

Agricultural Policy for the Twenty-First Century and the Legacy of the Wallaces

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I have deep roots in Iowa. I grew-up on a diversified family-farm about twenty miles north of Ames and received all my post-high school formal education here at Iowa State University. So, I am particularly pleased and honored to participate in the John Pesek Colloquium on Sustainable Agriculture. While here, I met John Pesek and became very familiar with his work from his joint writings with my Ph.D. major professor, Earl Heady. The sponsorship of this colloquia series by the Henry A. Wallace Chair for Sustainable Agriculture and the Leopold center provides an important way to extend the Wallace heritage at Iowa State.

Iowa State was greatly influenced directly and indirectly by the Wallaces. It was Uncle Henry (the first Henry Wallace) and Tama Jim Wilson who facilitated the appointment of Seaman Knapp as Professor of Agriculture and later president. Knapp “wrote the first draft of the Hatch Act, the second leg of the triad under which all federal-state instruction, research and extension in agriculture is administered today.” (Lord, p.98) In 1892, Uncle Henry helped secure the appointment of Tama Jim Wilson as professor of Agriculture, a position that at that time was equivalent to the deanship of the college. Young Harry (Henry C.) Wallace returned to the Iowa State College of Agriculture and Mechanic Arts to complete his course of study and assume the post of assistant professor during Wilson’s tenure. In time, the third generation Wallace (Henry A.) received his degree from here. Beyond their direct involvement, three generations of Wallace articles and editorials in *Wallaces’ Farmer* certainly influenced the faculty, the students and the farmers who depended upon Iowa State for agricultural education, research and extension. All this is in addition to the 27 combined years of service of three Iowans, Tama Jim Wilson, Henry C. Wallace and Henry A. Wallace as Secretaries of Agriculture under six different presidents.

Changes in Agriculture

A lot has changed since I left Iowa State for places south, and yet a lot is fundamentally the same. With regard to agriculture, a change that is particularly striking to this farm boy is the wholesale shift in the way farmers farm now compared to when I was young hand to my Dad. I am not thinking about the increases in farm size and the capacity of agricultural equipment, things that my father and grandfather would have also observed, though on a different scale, over their lifetimes. Rather, I am struck by the changes in what is produced and the way it is produced.

Today in Hamilton County, my home county, farmers grow two crops: corn and soybeans. Farmers who produce livestock at all, produce hogs or cattle or turkeys. When

I was home years ago, we used a corn-soybeans-corn-oats-hay rotation. We bought 450 pound calves, grew them up on oats, silage and timber pasture and fattened them with corn and supplement. We farrowed-to-finished hogs twice a year and chicks that were started in the brooder house in the dead of winter progressed to the laying house the following fall. The oats were also fed to the sows and two horses. The oat straw became hog and cattle bedding.¹

Forces of Change

A number of forces have influenced this dramatic change, technological advances being an important one. For example, a corn-corn rotation was nearly impossible when I was growing up because root worms would mow the corn down after the first year. Insecticides and seed improvements took care of that problem. Ever larger machinery now allows farmers to complete the planting and harvesting of more and more acres of corn and soybeans within narrow calendar windows. Round-Up Ready[®] soybeans have helped reduce summertime labor requirements by eliminating the need to “walk the beans.”

But there was also a commodity policy component to this transformation from a universally diversified agriculture to the almost universally specialized agriculture of today. The change in the degree of farm diversification in the Corn Belt occurred during the go-go period of crop exports in the 1970s and continued into the early 1980s as exports began to level off. A confluence of factors caused crop prices to sky-rocket in the 1972 to 1973 time period.² At the very time that we could have used Commodity Credit Corporation (CCC) stocks, we did not have them. The government had abandoned Wallace’s ever-normal-granary policy. Nearly all CCC grain stocks had been sold off as well as the thousands of CCC round metal grain bins that populated so many section corners in Iowa and the Midwest.

I believe grain prices would not have gone so shockingly high in the early to mid-seventies, had we not adopted a bare-cupboard stocks policy just prior to that time. To make matters worse, the Secretary of Agriculture at the time, Earl Butz, and others convinced farmers that they were in the midst of a new dawning for crop agriculture. They rejected Henry A. Wallace’s belief that the ability to overproduce was one of the fundamental characteristics of agriculture. Instead they declared that surpluses were a thing of past. The problem of the future would be how to produce enough to fulfill the upcoming and continuing insatiable export demand. The doubling to near quadrupling of crop prices and unbridled optimism for the future of crop agriculture had a number of effects. One was that farmers not only planted “fence-row-to-fence-row” as they were literally encouraged to do by Butz: they went a step further. They jerked the fences totally out and shut down one or all of their livestock operations. Why spend the winter breaking ice out of cattle water tanks in 20 degree below zero weather when you can make a living crop farming?

U.S. farmers were not the only ones to react. The high prices and questions about the dependability of the U.S. as a supplier of grains and oilseeds were wakeup calls for countries around the world. Governments of our export competitors and import customers alike increased their investment in research, extension, rural infrastructure, expanded credit availability, input subsidies, and other financial incentives. Further, prompted by

U.S. embargoes on soybean exports, Japan provided seed-money to help persuade Brazil to become an additional supplier of soybean products.

Commodity and land price increases in the seventies would have been more moderate if substantial stocks had been available and if government officials and other pundits had not been so convincing about future export growth (apparently forgotten were the lessons of 1920 and the disappearance of the seemingly ever-expanding export markets following World War I). Later, the fall in land prices and human adjustment in the early eighties would have been less severe and Brazil likely would not have as much land in soybeans as it does today.³

Export Expectations Remained High

After farmers pulled their fences and tore down or converted their livestock sheds to machinery sheds in the seventies and early eighties, another change in commodity policy accelerated the conversion from a diversified to a more specialized agriculture. This policy change also had to do with exports and export expectations. Crop export demand, after rising steadily in the seventies and early eighties, declined in the mid-eighties—partly because the Soviet Union was no longer a heavy customer and partly because the loans made to developing countries in the go-go seventies came due. Just as importantly, the investments made in the agricultures of our export-competitor and export-customer countries were paying off in terms of higher agricultural output, thereby ratcheting-up world-wide agricultural productive capacity. So not only was there a pause in worldwide export demand, our share of that reduced demand dropped off as well. The export demand increases that we so easily captured in the seventies by bringing in setaside land and new land into production was being eaten away by other exporters in the mid-eighties, especially by the European Union.

