Ag World

Insight into the Forces Affecting Agriculture

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Should Wheat Nations Jointly Raise Prices?

N/C

AG WORLD ABSTRACT

With augers whirring and humming on an increasing number of farms these days because of the "calling" of oats and barley and the release price for corn and wheat not far behind, farmers may be apt to temporarily worry less about whether wheat-producing nations should get together on pricing. The debate continues, however. On the next pages are the opinions of two exponents, pro and contra.

George McGovern, Senator from South Dakota, argues for a combination of 1) domestic programs, beginning with an increase in the price-support loan rate and 2) for entering "into an agreement with the other main wheat-exporting countries to fine-tune the pricing..." "An agreement among exporters," he says, "would create the basic foundations for a rational world food security system..."

Robbin S. Johnson, assistant vice president of Cargill, Inc., takes the opposite view. He concludes: "Those involved in producing or marketing wheat reject a cartel for three reasons: they know it won't work, they know they will be hurt most by the attempt to make it work, and they know that their long-term interests are better served by treating customers fairly and supplying them dependably."

A few paragraphs from "The Perverse Economics of Petroleum," by Harold F. Breimyer, agricultural economist at the University of Missouri — Columbia, sheds additional light on the differences between the economics of stock and flow commodities. Professor Breimyer's article appeared in "Economic and Marketing Information," June 1979.

Further, on page 5, we present the joint statement by representatives of four wheat-exporting countries, issued at the conclusion of their meeting in Saskatoon, Saskatchewan.

"How can I afford to go anywhere, with Coke at a dollar a gallon?" Pd. 7/18

In This Issue:

Yes . . .

by George McGovern

I am convinced that it is both possible and desirable for major wheat-exporting countries to get a better price for their products on export wheat. A joint meeting in Saskatoon, Saskatchewan, attended by Secretary of Agriculture Bergland and high officials from Canada, Australia and Argentina, did not go as far as I had hoped it would in terms of international cooperative pricing agreements, but it is significant that these issues were not ignored.

Perhaps of greater significance was the passage of a U.S. Senate resolution on May 23 by a vote of 80 to 15, expressing the sense of the Senate that the recent collapse of international negotiations (in Geneva) makes it imperative that wheat-exporting nations agree to improve wheat-trade policy and achieve equitable prices for producers. It was my privilege to be the floor manager for the proponents of this resolution.

Such an agreement would contribute to a reduction of our balance-of-payments deficit. It would remove an important cause of the dollar's weakness. It would help restore the American family farming system, which staggers under a burden of prices at the lowest levels, in terms of purchasing power, since the early 1930s.

An exporters' agreement would enhance world food security by raising world grain prices to a level reflecting costs of production. It would help strengthen the economies of countries which depend heavily upon grain exports, including some of our most essential allies. It would recapture funds which now enrich the treasuries of our main economic competitors by billions of dollars a year.

The world's grain economy bears no resemblance to the free-market myth that is generally accepted. The cost of production, for around 85% of the world's total grain supply, far exceeds the price our farmers receive. That grain is sold for high prices in protected national markets. Every country imposes surcharges on imported U.S. grain. No higher trade barriers exist. Yet, recent unsuccessful negotiations between wheat-producing and wheat-consuming nations did not even address the question of those barriers.

Frustrating as this may be to American farmers, it is not surprising. Sharp reductions in the price of grain, particularly in Europe, would force farmers off the land into crowded cities where unemployment lines are already too long. Furthermore, the people of Europe and Asia lived through the worldwide grain shortages of the early 1970s, and most of them remember outright starvation only a few decades ago. Fear of a recurrence is a living political reality. These countries cherish their farmers, and there is an intense commitment to keeping them on the land.

Partly as a result of these political conditions, governments, instead of the market, are the driving force in pricing and trade, especially in grain and high-protein oil seeds. In every country that imports U.S. grain, the government establishes the retail price either by imposing duties or by purchasing and reselling the wheat. And in every country that exports grain in competition with American farmers, a government agency is the seller.

In this framework, American farmers are extremely vulnerable. The United States, Canada, Australia and Argentina are the residual suppliers of grain to the world. But we export our grain at prices that do not cover the farmers' costs, do not provide for replenishment of our soil, do not permit young farmers to pay interest on debts.

The U.S. Treasury has had to pay out billions of dollars over the last few years to keep our wheat farmers afloat. The governments of Canada and Australia make similar payments in part by charging their own consumers higher prices for grain consumed domestically. Only in Argentina — which accounts for a

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bare 2% of the world's wheat — can farmers get by on the world "clearance sale" price.

World consumers don't benefit. Every country that buys our grain marks up the price before reselling to its own people. The Japanese government adds $5 per bushel to the price of wheat that brings less than $3 to the South Dakota farmer, strengthening the yen and weakening the dollar. Western European governments add $3.70 per bushel.

The United States need not remain a victim of this situation. Last year two other Senators and I explored with Canadian officials the possibility of cooperating to increase and maintain the price of wheat in world trade. The Canadians made an absolute commitment that Canada would follow U.S. leadership by raising its selling price for wheat along with ours, and by maintaining in reserve storage its fair share of any surplus so as to avoid undercutting the price. The chairman of the Australian Wheat Board pledged full support. Similar assurances have been received from the government of Argentina.

Marketing systems of each of these countries could accomplish what I am proposing. The Canadians and Americans suggested that a minimum price of $4 to $4.50 per bushel at the average farm location would be a desirable pricing target; it would approximately cover farmers' costs of production and family living expenses in both countries.

I would propose a combination of domestic programs beginning with an increase in the price-support loan rate offered to wheat producers so that they can afford to store their wheat if it is not immediately salable at the minimum price. Full authority to do so exists in present law.

Second, we should enter into an agreement with the other main wheat-exporting countries to fine-tune the pricing of wheat for sale into export so that each retains a fair share of the total reserve. This agreement would incorporate a system of credits, grants or discounts to ensure that Third World countries could maintain the necessary level of purchases.

An administered price, such as this proposal envisions, represents an acknowledgement of the need for planning in the world economy. Responsible planning differs from cartel pricing in that it serves to rationalize, rather than to distort, national economies. An agreement among exporters would create the basic foundations for a rational world food-security system, maintaining and expanding farm production as needs to be done, and providing for orderly management of food reserves. •

No . . . 25.-

by Robbin S. Johnson

In an environment of rising energy prices, an old idea is getting a new hearing. This is the suggestion that the United States bring the leading wheat-exporting countries together to raise prices. Some have a specific target in mind — "food for crude." Others simply think it would be a good idea to get more for the wheat we sell into world markets. Both ideas — however appealing superficially — won't work.

Some proponents of a wheat cartel point to OPEC's success, reasoning that people need wheat even more than oil. Since the four major exporting nations (the United States, Canada, Australia and Argentina) account for 80% of world wheat trade, proponents believe that it would be a simple matter to force importers to pay the prices exporters choose to charge. Those in agriculture know that attempts to set prices above market levels will fail. Artificially high prices stimulate competing production, encourage use of substitutes and discourage consumption. Demand falls while production increases, and the market shrinks.

The OPEC countries have been able to slow this process down, but the circumstances of oil are different from those of wheat. Oil is a

depletable resource of limited supply that can be stored inexpensively by leaving it in the ground. World production is largely concentrated in the hands of the OPEC nations. By contrast, wheat is a renewable resource. Each year brings a new crop. Storage is difficult and expensive — absorbing each year nearly 20% of the crop's value. Wheat is produced by millions of farmers in nearly all countries of the world, with the leading exporting nations accounting for only one-fifth of world wheat output.

The customers for oil and wheat are also very different. OPEC's customers are largely wealthy nations that import 50 to 90% of their oil needs. Two-thirds of U.S. wheat exports goes to developing countries that cannot afford higher prices. Most countries import only 10% or so of their wheat needs, giving them alternatives to paying exorbitant prices. And, while U.S. oil imports from OPEC now run around $50 billion, U.S. wheat exports to them are worth only about $600 million. So, a wheat cartel offers little leverage on OPEC. But it would harm U.S. agriculture and most of our customers.

Other cartel proponents accept that raising wheat prices won't solve our energy problems. Their goal is simply a fair price for U.S. wheat exports — one which covers farmers' costs of production. A wheat cartel is seen as necessary to keep other exporting countries from undercutting the U.S.-set price. A basic problem with this approach is that farmers' production costs vary widely. Farmers most needing income support tend to have the highest costs. Guaranteeing high wheat prices provides unearned benefits for some without solving the income problems of many. And it stimulates a bidding war among efficient, well-financed farmers for land. This pushes production costs up, triggering another price-cost spiral.

Moreover, prices above economically justified levels create irresistible pressures to breach agreed-upon price floors when unwanted surpluses accumulate. Others are forced to follow suit, ultimately pushing prices down sharply. This happened within months after implementation of the 1967 International Grains Agreement, which attempted to enforce minimum prices.

Cartel pricing fails because it pushes supply and demand out of balance. In recently completed wheat negotiations, (Mr. Johnson refers to London-Geneva-Manila) the United States instead sought agreement on ways to keep supplies in line with demand. It proposed that exporting and importing countries cooperate in establishing a 30-million-ton grain reserve and in adjusting national production and consumption policies in years of serious imbalance. Also, the United States sought to double the world food aid pledge to the World Food Conference target of 10 million tons annually.

This food aid objective seems likely to be reached, with the United States contributing about half the total. But the goal of coordinating national farm policies was frustrated by the unwillingness of several grain-importing countries to accept international constraints on

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Professor Harold F. Breimyer on

The Perverse Economics of Petroleum

The economics of supply for a depletable stock material such as oil is different from that for goods and services that are produced in continuous flow. The difference lies in the response made to expected price. When the price outlook for a flow product is favorable, more of it will normally be produced and delivered. When substantially higher prices for a stock material are in prospect, the natural tendency is to hold back on current deliveries.

This difference arises because for a flow product such as eggs or milk, the quantity produced is governed by the attractiveness of expected price relative to cost of production. A favorable price relationship puts more on the market. Moreover, current deliveries do not impair future capacity to produce and deliver.

The decisions regarding a depletable stock resource such as petroleum involve how much to withhold versus to deliver. The decisions are made by comparing expected future prices with the interest rate on money. If anticipated price increases exceed the interest rate, the incentive is to withhold. If prices are believed likely to advance less than the interest rate, the incentive is to deliver. To carry the contrast a step further, any current delivery reduces the remaining stock and therefore the capacity to deliver in the future.

Because an expectation of a higher price for oil tends to decrease current market deliveries, its economics may be said to be perverse.

Professor Breimyer goes on to say, however, under "Other Relevant Factors:"

Cash Flow Urgency. Even though the principle is sound that expectations for oil prices are balanced against the interest rate on money, many firms and, in fact, entire oil-supplying countries may be financially unable to hold back supplies. Even though it might be in their longer-run interest to do so, they are pressed for cash.

Logically, the bullish price outlook of 1979 could be expected to hold down current oil supplies on the market. To some extent it probably has done so. On the other hand, deliveries might have been restricted more were it not that some companies, and some countries such as Iran, urgently need current income. •

their domestic policies. The reserve objective was missed because the developing countries wanted lower prices and more financial assistance in building a reserve than the developed countries were willing to accept.

Still, progress was made. In addition to expanding food aid, participating nations generally recognized that the problems created by fluctuating crops would not be eliminated by fixing prices in the face of uncertainty. Instead, countries would have to cooperate more effectively in bringing supply and demand back into balance. Those involved in producing or marketing wheat reject a cartel for three reasons: they know it won't work; they know they will be hurt most by the attempt to make it work, and they know that their long-term interests are better served by treating customers fairly and supplying them dependably. •

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Wheat Exporting Nations' Joint Statement

N/C

Ministers from major wheat exporting countries met in Saskatoon, Saskatchewan on May 11 to discuss matters relating to international wheat trade.

Participating in the meeting were U.S. Secretary of Agriculture Bob Bergland; the Secretary of Agriculture for Argentina, Jorge Zorreguieta; Otto Lang, Minister responsible for the Canadian Wheat Board, and a representative of Douglas Anthony, Minister of Trade and Resources from Australia.

According to their joint statement, Ministers reviewed the current and longer-term market outlook; the outcome of recent international wheat negotiations; the need for adequate world food security, and potential areas for continuing exporter cooperation.

They noted the recent improvement of wheat prices and the basic underlying market trend toward greater world consumption of both food and feed grains.

Ministers agreed that in present market circumstances, there was no need to vary their national marketing policies. They considered that countries should closely monitor developments in the market to ensure that national production and marketing policies do not lead to a deterioration of prices.

Problems of higher costs of producing, transporting and handling grain and physical constraints in the system should be examined. Ministers stressed that in order to encourage a growing supply of wheat to meet expanding world demands, it is essential that producers receive an adequate return from the market.

Ministers noted that world wheat production has been generally favorable in recent years but stocks are not excessive in relation to world needs. In view of the increasing importance of wheat trade in meeting world wheat consumption, Ministers believed that importing countries should be encouraged to build food security stocks in the current situation of ample supply. Ministers agreed that exporting countries should manage their respective production and stock policies to ensure that adequate supplies are available in the future.

In reviewing the outcome of the United Nations conference to negotiate a new International Wheat Agreement, Ministers regretted that a consensus could not be achieved. They were of the view that there was no evidence that remaining differences on the basic elements of acceptable price levels and adequate grain reserves could be resolved in the immediate future. However, they reaffirmed support for continuing multilateral cooperation on wheat trade and food aid within the framework of the International Wheat Agreement of 1971.

Ministers were confident that a better understanding of each other's system would be useful in identifying areas for future cooperation and coordination. They agreed that there were several issues on which more intense review could be useful. Among these were the effect of national support programs on the price of wheat; the impact of rising production costs; the comparability of returns to farmers in various producing regions; and the potential world market for wheat.

Ministers were strongly of the view that there is an important relationship between security of world food supply to consumers and assurance of an adequate return to producers. **They therefore decided that:**

- senior policy and marketing officials from major exporting countries should meet at least twice a year to ensure greater coordination of decisions relating to the production and marketing of wheat;
- consideration will be given to initiating specific studies of questions of mutual interest in order to build communications at all levels between marketing and operating officials as well as producers of the exporting countries;
- special attention in this respect would be given to safeguarding adequate producer returns within national systems in order to encourage sufficient wheat supplies;
- steps necessary to ensure supplies for world food aid and for emergencies should be introduced or continued;
- discussions will be continued with other wheat trading countries under the auspices of the IWC on the possibilities for successfully concluding a new international wheat agreement.

"Well, you know how it is, mister — the price of land just keeps going up."

50.

International Commodity Trade

Developed nations have softened their stance on the Common Fund for solid economic and political reasons.

