscal 1972.

U.S. dairy sales will feel the effects of continued dairy surpluses in the EC. There could also be a backlash effect when certain countries, unable to sell more butter and cheese to the EC, will look to the U.S. as an outlet.

The news is better for U.S. producers of soybeans and meal, cotton, hides and skins, and sausage casings from hogs. These items enter the EC duty free.

The enlarged Community would still be our biggest single market for agricultural products, with imports totaling over \$2.4 billion in fiscal 1972. (20)

## Petroleum Protein, Made In Japan, Seen Competitor Of American Soybeans

When yeast is put on common paraffin wax, the yeast ferments and yields petroleum protein.

In Japan—where several chemical firms are gearing up for large-scale production—the petroleum protein process could also ferment competition for U.S. soybeans in their No. 1 market overseas.

If present production plans pan out, Japan's total output of petroleum protein for the mixed feed industry could reach 300,000 metric tons a year by 1975. That's the equivalent of an estimated 11 percent of all oilcakes and meals going into Japan's livestock rations in 1971.

Soybeans, nine-tenths from the U.S., are currently one of the chief sources of these high protein feed concentrates. As our best customer for soybean exports, Japan in fiscal 1972 took \$357 million worth.

Petroleum protein has been dubbed by some as the "foodstuff of the future." It contains the essential amino acids needed by humans and animals for tissue building. In one of these aminos, lysine, the petroleum product has a higher percentage than soybean cake. Moreover, it's been estimated by the Organization for Economic Cooperation and Development that the protein from petroleum-fed yeasts may be no more costly to make than soy protein.

Worldwide output of petroleum protein is still on a small scale, the largest production capacities being in France (16,000–20,000 tons a year), USSR (5,000 tons), and the United Kingdom (8,000).

In Japan, the way was cleared for commercial production in September 1972, when the Japanese Ministry of Health and Welfare, after a 3-year study, declared petroleum protein to be free of carcinogens and other toxic substances. Two firms then decided to build plants to manufacture petroleum protein. (18)

*Crop Budgets and Planning Data for Major Farm Enterprises in the Yazoo-Mississippi Delta.* Fred T. Cooke, Jr., and Arthur M. Heagler, Farm Production Economics Division; and J. M. Anderson, Mississippi Agricultural and Forestry Experiment Station, Stoneville, Miss. Agr. Expt. Sta. Bull. 794.\*

This publication has been prepared to provide production practices and costs incurred for a variety of crops grown in the Delta area of Mississippi. Data collected from 280 farms during the period 1965-68 have been used to construct crop budgets for production of cotton, soybeans, corn, and grains.

*Price Control Programs, 1917-72; Origins, Techniques, Effects On Food Prices.* George B. Rogers, Marketing Economics Division. AER 223.

This report summarizes the effects of price controls on agriculture, with special emphasis on food items, and the circumstances leading to imposition of price controls. The study also provides historical background necessary to understand current price control developments.

*Shipping Point Markets for Flowers: Practices and Problems of California and Florida Shippers.* Jules V. Powell, Richard Hall, and Stephen M. Raleigh, Jr., Marketing Economics Division. MRR No. 972.

This report describes and analyzes the organization and marketing practices of shipping point markets for flowers in California and Florida. The floral crops selected for study were carnations, gladioli, roses, and standard, pompon, and potted chrysanthemums.

*Agricultural Reforms and Productivity and Trade in Chile Since 1965.* Bruce L. Greenshields, Foreign Demand and Competition Division. ERS-For. 345.

This study describes recent changes in Chile's land tenure system and in government policies affecting agricultural credit, prices, and inflation in Chile. The study also

seeks to measure Chile's recent agricultural output, productivity, and trade to assess the effectiveness of the changes in the short run.

*Field Crops: Revised Estimates by States, 1964-69: Acreage, Yield, Production.* Statistical Reporting Service. Stat. Bull. 498.

This publication includes revised estimates made by the USDA Crop Reporting Board for 1964-69. These revisions, by States, cover acreage planted, acreage harvested, yield, and production for most field crops produced in the U.S.

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Single copies of the publications listed here are available free from The Farm Index, Office of Management Services, U.S. Department of Agriculture, Washington, D.C. 20250. However, publications indicated by (\*) may be obtained only by writing to the experiment station or university. For addresses, see the July and December issues of The Farm Index.