Rather than view the tremendous export growth spurt as the aberration that it was, government officials, politicians, farm and commodity organizations and agricultural economists saw the decline in total exports and the reduction of our share of exports as something that could be fixed by changing commodity policy. “Those exports are ours and we will do whatever it takes to get them back” characterizes the macho attitude of agricultural interests beginning in the mid-eighties. To “get them back” farm commodity legislation was revamped beginning with the 1985 Farm Bill.

Export subsidy programs such as the Export Enhancement Program were enacted. But the major push was to lower commodity prices. It was argued that under previous farm bills, prices were supported above world price levels. It was said that the U.S. held out a price umbrella which allowed our competitors to price grain slightly below the umbrella and steal our export business.

The chosen solution was to drastically lower price supports and rely more on direct payments to support agriculture. Despite no supporting evidence, it was implied that exports would increase sufficiently that total revenue to agriculture would eventually increase. If, to use the economist’s lingo, export demand were price elastic then the quantity demanded for export would increase by a larger percentage than the percent reduction in the price. Revenue of exports would then increase. But most of the demand for corn and soybeans is domestic demand which notoriously responds little to price changes. So for total revenue for a crop like corn to increase after lowering the price, exports would have to explode to make up for the puny price response of domestic corn

demand to the change in price. To think that would actually happen was to be in fantasyland. In fact, not even export revenue increased following a reduction in price.

Low Price Policy Continued

Nonetheless, this push-the-price-down approach to policy has continued since 1985 through all subsequent farm bills, even accelerating in more recent bills. Specifically, the 1996 Farm Bill eliminated short-term supply management and rendered price support instruments ineffective. We are now to the point that government payments run about \$20 billion per year and represent nearly half of all net farm income in some years. For grain farmers, government payments often represent all (or more than all) of the net income for major crop farmers.

This approach to policy has a couple of effects that work to continue the trend toward a narrow specialized agriculture. Or, if a farmer continues with livestock, to encourage him to switch from an independently-run operation to one in which the farmer contracts out space and labor to an integrated livestock firm. Since many farmers no longer had livestock or a multi-crop rotation that allowed higher livestock prices to offset low crop prices and vice versa, their self-preservation required driving down per unit costs and increasing the scale of production of corn and soybeans. This accentuated the pressure on crop farmers to increase acreages farmed and to purchase large reduced-till equipment that decrease the number of field passes, but require a lot of power. The result was lower operating costs and higher fixed costs.

The low crop prices forced out additional independent livestock operators. Independent livestock farmers were at a disadvantage to the large integrated livestock operations which genetically honed hogs to achieve optimal productive capacity. But just as importantly, integrated livestock operators typically pay below wholesale prices for corn and soybean meal—prices that are as much one half the full cost of grain. Under these circumstances, there is no incentive for farmers to own livestock and feed it homegrown grain. Besides that the farmsteads were no longer livestock friendly.

In addition to encouraging the expansion of farm size, there have been a couple of other ways by which farmers have tried to stabilize their financial situation. One is to work more off farm, perhaps 40 hours a week and farm on nights and weekends. The other approach is to become labor and space contractors for third-party livestock operations. Building and financing one or more sets of four to six buildings in which to produce hundreds to thousands of hogs or poultry each year has become the predominant way in which today's farmers can "diversify" into livestock production.

Just as the lapse in our ability to moderate crop prices in the seventies and the unjustified promotion of export-fed farm prosperity encouraged the movement to a specialized crop based agriculture, today's low-price-all-out-production policy for crops has in its own way encouraged the trend toward an agriculture of CAFOs (Confined Animal Feeding Operations) and large crop farming operations.⁴

As significant and important as these changes in agriculture have been, we need to keep in mind that such changes have not materially affected the extent to which grain markets fail to self-correct in the face of an oversupply and low prices. That lack of connection between the change in how crops are grown (and who grows them) and crop agriculture's ability to self-correct is widely misunderstood.

Perception of Agriculture Has Shifted

To me the changes over the last thirty years in the way agriculture is perceived by agricultural economists is nearly as dramatic as those we have seen in agriculture. When I was in graduate school, books and articles by Earl Heady, Willard Cochran, Dale Hathaway, and Glenn L. Johnson that explained in minute detail the unique nature of agricultural markets and the place of agriculture during a country's development were required reading for all graduate students. Most of us had a farm background so a lot of what we learned not only made eminent sense but it deepened our understanding of ideas that we knew to be true from our two-decade connection with production agriculture.

Over the decades and partly because of some of the same influences of the go-go seventies discussed earlier, the profession gradually moved from incorporating the differences between agriculture and other industries into analyses to assuming there were no differences. This shift was encouraged by those who philosophically had always felt that the government had no role in agriculture, those who would benefit financially by all-out production and low crop prices as well as professionals who had little opportunity to understand how agriculture differs from CDs, clothes or TV sets. The result has been a generation of folks that often base conclusions on "how the agricultural sector should react" to a policy change or changed situation rather than on "how the data and previous experience tell us it will react."

To me, agricultural policy has lost its way. Commodity price and income policy has been commandeered by non-farm interests—non-farm interests who benefit from maximum crop production and low crop prices. I do not believe the current direction of commodity policy is sustainable. It costs too much. Moreover, it is a policy that benefits agribusinesses and integrated livestock producers and, when compared to previous commodity programs, provides no real financial advantages to crop farmers. We can do better. We must do better. We need a farmer oriented policy that allows crop farmers to receive their revenue from the marketplace. We need farm and commodity policies that are good for farmers, good for consumers, good for taxpayers, good for the land and the environment. In decades past, we were blessed with people like the Wallaces who had the wisdom and vision to construct agricultural policies, and to advocate for farming, as if people and place mattered. I think the vision for agricultural policy for the twenty first century should be in the mold of the ideas and ideals of Uncle Henry, Harry, and Henry A. Wallace.