N/C

by Brennon Jones

AG WORLD ABSTRACT

". . . new commodity arrangements are politically and economically essential to help set a climate in developing nations that is crucial to achieving development . . .," says the writer of the following Background Paper No. 35 by Bread for the World. Taking into account the world as it is, he reminds of inducements now evident for both developing and developed nations to negotiate in earnest.

While he addresses questions of international trade, Mr. Jones emphasizes the economic needs of producers, and he often draws parallels common to all.

Brennon Jones is an issue analyst with Bread for the World, "a Christian citizens' movement in the USA."

Sugar sells for 67¢ a pound one year, 12¢ the next; copper for 86¢ a pound one year; 52¢ the next; and coffee for $3.40 one year; $1.20 the next. Who suffers from these erratic price swings? All of us do to a certain extent – but the poor and hungry suffer most. The reason for this is simple. Most developing nations presently rely on earnings from their commodity exports to finance much of their internal development. "Boom and bust" price fluctuations impede development and bring economic hardship, the burden of which falls most heavily on the poor.

The developing nations have put the need for stable and adequate commodity prices on the world agenda as part of their campaign for a New International Economic Order. The following article looks at the key issues in the international commodity debate and suggests some solutions.

What Erratic Prices Do

Savings in commodity prices deal a severe blow to developing nations for two reasons. First, most of these nations — particularly the poorer ones — depend on one or two commodities for the bulk of their export earnings. The extreme fluctuation of those earnings prevents them from planning orderly investments for their own economic development. Tanzania, for example, would be in a much more advantageous position if it could draft its five-year development plan with the expectation of easing a stable and adequate minimum price for its sisal exports. Instead it may gear up for development when sisal prices are booming and then watch helplessly as these plans go bust when the bottom falls out of sisal prices. This occurred when sisal earnings declined from $40 million to $25 million between 1975 and 1977.

Second, beset by small tax bases and exhausted revenues, the developing nations often lack the internal financial strength to hold their commodities off the market during times of surpluses, when market prices fall. With debts which must be paid to international creditors on time, some developing nations routinely find themselves in the unfortunate situation of having to sell their commodities in a falling market, when prices often drop far below the cost of production, just so they can pay off their obligations. Producers in developed nations, however, have access to financing that allows them to hold their commodities off the market until prices rise to a more profitable level. One effect is that producers in developing nations consistently receive prices that are considerably lower than prevailing world prices. For example, from 1971 to 1975, prices received by the developing nations for a variety of their commodities averaged only 85% of the world market levels. And African countries — which fall among the world's poorest — received the lowest return, only 80 to 82% of prevailing market prices. The prices received by the developed nations during the same period for the same commodities were 94 to 101% of world market level.

Commodity price instability is not just a problem for developing nations. For example, as a major producer and exporter of one commodity — grain — the United States recognized the harmful effects to both producers and consumers of rollercoaster price swings, and recently established a farmer-held grain reserve system in order to temper these fluctuations. The rich nations are coming to realize that commodity price instability is highly inflationary to the industrialized world, with the impact inevitably falling hardest on the poor. C. Fred Bergsten, U.S. Assistant Secretary of the Treasury for International Affairs, has described why: "Excessive price fluctuations can ratchet-up inflation in importing countries . . . Large manufacturers and food processors, having some measure of control over prices, may justify price hikes on the basis of temporary increases in the prices of the raw materials which they use in the productive process, pushing up the consumer price index. Increases in consumer costs, in turn, provide justification for increased wage demands which limit the reversal of the earlier price increases for manufactured and

"Presently, the developing nations get about $30 billion for the twelve main commodities they export, excluding oil, while the final customer pays about $200 billion."

processed goods once raw material prices have receded. The effect is a general ratcheting-up of the general price level. Temporary price increases for primary commodities can thus fuel inflation in the general economy."

In the eyes of developed nations, the concern that price instability not jeopardize the availability of long-term supplies is just as important as curbing inflation. Extreme price fluctuations in primary commodities lead to temporary bottlenecks, lagging investment in commodity production and future shortages of needed commodities.

Declining Terms of Trade

Developing nations have been frustrated by a persistent decline over the past several decades in the terms of trade for the commodities they export relative to the manufactured goods they import. By contrast, the industrialized nations have seen a steady improvement in their terms of trade for the past two decades — except for a decrease in recent years primarily because of oil price increases. And even industrialized nations that experienced an erosion in the buying power of their primary products were more than compensated by the higher prices they received for manufactured goods made with these cheaper commodities. Nothing, however, replaces the loss of purchasing power of commodities in poor countries. Unable to pay for necessary imports through export sales, their debts have increased and their crucial internal development efforts have been slowed — at a time when official development aid from the rich nations is declining as well.

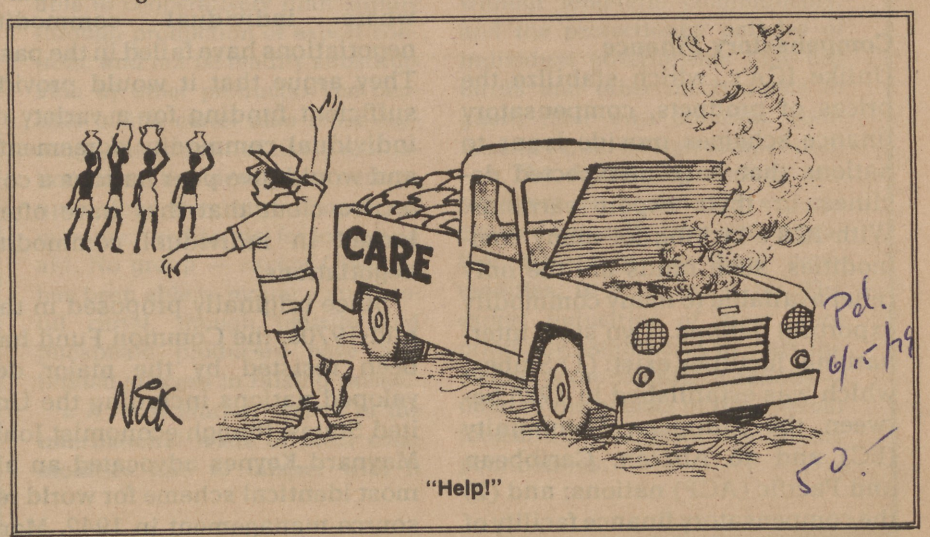
Consider the declining purchasing power of these commodities: In 1950, 55 lbs. of bananas bought a ton of steel. In 1974, 140 lbs. were required. In 1954, 6000 kg of tea bought 100 tons of steel. In 1974, the same quantity of tea yielded half that amount. And in 1974, 26 bags of coffee were needed to purchase the same amount of steel nine bags had bought 20 years earlier. In terms of finished products, the decline is even more glaring. In 1960, 25 tons of natural rubber exports purchased 6 tractors; by 1975, they purchased only 2.

Some of this deterioration in the terms of trade reflects the effects of changing economic factors; such as greater growth in demand for manufactured goods and services than for primary products as world income grows, increases in productivity for individual commodities, and the appearance of synthetic substitutes for some commodities. But much of the deterioration is directly attributable to unjust market structures in which developing nations often face the monopoly-like power of both the buyers of commodities, and the sellers of manufactured goods.

The "Value-Added" Problem

A related source of dissatisfaction among the developing nations stems from the fact that much of the final value of primary and processed goods accrues to the developed nations. Even though market structures differ among commodities, developing-nation exports have generally received a low and, in many cases, still decreasing proportion of the final prices of products made from their resources. According to Mahbub ul Haq of the World Bank, poor nations could greatly increase their earnings by getting a larger share of the world's market for finished products. Presently, the developing nations get about $30 billion for the 12 main commodities they export, excluding oil, while the final customer pays about $200 billion. The other $170 billion goes to international middlemen, primarily in the developed nations, who process, package, ship, distribute, advertise and sell these products.

International solutions to the commodity problems have been limited, and fall into two categories — international commodity agree-



"Help!"

ments (ICA's) and compensatory finance schemes.

International Commodity Agreements

Only four commodities, (coffee, cocoa, tin and sugar), have a formal price-setting mechanism, and none is operating effectively — either because it has just been formed, because the price mechanism is insufficient, or because, in the case of sugar, the United States has yet to ratify the agreement. (See also p. 11 for effects on U.S. producers.) Success in establishing agreements in other commodities has been thwarted partly by the developed nations' unwillingness to enter agreements. They base their unwillingness primarily on their belief that the "free market" is the best allocator of resources — and on the sheer complexity of negotiating individual agreements. Agreements must take into account factors such as: (1) the producing nations' need for prices that are sufficiently high, but not so high as to trigger competition from substitutes; (2) the importing nations' need for sufficiently low prices and guarantees of access to supplies; (3) the need for effective cost sharing and for coordinated production and export controls; and (4) stable prices at the time of negotiation so neither exporters nor importers delay earnest negotiations because of temporary windfall gains.

Compensatory Finance

Unlike ICA's, which stabilize the prices of products, compensatory finance schemes provide loans to nations that have unexpected declines in their export earnings. With ICA's lacking for many commodities, such funds are the only relief available to many commodity exporting nations. Two such international facilities exist: (1) Stabex, which was established in 1975 between the European Community (EC) and 46 African, Caribbean and Pacific (ACP) nations; and (2) the compensatory finance facility of the International Monetary Fund. Although such funds will continue to be important, their drawback is that they provide financing after the fact. Developing nations must sell their exhaustible commodity resources at whatever price the market will bear — sometimes that means at a substantial loss — and then fall deeper into debt as they tap compensatory finance to offset their drop in export earnings.

The Common Fund

As a part of their campaign for a New International Economic Order, the developing nations have proposed the establishment of an Integrated Commodity Program (ICP). Its central feature would be a "Common Fund" to finance buffer stocks and other mechanisms that would stabilize the prices of a variety of commodities, particularly those they export. The program also envisions an additional fund, or "Second Window," to aid nations heavily dependent on one or two commodities to diversify and to increase both their processing and marketing capabilities. The Second Window objectives are crucial in resolving some of the problems that the declining terms of trade have caused the developing nations.

The developing nations argue that the Common Fund, with its comprehensive approach to commodity problems, would succeed where individual commodity negotiations have failed in the past. They argue that it would provide sufficient funding for a variety of individual commodity agreements and would give poor nations a collective clout that they have often lacked in individual commodity negotiations.

Since originally proposed in the mid-1970s, the Common Fund has been resisted by the major developed nations including the United States, though economist John Maynard Keynes advocated an almost identical scheme for world resource management in 1942. More recently, the developed nations have softened their stance on it for a couple of reasons. One is that solid economic benefits are likely to accrue to them. For example, a University of Pennsylvania study estimates that the stabilizing of prices of 15 commodities could mean gains for the U.S. economy of some $15 billion over a decade, because doing so would help curb inflation and unemployment. A second reason for the developed nations' more receptive attitude is that, if only for political reasons, they need to take a more forthcoming approach to the demands of the developing nations.

After 33 months of negotiations, a Common Fund has been tacitly agreed upon. But it is likely to establish a Fund far less ambitious than the original $6 billion plan that would have initially covered 10 commodities and later expanded to 18. A $400-million fund, covering at the start only tin, tea, cocoa, rubber, coffee and sugar, seems the best program the negotiations will yield. And the Second Window will probably have a target funding level of only $350 million drawn from voluntary contributions. Some developed nations — including the United States — are unwilling to contribute to the Second Window, because they say that traditional aid addresses these functions.

Even if the agreement falls short of what was originally proposed, it is an important step forward because it establishes a mechanism that can be improved in future years; brings visibility to the commodity problems of the developing nations; gives impetus to serious negotiation on a variety of individual commodities still without effective pricing agreements; and establishes the Second Window, an important mechanism for helping nations diversify into new kinds of production.

Once the Common Fund is established, international follow-up action will be needed, both to ensure that nations negotiate in earnest to

establish new international commodity agreements and to enlarge the scope and funding level of the Second Window. Two areas the Second Window might best use its funds for are diversification into food production by developing nations that are major commodity exporters, but have food deficits, and for increased trade *between* developing nations. Currently only 2.5% of all world trade, excluding oil, is between the developing nations.

Clearly, the Common Fund and restructured international commodity trade holds solid benefits for the developing nations. As a key component of the New International Economic Order agenda, it helps to address the question of justice between nations, but does not guarantee that the benefits will reach the poor within nations. While leaders in Tanzania and Jamaica argue for fair commodity earnings so they may help their own poor, little cynicism is needed to question whether leaders in the Philippines or Uganda would do the same. But necessary change is even less likely in the absence of the kinds of change that the agenda for a New International Economic Order addresses. In this context, new commodity arrangements are politically and economically essential to help set a *climate* in developing nations that is crucial to achieving development that will truly include the poor majority and more in the direction of greater self-reliance.

But even if that climate is established, it will be meaningful to the poor *only* if these internal reforms are vigorously pursued:

1. The assuring of fairer wages to the commodity producers themselves, either through strong cooperatives and unions, or through strong political leadership.

2. The targeting of developing-nation earnings toward sound development plans that include land reform, major credit and extension services to small farmers, basic

Popular Myths

N/C

International commodity discussions occur against the background of commonly held beliefs that do not hold up under close analysis. Here are several:

- **The developing nations are the major exporters of primary commodities.** They are not. The rich nations exported 66.1% of the world total in 1975. It is the developing nations' **dependence** on commodity exports that makes the issue so important to them. Of the 59 non-oil exporting nations listed on the next page, the 23 marked with asterisks are dependent on exports of a single commodity for the lion's share of their foreign earnings.
- **The rich nations are threatened with OPEC-style developing nation cartels on some commodities.** They are not. While the developed nations were dependent on the developing nations for 74.9% of their fuel imports in 1976, the dependence is considerably less for other commodities — 29.7% for food, tropical beverages and tobacco and 27.1% for minerals and other raw materials, although U.S. food and beverage imports from the developing nations was 59.2% in 1976.

Second, a commodity must meet a combination of criteria. The commodity must be produced and exported by only a limited number of nations; be in steadily decreasing supply — or producers must be able to cooperatively limit supply through production or export controls; and not be readily substitutable by other products. The benefits of the cartel also must outweigh the impact of likely retaliation from the developed nations upon which they rely for imports of manufactured goods, for loans and aid. No group — except OPEC — has been able to mount a successful cartel, though bauxite and phosphate producers have had limited success in raising prices.