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*Food Retailing in the Cleveland, Ohio, Metropolitan Area—With Emphasis on the Inner City.* Michael G. Van Dress, Marketing Economics Division, and Edward L. Crow, Director of Economic Studies, Chilton Research Services. MRR 976.

The objectives of this study were to determine if there were differences in the food retailing system that serves Cleveland's low income area compared with the one that serves the higher income area. Another objective was to identify and reduce inadequacies for low income families while at the same time providing an economically healthy food retailing business community.

*Supplements I-V to Changes in Farm Production and Efficiency: A Summary Report, 1972.* Farm Production Economics Division. Stat. Bull. 233

These supplements to the basic report are published for researchers interested in regional trends. *Supplement I* contains regional index numbers of farm production for each group of livestock and crops. *Supplement II* discusses regional acreage of cropland used for crops. *Supplement III* accounts for manhours of farm labor used for each livestock and crops group. *Supplement IV* gives the regional index numbers of farm production per man-hour for each livestock and crops area, and *Supplement V* provides data on changes in farm inputs and productivity in each farm production region.

*Supplement for 1971 to Food Grain Statistics: Wheat, Rye, Rice, Flour, Byproducts.* Economic and Statistical Analysis Division. Stat. Bull. 423.

This supplement updates and revises tables to *Food Grain Statistics Through 1967* and the *Supplement for 1969 (Stat. Bull. 423)*. These bulletins provide basic data on supply, utilization of food grains, and the associated factors.

*Summary of State Air and Water Quality Status Applicable to the Management of Livestock Wastes.* J. B. Johnson, Farm Production Economics Division, and L. J. Connor and C. R. Hoglund, Michigan State University. AER 231.\*

This report examines provisions of the various forms of State water and air quality statutes and administrative codes applicable to livestock producers. A 1971 survey attempts to identify the provisions of State water and air pollution control statutes, other than the usual common law provisions applicable to livestock production, that would induce adjustments of economic consequence to beef feedlot operations and dairy farms.

*Pricing Performance In Marketing Fresh Winter Tomatoes.* Robert W. Bohall, Marketing Economics Division. MRR 977.

This report focuses on the short-run weekly behavior of winter to-

mato prices at shipping points and wholesale terminal markets. Based on the physical flow of produce and on buying practices, shipping points were identified as the focal point in the marketing system where prices first changed. Weekly shipping-point tomato prices were found to be inversely related to the supply of produce available.

*Peanut Industry: Farm Production Sector Structure, Virginia-North Carolina, 1969.* Thomas W. Little, Farm Production Economics Division, and Ralph G. Kline and Paxton Marshall, Virginia Polytechnic Institute and State University. RDB 75.\*

This study discusses the structure of the farm production sector of the Virginia-North Carolina peanut industry, as revealed by a 1969 survey of 172 randomly selected peanut producers in a 20-county area.

*Operating Costs for Tillage Implements on Eastern Washington Grain Farms.* R. E. Oehlschlaeger, Farm Production Economics Division, and Norman K. Whittlesey, Washington State University. Wash. Agr. Expt. Sta. Circular 554.\*

The authors describe the average per acre ownership and operating costs for the major types of tillage implements used in Washington grain farms. Cost for two representative soil types and the two most frequently used crawler tractor sizes are shown.

*Irrigated Pasture Costs and Production in the Golden Plains Area of Colorado.* C. Kerry Gee and Forest McWilliams, Farm Production Economics Division, in cooperation with Colorado State University, Cooperative Extension Service. Unnumbered Publication.\*

The objective of this bulletin is to report costs and production on irrigated pastures in the golden plains area of Colorado for the years 1969-71; to discuss management practices essential for successful irrigated pastures; and to determine aspects of production requiring further investigation.

*Trends In the Milk Market.* Robert Raunikaar and Joseph Purcell, University of Georgia, cooperating with Marketing Economics Division. Agr. Expt. Sta. Research Report 139.\*

Trends in the milk market were examined in terms of changes in per capita purchases of the major dairy products, as well as total consumption. Total consumption includes disposal of farm produced and consumed milk in addition to milk purchases through commercial channels.