I believe that the U.S. and total world agriculture face the same overarching market conditions and characteristics that were prevalent during the time of the Wallaces. One of those is excess capacity—except, in the years and decades ahead, the excess capacity, or ongoing ability to overproduce, will be a worldwide, not just a U.S., problem. The other crop market characteristic that remains unchanged from the Wallaces' time is crop agriculture's inability to self-correct following a drop in price, something that most other sectors usually accomplish quite quickly. But in the case of agriculture, when crop prices drop, neither does the quantity of total crop output supplied by farmers decrease nor does the quantity demanded increase sufficiently to cause a price recovery in a reasonable length of time. These are the "things" that have not changed since I left Hamilton County in the early 1960s.

Components of an Agricultural Policy

So if we could start from scratch, what would be the components of a more farmer-oriented farm program? My agricultural policy vision is one that combines program instruments, some of which were pioneered by Henry A. Wallace, which could be implemented quickly, with an expanded role for farm energy production which would take three or so years to get going. The other component is a multinational supply management program which would undoubtedly take a number of years to get off the ground under the best of circumstances.

Traditional Instruments

To begin, we need to bring back reasonable price support levels and reactivate the use of non-recourse loans to achieve those higher support prices. Loan rates, even at their relatively low level, are not support prices under current legislation. Loan rates are predominately numbers that determine how much direct payments farmers receive as “loan deficiency payments” or “marketing loan gains.”⁵ If the loan rate were set at a reasonable level it would force domestic and international grain buyers to pay a price that was closer to the cost of production. This would eliminate the complaint of farmers around the world who justifiably argue that U.S. farm subsidies allow for the dumping of excess U.S. crops on the world market at below the cost of production. Actually, we are equal opportunity “dumpers.” We provide domestic users of grain and soybean complex products at below the cost of production too. The current policy which focuses on payments rather than price turns U.S. farmers into welfare recipients and destroys hope of a good price for farmers around the world. It also makes U.S. farmers vulnerable to severe budget cuts.

Moving back to a more effective use of non-recourse loans would also allow us to reactivate the “ever-normal granary”⁶ concept of Henry A. Wallace which was based on the story of Joseph in the Bible—preparing for the seven years of crop shortfall during the seven years of plenty. As early as 1912, Wallace began to suggest in his editorials that in times of surplus production and low prices some farmers must play the part of Joseph by holding back part of their crop, to be sold later when supplies were less plentiful.

A government-operated CCC reserve would naturally come about to receive stocks that are forfeited under non-recourse loan provisions. In addition, I would bring back the Farmer Owned Reserve (FOR) so farmers could benefit from the storage revenue and from those times in which prices suddenly spurt upward. The CCC and FOR could be used to establish a band within which prices could oscillate—the band would not be too wide but definitely not narrow either. The non-recourse loan rate would establish a floor on prices with the release price establishing a soft ceiling. This price band would be advantageous to both producers and consumers of grains and seeds. Producers would be protected against extremely low prices while users of grains and seeds would be able to depend on a steady supply with a reserve to dampen dramatic price shocks that might occur in years of severe production short-falls.

Normal price variations have little impact on total crop acreage in the U.S. and allow for stable shifts in crop production elsewhere in the world. It is my contention that it is not normal price variations, but rather dramatic price spikes that bring large amounts of additional acreage into production, consequently driving prices down dramatically in

subsequent years. Production management programs would be used to protect the reserves program against ever increasing stocks.

Related but quite distinct from this is the need to establish humanitarian reserve stocks of storable commodities to be available in case of famine and crop failures. In his concern for enabling farmers to earn a reasonable income, Wallace never lost sight of the potential impact of crop failures on people and the need for reserves.⁷ These reserves need to be segregated from ongoing supply management programs. In the past the U.S. often used “humanitarian” issues as an excuse to clean out the larder when stock levels became too large. At various times, decisions were not made exclusively based on the need of the hungry, but also on our price/marketing needs.

The humanitarian reserve needs to be managed internationally with a clear set of criteria for the release of these stocks. Grain for an international reserve should be held in a number of sites around the world, with supplies coming from countries in each region. Care should be exercised in the disbursement of these stocks so as to not harm markets for local producers. Part of the humanitarian reserve could be held in cash, allowing for the purchase of needed grains from regional producers who may have stocks to sell.

Coupled with these price-support and reserve mechanisms, would be the re-establishment of an annual setaside program. Like any other industry, farmers need to be able to control the utilization of their productive capacity. Electric utilities need to have reserve (read: excess) capacity to meet the demands of the coldest and hottest days of the year when demand peaks. It is essential that the excess productive capacity be available but no one expects it to be used at full capacity on a daily basis.

Food is the quintessential example of a commodity in which it is important that the capacity to produce must exceed the demand. Through research we should always be expanding productive capacity based on the food needs of the next generation. Again, as agriculture’s productive capacity increases that does not mean that the full-level of production should be allowed to bear down on the market. In addition to preparing for the future, the productive capacity could be brought into production to restore stocks that are drawn down because of weather and politically related events that severely impinge on crop production. The reserve capacity of agriculture can be used to reduce erosion, reduce pest infestation (for instance growing non-host plants to allow for a reduction in soybean cyst nematode infestation), increase soil fertility and water holding ability, and provide cover for wildlife.

Merging of Agricultural and Energy Policy

All the changes mentioned so far could be implemented as fast as it takes to pass a new Farm Bill (which, of course, could take a couple years once the process begins). The Farm Service Agency knows how to execute such instruments because they have recently administered each and every one of them. There is an alternative to using set aside to sop-up short to intermediate-term excess productive capacity. In fact, this emerging possible opportunity is extremely exciting to me. If this opportunity were embraced by the executive and legislative branches of the federal government, it could solve multiple, very thorny, problems while saving taxpayer money. If developed fully, energy production would be the agriculture’s next crop frontier to conquer, much like the phenomenal increase in soybean acreage in the last fifty years. No, I am not thinking about producing more alcohol from corn or more biodiesel from soybean oil, although

these endeavors are obviously having a very positive impact on crop demand.⁸ It involves growing fuel for co-firing with coal or other traditional fuel sources in the production of electricity. This is not as outlandish as it may first seem.