- **A "free market" exists in the international trade of most commodities and to tamper with it would be to the detriment of the efficient allocation of resources.** Free market conditions simply do not exist in most commodities. Perhaps one-sixth of international commodity trade exists under open and free conditions. One factor is **the dominance of multinational corporations.** For example, control of facets of commodity production, processing, transportation and distribution by these corporations has created a situation in which a major portion of commodity trade between developing and developed nations actually occurs between parent company and a majority-owned affiliate or a closely related third party. No less than 88% of U.S. bauxite, 68% cotton and 67% banana imports are marketed in this way.

Other limiting factors to a truly free market are: **Monopoly purchasing,** in which a few buyers strongly influence the price at which producers sell. Such is the case with tea, in which the world's four major buyers meeting at the London auction (which is really not an auction at all) determine the prices that the smaller tea auctions around the world then follow; **long-term contracts** between individual buyers and sellers, which provide the buyer considerable leverage in setting the price and shift much of the effects of price instability off onto those who are without long-term commitments; and the **protectionist policies** of individual governments that use tariffs and other mechanisms to guard their own domestic commodities from foreign competition.

- **The developing nations' dependence on commodity exports evolved naturally from a comparative advantage in these commodities.** In most cases, no. The export industries of most were originally established to meet the desires of the colonizing nations — often to the neglect of the internal food and development needs of the poor nations. •

Dependence on Primary Commodities

Percentage of total export earnings, non-oil-exporting poor countries

More than 90%			
1. Mauritius*	Sugar, 90%	4. Bolivia*	Tin, 52%
2. Nepal*	Rice, 85%	5. Burma	Rice, 44%; timber, 25%
3. Tonga	Copra, 78%; bananas, 22%	6. Chad	Cotton, 62%; beef, 12%
4. Namibia	Copper, 63%; lead, 26%	7. Congo People's Republic	Timber, 57%
5. Sao Tomé/Principe	Cocoa, 70%; coffee, 28%		
6. Equatorial Guinea	Cocoa, 70%; coffee, 28%	8. Ghana*	Cocoa, 62%
7. Zambia*	Copper, 94%	9. Costa Rica	Bananas, 28%; coffee, 28%
8. Uganda	Coffee, 59%; cotton, 20%	10. Yemen Arab Republic	Coffee, 35%; cotton, 25%; hides, 13%
9. Liberia	Iron ore, 73%; rubber, 16%		
10. Guadaloupe	Sugar, 60%; bananas, 32%	11. Haiti	Coffee, 43%; bananas, 15%
80-90%		12. Seychelles Islands*	Copra, 70%
1. Togo	Phosphate, 33%; cocoa, 35%; coffee, 18%	**60-70%**	
		1. Sudan*	Cotton, 61%
2. Peru	Fishmeal, 28%; copper, 22%	2. Cameroon	Coffee, 25%; cocoa, 23%
3. Zaire*	Copper, 68%	3. Ethiopia*	Coffee, 53%
4. Khmer Republic	Rice, 60%; rubber, 15%	4. Kenya	Coffee, 27%; tea, 17%
5. Honduras	Bananas, 49%; coffee, 14%	5. Fiji*	Sugar, 56%
6. Burundi*	Coffee, 73%	6. Uruguay	Beef, 34%; wool, 21%
7. Sri Lanka	Tea, 60%; rubber, 18%	7. Nicaragua	Coffee, 16%; cotton, 14%
8. Cuba*	Sugar, 84%	8. El Salvador	Coffee, 42%; cotton, 12%
9. Laos*	Timber, 80%	9. Thailand	Rice, 19%; maize, 11%; rubber, 11%
10. Gambia*	Groundnuts** and groundnut oil, 85%		
11. Panama*	Bananas, 56%	10. Brazil	Coffee, 27%
12. Rwanda	Coffee, 57%; tin 19%	11. Mozambique	Sugar, 15%; cotton, 15%
13. Dominican Rep.*	Sugar, 53%	12. Egypt*	Cotton, 47%
14. Colombia*	Coffee, 59%	13. Central African Republic	Cotton, 28%; coffee, 21%
15. Chile*	Copper, 72%		
16. Malawi	Tobacco, 42%; tea, 20%	**50-60%**	
17. Mauretania*	Iron ore, 77%	1. Guatemala	Coffee, 34%; cotton, 10%
70-80%		2. Tanzania	Coffee, 16%; cotton, 14%
1. Ivory Coast	Coffee, 33%; cocoa, 18%; timber, 22%	3. Martinique*	Bananas, 48%
		4. Upper Volta*	Cotton, 42%
2. Philippines	Timber, 21%; sugar, 19%; copper, 16%	5. Guyana	Sugar, 31%; bauxite, 13%
		6. Niger	Groundnuts and groundnut oil, 46%
3. Malaysia	Rubber, 28%; tin, 18%; timber, 16%	7. Benin	Cotton, 18%; cocoa, 17%

*heavily dependent on a single commodity
**peanuts

Source: *Commodity Conflict,* L.N. Rangarajan, Cornell University Press, Ithaca, N.Y. 1978.

health and education services — all leading to increased self-reliance, particularly in food production. Otherwise, commodity earnings will be literally eaten up by food imports, and development will be stymied.

3. The increased monitoring and control of activities of multinational corporations in commodity production, processing and distribution to assure that developing nations get their fair share of the earnings of their resouces. •

(**Editors' note:** *The most significant development in international investment in the 1980s will be a dramatic gain in the international competitive position of non-US companies is among the findings of a report on "World Trade in the 1980s: Problems and Opportunities for Multinational Companies," prepared for Business International Corporation.)*

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Presidential Commission on World Hunger:

N/C

Poll Results Rank Support for Hunger Programs With National Defense

The Presidential Commission on World Hunger, which President Carter created by Executive Order last September with bipartisan Congressional support, authorized an opinion poll as part of its current work. Even though the American public is not clear on the extent of world hunger, and exaggerates the level of current U.S. government programs to cope with it, approximately eight Americans in ten favor either keeping such programs funded at the present level or having them increased. The poll also shows that compared with a list of selected other spending priorities, Americans place support for efforts to ease global hunger at about the same level as national defense and farm price supports.

These are among the principal findings contained in a report prepared for the Commission by William Watts, president of Potomac Associates, in collaboration with the Gallup Organization, which conducted the poll.

The Commission will issue a report early this fall containing an analysis of hunger problems and programs, as well as recommendations for further action. It also has the task of assisting in the implementation of its recommendations and educating the American public about world hunger. Ambassador Sol M. Linowitz called the poll "a major step forward in our public education effort."

The poll also reveals public misunderstanding about the U.S. role in ending world hunger. Two-thirds of Americans believe that the U.S. devotes more of its resources to foreign aid than do other nations. Public perception is accurate, however, concerning the number of hungry people in the world. More than half of the persons polled believe correctly that there are more hungry people in the world today than there were 10 years ago, all according to the Commission. •

Sugar Price Crisis Wipes Out Washington Producers

N/C

by Stephen Bossi

Editors' note: *Government intervention, or the lack of it, innovation and substitution, changing eating habits and growers' responses all contribute to the decline or fortune of individual commodities. The following two articles may serve to illustrate the point by way of sugar and rice, respectively.*

Sugar has fallen on hard times. The first story describes the apparent demise of that industry in the state of Washington and the failure of beet growers to form a cooperative. While a new sugar bill has been introduced in the House of Representatives, it seems to be liked by very few. Hawaiian cane growers, among others, sugar refiners and consumer groups are all fighting the bill for their own reasons. Meanwhile, USDA has announced some initiatives of its own (see next page).

The story about rice is one of unabashed success, and a footnote is in order: plans are underway in New Orleans to establish a market in rice futures.

The banner headline in the March 23 *Capital Press* told the story in eight words: "State of Washington Loses Its Sugar Beet Industry." Hidden in the small print of this and numerous articles preceding it were the details of a two-month desperate last grasp for survival by the state's 630 sugar beet growers.

The crisis began early in January when the U and I Sugar Company announced its intention to sell or close its two sugar beet refineries at Toppenish and Moses Lake. These were the only refineries in the state and constituted the sole market for local growers.

U and I justified its decision by pointing to declining earnings throughout the sugar industry and the failure of Congress in 1978 to enact legislation protecting domestic sugar prices. The company, saying it was "getting out of the sugar business," put the two plants up for sale and said it would not process the 1979 crop under any circumstances.

The reaction to this announcement was one of shock throughout the Columbia Basin where sugar beets, grown on about 70,000 acres, have become a major irrigated crop. The Moses Lake plant, employing as many as 800 workers at peak times of the year, is one of the largest, most modern and presumably most efficient plants in the country.

Losing the plant meant more than a loss of jobs. It meant that local sugar beet producers would have to switch to other crops. The most likely alternative is wheat, which already is an excess supply, depressed-price commodity.

A quick look at the sugar industry shows the Moses Lake and Toppenish closings were part of a pattern. Four plants in Colorado, Wyoming and Montana were closed in 1977. The following year several sugarcane mills and a refinery in Louisiana were shut down. And, at the time of the announcement regarding the Washington State plants, U and I revealed its intention to close one plant each in Utah and Idaho and two other companies, Buckeye Sugar and Great Western Sugar, indicated they would be closing plants in Ohio.

Part of the explanation can be found in the 1974 Congressional decision to allow the Sugar Act, with its system of import quotas, to expire. This legislation, the last in a series of sugar industry protection efforts dating back to the first Congress, insulated U.S. sugar prices from the wide fluctuations of the world sugar market.

World sugar prices had hit record high levels of as much as 57 cents a pound in 1974, compared to less than 2 cents in 1967. The high world market prices, couples with pressure from importers and processors to remove government controls from the sugar industry, led to a narrow defeat on the House floor of the continuation of the sugar program.

The high prices also stimulated increased sugar plantings. The consequent expectation of surpluses caused the price to begin to fall in early 1975. By June the world price was below 14 cents a pound and by September of 1976, it was below 10 cents. At the same time surpluses were growing to the point that carryover stocks in 1978 exceeded one-third of annual world consumption.

Another development contributing to the fall in prices was the expansion of the high-fructose corn syrup industry. This thick syrup made from corn starch has sweetening qualities which make it a good sugar substitute in many uses, including soft drinks. Since it can be produced for about 12.35 cents per pound on a dry-matter basis, compared to more than 15 cents per pound for cane or beet sugar, it is rapidly taking over much of the industrial sugar market.

Thus the closing of the Moses Lake plant was only a symptom of serious economic and political problems that have afflicted the sugar industry. The decision by U and I, an industrial giant with monopoly control of processing in

". . . carryover stocks (of sugar) in 1978 exceeded one-third of annual world consumption."

Washington State, was devastating enough. But the sugar beet producers of the Columbia Basin also faced a Congress and an Administration unwilling to guarantee their cost of production, a world market price that ranged between 7 and 8 cents a pound early this year, and a growing corn syrup industry.

Nonetheless, producers responded to the U and I decision by looking for another sugar processing company to take over the plants. When those efforts failed, they began negotiations among themselves and with U and I to buy the Moses Lake and Toppenish plants and to operate them on a cooperative basis. They organized a new cooperative called the Washington Sugar Company and approached the Spokane Bank for Cooperatives for assistance in financing the venture.

Their first victory came early in March when U and I agreed to sell the two plants, valued together at more than $31 million, to the new cooperative for $8.5 million. Estimating that start-up costs and operating capital of about $9 million would be needed, the Bank for Cooperatives agreed to extend a $9 million, 15-year loan to the cooperative.

The producers calculated that they could raise the $8.5 million to purchase the plants by charging themselves $150 per acre. If they could sign up 57,000 acres, they would be in business. Later negotiations reduced that to 47,000 acres, The newly organized cooperative also reached a licensing agreement allowing it to sell sugar under the U and I label.

It was essential to move quickly, however, because sugar beet planting begins in March. A campaign was launched among the sugar beet growers to get both commitments to plant beets and the $150-per-acre contributions. The deadline set by U and I for decision on purchasing the plants was extended for a few days and then extended again.

By late March it was clear the co-op would not succeed. With 20,000 acres committed, the growers were still far short of their goal. U and I could wait no longer. The growing season was beginning and farmers had to start putting in a crop. This year, and for the foreseeable future, that land will have to be planted to something other than sugar beets.•

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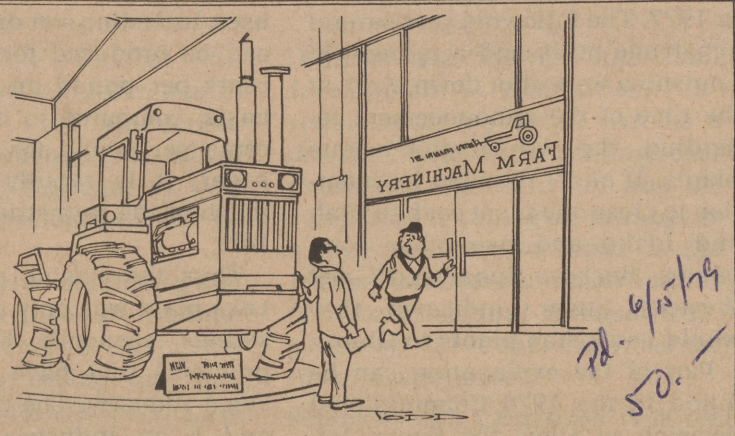

"Tractor of the future is right, I knew that the minute I saw the price."

Three Major Sugar Policy Decisions

Secretary Bergland has announced decisions affecting sugar: • an interim loan program for 1979-crop sugar at 13 cents per pound (raw value); • a sales policy covering Commodity Credit Corporation (CCD) owned 1977 and 1978-crop sugar that will be turned over to CCC, and • a relocation program for 1978-crop sugar with USDA paying transportation expenses.

"Even though the Congress has not acted on a new domestic sugar program, permanent legislation authorizes me to establish a loan level for the 1979-crop," Bergland said. "At present, our market price objective is 15 cents per pound. The Congress is now considering legislation that would provide for a 15.8 cent market price objective for the 1979 sugar supply year. We believe it is important that the loan program help support producer prices, yet not make CCC the exclusive market for the 1979 crop," he said.

He said establishing this loan level will also enable CCC to sell the 200,000 short tons of CCC-owned 1977-crop sugar and the 1978-crop sugar that will be forfeited by producers. "CCC-owned sugar will be offered for sale at not less than 105 percent of the national average loan rate, plus reasonable carrying charges, beginning July 1. Sugar determined to be in danger of going out of condition will be sold at the market price," Bergland said.

"To implement this sales policy, I have directed the Agricultural Stabilization and Conservation Service (ASCS) to prepare a program that will move government-owned stocks of sugar back into the market in an orderly basis, with minimum disruption to the market. Our goal is to sell all the 1977- and 1978-crop sugar over the next 15 months at a price compatible with our market price objective," he said.

The terms and conditions of the sales program will be forthcoming. •

Rice — 'Made in America'

by Richard J. Cattani

From the wild rice paddies of Minnesota to the domestic rice fields of Arkansas and Louisiana, growers this year have seeded for bigger orders this fall.

