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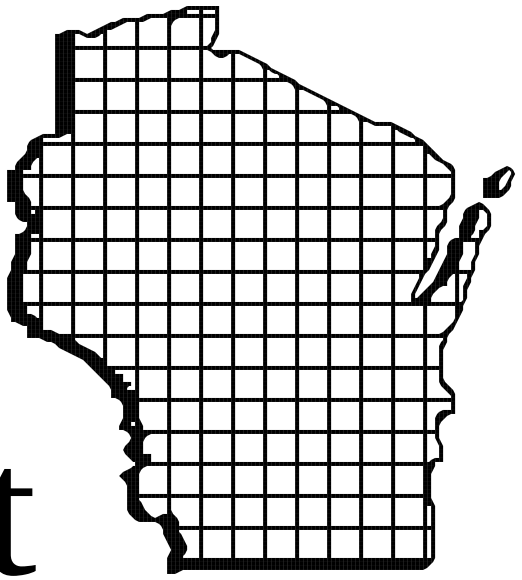


December 1998 Volume 11, Number 7

The Impact of Government on Wisconsin Agriculture

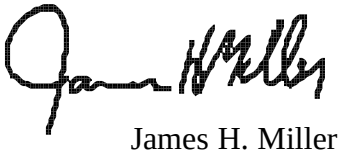
Past, Present and Future

REPORT FROM THE PRESIDENT:

No industry over the last 150 years has played a larger role in Wisconsin than agriculture. We asked Michael Flaherty to examine the role of agriculture in Wisconsin and the crucial role played in its development by government agencies. Flaherty is a reporter on state government for the *Wisconsin State Journal* and a part-time instructor at UW-Madison's College of Agricultural and Life Sciences. He is a veteran farm reporter and former president of the National Association of Agricultural Journalists.

Flaherty's study lays out the size and growth of Wisconsin's agricultural economy as well as the role that government has played in its growth. He details a chronological history of agriculture in Wisconsin and the impact that government has had on it going back two centuries. If you read nothing else in this report, these several pages will give you an enormous feel for how Wisconsin has evolved from a rural, agrarian society to an urban oriented manufacturing and service economy.

He also presents some important information. For example in Wisconsin there are now 63,000 full time government employees spread around the state. That's an awful lot of bureaucracy for taxpayers to support. Agricultural agencies employ more that 4,000 persons and cost more than $700 million dollars a year which is more than Wisconsin farmers typically earn in a year. Too much government? — probably. On the other hand, Flaherty also points out the crucial role that government has played in keeping Wisconsin's reputation as the dairy state. We must remember that only California has challenged Wisconsin in the last 150 years in the area of milk production. California's economy is bigger than most countries. Policy makers are going to have to make some serious decisions in the future on how much support we need to give to the industry that probably best defines Wisconsin. This report will certainly help.



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THE IMPACT OF GOVERNMENT ON WISCONSIN AGRICULTURE
Past, Present and Future

MICHAEL FLAHERTY

EXECUTIVE SUMMARY

Wisconsin's state government turned 150 years old this year. Over that time, Wisconsin state government has grown from a few hundred employees mustered in wooden buildings along dirt roads in Madison to a force of more than 63,000 full-time employees spread around the state.

Over that same time, the cornerstone of Wisconsin's first economy – agriculture and food – has blossomed from subsistence farms with wooden implements and horses into what has arguably become a $40 billion industry.

During that growth, the relationship of Wisconsin agriculture and government also grew tremendously. In the 19th century, agricultural development was considered the fundamental tool in economic development — and government played an early, key role in the development of modern agriculture. Today, agriculture is but one industry in Wisconsin's economy – but still one of its most important. And government still plays an intricate role in agriculture from the farm gate to the grocery store.

It is the nature of government, however, to grow haphazardly – the result of political responses to economic or social problems. Those programs grow constituencies and survive. In some cases, government agencies and institutions that originally served agriculture have grown apart. In some cases, they've grown together. In still others, government is trying to redefine itself to fit into the needs of a modern agricultural economy that, itself, is still changing rapidly.

This paper attempts to lay out for policy makers, for the agricultural industry and for the public, the current status of Wisconsin's agricultural agencies, its agricultural teaching and research institutions, and the agencies assigned to regulate and promote agriculture. They are vast. Taken together, these agencies employ more than 4,000 persons and cost more than $700 million – more than Wisconsin farmers themselves earn in a typical year.