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## Article Sources

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Readers are invited to write for the complete reports, studies, speeches, or papers on which we base our articles. Authors and titles are listed below, preceded by numbers corresponding to those appearing at the end of stories in this issue. Those publications indicated by (\*) are obtainable only from the university or experiment station cited. The word "manuscript" after an item denotes a forthcoming publication, which we will send you when it comes off press. "Special material" after an item means the article was researched specially for this magazine, although additional information is generally available. Address all inquiries to The Farm Index, Office of Management Services, U.S. Department of Agriculture, Room 1459, Washington, D.C. 20250.

1. Warren R. Bailey, FPED. The One-Man Farm (manuscript).
2. George Coffman, FPED (special material).
3. Lawrence A. Jones, FPED. Feasibility of Insuring Crop and Livestock Losses Caused by Restricted Pesticide Use (manuscript).
4. C. Kerry Gee, FPED, in cooperation with Colorado State University Experiment Station. Purchasing Alternatives for Investors in Cattle Fattening Enterprises (manuscript).\*
5. George W. Kromer, ESAD. "U.S. Peanut Economy in the 1960's," *Fats and Oils Situation*, FOS-265, November 1972.
6. George Pavelis, Orville Krause, Thomas Frey, Dudley Mattson, Joel Frisch, and Larry Schluntz, NRED. Report on Land and Water Resources (manuscript).
7. Jerome M. Stam, EDD. Federal Financing of Rural Community Water and Sewer Systems: Some Alternatives (manuscript).
8. Jerome M. Stam and Eleanor L. Courtney, EDD. Farm Real Estate Taxes: Recent Trends and Developments (manuscript).
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10. Rita B. Witten, MED. "Fresh Beef Ads and Product Names," *Marketing and Transportation Situation*, MTS-187, November 1972.
11. Dr. H. E. Steinhoff, Animal and Plant Health Inspection Service (special material).
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14. Charles Porter, ESAD (special material).
15. Berta Friend, Consumer and Food Economics Institute, Agricultural Research Service, "Enrichment and Fortification of Foods, 1966-70," *National Food Situation*, NFS-142, November 1972.
16. Edward L. Crow, Chilton Research Service, and Michael G. Van Dress, MED. *Food Retailing in the Cleveland, Ohio, Metropolitan Area—With Emphasis on the Inner City*, MRR-976.
17. O. Halbert Goolsby, FDCD. "Reform of the International Monetary System: A Prerequisite for Long-term Growth in Trade," *Foreign Agricultural Trade of the United States*, December 1972.
18. Bruce Greenshields, FDCD. Petroleum Protein Production for Feed Planned in Japan (special material).
19. W. Scott Steele, FDCD. France's Institutional Food Market—Developments and Prospects for U.S. Exports (manuscript).
20. Carol E. Curtis, Office of Management Services, and Donald M. Phillips, Jr., FDCD. The New Common Market: What it Means to the U.S. Farmer (special material).

NOTE: Unless otherwise indicated, authors are on the staff of the Economic Research Service (ERS) with their divisions designated as follows: Economic and Statistical Analysis Division (ESAD); Economic Development Division (EDD); Farm Production Economics Division (FPED); Foreign Demand and Competition Division (FDCD); Foreign Development Division (FDD); Marketing Economics Division (MED); and Natural Resource Economics Division (NRED).