In Uncle Henry's generation, much of the energy used on the farm and in the towns came from the land. As much as 30-50 percent of agricultural land was used for producing wood to heat homes and hay, oats and other grains to provide the horsepower that plowed the fields, brought the crops to town, and took the family to church on Sunday. Over time energy crops, though we didn't call them that back then, were replaced by fossil fuel: coal, fuel oil, gasoline, propane, and diesel fuel. These fuels were delivered to the farms in solid and liquid forms or via electrical transmission lines. The acres that were used to provide energy for the farm and town were converted to food and feed crops. These additional acres helped drive supplies up and keep prices down. In time we have had collective amnesia, so that when a few people began to talk about energy crops, we looked at them like they were out of their minds. The idea that farms could be used to provide energy was beyond belief.

But energy crops are not beyond belief. They are a feasible possibility that can reduce our dependence on foreign oil and reduce the amount of fossil carbon going into the atmosphere. Obtaining fuel from biological crops is the original recycling program with the carbon dioxide that is released into the atmosphere being captured by photosynthesis and returned for use again and again. From the time humans first discovered fire until the industrial revolution trees, grasses, and food and feed grain provided the bulk of the energy that humans used. They also captured the wind for pumping water and for seagoing transportation while fossil fuels contributed very little toward the needs of daily living.

In addition to deriving ethanol from corn and biodiesel from soybeans, energy crops include crops that cannot be used for food and feed. Switchgrass is such a crop. Switchgrass is a perennial crop that can be used to fulfill conservation and crop production goals at the same time. Switchgrass can be burned in boilers for electrical generation as well as used in cellulosic conversion plants to be made into ethanol. Because it does not need to be planted each year, switchgrass reduces soil erosion and could be used as a riparian buffer around waterways. As a perennial that takes several years to establish, its use also would have a multi-year setaside-like property in that excess acreage for major crops is used, reducing the output of those crops. At the same time, switchgrass production preserves the land for future food crop production should it be needed. Co-firing switchgrass, or a similar crop, with fossil fuel to fuel electrical plants could be a win-win-win policy.

With the widespread adoption of switchgrass (about 40 million acres nationally), prices of major crops would increase as acreage formerly used for traditional crops moved to the energy crop. The environment would be doubly improved because of reduced emissions compared to the use of straight fossil fuel, and as the result of its erosion control properties. Even after providing incentives to the utilities companies so the energy crop's cost per BTU could compete with coal, total government outlays would be less than the cost of the current farm program. Less reliance on fossil fuel, higher crop prices and increased farmer income, reduced emissions of key pollutants and less erosion, this is just the type of pragmatic self-help take-care-of-business policy alternative that would appeal to the Wallaces. It would take a number of years to ramp up the production

and the ability to utilize an energy crop such as switchgrass in electrical production. But to me, using agriculture to help make us less dependent on foreign oil in addition to addressing agriculture's excess capacity and price problems for major crops while improving the environment is an exciting possibility.

Multinational Cooperation

Finally as an heir to the ideas and values of the Wallaces, I am convinced that worldwide excess capacity is the future of agriculture. Henry A. was right and Earl Butz was wrong. As a result, I believe that over the longer-run it will be necessary to have multinational supply management. As unlikely as this idea may sound today, it may have more traction as the future unfolds. It took a quarter of a century for Henry A. Wallace's idea of an ever-normal-granary to be implemented into legislation.

At the present time, the U.S. can still influence crop prices with actions described in the previous paragraphs. There is no question in my mind about that. Just note how prices change worldwide as crop conditions or expected yields change in the U.S. However, in the not too distant future the U.S. will not be the largest source of production growth. As excess productive capacity becomes more of a worldwide rather than a U.S.-E.U. phenomenon, it will be difficult, if not impossible, for the traditional developed countries to effectively manage supply alone. If worldwide excess capacity becomes as large a problem in the decades ahead as I think it will, multinational supply management may emerge as the logical way to ensure continued growth in productive capacity and provide a measure of financial stability for the world's farmers.

This excess capacity can come about in a number of ways. First, if the yields in a number of countries move toward those achieved by the top producers, total production could increase dramatically. Second, there is a significant amount of acreage around the world that has been in production in the last 30 years that is not in production today. To the extent that certain economic and technological changes take place, bringing this acreage back into production could result in a sizeable increase in the amount of crops produced. Third, Brazil has the potential to bring as much as 400 million acres into crop production. China has indicated that 100 million acres in the west can be brought into production as the result of crop genetics work that will allow it to grow wheat and other crops on arid, alkali ground. In this regard I find it interesting to note that Henry A. "consistently anticipated an economy of abundance and not the perpetuation of economics based on scarcity" (Schapsmeier, p. 240)

Commodity Policy a Portion of Farm Policy

By design, I have focused on commodity price and income policy. There is, of course, much more to farm policy than commodity policy. There is one point that I feel needs to be made, however. There are very distinct reasons why crop agriculture has chronic price and market income problems. At least a portion of farm policy should directly address those problems.

Having said that, we need to strengthen our conservation programs, with full funding for programs like the Conservation Security Program. Our soil is one of the most valuable resources we have been given. With care, it can be used to feed generation after generation. For too long we have allowed our soil to flow down the Des Moines River to

the Mississippi and on into the Gulf of Mexico. Soil can be lost in a moment, while building it back up is a process that takes generations.

Likewise, when it is plentiful, clean water is easy to take for granted. In fact, we have spent generations digging ditches and tiling our fields to get rid of it. All of us can remember the time when farm chemicals were used with reckless abandon and the groves were lined with old tractors leaking oil and five gallon cans rusting and leaching pesticides into our underground water resources. Once a water source is contaminated it takes a lot of time and expensive remediation to clean it up. Properly designed conservation programs at the county, state and federal level are important. Farming as if people and place matter is not an optional exercise. It is a necessity. We cannot afford to treat either with disrespect.