This is not an attempt to cast judgement on the value of these agencies, but to better illuminate where tax money goes – and why it is spent. For perspective, this paper provides a history of Wisconsin agriculture and the government institutions that serve it. And it provides as complete an analysis as possible of the total economic contribution of Wisconsin's agriculture, food and forest industries. Those industries rank among the top in the state in manufacturing and retail jobs — an economic impact that is impressive even before calculating the impact of the first seed planted by a farmer. That makes any discussion of agriculture far broader than a discussion of the future of the family farm or the role of government biotechnology research in a future agricultural system.

Finally, the paper concludes with policy suggestions drawn from the extensive interviews required for a project such as this. The suggestions are generally the result of consensus of several interviewees.

Perhaps the broadest lesson in this paper, however, is that this is only a snapshot in a rapidly changing time. As the history section suggests, it is nearly impossible to grasp how fast Wisconsin agriculture has changed within a century – even within a generation. It is also difficult to grasp how fast Wisconsin government has evolved over the same period.

That illustrates how fast both may still change as the new century approaches. So, at the very least, it is a worthy intellectual exercise to take a firm assessment of the two as they stand today in order to help plan for the future.

WISCONSIN AGRICULTURE AND GOVERNMENT

It was only 40 years ago that young Alan Tracy's school bus would roll up from farm to farm along the Johnstown Prairie east of Janesville. The former Wisconsin Secretary of Agriculture recalled that every farm raised cows, chickens and a few hogs, and many had their own orchards. Each farm was fenced and lined with bushy undergrowth teaming with wildlife.

There were few really big farms. The size of most farms was restricted by access to capital, and to the work that a farmer, his family, and a hired man or two could realistically accomplish using two- and four-bottom plows, a corn picker and a few rudimentary milking machines.

These were the farms that Tracy grew up with – and the farms that most of Wisconsin envisions when it thinks of farms.

But agriculture has changed dramatically in America. And Wisconsin is no exception.

The Johnstown Prairie is now a place with large corn and soybean farms with manicured fields planted roadside to roadside "with hardly a place for a pheasant to hide,'' Tracy recalled. Livestock is concentrated on a few specialized farms. Many of the farmsteads are gone; in some cases only the houses remain.

When Tracy was born in 1947, there were nearly 200,000 farms in Wisconsin. Today there are 79,000 farms, the vast majority of which are hobby farms or part-time operations. Last year, there were only 19,200 farms in the state that the U.S. Department of Agriculture would consider full-time, commercial farms – those with gross sales of more than $100,000 (a dairy farm of 50 cows or more, or a 250-acre cash corn operation, for example).

It is still changing rapidly. In the next three years, Wisconsin is expected to lose another 5,000 dairy farms, for example, while the survivors are expected to grow in size substantially.

This massive restructuring in agriculture poses enormous consequences for consumers. Many of them are positive. As farms consolidated and farmers invested in new labor-saving technology, their productivity grew and food prices to consumers dropped. Farms are producing nearly twice the corn per acre on the Johnstown prairie as they did in 1950, and food remains one of America's best buys. Food prices have risen less than inflation over the last 30 years – and America annually ranks near the top in the world in requiring the fewest hours worked per year to purchase food. In 1997, food prices rose 2.2 percent while inflation averaged 2.7 percent – and consumers spent an average of 9.3 percent of their total income for food, the lowest in the world, according to the U.S. Department of Agriculture.

But this restructuring also poses some difficult policy questions for taxpayers and for the government regulatory, research and instructional institutions they have created to serve agriculture. For as farms continue to disappear, the government that serves them has grown dramatically. And while farm profits remain flat, the government spending created to support them rises.

The raw numbers illustrate the trend. With only 19,200 commercial farmers in the state, there are nearly 4,000 government employees who provide the scientific research, education, pollution control, regulation, subsidy management and lending for agriculture. That's nearly one employee for every five commercial farmers.

They're employed by the state's Department of Agriculture, Trade and Consumer Protection to regulate and promote agriculture, the Department of Natural Resources to control pollution, county land and water conservation districts to protect farmland, and by the University of Wisconsin system and the vocational education system to provide research, training and education. Among those workers are more than 1,000 federal workers employed in federal and state research facilities, Extension and in the three farm support agencies with county offices statewide that operate federal conservation, farm lending and farm subsidy programs.