In *conventional* rice, most of the increased demand is for export — often to places most Americans would expect to be exporters of rice to the United States.

But the United States in the 1970s has become a crucial supplier of rice to the world market, as it is in the more familiarly American crops like wheat and corn. The U.S. raises only 2% of the world's rice, but it ranks second only to Thailand as an exporter of that grain.

The rise of oil wealth in the Middle East and North Africa and higher income elsewhere in the world have created a growing market for U.S. rice, which is considered a high-grade grain.

Last year, the U.S. exported 81 million cwt. of rice, which nearly equaled the country's entire 1970 production of 83 million cwt., or 3.75 million t. U.S. rice production last year was 6.2 million t.

Indonesia, importing 476,000 t last year, is the biggest buyer of U.S. rice followed by Iran, Nigeria, Saudi Arabia, Senegal, Canada, West Germany and the Ivory Coast.

"We are having a record export year," says Steve Gabbert, executive vice-president of the Rice Millers Association. "The world rice situation is volatile. Brazil announced it needed to import 500,000 t in the last month-and-a-half. Korea also announced an emergency purchase of a half-million t. There's very little of the 1978 crop left.

"What happens in 1980 will depend on the rest of the world. There's a drought cycle every five years or so in Southeast Asia. It's about that time again now."

U.S. rice interests are opening new milling plants in the Mississippi delta region of Louisiana, Mississippi and Arkansas, to meet growing demand, Mr. Gabbert says.

To most Americans, the growing of rice is as inscrutable as the Orient where they mistakenly think their rice is grown. Actually, the U.S. imports very little rice — mostly specialty varieties like Japanese strains or Italian Arborio rice.

Arkansas, with more than a third of the 3 million U.S. acres of paddies, is the biggest rice producer among the states, followed by California, Texas, Louisiana and Mississippi. Missouri also produces a small amount of rice, as does South Carolina.

Wild rice harvesting today would also likely surprise many Americans.

The oat-like grain — not a true rice — was familiar to explorers like Marquette. It was a staple of early American tribes from upper Michigan across Wisconsin and Minnesota and the upper reaches of the Mississippi River. And Indians still garner a small amount of the annual crop — though they now tip the grain stalks over the holds of their aluminum canoes instead of the traditional birch bark craft.

Most of the "wild" rice harvested now, however, is cultivated on 40-acre paddies by Minnesota farmers, using machinery and methods similar to those used in other grain crops.

Trenches are dug and dikes are formed around fields. In the spring, 6 to 14 inches of water are pumped onto the fields. Seeds are scattered by airplane. Plants are later thinned from shallow bats.

"U.S. rice interests are opening new milling plants in the Mississippi delta region . . ."

After the stalks have grown as tall as 8 feet, the fields are drained in late summer and harvested by combine when the soil is dry enough.

U.S. wild rice output last year of more than 2 million pounds was as chaff compared to regular rice production. But wild rice has been selling quite profitably — at $18 a pound in New York and $7 to $8 a pound wholesale in Minnesota.

"Demand for wild rice is about to take off again," says George Moriarty, executive secretary of the Minnesota Wild Rice Producers Association. Commercial growing of the grain in the U.S. is only about two decades old. This year, acreage was increased by 15% to about 14,000 acres in Minnesota, the principal wild-rice growing state. •

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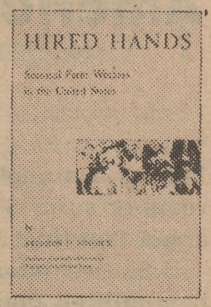

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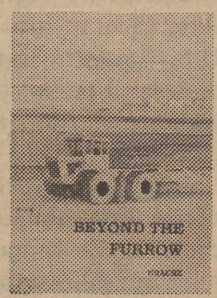

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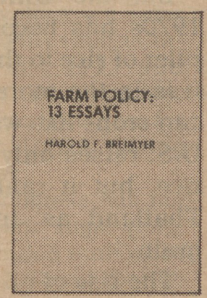

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by Harold F. Breimyer

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Why Don't They Understand Us? A Study of the Farm-City Gap

by Ronald Anderson

The "understanding gap" between farm and city people plagues farmers the world over — and becomes more critical in the United States every day. The farm population shrinks, fewer city people feel close ties to farm families, and political decisions exert more and more influence on farm incomes and country ways of life.

That's why this new book is so important to farm people and others interested in the concerns of farm families. *Why Don't They Understand Us?* examines basic problems and reviews a number of programs in America and Europe which are designed to bridge the farm-city gap. The book contains a wealth of useful reference information, as well dozens — if not hundreds — of worthwhile ideas which can be used by farmers and others concerned with the growing farm-city gap.

The author is the distinguished Australian agricultural publisher Ronald Anderson, who has been writing about the "understanding gap" for more than ten years. Although he wrote this book with Australian agriculture in mind, there are a great many similarities between the Australian and U.S. situations, and he devotes considerable attention to farm-city programs in the United States. U.S. organizations cited include the Agriculture Council of America, American Agri-Women, the National Agri-Marketing Association, the Council on Agricultural Science and Technology, the National Cotton Council and the National Council of Cooperatives.

Mr. Anderson also reviews efforts along similar lines in Europe, involving such organizations as the EC's COPA and CEPFAR, Stichting in Holland, the Danish Agricultural Council, MAT in Finland, the LRF in Sweden, the Association of Agriculture in Britain and Operation Farmlink in Australia.

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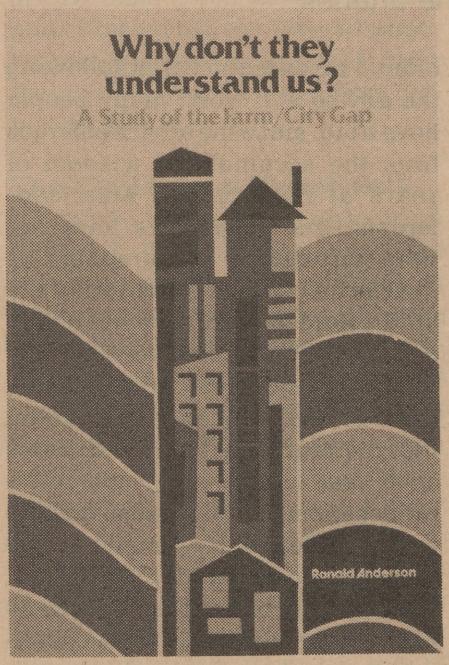


The book contains 268 pages (8¼" x 12", paperback), and is published by Ronald Anderson and Associates Pty Ltd, Collingwood, Victoria, Australia.

If you have any concern at all about increasing understanding between farm and city people, this book is for you. Please send your order and your check right away!

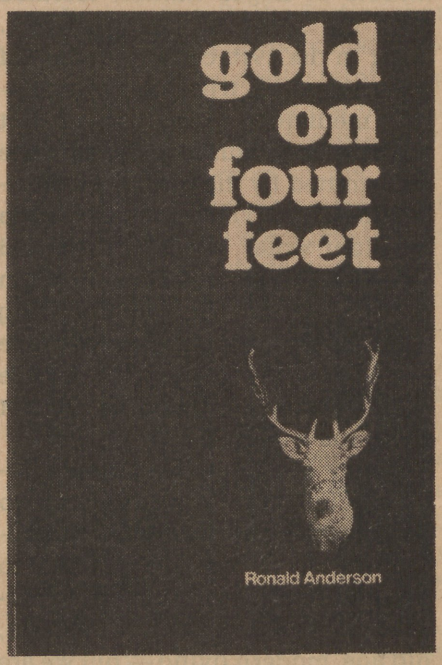
A new industry for rural America?

Gold on Four Feet

by Ronald Anderson

Also new from Australia is this practical "how-to" book on commercial deer farming, which has proved to be a highly profitable venture for a number of farmers "Down Under," particularly in New Zealand. The author spent more than a year researching this subject in America, Europe, Australia and New Zealand, and also draws on his personal experience in launching a deer farm in Australia. Income from deer comes not only from venison, but from by-products such as "velvet" antlers (selling for $50 or more per pound at farm level). He speaks of returns to capital of 50% or more, and profits many times the levels experienced with sheep or cattle.

Gold on Four Feet is available in the United States only from the Ag World Library Service. Cost is $16.00, including postage and handling. Use the convenient order form on the facing page. (160 pages, paperback, Ronald Anderson and Associates Pty Ltd, Collingwood, Victoria, Australia)



Beyond Cholesterol

A New Theory on Arteriosclerosis

by Edward R. Gruberg and Stephen A. Raymond

Arteriosclerosis is the leading cause of death in the United States, but its origin has eluded science. Now, however, some researchers believe they have isolated the chemical cause of the disease, and if they are right, simple dietary measures can do much to prevent hardening of the arteries.

Lagos kills a consul about every two years. The only way to remedy it would be to sleep for the first year on board a ship, or still better, a large hulk anchored off the town in mid-channel. At night the malarious vapour is condensed and concentrated by the chilliness of the ground, and is absorbed or rendered innocuous by passing over a sheet of water.

—Sir Richard Burton, *Abeokuta and the Camaroons Mountains,* 1863

No one knew what caused malaria when Burton was writing. His opinions on the nature of the disease and how best to minimize the risk of contracting it were formed by long personal experience in the tropics. Burton felt that malaria was something in the air, and that it was prevalent at night. Some protection was to be found by sleeping in the middle of Lagos harbor, isolated from the shore by moving water. Later in the 19th century, in one of the celebrated triumphs of scientific medicine, it was shown that malaria was caused by a parasite transmitted by the bite of a nocturnal mosquito. The mosquito bred in stagnant water and had a limited range. So there was some wisdom in Burton's advice. Yet following his recommendation would have increased only slightly the chance of being protected, and he did not point the way to a cure.

Today our knowledge about arteriosclerosis is analogous to Burton's notions of malaria. To protect ourselves we are advised to avoid high-cholesterol diets, hypertension, smoking, lack of exercise, old age, modern living — but we are offered no guarantee that following the advice will work. Many people have tried, since the advice emerges from the accumulated wisdom of years of research on arteriosclerosis. But the results have not been particularly encouraging.

Arteriosclerosis, including the kind found in coronary heart disease, is the most common cause of death in America, significantly more so than cancer. In fact, about half the deaths in the United States each year can be attributed to arteriosclerosis. While most doctors would undoubtedly prefer a single underlying cause for arteriosclerosis, they cannot base their daily practice on any one of the well-known candidates because the evidence of other factors is too strong to ignore. Thus, conventional therapeutics is based on risk factors such as high-cholesterol diets, hypertension, smoking, lack of exercise, et cetera.

Recently a new theory has emerged that offers an explanation for many anomalies of arteriosclerosis. The principal proponent of the new idea is Dr. Kilmer McCully, a professor of pathology at Harvard Medical School, who has suggested that homocysteine is the cause of arteriosclerosis. How does the homocysteine theory fit together the important pieces of the puzzle!

Arteriosclerosis is a literal hardening of the arteries. The most common type of arteriosclerosis is atherosclerosis, where the inner lining is stripped away from the arterial walls, leaving bare patches. Cells deeper within the wall then begin to multiply at these patches. As a disease region develops, the proliferating cells accumulate lipids, particularly cholesterol. At this stage each diseased patch is called an atheroma. Atheromas tend to thicken, and eventually they impede the flow of blood. Blood clots, or thromboses, have a tendency to adhere to the surface of atheromas, causing sudden and sometimes catastrophic reduction in blood flow. The walls of the diseased artery calcify and harden, which leads to increased blood pressure (hypertension), which in turn is associated with a rise in serum cholesterol. When blood flow becomes too low (ischemia), the tissue beyond the block dies from lack of oxygen. If this happens in an artery supplying the heart, a heart attack may ensue. Blocking of an artery supplying the brain results in a stroke.

Atherosclerosis is a long-term process. Overt manifestations such as heart attacks and strokes are usually not seen before advancing years. But atheromas begin much earlier. Autopsies of healthy American combat soldiers killed in action in Korea and Vietnam showed that almost 50% of the men had atheromas in the coronary arteries that were already so advanced that blood flow to heart tissue was seriously compromised. Even among infants and fetuses pathological thickening of arteries has been found to be rather common. In North America and Europe, moderate to severe atherosclerosis is so common that if we didn't know of exceptions we would say that atheromas seem to be as natural a consequence of maturation as calcified bones.

Edward Gruberg and Stephen Raymond are neurophysiologists at Massachusetts Institute of Technology.

Groups with Low Incidence of Atherosclerosis

A few isolated groups are essentially untouched by atherosclerosis. Among these are the highland Tukisenta of New Guinea, the desert Bedouins of the Middle East and Eskimos leading a traditional life in Greenland and northern Canada. These people practice life-styles that are atypical of their atherosclerotic neighbors, and the differences in cardiovascular health are substantial. For instance, the Tukisenta, in nearly universal contrast with humans elsewhere, show no increase of blood pressure or serum cholesterol with age; ischemic heart disease, which is so prevalent among Americans, is "rare if not absent."

A first hypothesis might be that these groups are genetically different from the rest of us, and that their unique heredity is what protects them from the disease. However, good evidence contradicts this possibility. Epidemiologists have traced the incidence of coronary heart disease of Japanese in Japan, Hawaii and California, and have found that as the life-style becomes more Westernized, the incidence of severe atherosclerosis rises dramatically, from 10% to 30% to 70%. Even more striking, during the deprivations of World War II the incidence of coronary heart disease in stationary populations in Finland and the Netherlands dropped precipitously to between one-third and one-fourth of the prewar rate. After the war the rates climbed right back to the prewar level, with no significant "genetic" changes in either the Dutch or the Finnish population.

What could Bedouins, Eskimos and New Guineans have in common that would be shared, but only transiently, by beleaguered Finns and Dutchmen? From our examples, it must be something environmental, and there is additional evidence to suggest that it is dietary. But what? We are conditioned to think first of cholesterol. And that seems like a good guess. With the nagging exception of the traditional Eskimos, whose diet most of the year consists solely of raw meat (high in both protein and cholesterol), the favored populations eat low-cholesterol diets that supply most calories from carbohydrates.

The Cholesterol Hypothesis

In 1908, a Russian physician named I. A. Ignatovski proposed that the rise of arteriosclerosis in European countries in the 19th century paralleled the rise in consumption of protein. He conducted laboratory tests on rabbits, giving them a diet which included meat, eggs and milk. The rabbits developed arteriosclerosis in a short time. Ignatovski was the first to demonstrate experimentally that diet could cause the disease. His results were soon confirmed, but his assumptions about the role of protein were questioned. Although the rabbit diet contained protein, it also contained a large quantity of fat, including cholesterol.