Everyone's a Critic

Naturally, I think that the foregoing policy approaches, and described path of their use, makes sense for agriculture. I also understand that the reaction of some will be: Price supports, setasides, reserves—give me a break. Those are the failed policies of the past. My response to such a view is: yes, none of these policy approaches has an unblemished record; mistakes were made and, if these policy instruments were reinstated, some mistakes would no doubt occur in the future. But, as I observe what has happened after these instruments were eliminated or made ineffective, it is clear to me that the most important criticisms of each instrument are not true.

As already mentioned, the effective elimination of price supports has not had the expected effect on grain exports. Our competitors continued to price their grain relative to our price, just as they did when price supports were effective. Our share of all-grain exports has remained flat to declining. Except for soybeans, we are exporting considerably less now than prior to 1985, the year loan rates were first lowered. Because we are the residual suppliers of corn, wheat, and soybeans, our competitors shove all output beyond their domestic needs onto the export market regardless of the price, leaving us the leftovers. Given the oligopolistic nature of the crop export markets and the U.S.'s traditional supremacy in those markets, this behavior should not have been a surprise.

Set asides. What about acreage set asides? If we don't plant it, other countries will. That statement was repeated so often that before long it was taken for granted that it was irrefutably true. I have heard farmers say it. I have heard officials of farm and commodity organizations say it. I have heard government officials say it. I have heard academics say it. Yet, as hard as many have tried, I have never seen a statistical study that suggests it is true. Even in the case of Brazil and Argentina, it is very clear just by looking at the data that long-term acreage trends tend to be smooth leaving virtually no room for even possible impact of periodic U.S. set asides, changes in exchange rates, or even high versus low prices. In fact, the upward slope on soybean acreage in South America increased during the late nineties when soybean prices were down by up to 40 percent compared to the mid-nineties and there was no set aside.

It is clear to me that other considerations swamp any affect that U.S. set asides could have on acreages planted in other countries. For example, I firmly believe that there is a range of soybean prices in which the planting behavior of South American farmers is totally invariant. Whether the price of soybeans is \$4.50 or \$6.25 (give or take on the

endpoints), Brazil's future land expansion and soybean planting plans would differ by very little. Only when prices get well below or well above "the price range" will behavior be affected. So arguing against higher price supports or against an acreage set aside because prices would rise toward the top of the range making us "uncompetitive" in the international markets only reduces the amount of money farmers worldwide receive from the market and, in this country, increases the amount of money received as direct payments from the federal government. U.S. setasides have no discernable effect on the volume of output produced by our export competitors or on how much they export.

When CCC and FOR reserves had significant stocks in the eighties, critics contended that it was unnecessary to have a stock program because the profit motive would cause the private sector, particularly the non-farm private sector, to hold sufficient stocks to carry us through the "low production" times. This, of course, has not been proven to be true. Although commercial stocks are somewhat higher when reserve stock programs are not in effect, the private sector, farm and non-farm, has no incentive to hold a "socially optimal level" of stocks. Today stock levels are totally inadequate to prevent or moderate the disruption to our livestock and food sectors and to our export customers should we and one other major exporter experience a weather or pest induced yield reduction of 15 percent in this coming year's corn or other major crop. The private sector has not come through on this and, in a world where the end of next quarter is the long-run for private sector non-farm firms, there is no reason to think that they would.

Another criticism was that the stock programs were too expensive. For example, the government had to pay FOR storage payments on each bushel every year. But that is for every bushel in storage, which is a fraction of a crop's annual-year production level. Under current legislation, farmers typically get paid two or three times the old FOR annual storage rate on a large percentage of their total production of the crop. Compared to current program expenditures, we are talking millions for reserve programs instead of billions per crop for government payments.

As previously mentioned, as worldwide excess capacity intensifies, it would likely take multinational supply management to have the desired impact on price. But in the short-term, it is clear that output levels in the U.S. impact U.S. and world prices (Ray, 2003). Yes, it is true that setasides reduce the quantity of agricultural inputs sold by agribusiness and it reduces the level of output handled and processed by agribusinesses. But, of course, those are not reasons to not consider supply control; just as General Electric would not cancel plans to eliminate a production shift because the action would have a negative effect on the plant's input suppliers. Yes, it would be better if farmers reduced production on their own so set aside programs would not be needed. But, as Henry A. discovered when he promoted his go to grass program, individual farmers have no incentive to reduce their total acreage planted to crops.

Overarching Criticism

The overarching criticism by free market economists is that commodity programs which support prices or reduce output produce losses to consumers (because of changes in prices and quantities) that are greater than the benefits to producers. These "deadweight" losses, it is argued, can only be prevented by eliminating these market interferences. A generation of economists and public officials have been taught that

commodity programs result in reduced total economic benefit to society and therefore should be shunned or, if used, only with a great sense of guilt and much penance.

This, of course, is nonsense. It is true that you can use economic theory to show that ANY interference of the usual supply and demand determination of price results in deadweight losses compared to market determined price and quantities. This means that any shifts in the supply or demand curves originating from outside the market, generates economic inefficiencies. Looking over the last couple hundred years, what government financed activities do you think have affected the agricultural sector the most, or put another way has shifted the supply or demand curve for agricultural products the most? Do you think it would be commodity-like programs that at times hold back production or do you think the largest impacts on agriculture have come from taxpayer financed research and extension, land distribution programs, programs to reduce the cost of credit and inputs and related programs that expanded the productive capacity of agriculture? That is, taxpayer interferences in the agricultural markets, to use the economist's lingo, that have shifted the supply curve to right?

If you believe that the problem would not be overproduction and low prices but increased incidence of hunger and high prices had those taxpayer-financed production expanding activities never taken place, then you can see why it is such nonsense to be concerned about the relatively minor disruptions that commodity programs have imposed on the markets. In fact, based on the standard welfare theory taught in all the same agricultural economics Ph.D. programs, agricultural economists should be clamoring to use commodity programs or other means to transfer a portion of the benefits realized by consumers of taxpayer-expanded food production back to farmers via commodity programs or other means. So the next time an economist, politician, or public official refers to the economic losses from the use of farm programs, ask him what value he has computed for the economic benefit to consumers over the centuries of taxpayer market interventions to expand the output of the agricultural sector.