Perhaps more dramatically, the state and federal government frequently spend more to support agriculture than the state's farmers collectively earn in a year. By some counts, the federal, state and county money involved in supporting Wisconsin's agricultural industry exceeds $700 million, a number that exceeds net farm income in Wisconsin every year in the last decade except 1992, according to the Wisconsin Agricultural Statistics Service.

Perspective

It's not that simple, of course. Virtually every governmental institution in Wisconsin that grew up around agriculture has changed dramatically as well. The state's Department of Agriculture, Trade and Consumer Protection is largely a regulatory agency charged with everything from inspecting restaurants to handling consumer complaints about cars. And the University of Wisconsin's College of Agricultural and Life Sciences is now a world-respected research institution with scientists participating in the human genome project and helping Third World nations devel-

op their economies. UW-Cooperative Extension employs only a tiny fraction of its employees carrying out one of its original charges, which was to use agriculture as a tool to develop Wisconsin's pioneer economy. Today, in fact, Cooperative Extension draws criticism that it isn't involved enough in agriculture. In addition, many of these institutions charge tuition and fees for services that offset much of the direct costs to taxpayers – and many of the programs also draw federal dollars for activities such as basic science health research and helping Wisconsin firms export their agricultural products.

Nevertheless, as farm numbers dwindle, so does the political base for many government agricultural activities.

The restructuring of Wisconsin's farm economy poses a second problem for those institutions and agencies: Farmers are changing rapidly too. As their numbers dwindle, the economic survivors are larger and better capitalized. They're better educated and they're well-connected to an infrastructure of commercial consultants, advisers and science-based literature. Today, there are more people employed in farm support, education, farm service and processing industries than there are full-time farmers – a reflection of the growing specialization and industrialization of American agriculture. What, then, is the new role for government in assisting this new agricultural industry?

GOVERNMENT PLAYS BIG ROLE IN NET FARM INCOME

Net farm income is the money farmers actually earn after expenses and depreciation — but before they pay their income taxes. Note that in 1993, if it hadn't been for government payments, agriculture would have been nearly a break-even proposition for farmers.

Year	Farm Sales	Government Payments	Net Farm Income
1992	5.9 billion	166.0 million	762.8 million
1993	5.6 billion	310.2 million	378.1 million
1994	6.3 billion	236.0 million	481.4 million
1995	6.1 billion	183.3 million	284.1 million
1996	6.6 billion	156.8 million	560.4 million

Source: Wisconsin Agricultural Statistics Service - Farm Business Economics Report.

Third, as farmers and farm business become better capitalized and their incomes rise, questions surface about the role taxpayers should play to support an industry that, at least in some cases, can pay for the expertise government used to provide for free to help them remain competitive.

Finally, many agricultural leaders note that, in Wisconsin, state government may not be doing enough to help Wisconsin farmers in an economic world that is changing rapidly. Congress has dramatically reduced the role of federal support of farmers, while a new world free trade agreement has bolstered both imports of agricultural products into the United States and exports of U.S. farm products to other countries. Lack of governmental controls on farm production as well as freer world trade creates opportunities – but it also creates a more volatile marketplace that can produce big winners and big losers. Failure by Wisconsin to acknowledge and participate in this new world economy could hurt Wisconsin's agricultural economy and its competitiveness.

WISCONSIN AGRICULTURE – THE ECONOMY'S CORN

Any discussion of government and its support of agriculture must be prefaced with a firm understanding of the components of Wisconsin's agricultural economy, which vastly exceed the proceeds farmers reap from the land.

Farmers, of course, are the foundation of that economy. Wisconsin's 79,000 farms sold $5.6 billion worth of crops, livestock products, forestry products and farm services, such as custom harvesting.

Farmers alone sold between $5.6 billion and $7.8 billion worth of products every year over the last eight years. The state's dairy farmers last year produced 14.3 percent of all the milk in the nation, second only to California. Wisconsin also leads the nation in the production of mink, corn silage, cranberries, oats, mint, beets for canning, snap beans for processing – and ranks near the top in potatoes and in sweet corn, green peas and cabbage for processing. Finally, the presence of all those dairy cows also makes Wisconsin the ninth largest cattle-producing state.