# Economic Trends

Item	Unit or Base Period	1967	1971	1971	1972	1972	1972
			Year	Oct.	Aug.	Sept.	Oct.
<b>Prices:</b>							
Prices received by farmers	1967=100	—	112	114	128	128	129
Crops	1967=100	—	107	106	119	117	116
Livestock and products	1967=100	—	116	118	135	137	138
Prices paid, interest, taxes and wage rates	1967=100	—	120	121	127	128	129
Family living items	1967=100	—	119	120	125	126	125
Production items	1967=100	—	115	116	122	124	125
Ratio <sup>1</sup>	1967=100	—	94	94	101	100	100
Wholesale prices, all commodities	1967=100	—	113.9	114.4	119.9	120.2	120.0
Industrial commodities	1967=100	—	114.0	115.0	118.5	118.7	118.8
Farm products	1967=100	—	112.9	111.3	128.2	128.6	125.5
Processed foods and feeds	1967=100	—	114.3	114.1	121.0	121.8	121.8
Consumer price index, all items	1967=100	—	121.3	122.4	125.7	126.2	126.6
Food	1967=100	—	118.4	118.9	124.6	124.8	124.9
<b>Farm Food Market Basket: <sup>2</sup></b>							
Retail cost	Dollars	1,081	1,244	1,244	1,322	1,320	1,317
Farm value	Dollars	419	477	476	530	538	523
Farm-retail spread	Dollars	662	767	768	792	782	794
Farmers' share of retail cost	Percent	39	38	38	40	41	40
<b>Farm Income: <sup>3</sup></b>							
Volume of farm marketings	1967	100	111	161	109	118	161
Cash receipts from farm marketings	Million dollars	42,693	53,063	6,405	4,807	5,365	7,100
Crops	Million dollars	18,434	22,609	3,438	1,851	2,339	3,700
Livestock and products	Million dollars	24,259	30,454	2,967	2,956	3,026	3,400
Realized gross income <sup>4</sup>	Billion dollars	49.0	60.1	—	—	66.1	—
Farm production expenses <sup>4</sup>	Billion dollars	34.8	44.0	—	—	47.3	—
Realized net income <sup>4</sup>	Billion dollars	14.2	16.1	—	—	18.8	—
<b>Agricultural Trade:</b>							
Agricultural exports	Million dollars	—	7,695	466	684	710	908
Agricultural imports	Million dollars	—	5,825	302	564	547	574
<b>Land Values:</b>							
Average value per acre	Dollars	<sup>6</sup> 168	<sup>7</sup> 201	—	—	—	<sup>8</sup> 217
Total value of farm real estate	Billion dollars	<sup>6</sup> 181.8	<sup>7</sup> 213.0	—	—	—	<sup>8</sup> 228.6
<b>Gross National Product: <sup>4</sup></b>							
Consumption	Billion dollars	492.1	664.9	—	—	728.6	—
Investment	Billion dollars	116.6	152.0	—	—	183.2	—
Government expenditures	Billion dollars	180.1	232.8	—	—	255.6	—
Net exports	Billion dollars	5.2	.7	—	—	-3.4	—
<b>Income and Spending: <sup>5</sup></b>							
Personal income, annual rate	Billion dollars	629.3	861.4	874.8	940.0	946.8	962.0
Total retail sales, monthly rate	Million dollars	26,151	34,071	34,964	37,969	37,683	38,750
Retail sales of food group, monthly rate	Million dollars	5,759	7,437	7,391	8,039	7,994	—
<b>Employment and Wages: <sup>5</sup></b>							
Total civilian employment	Millions	74.4	79.1	79.8	<sup>9</sup> 82.0	<sup>9</sup> 82.2	<sup>9</sup> 82.5
Agricultural	Millions	3.8	3.4	3.4	<sup>9</sup> 3.6	<sup>9</sup> 3.6	<sup>9</sup> 3.7
Rate of unemployment	Percent	3.8	5.9	5.8	5.6	5.5	5.5
Workweek in manufacturing	Hours	40.6	39.9	39.9	40.6	40.7	40.7
Hourly earnings in manufacturing, unadjusted	Dollars	2.83	3.56	3.59	3.80	3.86	3.87
<b>Industrial Production: <sup>5</sup></b>	1967 = 100	—	107	107	115	116	117
<b>Manufacturers' Shipments and Inventories: <sup>5</sup></b>							
Total shipments, monthly rate	Million dollars	46,449	55,580	55,943	63,352	63,903	—
Total inventories, book value end of month	Million dollars	84,599	101,665	101,736	105,138	105,330	—
Total new orders, monthly rate	Million dollars	46,763	55,473	56,290	64,409	65,776	—

<sup>1</sup> Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. <sup>2</sup> Average annual quantities of farm food products purchased by urban wage-earner and clerical worker households (including those of single workers living alone) in 1959-61—estimated monthly. <sup>3</sup> Annual and quarterly data are on 50-State basis. <sup>4</sup> Annual rates seasonally adjusted third quarter. <sup>5</sup> Seasonally adjusted. <sup>6</sup> As of March 1, 1967. <sup>7</sup> As of March 1, 1971.

<sup>8</sup> As of March 1, 1972.

<sup>9</sup> Beginning January 1972 data not strictly comparable with prior

data because of adjustment to 1970 Census data.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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