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Public-Sector Plant Breeding In a Privatising World

Since 1970, the balance between public and private plant breeding activity in industrialized countries has shifted from the public to the private sector. Traditionally, the private sector has relied on public-sector research results. Today this is no longer the case. Presently the public sector instead may utilize private-sector research results in some areas of biotechnology. Funding mechanisms, as well as institutional cooperation and competition in plant breeding, are often quite complex. This has led to considerable discussion of the appropriate roles for public- and private- sector activity. However, it is clear that public-sector plant breeding will yield the largest social returns if it continues to focus on research directed at carefully identified problem areas, with clear public goods components.

http://www.agrifood.info/stats/inter/#_Public-Sector_Plant_Breeding

Traceability for Food Marketing & Safety: What's the Next Step?

Traceability systems are record keeping systems that are primarily used to help keep foods with different attributes separate from one another. When information about a particular attribute of a food product is systematically recorded from creation through marketing, traceability for that attribute is established. Food suppliers and government have several motives for documenting the flow of food and food products through production and distribution channels--and a number of reasons for differentiating types of foods by characteristics and source. However, the area where traceability seems to be getting the most attention lately--government-mandated tracking of genetically engineered crops and food--is not among the practical or efficient uses of traceability. Recently, the European Union (EU) proposed government-mandated traceability for genetically engineered crops and foods to help distinguish them from their conventional counterparts.

http://www.agrifood.info/stats/inter/#_Traceability_for_Food

Slow World Growth & U.S. Recession Leave Mixed Picture for Farm & Rural Economy

By November 2001 it was official. The U.S. economy was in recession and had been since March. The recession ended a decade-long expansion, the most durable on record. World economic growth--both in 2001 and 2002--is expected to be sluggish, posting the lowest back-to-back growth rates since the world debt crisis of 1981-82.

http://www.agrifood.info/stats/inter/#_Slow_World_Growth

How U.S. Farm Policy Meshes With World Trade Commitments.

The U.S. and other countries made commitments in 1994 under the Uruguay Round Agreement on Agriculture (URAA) to reduce the total amount of trade-distorting domestic subsidies provided to producers, to reduce export subsidies, and to increase import access to domestic markets. Thus far, the U.S. has been able to comply with its URAA commitments and still provide significant income support to producers. But surges in direct payments to producers after 1997 in response to low market prices have caused domestic subsidy levels to approach the U.S. ceiling commitment. U.S. support is expected to remain below its ceiling under current farm programs, but increases in support under new programs, if not carefully crafted to utilize exemptions, could present a problem for compliance with the URAA commitments. http://www.agrifood.info/stats/inter/#_How_U.S._Farm

Dried Plum In Ground Meat Protects Against Microbes

Daniel Y.C. Fung, a K-State professor of animal sciences and industry, and his graduate research assistant, Leslie Thompson, have tested the effect that varying levels of dried plum mixtures had on ground meat that was contaminated with common food-borne pathogens.

Their research, sponsored by the California Dried Plum Board, indicates that raw meats mixed with as little as 3 percent of plum extract are over 90 percent effective in suppressing the growth of major food-borne pathogens such as E. coli O157:H7, Salmonella, Listeria, Y. enterocolitica and Staphylococcus.

Fung has previously conducted research using spices such as garlic and cinnamon to kill food-borne pathogens in ground beef. Unlike spices, which can alter the taste of meats, Fung said the plum extracts lack a "plum taste" so foods taste "normal."

Fung said adding dried plum mixtures to meat works as an antioxidant to prevent lipid oxidation, which is similar to freezer burn in meat, as well as being an antimicrobial agent to kill pathogens. In addition to suppressing pathogens, he said the extract also has "good functionality" as it can enhance the moistness of meat and increase the yields. Fung hopes to expand the research to poultry products such as chicken and turkey. Future research will involve experiments to determine if plum extracts can extend the shelf life of meats as well. <http://unisci.com/>

New Research About Biotech Corn and Butterflies

The U.S. Environmental Protection Agency (EPA) announced in October 2001 that it is allowing companies to continue selling *Bacillus thuringiensis* (*Bt*) corn for seven more years. The federal agency made that decision after examining a number of studies.