New Policy Directions Criticism

Some will rail against suggestions to make agriculture a major supplier of renewable energy because food is the more basic need that agriculture can provide to feed the hungry here and abroad. They argue that we will need all the acres we have plus increased production from genetically modified organisms (GMOs) to feed the hungry of the world. What they ignore is the fact that, at present, the problem is not the lack of food, but rather the lack of livelihood that consigns many to hunger and starvation. The problem is not the sufficiency of the supply of food, but rather access to that supply. When the wherewithal and distribution channels allow, farmers will gladly fulfill that demand for food but unfortunately until that happens excess production and low prices do not mean that the hungry get fed.

In the case of multinational supply management, I too would have dismissed (did dismiss) the idea a few years back. But when I learned that Brazil could bring in as much acreage into production in the future as all the acreage currently used for cropland in the U.S.; when I learned of the acreages that could come on line in the Ukraine and China; when I think about the investments in plants and infrastructure made by the Cargills, Monsanto and Pioneers; when I think about how much faster technological innovation can be adopted in other countries than in the past; when I think about the fact that

importing and exporting countries desperately want to continue to have control over a domestic industry that provides a daily need, I come to the conclusion that worldwide excess capacity may be inevitable and given the nature of food and agriculture worldwide, multinational supply management may be the only way to achieve the world's agriculture and food objectives.

Why is Food and Agriculture Different?

But the basic questions remain: What is it about food and agriculture that is so unique? Why can't the invisible hand of the market magically put crop agriculture back on its proverbial feet again after its price has been knocked down? Why doesn't a sharply lower price cause consumers to consume more and producers to produce less? That type of market self-correction takes place in many other sectors, why doesn't it happen in agriculture?

The fact is food IS treated differently by individuals and governments from other goods. Unlike most other goods, food is a necessity for life. Together with air and water, food must be consumed on a regular basis or people die. Despite the fact that my teen-aged daughter thinks she will die if she doesn't get the latest J. Lo CD, six months from now she will still be alive even if she can't buy it. The same cannot be said of food. It has to be obtained and consumed on a regular basis or life comes to a halt. When the price gets too high, short of malnutrition and starvation, people cannot drop out of the market and wait for new supplies to come along and drive prices downward.

Given a choice, I want to argue that surplus production is always preferable to famine. It is more ethical to throw excess food away than it is to allow people to die from starvation. We need to have an agricultural system in which production and productive capacity continue to exceed the amount needed to feed every man, woman, and child.

Food is also distinguished from other consumer products because it is the result of a biological process over which humans do not have full control. As Roman orator and philosopher Marcus Tullius Cicero once said, farming depends "on those most uncertain of things, wind and weather." General Motors publishes a weekly schedule of production and plant idling in order to match production to demand for its products. Farmers do not have the luxury of making timely, daily or weekly, adjustments in production levels in response to market signals. The time window for decision making and planting is very narrow, when compared to most industrial products. And once the crop is in the ground sunshine and moisture have more to do with the crop's yield than almost anything a farmer can do. Likewise, given relatively high fixed costs, an individual farmer can little afford to idle her land for a year in response to low prices. That may just be the year when others have a crop failure and prices rise to profitable levels.

Many have argued that, "We need to get the government out of agriculture." That was the mantra that brought about the changes culminating in the 1996 Farm Bill that eliminated price floors and production controls. I want to suggest that those who make that argument have forgotten their history. The great civilizations of ancient times were able to grow and flourish because of the ability of settled agriculture to produce a surplus, freeing people to serve as priests, government officials, artisans and soldiers. Culture and settled agriculture grew up together. Each needed the other. Culture needed the surplus production that released people to engage in other endeavors. And, agriculture needed civilization to protect its fields, establish ownership rules, organize the availability of

labor, provide for a system of distribution of agricultural products and develop and maintain a system of making riverine water available to various fields at the appropriate time. Neither could function without the other.

Taxpayer Financed Expansion of Ag Output

As a result, governments, including the U.S. government representing U.S. citizens as a whole, have put a very high priority on expanding the productive capacity of their agricultures. As suggested earlier, the mammoth productive capacity of U.S. agriculture is a direct result of the current and past public investments and policies of the U.S. government. From its earliest days, the United States and state governments have actively increased the supply of agricultural products directly and indirectly through the free distribution of land for use in agriculture and investments in the development of yield increasing and other production expanding and cost decreasing technologies.

The technological advances are accomplished through an elaborate nationwide experiment station structure with the extension service and land grant universities serving as the information delivery system to farmers. While private enterprise provides an increasing share of technologically improved inputs for agriculture, most output-increasing advances can be traced back to publicly sponsored research and development.

This publicly sponsored system has increased, and continues to increase, the U.S.'s agricultural productive capacity. Food is different. Providing for continued growth in productive capacity of an industry is an extraordinary undertaking for the U.S. government. In other industries, the industry itself, especially the largest firms, make deliberate decisions about how much to expand its productive capacity.

Not only do farmers not determine the productive capacity of their industry, they also have no real alternative but to make full use of all of it all of the time. In contrast to agriculture, producers in other industries can influence the prices they receive for their output and they adjust their output level, or use of their productive capacity, accordingly.

The continued expansion of a nation's capacity to produce food is, of course, a great thing and would not cause price problems if demand grew at least as fast. For many products, such as cars, clothes, recreation, health care etc., domestic demand expands both as population and incomes expand. Often the greatest source of demand growth for a product category is from increased per capita incomes over time.

Food Demand Expands Little With Income

Food is again different. Domestic food demand in well-fed countries such as the U.S. expands with population growth but even a doubling of per capita income would have little effect on the total pounds of food consumed per person. The mix of food would change and the services attached to the food would increase but that is about it. Exports are another source of crop demand growth and in certain periods such as the late 1970s and early 1980s, exports have been a major shifter of U.S. crop demand. But crop exports have not been a source of growth for U.S. crop demand for over a quarter of a century. Thus overall, shifts in crop supply resulting from direct or indirect publicly sponsored research typically exceeds the rate of growth in demand. When this happens, whether in agriculture or in another industry, price drops.

Quantity Demanded Changes Little With Price

When the price of a product drops, consumers buy additional units and producers reduce output by using a reduced share of their productive capacity. It is an amazing thing to watch as market forces automatically initiate the self-correction process. But, for this to occur, the quantities supplied and demanded must change in response to a drop in price. Again agriculture is different. In the case of crop agriculture, neither the quantity demanded nor the quantity supplied tends to change much with a price drop.