In 1913, Anitschkow and Chalatow, working at the same institute as Ignatovski, produced arteriosclerosis in rabbits by feeding them high-cholesterol diets. What was very intriguing about their studies was the set of facts that could be linked together. High-cholesterol diets led to high serum cholesterol; high serum cholesterol led to cholesterol deposits in atheromas, and the lesions containing the most cholesterol were the most serious ones. This basic model, in which dietary cholesterol causes atherosclerosis, has been popular ever since. The protein hypothesis fell out of fashion despite the fact that Ignatovski's work was extended and confirmed. Others later showed that rabbits fed little or no cholesterol and large amounts of protein nonetheless produced high serum cholesterol and generated atheromas even more rapidly than did rabbits fed high-cholesterol diets.

"In sum, there is no simple connection between diet cholesterol, serum cholesterol, and advanced atherosclerosis."

The cholesterol hypothesis has encountered major problems with the intensified study of human populations. Cholesterol is not a foreign substance, and most serum cholesterol does not derive from the ingestion of dietary cholesterol but is synthesized by the body itself from other nutrients. In order for a cholesterol diet to induce atherosclerosis successfully in experimental animals, it must contain at least 10 times the concentration found in any human diet. So the finding that atherosclerosis can be caused experimentally by cholesterol may have little meaning for the human disease encountered clinically. Furthermore, doctors at the Mayo Clinic have shown that severity of atherosclerosis is not related to the level of serum cholesterol. This does not mean that high serum cholesterol is safe. High serum cholesterol is an important risk factor conclusively associated with a higher likelihood of having atherosclerosis. However, people with low serum cholesterol, the Mayo Clinic study found, could have atherosclerosis as severe as the disease in those with high serum cholesterol.

Most important, several large

field studies, including the Framingham study, sponsored by the National Institutes of Health, have consistently shown little detectable relationship between diet cholesterol and serum cholesterol for people on their normal daily diet. This finding may seem surprising since it is strongly at odds with what is implied by producers of various low-cholesterol products. Reducing dietary cholesterol will cause a 10 to 15% reduction in serum cholesterol, but this is insignificant in terms of the range of cholesterol levels possible for humans. In the United States, serum cholesterol levels can easily be 100 to 200% above those found among New Guinean highlanders; thus the 10% reduction associated with even the most severe diets is quite unimpressive.

In sum, there is no simple connection between diet cholesterol, serum cholesterol, and advanced atherosclerosis. This state of affairs led Dr. George Mann of Vanderbilt University Medical School to write a controversial paper which appeared in the *New England Journal of Medicine:*

> A generation of research on the diet-heart question has ended in disarray. The official line since 1950 for management of the epidemic of coronary heart disease has been a dietary treatment. Foundations, scientists, and the media, both lay and scientific, have promoted low fat, low cholesterol polyunsaturated diets, and the epidemic continues unabated, cholesteremia in the population is unchanged, and clinicians are unconvinced of efficacy . . . This litany of failures must lead the clinician to wonder where the proper research and solutions lie. The problem of coronary heart disease is real enough here, and yet it is rare in less developed societies. What aspect of life-style here makes atherosclerosis so malignant, its clinical consequences so fearsome?

While most physicians complain less publicly than Mann, there has been a broad retreat to a position where dietary cholesterol is only the most prominent of several risk factors. Such a position was adopted by a select group of cardiovascular specialists who made a responsible counterargument to Mann in a later issue of the *New England Journal.*

Yet cholesterol has so dominated the literature and daily life of Americans that other hypotheses have not received as much attention or scientific testing. The homocysteine theory for atherosclerosis has a scientific plausibility that is lacking in the cholesterol hypothesis, but it has not yet been subjected to the large-scale testing that has been lavished on cholesterol.

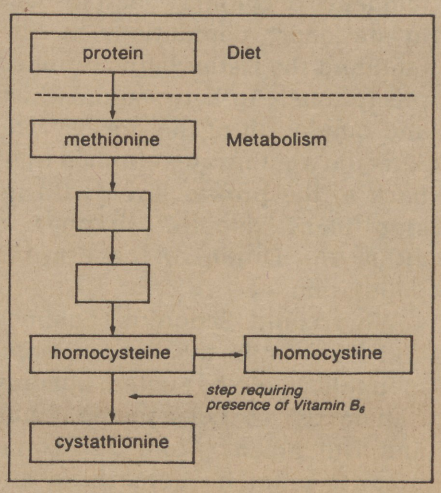
Homocysteine

High levels of homocysteine in human beings were first discovered by Dr. Nina Carson and her colleagues at the Royal Belfast Hospital for Sick Children in Northern Ireland. They were studying mental retardation, not atherosclerosis. Genetically inherited biochemical disorders are sometimes associated with retardation, and Carson and coworkers had been carrying out systematic biochemical screenings to determine families at risk.

They had analyzed urine samples from two young sisters, Patricia and Pauline B. The girls, aged 6 and 4, respectively, were severely retarded. Patricia had a working vocabulary of 12 words and Pauline could not yet speak. Carson and colleagues reported in 1962 that these girls were excreting large amounts of homocystine in their urine. Homocystine is not normally found in the urine, and the two girls were the first known cases, although others were identified soon after Carson and her coworkers had reported the existence of the new disease, which they called homocystinuria. The link to atherosclerosis was established a few years later. Patricia B. died at age 9½. Autopsies on her and other young victims of homocystinuria (ages 7 to 13) revealed extensive vascular disease and associated thromboses. It was as if the whole atherosclerotic process had occurred at a much accelerated pace, resulting in the early death of the patients.

Initially homocystinuria seemed nothing more than a very rare risk factor in the atherosclerosis, another condition to be added to a long list. It is a disease seen in only one of 80,000 people. So it was not obvious how it could yield a clue for explaining a plague causing the death of one in two Americans. The key facts lie in the chart below, which depicts biochemical pathways found in all humans.

Methionine is one of about twenty amino acids that constitute all of the protein that we eat. The human body does not manufacture methionine, so we must obtain what we need from dietary sources. Homocysteine, a very toxic substance, is regularly produced from methionine and is normally converted very quickly to another compound, cystathionine, which is not toxic and is used in other biochemical reactions. People with homocystinuria cannot efficiently convert homocysteine to cystathionine. Thus homocysteine builds up in the blood and some of it is oxidized to homocystine, which appears in urine. For more than 30 years it has been established that the conversion of homocysteine to cystathionine requires the presence of vitamin B_6. The vitamin acts as a coenzyme, or facilitator, of the en-



zyme reaction that converts homocysteine to cystathionine.

The Homocysteine Theory

In 1969, Dr. Kilmer McCully proposed that the genetic syndrome of homocystinuria was the tip of the iceberg. The relation between homocysteine and atherosclerosis extended beyond what was seen in patients with homocystinuria. He perceived the importance of vitamin B_6 and its relation to homocysteine and thus to vascular pathology. It had been known since 1948, through the work of Dr. James Rinehart and Dr. Louis Greenberg, pathologists at the University of California Medical School in San Francisco, that monkeys fed a diet deficient in vitamin B_6 developed atherosclerosis. Monkeys on diets deficient in other B vitamins did not develop atherosclerosis. While the results were extensively reported, very little had been done with them because vitamin B_6 seemed completely unrelated to other dietary aspects of the disease, such as cholesterol. What McCully argued was that with too little vitamin B_6 present, conversion of homocysteine to cystathionine would be diminished. This would lead to a buildup of homocysteine in the blood. Unlike cholesterol, homocysteine is not present in the blood of normal humans. But when it is present, as in homocystinuria, atherosclerosis will develop. In other words, homocysteine causes atherosclerosis and vitamin B_6 prevents homocysteine buildup. Implicit in the homocysteine theory were several predictions as well as an explanation of findings made before the theory was put forth.

1. If homocysteine is maintained in the blood of experimental animals, atherosclerosis should develop.

2. Humans and experimental animals eating vitamin B_6-deficient diets should build up homocysteine in their blood.

3. People proven to have atherosclerosis, such as coronary patients, ought to show a tendency toward low vitamin B_6 in their blood.

4. People proven to have atherosclerosis should also tend to have homocysteine in their blood.

"Yet cholesterol has so dominated the literature and daily life of Americans that other hypotheses have not received as much attention or scientific testing."

In the last decade all of these predictions have been borne out. First, McCully himself showed in rabbits, and a team at the University of Washington in Seattle has shown in baboons, that homocysteine is a potent inducer of atherosclerosis. It is much more potent than cholesterol, even when cholesterol is given in such huge doses that it becomes a major dietary nutrient.

Second, a study at the University of Wisconsin found that humans maintained on a low-vitamin-B_6 diet for 3 weeks began excreting homocystine, indicating that the level of homocysteine in their blood had risen. Unlike cholesterol, levels of vitamin B_6 in the blood closely follow the levels of vitamin B_6 in the diet.

Third, work published in the late '50s and early '60s by physicians in America and Russia had shown that coronary patients have much lower blood levels of vitamin B_6 than normal people. On the average, the patients were found to have about one-quarter the concentration of the vitamin measured in healthy people. The demonstration that homocysteine could cause atherosclerosis and the linking of homocysteine production to low intake of vitamin B_6 brought sense to this observation.

Fourth, physicians at the Department of Medicine of Prince Henry Hospital in Sydney, Australia, have recently shown that coronary patients are much more likely to have homocysteine in their blood than are control subjects who are free of major coronary artery disease. They found that some apparently normal people do have homocysteine in their blood. However, the presence of slight amounts of homocysteine may indicate the development of atherosclerosis internally, with no external symptoms, as in the case of the young combat soldiers in Korea and Vietnam.

Vitamin B_6

Vitamin B_6 is a key to the clearing of homocysteine from the blood. In examining particular diets, it is useful to know the distribution of both vitamin B_6 and methionine (the dietary source of homocysteine). Fruits and vegetables generally have a high ratio of vitamin B_6 to methionine. Meats and dairy products have a lower ratio. We have included a short table of common foods showing the content of vitamin B_6 and methionine.

At first glance it seems unlikely that many people could be deficient in vitamin B_6. However, much of the vitamin is lost in cooking and processing. For instance, 80 to 90% of vitamin B_6 is lost in milling wheat to white flour. Cooking meat destroys 45% of the vitamin. Canning of vegetables inactivates about two-thirds of their vitamin B_6. As a result, several studies have shown that most Americans eating normal diets do not have adequate levels of vitamin B_6.

Risk Factors

We can now start seeing a pattern. As Ignatovski first observed, in countries with high incidence of atherosclerosis, large amounts of

protein are eaten. The yield of vitamin B_6 in the diet is small because of the way the food is cooked and processed. The methionine in protein gets converted to homocysteine but its subsequent conversion is blocked because of inadequate levels of vitamin B_6. It is important to note that low-cholesterol diets such as those of the Bedouins and New Guineans are also low-protein diets and are quite high in vitamin B_6. So, high cholesterol could be a risk factor through association with high protein intake, but the traditional Eskimos, who eat high-cholesterol, high-protein diets, are protected because they do not cook their meat and thus have adequate levels of vitamin B_6.

The homocysteine theory can explain other seemingly independent risks. For instance, in the past 10 years it has been known that women on the contraceptive pill have significantly lower blood levels of vitamin B_6 than other women. In a sense, an inadvertent experiment has been in progress on the effects of low vitamin B_6. If the theory is correct, these women should collectively show signs of vascular pathology. Since atherosclerosis is a slowly developing disease, only now, after 15 to 20 years of large-scale oral contraceptive use, should these effects be manifest. The unfortunate prediction has recently been confirmed. The Royal College of General Practitioners in England studied 46,000 women. Twenty-three thousand were taking the contraceptive pill and 23,000 controls consisted of nonusers who were matched by age and marital status. The investigators found that the death rate in the still relatively young women who had taken the pill continuously for 5 years or more was 10 times that of the controls. It was established that the excess deaths were caused solely by vascular conditions. Women who had taken the pill for any length of time had a 40% excess of deaths due to vascular conditions. The homocysteine theory accounts for the increased atherosclerosis as the expected result of lowering vitamin B_6 with the pill and thus permitting an increase in the level of toxic circulating homocysteine.

Age is another risk factor associated with atherosclerosis. It has been well established that with age Americans manifest progressively lower levels of blood vitamin B_6. In fact, virtually all Americans over 60 are vitamin B_6 deficient. Thus age and contraceptive pills have a similar effect on vitamin B_6 levels, and it becomes clear how the atherosclerotic process could be accelerated in older people.

The level of vitamin B_6 in human mothers' milk is strongly correlated with the amount of vitamin B_6 in the diet. The homocysteine theory offers an interpretation for the early stages of atherosclerosis seen in infants — one in which the low vitamin B_6 in the diet of the nursing mother would be the dominant factor. The need of infants and fetuses for vitamin B_6 has not been directly established, but it may well be higher than for adults. The level of vitamin B_6 is actually 4 times higher in the blood of the fetus than it is in the blood of the mother. Since the vitamin cannot be synthesized by either the fetus or the mother, some exchange mechanism between mother and fetus concentrates vitamin B_6 in the fetus. The cholesterol hypothesis offers no explanation of infantile atherosclerosis. For one thing, the amount of cholesterol eaten by the mother does not affect the amount that shows up in her milk. A recent study showed that nursing mothers on a high-cholesterol diet and nursing mothers on a diet with almost one-third the cholesterol had exactly the same concentration of cholesterol in their milk. However, a woman getting low vitamin B_6 in her diet will reflect that deficiency during pregnancy and nursing, and her infant may have elevated levels of homocysteine as a result.

Food	mg B_6 (per 100 g)	mg Methionine (per 100 g)	Ratio of B_6 to Methionine (× 1000)	Standard Portion
Apple	.03	4	7.5	150 g
Avocado	.42	19	22	123 g
Banana	.51	11	46	150 g
Beans, raw snap	.08	28	2.9	125 g; 1 cup
Beef, raw round	.50	970	0.5	85 g; 3 oz.
Bread, white	.04	126	0.3	23 g; 1 slice
Bread, whole wheat	.18	161	1.1	23 g; 1 slice
Broccoli, raw	.19	54	3.6	150 g; 1 cup
Butter	.003	21	0.1	7 g; 1 pat
Carrots	.15	10	15	50 g
Cheese, cheddar	.07	653	0.1	17 g; 1″ cube
Chicken	.5	537	0.9	76 g; ½ breast
Egg, hard-cooked	.11	392	0.3	50 g
Lettuce, head	.07	4	17	220 g; 4″ head
Milk, cow whole	.042	83	0.5	244 g; 1 cup
Oranges, raw	.06	2.7	22	210 g; 3″ dia.
Peanut butter	.33	265	1.2	16 g; 1 Tbs.
Peas, raw	.18	44	4.1	160 g; 1 cup
Potato, raw	.25	25	10	100 g
Spinach, raw	.28	54	5.2	180 g
Tomato, raw	.10	8	12.5	150 g
Yoghurt, plain	.032	102	0.3	246 g; 1 cup

Mechanisms of Homocysteine Action

The first experiments indicating how homocysteine alters blood-vessel walls have been performed in the last decade, and some provocative observations have been made that suggest in a general way what is happening.