EPA examined all of the results of the studies that had been done to date and concluded that the biotech crop posed no risk to monarch butterflies, birds, animals or human health. So EPA renewed the registrations of *Bt* corn hybrids, which are genetically engineered to protect growing corn plants from destructive insects, mainly corn borer.

The effect genetically modified corn might have on monarch butterflies has been in the news the past three years. The controversy began when a study suggested pollen from *Bt* corn could be hazardous to monarch butterfly larvae.

New evidence suggests no effect on monarchs

Monarch butterfly larvae feed on milkweed leaves. In that first study, young monarch larvae were given no choice but to feed on milkweed leaves dusted with a high density of pollen from a *Bt* corn hybrid. They ate less, grew more slowly and had a significantly higher death rate than larvae feeding on leaves dusted with non-transgenic pollen.

A series of five articles published in October in the Proceedings of the National Academy of Sciences presents new evidence that *Bt* corn pollen has little to no effect on monarchs. The lead author of one paper is an Iowa State University researcher. The lead author of another is an ISU collaborator.

Richard Hellmich is a USDA Agricultural Research Service scientist and a collaborator in ISU's entomology department at Ames, Iowa. His paper focuses on the toxicity of *Bt* pollen to monarch larvae.

In Hellmich's experiment, several varieties of transgenic corn pollen were fed in three different ways to monarch larvae. Only pollen from one variety affected the larvae consistently, and it's one that is being phased out by seed corn companies. Results from the other *Bt* corn pollen tested showed no acute effects on monarch butterfly larvae.

Studies continue to look at this issue

The experiment also considered pollen density levels. There were some results, although not statistically significant, that suggested some *Bt* pollen above 1,000 pollen grains per square centimetre could have a small effect on larval weight gain.

John Pleasants, a researcher and instructor in ISU's zoology and genetics department, worked with Hellmich and others to measure the density of corn pollen on leaves of milkweed plants inside and outside cornfields in Iowa, Ontario and Maryland.

The researchers found pollen density is highest inside fields and drops quickly from the field edge outward. The average in-field density found was 171 grains per square centimetre, and 99.5% of leaves had a pollen density below the 1,000 grains level the earlier study showed might effect monarch larvae.

Go to http://www.pnas.org/content/vol98/issue21/#AGRICULTURAL_SCIENCES for relevant background references.

US Farm Subsidies

The issue of farmer subsidies in the US is has taken an interesting turn recently with the publication of 'who gets paid what' information. As had long been suspected, it's the largest farmers who gain the most from a system that is skewed toward payments based on production volumes rather than need.

A group called the Environmental Working Group (EWG) in Washington, D.C., have created an online database containing 11 million reports listing farmers who have received Farm Service Agency payments for five years, including records for the 1,290 recipients who collected more than \$1 million over the five years, starting with the top one: Tyler Farms of Helena, Ark., at \$23.8 million (see the following article). The database can be found at www.ewg.org.

There are two key to understanding how US farm subsidies have avoided their intended demise 6 years to grow to their highest level in history. The first is who actually receives the majority of subsidies. Large multi million dollar farming enterprises, such as Tyler farms and other major beneficiaries, are willing and able to fund the lobbying required to defend the current system.

The second is local politics. Federal farm subsidies find their way into rural communities and into the pockets of constituents of Senate and Congressional representatives. Why would a farm state representative oppose a system that injected federal money into his or her electorate?

The following article from the Washington Post provides a stimulating commentary on the most recent chapters in the on-going US farm subsidy debate and goes to prove that the farm subsidy issue is not about economics, but local politics.

Also see http://www.agrifood.info/stats/inter/Jan2002.htm#_How_U.S._Farm for a discussion on US farm subsidies and WTO commitments.

More Subsidy Money Going to Fewer Farms

Washington Post Staff researcher Lynn Davis.