The reason that the quantity demanded changes very little, even with a substantial decline in price, is akin to the reason why food and agricultural demand varies little with changes in income. We eat so much food and animals eat so much grain whether food and grains prices are twice or half their current level. Price just does not matter that much. A forty percent drop in the price of insulin would not significantly affect the quantity of insulin used by a diabetic. Taken together the price responsiveness of food or grain is much like insulin. Just as in the case of increases in per capita income, this lack of response is not typical of most products. A fifty percent decline in the price of most products will quickly clear the shelves. After Christmas sales easily make room for Valentine's Day cards and merchandise.

Total Crop Output Changes Little With Price

In addition to the lack of price responsiveness on the demand side, there are also reasons why the quantity supplied in crop agriculture responds very little to revenue changes. Farmers tend to use all their productive capacity all the time. They will change the mix of crops grown but they plant something. They behave like this for a number of reasons. As an individual and family, farmers are committed to farming. Most have spent their life battling the vagaries of weather, prices and government policies and are steadfast in their intent to do so in the future. Each farmer is the current bearer of a family farming heritage going back generations, sometimes centuries. Farming is not viewed by the farmer as his current job in a career path of jobs. Farming is the only thing a farmer wants to do and he has been culturally conditioned for generations to withstand and overcome adversity. It is important to understand this as a means to help understand why farmers so doggedly continue to produce over a wide span of circumstances and why economists' rational expectation models fail to predict farmer behavior.

Farmers feel that they have no alternative but to produce at full tilt all the time. Since they cannot influence the price of commodities and the market will take all they want bring to it, any significant reduction in output means that they have less output to sell even at depressed prices. Farmers will try to lower costs by adopting new technologies and/or they will accept a low return on equity capital and a low or negative return to their labor and management. They will also fail to update or replace equipment, delay maintenance of equipment and buildings, secure off-farm employment for self and/or spouse, borrow down the equity of the farm, and anything else that it takes to continue farming. They will continue to do this year-after-year if need be or until they have reduced their equity to the point that that the bank won't loan to them anymore. But during the entire time, total annual output of all crops remains relatively constant irrespective of prices or other sources of revenue.

In other industries, under adverse price conditions, individual plants or firms would back down production by reducing the number or length of work shifts and, if revenues repeatedly failed to cover total production costs, plants would be permanently shut down or firms would go out of business. If plants were shut, industry size would decrease because the land, buildings and other assets would be purchased by another industry.

In agriculture, farmers go out of business but crop acreage remains in production; it is merely tilled by someone else. A farm sale does not typically reduce the size of the agricultural industry. The new owner or renter does not acquire access to the land to let it set idle. In fact, output per acre may actually increase despite a relatively unfavorable commodity price environment. The cost of production per unit may be lower with the new owner. The new owner or renter may be a better manager, have access to more advanced technologies, be large enough to receive price discounts on inputs and/or has reduced fixed costs per unit of production.

The bottom line is that free markets do not and, for the reasons we have discussed, cannot perform the timely self-correction function for crop agriculture that it so miraculously performs for other industries. It is my belief that current U.S. farm policy and prospective international trade arrangements were conceived and developed on the assumption that agriculture can indeed self-correct like other industries.

Concluding Remarks

The Wallaces of Iowa always kept their eye on the ball. The ball was not a particular theoretical economic philosophy; it was not populism; it was not political affiliation, it was not for or against international trade, and, definitely it was not the conventional wisdom of the day. It was, above all, developing policies to promote a thriving economic setting for agriculture as if people and place mattered.

For example, over his career Henry A. Wallace was steadfast in his pursuit of policies that would provide economic sustainability and he was willing to consider a variety of policy approaches. He supported the McNary-Haugen Bills beginning in the late 1920s, but soon recognized that dumping excess production on the export market at reduced prices would not work. Much like our experience of the last quarter century, he quickly learned that low prices do not necessarily buy international markets especially if countries, like those in Europe at the time, were ramping up production. He returned to his early strategy of production control coupled with an ever-normal granary, believing this was a better approach. The Wallaces showed their flexibility and pragmatism in other ways as well. They were not irrevocably tied to a one political party. The younger Wallace served in a Democratic administration while his father served in a Republican.

They believed that the first step toward a solution was an accurate analysis of the problem. So even though the Wallaces were sympathetic to the grievances of various radical agrarian elements, they often rejected their solutions if they thought the proposed solutions did not address the root causes of agriculture's ongoing problems. Once Henry A. identified the problem as overproduction he was open to any workable means to solve the problem.

I suspect the Wallaces would say that "we" have taken our collective eye off the ball. Where we used to be adaptable and pragmatic concerning commodity policy, we have now become rigid and dogmatic. Free markets have become the Holy Grail of

agricultural policy. We have allowed ourselves to be convinced that agriculture will do just fine, thank you very much, if it is unshackled from government programs and is allowed to compete on a “level playing field” in international commerce.

So we have gone from adopting commodity programs because free markets didn't work decades ago to saying commodity programs are the reason free markets don't work today. If the reasons why free markets had problems performing the self-correction function in agricultural markets no longer existed, then this switch in perception would be appropriate. Logically, the impetus for such a change would be convincing evidence that the conditions that prevented the self-corrections in past no longer exist. But that has not been the case. Those that bother to provide arguments at all refer to changes in agriculture, such as farm size, farm numbers, source of inputs, export vs. domestic demand, etc., which are interesting but are actually irrelevant because they shed no light on whether there has been a change in the price responsiveness of agriculture.⁹ Most just declare that agriculture will do fine under free and open markets as if reciting an indisputable law of nature.

I think it is time to bring back the pragmatism of the Wallaces and create a vision for agriculture that is forward looking and is based on the reality of agricultural and food markets. Agriculture must be sustainable in all the various dimensions. It should be in an environment that is friendly to alternative agricultural methods that are designed to service non-traditional as well as traditional markets.