Normally, cells grown on a plate will divide until their outer surfaces touch, filling the plate with a single layer of cells. In a process called "contact inhibition," they then cease both growth and division. Dr. McCully has found that homocysteine alters the surfaces of cells and thus disrupts the normal modes of interconnection. The consequence is that the compound induces both growth and decoupling of cells. In blood vessels this might lead to abnormal cellular proliferation and render the thin cellular linings of the wall grossly porous. Homocysteine is potent in cell cultures, and in baboons it produced observable injuries and cellular proliferation in blood vessel walls within a week after its administration was begun. Thus homocysteine's effects are apparent both on the surfaces of cells and on the integrity of tissues made of those cells. What is still unclear is how the compound exerts these effects at a molecular level.

Clinical Implications

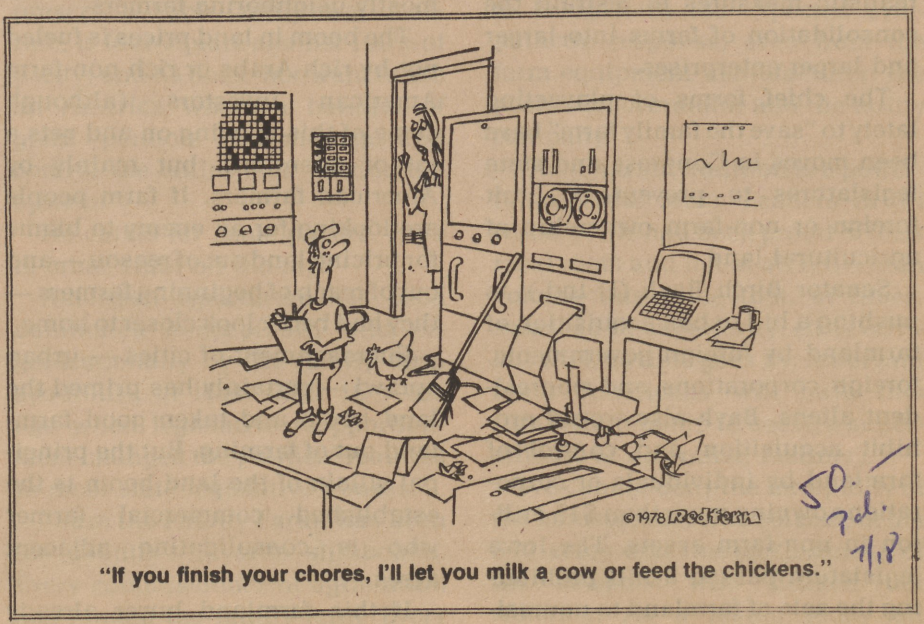
The homocysteine theory is, essentially, a theory. It is not yet sufficiently confirmed by scientific and clinical tests of its other predictions and implications. But it holds much promise and it requires only a few simple measures for clinical implementation. The theory suggests that most of us in the United States eat too much protein and not enough vitamin B_6. A new criterion seems to be in order for the selection of foods — not on the basis of cholesterol but on the basis of relative vitamin B_6 and protein content.

The government suggests that 2 mg/day of vitamin B_6 is adequate for all adults. Yet many Americans eat less than 2 mg/day, and there is some evidence that even the recommendation of 2 mg/day is too low to cover safely the entire adult population. Some groups are more prone to vitamin B_6 deficiency and should have higher intakes of the vitamin. These include pregnant and nursing mothers, women on the contraceptive pill, dieters (especially those following a high-protein regimen), and old people (Geritol, a vitamin/iron product aimed at older people, contains a scant 0.5 mg of vitamin B_6 per tablet). Available evidence suggests that 10 mg/day of vitamin B_6 would be more likely to give an adequate margin. This level would require a vitamin supplement since it would be difficult to eat an American diet which has sufficient vitamin B_6. However, megadoses do not seem to be of additional value. Since excess intake of the vitamin is rapidly excreted, vitamin B_6 is quite safe. The toxic dose of the vitamin is more than 1000 times greater than 10 mg/day; it is about as toxic as table salt.

Caution requires that one hedge all bets. Thus, the advice emerging from the homocysteine theory, to follow a diet containing lower amounts of protein and higher amounts of vitamin B_6, does not preclude simultaneous use of other strategies. While the cholesterol hypothesis is inadequate, no one will be hurt by following a low-cholesterol diet, especially since a tendency toward lower protein intake will result.

"The homocysteine theory is . . . not yet sufficiently confirmed . . . But it holds much promise and it requires only a few simple measures for clinical implementation."

Much remains to be learned about homocysteine, particularly whether it can be shown to be *the* cause of atherosclerosis. This requires both clinical research and experimental elucidation of the mechanism of its action on cells of blood vessels. Conclusive results from large-scale clinical testing will require a number of years. Yet long before the cause of malaria was discovered, there were those who chewed on the bark of the cinchona tree with the hope that it was therapeutic. Later it was established that the bark contained quinine, the preferred treatment once the cause was understood. •



"If you finish your chores, I'll let you milk a cow or feed the chickens."

Once Again and Still: The Family Farm N/C

Editor's note: *Secretary Bergland's speech at the National Farmers Union convention in Kansas City on March 12 has apparently fallen on fertile ground. Many commentators continue to ponder the questions raised. Encouraged by the response, the Secretary takes every available opportunity to elaborate and to maintain the momentum.*

For example: the USDA press office recently issued the transcript of a detailed question-and-answer session, and at the Federal Reserve Bank of Minneapolis Mr. Bergland reiterated his call for the formation of an agriculture policy "that has an objective." Further, he proposed to hold ten open meetings across the country in the fall, and he hopes to have a "rational and sustained public debate for up to one-and-one-half years so that we'll have a good proposal for Congress when the farm legislation runs out in 1981."

Following are a number of contributions to this thought process by a syndicated columnist; the director of college relations, Rutgers University; and a reporter on the Little Falls (Minnesota) Daily Transcript, respectively.

Price Support Programs and Graduated Land Tax Might Deserve a Good Look 10.

by Lauren Soth

Do farm people, their organizations and politicians really want to save the middle-sized family farm or just talk about it?

A moderately cynical observer might conclude that they just want to talk about it. It is hard to find conspicuous political support for realistic measures to restrain the consolidation of farms into larger and larger enterprises.

The chief forms of playacting lately to "save the family farm" have been moves in Congress and state legislatures to prevent or limit foreign or non-farm ownership of agricultural land.

Senator Birch Bayh (D-Ind.), is pushing a bill to ban acquisition of farmland by foreign governments, foreign corporations and nonresident aliens. Bayh also would prohibit acquisition and control of farmland by individuals or corporations owning more than $15 million in non-farm assets. The Iowa legislature passed a bill prohibiting the sale of farmland to nonresident aliens, but the governor hadn't signed it at the time this was written.

Whatever you may think about such laws for other purposes, they do nothing to preserve the family farm. The putting together of farm units into large-scale businesses is not being perpetrated by wily foreigners but by wily Americans — mostly neighboring farmers.

The boom in land prices is fueled not by rich Arabs or rich non-farm American investors (although some of this is going on and gets a lot of attention), but mainly by American farmers. If farm people are looking for an enemy to blame for pricing land out of reason — and out of reach of beginning farmers — they had better look closer to home.

Encroachment of cities — urban sprawl — certainly has primed the land boom and taken good farmland out of farming. But the principal villain of the land boom is the established commercial farmer who is consolidating adjacent acres.

If this farmland buyer already owns 500 acres which he bought in parcels over the years at $300 to $1,000 an acre, he may find it a good deal to pay as much as $2,500 an acre for a conveniently located quarter section of good cropland. His total land investment may be only $1,200 an acre or so. Moreover, he probably has had to add no new machinery or buildings to work the added land.

The owner of farmland during the last 20 years has gained more from increased value than from net farm income. Earnings on farm equity capital from 1960 through 1976 averaged 4% per year, according to USDA calculations, while capital gains averaged 8.3% per year! Total return on farm equity capital (12.3%) has been double the return on common stocks (3.4% dividends and 2.6% capital gains).

These facts inspire investors in farmland. Trying to restrict land investment to American citizens or people with less than $15 million in non-farm assets would not curb the boom. Still less would it help beginning farmers or protect middle-sized family farming.

What could be done to save this efficient family farm everybody wants to save? (I'm talking here about a farm big enough to accomplish all the technical efficiency benefits of modern technology. Many studies indicate that these can be realized with a business volume of about $50,000 per year, far below the levels of the largest half-million of our 2.7 million farms today.)

Agriculture Secretary Bergland has suggested one thing to save the family farm: change federal price-support programs so that they do not encourage farm enlargement. Since Bergland made that suggestion in a speech last March, I

haven't noticed any great parade of farm leaders urging him on.

To the contrary, the farm organizations still insist, for example, that no effective ceiling be set for farm subsidy payments. Big farmers have advantages in financing, buying of supplies, selling their products and technical assistance from both public and private agencies. A limit on subsidies — a low limit — would partly offset these advantages of size. And the government could do a better job of equalizing credit and marketing services.

Another obvious way to discourage increases in farm size would be a graduated land tax, based on value, not acres. States could levy progressive land taxes in the same way they levy progressive income taxes. To be effective, though, the land tax would have to contain fewer loopholes than income taxes.

Such a tax is being considered in North Dakota but has not fared well there. (An excellent analysis of the pros and cons of this plan was presented to the North Dakota legislature by Byron L. Dorgan, the state tax commissioner, and printed in the Taxes magazine of the Commerce Clearing House, Inc.).

A graduated land tax would not deny anyone the right to own as much land as he pleased, but the competitive edge of the big farmer would be shaved.

Several countries have such taxes, including Australia and Brazil. (Australian land taxes also are higher for absentee owners.) Mention a graduated land tax in this country, though, and you are dismissed as a socialist or an enemy of free enterprise. The row stirred up by Interior Secretary Cecil Andrus when he proposed actual enforcement of the 160-acre limit on water rights from federal irrigation projects shows the political opposition to any limit on farm size.

But if enough Americans wanted to halt bigness in farming, it could be done. •

Structure or Stricture...

The Family Farm Mythunderstood

by Chester J. Teller

Secretary Bergland has asked for a national dialogue on the kind of agriculture we want for the future.

Apparently, from his remarks at the National Farmers Union Convention at Kansas City, Missouri last March, Bergland would like to preserve a viable family farm structure; is four-square against 100% of parity; and he does "*not* want to see an America where a handful of giant operators own, manage, and control the entire food production system."

He called for issue papers. Here is mine, right off the top.

American agriculture has been dominated conceptually and organizationally by the family farm syndrome, at least until 15 years ago when legislative reapportionment changed the political realities in most state legislative houses.

"Save the Family Farm" has been the country's favorite shibboleth. Every commissioner of agriculture has lauded the family farm. Every political candidate has assured the electorate of his passionate defense of the family farm. Our nation's history has been punctuated, if not riddled, by periodic apologia in behalf of the family farm concept. Such repeated paeans never failed to bring forth the expected sympathetic response, even from the farm equipment manufacturer, the pesticide formulator and the utility company.

Our agrarian tradition is a powerful national force. Leaders in all walks of life had been proud of their rural roots and not at all reticent in voicing this pride that, at times, smacked of superiority. (It is obvious that, as time goes by, fewer and fewer Americans will have this rural relationship to use in a supercilious, or any other, manner).

We cannot deny the intrepidity of the homesteader who staked out his 640 acres and the recklessness of the cowpoke who steaked out America. As a result, today all

McDonalds have a farm. Our ethical values were forged with the plow and the branding iron, although current agribusiness may have taken out some of their temper.

Words do have meaning. The "farm" means one thing. The "family farm" denotes something else entirely. The family has always been considered the basic unit of our society, the foundation of our steadfastness. All members of the family worked the farm and nothing was ever charged for their labor. This provided for a better balance sheet at the end of the year.

The value system that created America was largely agrarian in origin. Living close to nature — and a few feet from the barn — called into use "independence," "fundamentalism," "frugality," "thrift," "hard work" and "self-reliance." We still value these traits very highly and attribute their sole custody to the family farms. Rarely does one hear the extolling of virtues of an urban value system. But the "family farm" still fares well, even though many of them have said "farewell." Who else in our society has had the government in its corner with full executive support, the United States Department of Agriculture and its branch offices, the State Departments of Agriculture, ostensibly working to save it from extinction? And, all the while, organizational representation of these "family farms" are decrying government interference and the decline of free enterprise. What other segment of our population receives such attention in the forms of parity, support prices, target prices, loans, Congressional agricultural appropriations committees, county agents?

How have agriculture and the family farm changed over the past 200 years? A Government Accounting Office study entitled: "Changing Character and Structure of American Agriculture: An Overview," dated September 26, 1978, revealed some interesting facts.

"The free market economy exists in agriculture to a much greater degree than in most other segments of the economy."

• For one thing, less than 4% of the nation's population is engaged in farming. In view of the tremendous increases in productivity, this fact is nothing short of amazing.

• To maintain this productivity, however, the farmer has become dependent on petroleum-based inputs — fuel, fertilizer and pesticides. As these nonrenewable items become scarcer, and thus more valuable, cost/price pressures on the farmer have increased dramatically.

• In order to survive, farmers have been on the "technology treadmill," that appears to be accelerating from the looks of the gleaming, new tractors. Of course, they are easier to harness than to finance.

• The smallest 50% of the farms account for less than 5% of the sales; the largest 5% take nearly 50% of the market. In 1976, two-thirds of the fed cattle were marketed by 1% of the nation's feedlots.

• The family farm today may be incorporated and include more than one family. Their gross sales could be $500,000 or more. A typical Midwest corn and hog farm of 320 acres has $147,000 worth of machinery. A typical California rice farm with expensive irrigation equipment requires $330,000 worth of machinery.

Suppose, we refer to these "family farms" as Mom and Pop farms. Is our response different?

When supermarkets outpaced the Mom and Pop grocery stores about 30 years ago, no one came to their rescue. That was free enterprise at work. As consumers, most of us were delighted with the one-stop, gigantic Quonset hut where endless aisles displayed over 10,000 items from which to choose — and gave green stamps in the bargain.