<http://www.washingtonpost.com/wp-dyn/articles/A28240-2002Jan23.html>

ELAINE, Ark. -- David B. Griffin is a man of undeniable means, a prominent and well-respected businessman who lives in a million-dollar home, sits on the local bank board and serves as president of a tractor dealership with sales last year of \$30.8 million. He is also, by some definitions, a farmer -- the principal landlord of a 61,000-acre spread known as Tyler Farms.

But Griffin did not get where he is without government help. From 1996 through 2001, records show, Tyler Farms received more than \$38 million in federal crop subsidies for its bountiful yield of cotton, rice, corn, sorghum, soybeans and wheat. Griffin's story and others like it suggest that federal crop programs -- ostensibly aimed at struggling family farms -- do not always hit their intended targets.

For all the congressional hand-wringing about the plight of the hardy souls who scrape their living from the soil, the hugely expensive New Deal-era subsidies for grain and cotton producers -- which Congress only six years ago voted to phase out altogether -- are funneling more money to fewer farms than ever before.

Numbers tell a story of unintended consequences: According to the Department of Agriculture, 47 percent of commodity payments now flow to large commercial operations with average household incomes of \$135,000. These farms make up 8 percent of the nation's 2.2 million farms. Sixty percent of American farms get no crop subsidies.

"A lot of these payments, the majority of them, are going to big farms, and these big farms are wealthy farms," said Bruce L. Gardner, an agricultural economist at the University of Maryland and a former assistant secretary of agriculture in the first Bush administration. "This is not a poverty program in any way."

The skewed distribution of farm benefits is sure to receive more scrutiny when the Senate next month resumes debate on a bill to chart farm programs for the next decade. Embarrassed by revelations about the amount of money some farmers are reaping from federal farm programs -- information recently made available on the World Wide Web -- some lawmakers are calling for much lower limits on payments to individual recipients.

Established in 1933 as a rural antidote to the Depression, crop payments have mushroomed into a \$21 billion-a-year entitlement program that almost everyone agrees is broken but that no one can agree how to fix. It is a system that reserves almost half of its benefits for just six states; lavishes subsidies on grain and cotton farmers while excluding most ranchers and growers of fruits and vegetables; and -- according to the USDA's own studies -- worsens the very problems it seeks to correct by encouraging overproduction, thereby depressing crop prices while driving up the cost of land.

Yet farm subsidies endure, underscoring the daunting challenge faced by those who would dismantle entitlements for groups with special stature on Capitol Hill -- in this case, mostly middle-class white men and their families.

Notwithstanding the return of budget deficits, to say nothing of its stated commitment to free trade, the Bush administration has bowed to congressional demands for \$73 billion in new farm spending over the next decade. That is almost three times the \$26 billion cost of the landmark education package President Bush signed into law this month. More than \$40 billion would go for crop subsidies, with the rest reserved for conservation, nutrition and rural development.

During debate on the farm legislation in December, Sen. Richard G. Lugar (R-Ind.) proposed to double spending on food stamps by throwing out crop programs in favor of a much less costly voucher system that would help farmers buy crop insurance. Farm lobbyists rallied in opposition to Lugar's proposal, and it failed 70 to 30. With prices for some crops at their lowest level in more than a decade, many farmers are in genuine distress, and even the harshest critics of farm programs acknowledge the need for some form of government safety net.

Farmers themselves are divided on the issue. Some, especially those on smaller acreage, want a reallocation of benefits. But owners of larger operations generally defend the current system. They say it is natural for big farms to claim the majority of subsidies, since they grow the most food with the greatest efficiency. They note that many foreign governments provide far more support to their farmers, creating barriers to American exports.

In 2000, crop subsidies reached a record high of \$22 billion. That is nearly as much federal assistance in one year as Amtrak has gotten in the last quarter century. But in some respects, the farm subsidies have made matters worse, encouraging farmers to grow more crops without regard to market demand. Rice is a good example.