To me, it is abundantly clear that the current commodity policy is not sustainable and is based on false premises. Rather than put our heads in the sand, we should cast about, just as the Wallaces would, for alternative policy approaches that are reality-based. The realities are that excess production is the likely future of crop agriculture and crop agriculture still has no more ability to deal with excess capacity now than it ever has. This chronic overproduction problem is likely to be even more problematic in the future because it will span more countries and will likely be more pervasive than our experience hereto now.

In addition to a short to intermediate term solutions based on commodity program instruments that have been used before, I believe the vision for the future should include a broader role for agriculture in the production of energy-dedicated crops. One of the advantages of supplying energy is that, unlike food the more energy we have the more ways we seem to find to use it. Energy-dedicated crops could be the “next soybeans” in terms of their importance to agriculture while providing higher prices for traditional crops, reducing government outlays, and providing environmental advantages.

Over time, with mammoth acreages increases and increased yield prospects in several countries appearing on the horizon, I think it will be necessary to consider multinational supply management programs.

Of course, the range of farm policies approaches that could be considered is indeed large. But to me, the litmus test is whether or not the policies are based on realistic premises. Policies based on some utopian notions of how the agriculture should perform rather than how we know it actually performs are destined to fail. It is not as much about the specific policies as it understanding what makes agriculture tick. When that is known, the selection of categories of policy types becomes relatively easy.

Paraphrasing from the Gatlin Brothers, one might say that food and agriculture is a whole different game and it doesn't matter where you played before, or our case, what

policies for other industries you have evaluated before. In that regard, I leave you a set of touch stones that I think should be periodically visited when evaluating or considering alternative agricultural policies:

- Excess capacity is a good thing.
- In the decades ahead, as the world's ability to produce accelerates, worldwide agricultural overproduction will be an increasingly pervasive problem.
- Demand for total food and total agricultural products are about as price responsive as insulin is to a diabetic.
- Total crop acreage reacts to a general price drop at glacial speed.
- Countries tend to view food and agriculture much the way we view national defense, thus, there is a built-in tendency not to import any more food than necessary.
- Our export competitors are as adamant about keeping their export markets as we are.

If these price-response characteristics, or rules of the game, are kept in mind, you might not like the results of this or that commodity policy alternative but the results will not surprise you. Thank you for allowing me to share this time with you.

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Endnotes

¹ A comparison of Hamilton County, Iowa, in 1959 with the way it was in 1997 is revealing (1959 and 1997 Agricultural Censuses). When I was in high school there were 1,902 farms in the county with an average size of 191 acres. By 1997 that number had declined to 790 farms and the average size had increased to 441 acres. The total numbers of acres in farmland has decreased slightly while the crop acres have increased a little. But look at the change in the use of those acres. The 1959 data confirms my recollection of how we farmed. The bulk of the acres (174,000) were planted to corn with soybeans and oats coming in at about 50,000 acres. Hay trailed with half those acres. Today there are two crops grown in my home county: corn and soybeans, with corn about 15,000 acres ahead of soybeans. Acres devoted to oats are negligible and hay is less than 3,000 acres. In 1959 over 60% of the farms had poultry, selling 2.5 million dozen eggs and 166,000 chickens. As I remember it, that chicken and egg money often came in very handy. In 1997 there are just 31 farms in the county with any kind of poultry and my guess is that half of that number are farms where the poultry is being raised for 4-H and FFA demonstration projects. The production level today for eggs and poultry is not published because there are so few producers that to publish the information would reveal proprietary information. The biggest change in animal agriculture has come in hog production. When I was growing up, those 1,308 farms that had hogs had an average of 120 animals at any one time. As of 1997, six years ago, 159 hog producers had an average of 2,820 animals at any one time. In my youth, hogs were part of a diversified farming operation. Today they are the object of a specialty production system.

² Among those factors was a change of policy in Russia that favored grain imports to feed her livestock when domestic crop production was insufficient, an adverse weather pattern that devastated the anchovy-sourced protein, and a flood of loans to developing countries from the world's largest banks which had become engaged with deposits from middle east oil money during the hay-day of the oil cartel which the developing countries used to buy food rather than roads and schools.

³ Of course, these commodity policy and perception effects would not completely offset other influences on commodity and land prices during that time. Macroeconomic considerations including energy price inflation in the seventies and high interest rates in the eighties were significant and substantial influences.

⁴ Another policy influence that also has affected the ability of livestock producers to compete is the increased concentration in the meat packing industry. While nationally the degree of concentration may not seem alarming, in many regions of the country an independent farmer may have only one potential buyer of his livestock within a reasonable distance from his farm.

⁵ Even when the loan rate is used to value grain for Commodity Credit Corporation (CCC) loan, at present farmers typically do not "pay off the loan and interest" when market prices are below the loan rate by turning the grain over to the government. Rather they usually take the option available under current legislation to payoff the loan at the lower market price thereby keeping title to the grain pocketing the difference between the loan rate and a lower market price.

⁶ "Then in 1920, while browsing through the Des Moines Public Library, Henry A. came upon a book, *Economic Principles of Confucius*, written as a thesis by a Chinese graduate student at Columbia University, Chen Huan-Chang. Chapter 30 described the workings of a 'constantly normal granary' which has operated with general success to moderate the alternations between glut and famine in China two thousand years ago. Wallace changes the term to 'Ever-Normal-Granary' and started plugging editorially for an American adaptation of the idea." (Lord, p. 233-234).

⁷ "I am having some of our people work in the concept of an ever-normal-granary," the Secretary informed the President privately in 1934, 'so that we cannot in our production control efforts be accused under any circumstances of starving people'. . . Preventing the accumulation of surpluses by reduction of acreage had merit, particularly in business terms, because it raised the prices of remaining commodities. The problem that worried Wallace was an enormous one, for without any surplus on hand what would happen in case of food shortages? National security demanded that adequate supplies be on hand at all times despite their effect on price levels." (Schapsmeier, p. 236)

⁸ Corn used for alcohol production had increased at the annual rate of 47 million bushels since 1980 while corn export demand has declined from its 1980 peak by 17 percent or 400 million bushels.

⁹ This information on the change in the organizational nature of agriculture may have implications for additional constraints on agriculture but it says nothing about changes in the ability of the industry to self-adjust.