"The best interests of the consumer are served by having competitive sources of the goods they wish to buy," said J. B. Kendrick, Jr., Director of Agricultural Research at the University of California recently. "Not only are family-owned farms desirable structures of our society, they provide the competition essential to our free market economy."

The free market economy exists in agriculture to a much greater degree than in most other segments of the economy. Certainly, the inputs farmers purchase are from a less free market than the one on which they sell.

Because of their inability to control production, coupled with Mother Nature's fickleness, farmers have rarely been able to pass on their increased costs of doing business. But the increased costs of the items they buy — equipment, pesticides, fertilizer, fuel and college educations for their children — have been neatly passed on to them. And that simply won't wash. Farmers and all productive members of society are entitled to 100% of parity. No, not in terms of the 1910-14 base, but in terms of simply obtaining a fair return on their investment; of capital, labor and management.

When production is controlled, as in industry, so that unit sale prices cover costs, plus a bit more for the stockholders, the market can hardly be considered open. When a farmer plants wheat, corn or cotton, he hopes to harvest all that he planted, weather permitting, of course. Farming is based on full production. One simply can't milk half a cow. This puts every farmer

in direct competition with his neighbor.

All of this adds up to the small percentage of take-home pay most Americans spend on food, but a tough row to hoe for the producer.

Farmers — and ultimately the 96% of the rest of us — are paying a price. The price is the demise of the number of farms and farmers.

Although federal programs have provided direct subsidies since the 1930s to maintain "the family farm," only 10% of all farmers receive direct government program payments and 1% receive 29% of all government largesse.

The "Mom and Pop" farm may no longer be a source of the rural value system we all cherish. Its value system now derives from the marketplace, the ultimate hypocrisy when competition is limited or nonexistent.

American agriculture is faced with a choice. It can become a public utility to preserve the "family farm" and to ensure a continuing food supply at reasonable prices, both for the producer and the consumer — or it can allow the technology treadmill to run at full tilt with the predictability of still fewer but larger farms — "factories in the fields" — and food production monopoly at the hedgerow.

The choice can still be made. Secretary Bergland is to be commended for placing the restructuring of agriculture on the national agenda. •

Three Young Farmers Start in Three Different Ways

by David Freed

"Without the help of Dad, I wouldn't have been able to keep going," says Tom Quist of Lindstrom, Minnesota. The 26-year-old farmer realizes — as have many young Minnesota farmers — that without the help of a relative it's tough to start farming, let alone survive once started. Quist, in his two years as a farmer, has been aided by the labor and the experience of his father. But Quist was able to start farming mainly through the help of an outside source.

Quist has received a Minnesota Family Farm Security Act loan, one of well over 100 Minnesota farmers to do so since the program began in March, 1977. The $50,000 loan, plus a $1,100 a month milk testing job, has helped Quist stay afloat after buying his father's 165-acre farm in August, 1977.

(The 1979 Minnesota Legislature amended improvements into the Farm Security Act that will increase eligibility for young farmers previously excluded by the impact of inflation. An applicant's net worth may now be $75,000 instead of the previous $50,000. Further, the Legislature raised from $100,000 to $135,000 the net worth level at which the 4% state advanced interest credit will be terminated on Farm Security loans. Ed.)

Though the act is not going to meet everyone's needs, it has contributed to Minnesota's temporary success of holding down the loss of farms and farmland while totals in both continue to drop in the United States. Department of Agriculture statistics show that Minnesota has the same number of farms that earn over $1000 in 1978 (104,000) as it had in the previous three years. Meanwhile, the number of farms in the United States has declined from 2.5 million in 1975 to 2.37 million in 1978, a drop of 5%.

Also contrary to the American trend, Minnesota's acreage per farm has been consistent. Since 1975, the average Minnesota farm has stayed at 291 acres, far below the national average of 444 acres in 1978. The national average was 427 acres per farm in 1975.

High land prices and risks involved in operating a farm have made it difficult for young people to obtain enough money to get started in farming. The Security Act helps, but it is not enough to handle everyone's problems.

Fortunately, for Quist, it solved his dilemma. He got the loan in just six weeks after making his application. He paid $600 an acre for his farm which, he says, he could now sell to builders for $1,200 an acre.

"I could have bought it before," said Quist, "but it would have been at 10% interest." Instead, Quist pays back the loan at 4.5%. He makes two payments a year that add up to over $3,400.

Because of the loan, life has been easier for Quist, but he says he and his wife Debbie have lived "conservatively" for the past two years. The Quists had a baby nine months ago adding to living costs. However, his outside job has helped. He buys

"Yes, we have older farms in the $20,000 range, but the owners want $100,000 for them."

food, pays other bills and makes improvements on the farm with the money he earns by milk testing for the Dairy Herd Improvement Association.

Quist also farms his father-in-law's 35 acres, for which he gets two-thirds of the harvest. Quist doesn't have any livestock on his farm now other than his wife's seven purebred Arabian horses and two beef calves. He had 30 Registered Shorthorn beef cattle that he sold for an average of $819 apiece in April.

Quist is looking for a new herd and just recently bought two cows. Even though he didn't want to farm immediately after high school, he says "it's gotten in my blood."

Things have worked out just right for Quist. "The loan program came at a good time. The same with the milk testing job," he said.

Jim Nichols, state senator (DFL) and farmer from Lake Benton, says it would be "almost impossible" for someone to start farming today without any financial assistance from relatives, friends, or another job.

Nichols, 32, is an example of a self-starting farmer who has succeeded. Like Quist, Nichols says he started farming at the right time, purchasing 320 acres in 1972 at $150 an acre. He added 90 acres in 1976 to his cash-grain farm at $520 an acre, which he says could now sell for $700 to $800 an acre.

"Today a young guy can't buy land, so he has to rent it at $50 an acre which is a lot of money to try to make up," says Nichols. "The people who can afford to buy land are the ones who already own land and are looking to expand."

Nichols says he is worried that the same thing that happened to the rest of the world — land being in the hands of the few — could happen to the United States.

Steve Engler is also a farmer and a state senator (IR). But Engler is single, while Nichols is married. Engler farms with his father while Nichols farms alone, and he works only half the acreage Nichols farms. The Englers grow peas in Randolph, Minnesota that they sell by contract to Green Giant.

Engler, like Nichols and Quist, is young. Just 29, Engler says he wants to help the farmer in as many ways as possible, but that the most helpful ways are available from the federal government.

Like Quist, Engler and Nichols say that farming is in their blood. For Engler, farming has always been in the family.

Engler, like Nichols, believes the best way to get started in farming is to operate the farm as a family unit and pass it down to each generation as the Englers have done since the 1900s.

"You either have to have an outside income source or be connected with relatives to get started in farming," says Engler. He realizes there has been a trend toward bigger farms and he says he believes it will continue for a while, but then reach a plateau and taper off.

Laws and programs such as the Family Farm Security Act, are encouraging signs, says Philip Raup, University of Minnesota agricultural economist. But, to pay for farms from farm earnings isn't possible right now, he adds. Prices for land are too high and most of the bidding for the land available comes from other farmers who are seeking to expand.

"Two-thirds of all sales of Minnesota farmland goes to farmers who are expanding. The farmer who has land value from a current farm can bid a higher price than those who have no nest egg to back up a bid," says Raup. He believes tax reasons, not farming or technical matters, will decide farm size in the future.

Opportunities for a young farmer depend on many things. Whether or not the parents are going to move, the land prices, and most of all — availability of money.

Whether a farmer succeeds also depends on market prices, the weather and good management.

As in Tom Quist's case, it can

Bank of North Dakota Makes Loans to New Farmers

N/C

The Bank of North Dakota, the nation's only state-owned bank, has committed $1.7 million in loans to new farmers in the first 2½ months of its Beginning Farmer Program.

Under the plan, new farmers can receive 100% financing for purchase of farmland, 50% from the bank and 50% from the Farmers Home Administration (FmHA).

In addition, the borrower receives a 2% interest deviation for the first 5 years of a 40-year loan, and principal payments can be deferred the first 2 years of the loan, if necessary.

To qualify for the program, the new farmer must be a North Dakota resident, must spend 50% of his time on the farm, derive 50% of his income from the farm, and must have 2 to 3 years farm management experience, either through formal education or farm work.

The program was initiated by the North Dakota Industrial Commission, which regulates the bank, in cooperation with the bank and the FmHA.

For more information, contact Steve Tomac, vice president in charge of the Loan Department, Bank of North Dakota, Bismarck, ND 58501. •

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also mean being fortunate. Quist feels he is lucky to be farming. The loan and his job came along at just the right time. But, by no means is Quist living in a basin of jewels — he is still struggling to get by.

The outside of his barn is run down, but the inside is solid. He plans on putting in new stanchions soon. He also hopes to add a second silo and install a new barn cleaner. But, again, it is a matter of money.

"He got the loan in just six weeks after making his application."

Quist bought a tractor last year for $7000 and a baler for $4000. Slowly he is trying to improve his farm and the machinery he works with. The most important thing to Quist is that it is *his* farm to improve — something he couldn't have said without the loan. •

A Corporate Family Farm N/L

Among the several news releases publicizing the Indiana Farm Management Tour held in mid-July, is the following in which specific reference is made to "the family farm." The writer in the Department of Agricultural Information, Purdue University, West Lafayette, recognizes that farm size is a matter of debate. He concludes that the farm which he is about to describe "would have to qualify" in 1979.

Sometimes a good argument can be started by an attempt to define "The Family Farm." Whatever the definition finally accepted, The Tom Farms in northeastern Kosciusko County would have to qualify. Five generations are, or recently have been, connected with the enterprise.

The farm consists of 1,180 acres of which 420 are in a family corporation. In addition Everett Tom Jr. owns 390 acres. Kip Tom, his son, owns 20. Two hundred acres are crop-share rented, and 130 acres are cash rented.

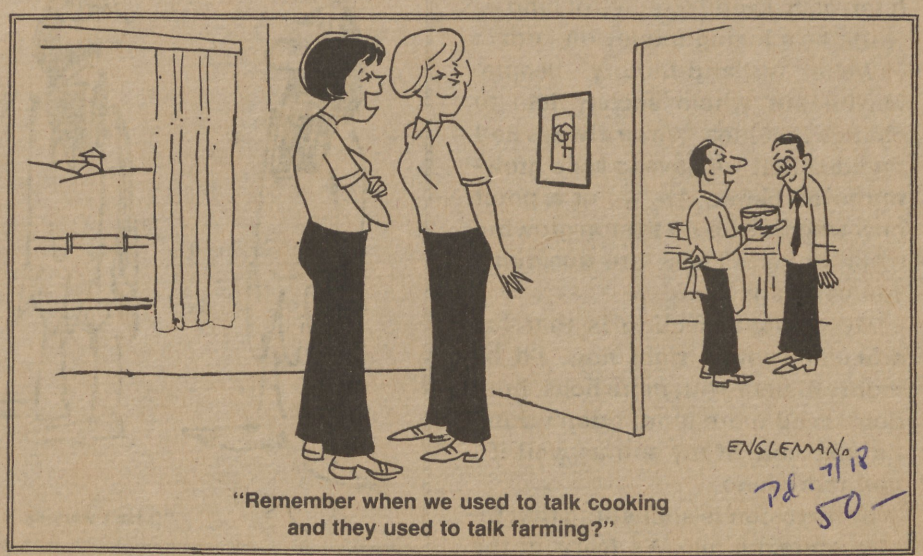
The Toms rely heavily on irrigation with 525 acres of irrigated corn. Two 160-acre center pivot irrigation systems are employed to provide the equivalent of 7.5 inches of rainfall over the summer.

The irrigated corn has produced an average yield of nearly 190 bushels per acre as opposed to slightly more than 110 bushels per acre average on the dry land. In a five-year period, however, the dryland corn yield ranged from a low of 30 bushels per acre in 1974 to a high of 140 in 1976.

The Tom farms will be familiar to 4-H beef club members, many of whom attend the Toms' annual Labor Day sale of calves. The Toms actually have two beef herds, a registered Simmental herd, and a herd consisting of Simmental, Chianina and Charolais cross cows. The two herds together total 160 cows.

The five generations involved in the business include Guy Fisher, grandfather of Everett Tom Jr. and owner of some of the land in the operation. Mr. Fisher is 94 years old and he still feeds out hogs, "mostly for company," he says. He operated an orchard in the area for 38 years.

Everett Tom Sr. started the Tom farm and farmed it for 40 years. He is now retired. Everett Jr. started farming 26 years ago on this farm with his father. Kip Tom, son of Everett Jr. and Marie, has been farming with his father for the past 6 years. The fifth generation are Kip's and his wife Paula's children, Kandi, Kassi and Kyle. •



"Remember when we used to talk cooking and they used to talk farming?"

A Farmer Thinks Out Loud About His Role in the Scheme of Things

Excerpt from "The Voxlands — a year in the life of a farm family," as recorded by Lori Sturdevant.

I'm a member of Farm Bureau, and sometimes I think I'm so conservative, it's terrible. The Farm Bureau philosophy has always been, the less government intervention, the better. Free markets, let supply and demand work, that's the idea. A free market would decrease the price of commodities until supply and demand took over.

But my ideas may be changing a bit. It's an ethical question — how many farmers would go out of business before we get there? And who would they be? Not the big operators or the corporations. A return to the free market would actually perpetuate the larger, more efficient unit, which would buy up the smaller, younger family farmer. And once the corporations take over, you know that food costs will go higher yet.

Still, how can you say to a big operator, you already have 5,000 acres, you've got enough? On the other hand, how can you tell a 22-year-old kid, you have to come up with $25,900 each year, just in interest, to keep 160 acres of land — while he's losing money on corn?

We're a land-hungry people. Maybe our whole society has to change that idea. We've always had the idea that we have to keep growing to be better. Are we at a point now when we ought to stop growing to be better? These are questions you can't answer . . .

My personal feeling is that I'm efficient enough right now. I'd be more efficient with more hogs, but I don't need more land. I don't think I'd take care of my soil as well if I had more land.

Soil erosion is something that really concerns me. We learn in the Old Testament that the richest land in the world was lost due to soil erosion. And we've already been through some pretty bad soil erosion deals in this country, too. One of the big reasons I'm trying till planting is that I think it'll minimize erosion. I don't know whether that'll catch on or not — it seems that we as a people, as farmers, sometimes have to be forced to do things.

It's the same with water pollution. Most farmers around here don't realize the responsibility they have for water pollution. In this country, farmers are the largest volume polluters of water, what with all the chemical and soil runoff. It's terrible.

Are you going to leave your farm to your son in better shape than your father left it to you? The soil conservation people used to say that. Maybe they should stress that again.

I think about that, about this farm being the family's, not mine. If I lose it, it's lost to the family, to my children and grandchildren. That's one of the reasons I struggle constantly to keep my soil from eroding and keep my livestock healthy.