Citing weak global demand for rice, Congress has sharply increased direct assistance to the farmers who grow it. Rice subsidies rose from \$448 million in 1997 to more than \$1.3 billion in 2000, according to USDA's Economic Research Service. The normal response to soft markets would be to cut production. In this case, however, farmers have no incentive to do so because Congress has guaranteed a set price for every bushel of rice they grow. As a result, the amount of American farmland devoted to rice swelled from 2.5 million acres in 1997 to 3.3 million acres last year -- the same year rice prices hit a 15-year low.

Understanding US Farm Politics

Farm groups hold enormous sway on Capitol Hill; the largest and most influential, the American Farm Bureau Federation, spent \$3.2 million on lobbying in 2000, according to a federal disclosure report.

Moreover, many key leadership positions in Congress are occupied by farm-state lawmakers, such as House Speaker J. Dennis Hastert (R-Ill.) and Senate Majority Leader Thomas A. Daschle (D-S.D.).

The politics of farm subsidies was much in evidence in December (2001), when a bipartisan group of senators led by Byron L. Dorgan (D-N.D.) and Charles E. Grassley (R-Iowa) floated a proposal to reduce the ceiling on annual crop payments to individual farmers from \$460,000 to \$275,000.

The measure has considerable support among farmers of more modest means, many of whom are in the upper Midwest. It is bitterly opposed by owners of large cotton and rice farms in southern states such as Arkansas. Both Arkansas senators -- Blanche Lincoln (D) and Tim Hutchinson (R) -- share that opposition.

After Daschle came under pressure from Lincoln and other southern lawmakers, the majority leader prevailed upon Dorgan to drop his sponsorship of the amendment, if not his support for the idea. Aides from both parties say they expect it to resurface next month.

The outcome of the debate is especially important to Arkansas, where the top 10 percent of subsidy recipients -- or 4,822 of the total -- received more than 73 percent of federal farm subsidies, with an average payment of more than \$430,000 per recipient, according to an analysis of USDA data by the Environmental Working Group, a Washington nonprofit organization that wants more money shifted to conservation. www.ewg.org

A number of the state's largest farms can be found in the fertile but economically depressed Mississippi Delta region of eastern Arkansas. Tyler Farms is headquartered in Phillips County, which borders the Mississippi River about 80 miles east of Little Rock.

From 1996 to 2000, the county of about 26,000 people received more than \$101 million in federal farm subsidies, according to the environmental group's analysis. Farm groups say such subsidies help sustain rural communities. But the picture in Phillips County is anything but prosperous.

According to Arkansas state figures, 8,319 county residents -- 31.5 percent of the population -- received food stamps in December 2001.

David Griffin (Tyler Farms) is one of the county's biggest private employers. His other interests include Producers Tractors Co. (which operates five John Deere dealerships), a cotton-gin company and a petroleum distributorship, according to Dun & Bradstreet and his attorney. Griffin lives just south of Elaine, a tiny crossroads town in an ocean of flat cultivated fields, in a 13,233-square-foot mansion on 15 acres with an estimated market value of \$964,750, according to county records.

Griffin did not respond to several requests for interviews, but Serio, his lawyer, said it was wrong to assume that Griffin owed his success to government subsidies.

He emphasized that Griffin merely leases his land to Tyler Farms -- a complex partnership involving 39 local investors -- and receives no direct government payments. Serio said Griffin owns 33,500 acres of the farm; his father owns 14,000; and the rest is leased from other landowners.

Griffin set up the farm in 1993 with landowners and local farmers "who were going out of business" because they could not get financing, Serio said.

Like other large operations, Tyler Farms was structured to get the most from government programs. Its 39 owners are organized into 66 separate "corporations", an arrangement that allows the farm to maximize benefits under allowable payment limits and also limits owners' liability, Serio said.

To qualify for federal payments, which are supposed to benefit family farmers, each of the owners is supposed to be "actively engaged in farming". Serio said 22 of the owners perform management duties and therefore meet that requirement. Griffin puts his assets at risk, Serio said, by guaranteeing 40 percent of the farm's annual crop loan.

With crop prices so low, the lawyer said, "farms are getting bigger for the sake of survival."