That might sound like a terrible burden. But maybe that's where grace comes in. You set up a plan, you just do your best, try to follow the best practices you know, and have faith. You should leave the place in better shape. And if you don't, you can say you tried.

My cousin down the road asks every spring, 'Why am I here?' He's asked that every spring for the past 40 years. Well, it seems to me that eventually, you have to answer, 'This is where I'm at. I'm here because I'm supposed to be. Be here. Live it.'

Besides, what would I do in town? •

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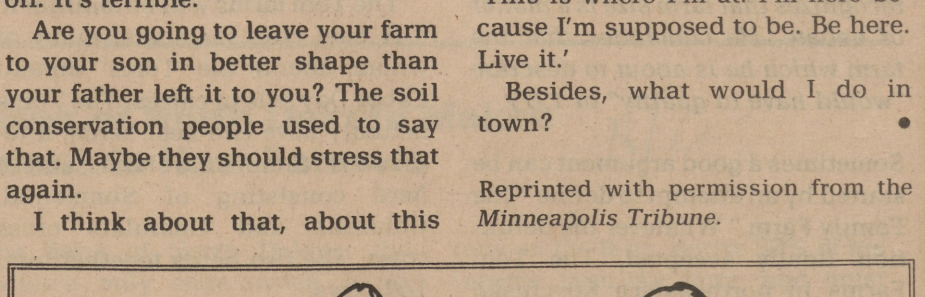
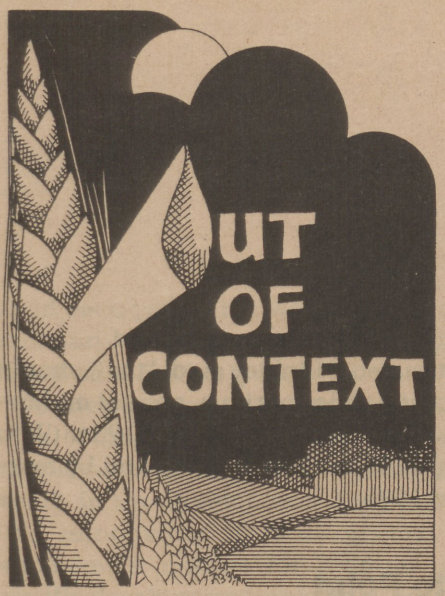


"It isn't working." George Dole/The Christian Science Monitor



"Between 1972 and 1977, services absorbed 47% of the new man-hours added to the economy. And since service productivity is 39% below that of the whole economy, every worker added to the service sector subtracts from average productivity."
From "Where Did We Go Wrong?" by Lester Thurow, MIT economist, in *Saturday Review,* July 7, 1979.

". . . it is necessary that Japanese investment seek wider opportunities, rather than rely solely on increased exports to support growth. Investment opportunities must be sought in social overhead and capital infrastructure, especially in urban services and housing, communications and transportation, energy and environmental protection, medical research and health care delivery, and in technological development."
From "Can Japan lead the world out of its doldrums?" by Shuntaro Shishido, Tsukaba (Japan) University economist, in *The Christian Science Monitor,* June 6, 1979.

"Secretary of Agriculture Bob Bergland said (June 20) that farmers can thank in part the empty skies of United Airlines for the adequate supply of diesel fuel that was available for spring planting."
From an Associated Press story by Margy McCay, datelined Cedar Rapids, Iowa.

"It is a pleasure to testify before your Subcommittee today regarding diesel fuel supply problems as they impact agriculture and actions taken on these problems."
From a statement by Weldon V. Barton, Director, Office of Energy, USDA before the House Committee on Small Business, May 17, 1979.

"We recognize that fluctuations in grain supplies and prices will be a problem for alcohol distillers. Our grain reserve policy can accommodate grain production for fuels by providing a measure of year-to-year stabilization of grain feedstock supplies and costs."
From testimony by Jim Williams, Deputy Secretary of Agriculture before the Joint Subcommittees of the House Agriculture Committee, May 15, 1979.

"This is pig power at its exalted best. The conversion of animal manure to a gas containing as much as 66% methane . . ."
From "Pig power potential waiting for technology," in *The Financial Post* (Toronto), June 23, 1979.

"After five years of the most intensive research — and countless guffaws because of its acronym — CRAP (Calorific Recovery Anaerobic Process) is breaking down common and abundant cattle manure and reconstituting it into a low-cost, high yield methane."
From "New Process Cuts Chicago Energy Cost" by Harvey J. Berman, in *The Record Stockman,* March 22, 1979.

"John Hare writes about the grass cutting and security services which can be provided around the farmhouse by a few geese."
Introduction to an article titled "From lawn to freezer," in *Big Farm Management* (London), May 1979.

"The Minnesota Supreme Court ruled for the second time (June 15) against a northwestern Minnesota farmer who argued that farmland should be considered a "natural resource" in powerline disputes.
From an Associated Press story.

". . . years ago the State Department encouraged Mexican farmers to increase their tomato and strawberry production, promising that they could find a ready-made market in the United States.
From "What Carter Didn't Know About Mexico and Why He Didn't Know It," by Joseph Burkholder Smith, in *The Washington Monthly,* June 1979.

". . . Holland is able to sell (may sell) the U.S. only around 7 or 8 million pounds (of cheese) a year, valued at around $13 million, about the same quantity sold to the Canary Islands."
From "Holland, the thriving pantry, sees a marketing cloud," by Norman Sklarewitz, in *The Christian Science Monitor,* June 20, 1979.

"The European Community could not grant the demanded abolishment of tariffs even for the few products not yet covered under the guarantee for opening markets; like onions, tomatoes or carrots, because of Italian reservations. But what else should an ACP (African, Caribbean and Pacific) member like Cape Verde find of interest in an agreement on commerce and cooperation with the EC? That nation is one of the world's poor houses, selling onions worth 12,000 marks ($6,000) to the EC."
Hans-Hagen Bremer in an article on the renewal of the Lomé agreements (1975), *Die Zeit,* (Hamburg) June 8, 1979.

" 'In these parts, it's not the big boys gobbling up the little fellows,' said a former poultry farmer who is now bored to numbness as a security guard for a local firm. 'A lot of farms are going to the second-home crowd from New York City. They come up for only a few weeks a year. But they know that year-round the value of the land keeps rising. They don't grow food, they grow money.' "
From "The small farmer must be saved" by Colman McCarthy, *The Washington Post.*

"The person who *does not* read has no advantage over the person who *cannot* read."
Dear Abby advising a fifth grader.

In Brief

News, Ideas, Names

N/C

Expensive Road Maintenance

Recent severe winters, soaring material costs and a leveling off of gasoline consumption and hence fuel taxes have created a situation where road needs and costs are increasing faster than road revenues in Indiana.

James K. Binkley, Purdue University assistant professor of agricultural economics, made this appraisal following a recent study of highway expenditures by counties. He terms financing the maintenance and repair of the state's road system one of the more pressing problems. Although the state recently responded with a special road maintenance appropriation, this is viewed only as a stopgap measure, he said.

"It has been estimated," Binkley said, "that, should present use and cost trends continue, annual maintenance expenses will exceed revenues by $195 million in 1980, by nearly $700 million in 1990, and by more than $1 billion in 1995. •

Publication to Point Up Business Opportunities

The World Bank, in conjunction with Johns Hopkins University Press and the United Nations, will soon launch a monthly publication pointing to business opportunities worth several billion dollars around the

Another Gold Rush – Color It Green!

N/C

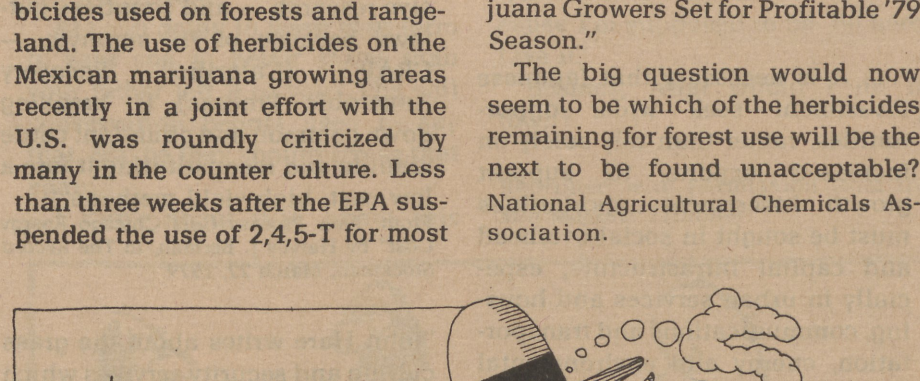
When you fly over portions of northern California you can still see the gravel ridges which mark the location of the larger placer mines which followed the discovery of gold in 1849. But many of the smaller claims were worked secretly and left little signs even then.

Similar small claims are now being "worked" in the northwestern states by a new breed, but rather than panning for small golden flecks they are carefully tending tiny greens plants — the new green gold, marijuana. The plants apparently flourish in the small openings in the forest, in the deep river canyons, and even among the corn and tomatoes in some well-tended gardens.

With single plants growing 12 to 15 feet in height, each could be worth more than $1,000 on the clandestine market, according to knowing (sic) sources. California law officers have estimated the value of the crop at some $900 million in just three California counties alone last year.

Marijuana is susceptible to herbicides used on forests and rangeland. The use of herbicides on the Mexican marijuana growing areas recently in a joint effort with the U.S. was roundly criticized by many in the counter culture. Less than three weeks after the EPA suspended the use of 2,4,5-T for most uses including forest application, the Sacramento *Bee* noted in a feature story of March 18, that "Marijuana Growers Set for Profitable '79 Season."

The big question would now seem to be which of the herbicides remaining for forest use will be the next to be found unacceptable? National Agricultural Chemicals Association.



Per invoice

world each year. This was formerly the "Operational Summary of Proposed Projects (Bank/IDA)" published on a quarterly basis.

The new publication, "World Bank Monthly Operational Summary of Proposed Projects," (MOS) will complement information now being published twice a month in the *Development Forum-Business Edition.* This information includes general and individual procurement notices for bidding opportunities on specific development projects supported by the World Bank, IDA (International Development Association), the Inter-American Development Bank, the Asian Development Bank and the United Nations Development Programme.

The World Bank and IDA make new financial commitments of over $8 billion a year for projects in developing countries covering a wide variety of sectors. Most goods and services for these projects are procured through international competitive bidding.

The MOS will be available worldwide for a subscription fee of $60 a year, payable in U.S. dollars. Subscription inquiries should be addressed to: The Johns Hopkins University Press, Journals Division, 34th and Charles Streets, Baltimore, Maryland 21218, USA.

Development Forum Business Edition is published by the United Nations Division of Economic and Social Information. Subscription inquiries should be addressed to: *Development Forum* Liaison Unit, E-1035, The World Bank, Washington, D.C. 20433, or: *Development Forum,* Subscription Dept., United Nations, CH-1211, Geneva 10, Switzerland.

A subscription to *Development Forum Business Edition* includes receipt of the World Bank Monthly Operational Summary as well. •

On the Connection Between Body Weight and Running Cars

Rising gasoline and other energy prices are influencing consumers' efforts to economize on food costs. Food freezers, for example, are now more expensive to operate. This reduces the savings consumers can achieve from buying and storing meat in quantity, says Joe Uhl, Purdue University extension agricultural economist.

Many shoppers try to save on food costs by shopping for specials at several stores. However, rising gasoline prices are cutting into these savings. And higher gasoline prices seem to be slowing the trend toward more eating out, especially at fast food restaurants, he notes.

If consumers go along with an energy conservation program this summer it may also affect what they eat. Less air conditioning and warmer houses may result in fewer kitchen-cooked dishes and more outdoor barbecues. "We could also see an increased demand for convenience foods which require less home cooking. And these could raise food prices and costs for consumers," Uhl adds.

There may, however, be a silver lining. More walking and reducing food intake could lead to healthier lives for many people, according to Uhl. A recent study indicated that the energy required to maintain the excess body fat in Americans could, if used to generate electricity, light Boston, Chicago, San Francisco and Washington, D.C. for a year. Further, if Americans maintained their correct body weights, the annual energy savings would run 900,000 cars each year, Uhl says. •

Serum Cholesterol: Very Little Is Certain

With Chairman George McGovern calling heart disease "Public Health Enemy Number One," the Senate Nutrition Subcommittee in late May began beating the drums for a major campaign to lower serum cholesterol levels to 200 mg % or less through diets lower in saturated fat and cholesterol. This, according to the "CNI (Community Nutrition Institute) Weekly Report."

The report on the session reflects the prevailing uncertainty among experts. It concludes: "Noting confusion among physicians as well as the general public about cholesterol levels, (Dr. Charles) Arnold (director of the Health Maintenance Institute of the American Health Foundation) urged public health authorities to 'pursue the cholesterol issue with the same enthusiasm as they pursued the eradication of communicable diseases' in the recent past."

In the same session, Senator McGovern cited criticism from the Center for Sicence in the Public Interest (CSPI) and asked Robert Levy, director of the National Heart, Lung and Blood Institute (part of HEW) why his

institute had not mounted a major national effort on diet and heart disease.

"We don't yet have the bottom line on lowering serum cholesterol in man," Dr. Levy replied. "We haven't proved that lowering it will do any good."

The National Heart, Lung and Blood Institute is one of a dozen organizations which "have urged the general public to reduce saturated fat and cholesterol in their diets," according to CSPI in *Nutrition Action* of December 1978.

While that is confusing, along comes the homocysteine theory, pages 16 to 21, this issue. •

Farmland Conversion: Subject of Two Studies

On the heels of a report with similar objectives, prepared for the President's Council on Environmental Quality (CEQ) by the National Conference of State Legislatures, the USDA announced an interagency (with the CEQ) study to investigate extent and causes of conversion of agricultural land to nonagricultural uses.

The study will also assess efforts of state and local governments to retain agricultural lands and will identify ways in which these efforts could be made more effective. The study is to be completed by January 1, 1981. •

USDA Team Studies Organic Farming

Many people have strong opinions about whether organic farming can feed today's millions — both for and against, says USDA.

Or is there a middle ground whereby organic food-growing methods can reduce our dependence on some modern technology and still not cut our food production too low?

These are questions the Science and Education Administration of USDA wants to answer. To seek the facts, SEA director Anson Bertrand has assembled a crew of experts he calls the "Coordinating Team for Organic Farming."

The team will study the benefits of organic farming — the values, present and future economic impacts, and costs.

If you wish to suggest ideas for research and/or educational efforts for the team's consideration, write to: Team for Organic Farming, Room 124, Building 007, SEA, USDA, Beltsville, Md. 20705. •