At the same time, farming is – and always has been – an extremely low-margin industry. In 1993, Wisconsin net farm income was $378.1 million. If it hadn't been for $310.2 million in federal farm subsidies that year, the state's farmers appear to have broken even for the year, according to the Wisconsin Agricultural Statistics Service, a federal-state agency that tracks and records Wisconsin's agricultural productivity and contribution to the state's economy.

FARMS BY ECONOMIC CLASS, WISCONSIN JUNE 1, 1996-97

Economic class gross value of sales	Number of farms		Land in farms		Average Size of farms	
	1996	1997	1996	1997	1996	1997
	Number		Thousand acres		Acres	
$ 1,000 - 9,999	32,400	32,400	2,600	2,700	80	83
$ 10,000-39,999	15,300	16,400	2,400	2,600	157	159
$ 40,000-99,999	12,100	11,000	2,800	2,500	231	227
$100,000 +	19,200	19,200	9,000	9,000	469	469
TOTAL	*79,000*	*79,000*	*16,800*	*16,800*	*213*	*213*

That's not much of a return for a full year of tilling more than 16 million acres of fields, milking 1.4 million cows and selling more than 600,000 hogs.

Much of the economic impact of Wisconsin agriculture actually occurs outside the farm gate.

The U.S. Department of Agriculture estimates that the nation's farm production, combined with processing those products into consumer foods and goods and serving those foods to consumers in grocery stores and restaurants amounts to about a fifth of the nation's economic output. While the Wisconsin Department of Commerce has no accurate measure of agricultural and food industries' contribution to the state's gross economic output of $139.1 billion (1997, Department of Commerce, U.S. Census Bureau), most economists place Wisconsin at the national average – or about $27 billion.

While impressive, even that number may be conservative.

Wisconsin's dairy industry alone estimates that its contribution to Wisconsin's economy in the form of jobs, farm milk purchases, processing and retail sales is about $20 billion. Wisconsin still produces nearly a third of the nation's cheese and a quarter of its butter. Last year, Wisconsin's 222 dairy plants produced 303.4 million pounds of butter and a record 2.1 billion pounds of cheese, most of that exported to other states and other countries.

Elsewhere in the farm industry are hundreds of food processing companies, dozens of dairy equipment manufacturing companies, one major tractor manufacturing company, more than a dozen seed companies, the world's largest animal genetics company, and some of the top cheese manufacturing technology companies.

As a manufacturing industry, dairy processors sold $8.1 billion worth of products in 1995, second only to motor vehicles and equipment in the Wisconsin's list of Industrial Output Rankings (the most recent data available), according to the Census Bureau.

Meat processors sold $4.2 billion worth of processed meats that year, ranking them 5th among manufacturers; farm and garden machinery ranked 7th at $2.9 billion; fruit and vegetable processing ranked 11th at $2.5 billion. As forestry is considered part of agriculture, the state's paper mills sold $5.9 billion worth of products (ranked 4th in

FARMS BY ECONOMIC SALES CLASS, UNITED STATES JUNE 1, 1996-97

Economic Class	Percent of Total				Average Size of Farms	
	Number of Farms		Land in Farms			
Gross Value of Sales	1996	1997	1996	1997	1996	1997
	PERCENT				ACRES	
$ 1,000 - 2,499	22.6	24.3	3.0	3.1	62	60
$ 2,500 - 4,999	14.3	13.9	3.1	3.2	102	109
$ 5,000 - 9,999	12.6	12.0	4.5	4.4	168	172
$ 10,000 - 19,999	11.4	10.9	6.5	6.2	268	268
$ 20,000 - 39,999	10.2	10.1	9.8	9.5	452	444
$ 40,000 - 99,999	12.6	11.9	19.9	19.3	742	760
$100,000 - 249,999	10.1	9.9	25.2	23.3	1,173	1,170
$250,000 - 499,999	3.8	4.2	12.9	14.6	1,596	1,635
$500,000 +	2.4	2.8	15.1	16.4	2,957	2,726
TOTAL	***100***	***100***	***100***	***100***	***470***	***470***

output); millwork and plywood ranked 21st at $1.6 billion and paperboard containers ranked 23rd at $1.5 billion, according to the Census Bureau Rankings. All told, agricultural and forestry industries comprise a fifth, to as much as a fourth, of the state's manufacturing base of $109 billion.

In addition, two of the top 10 non-manufacturing employers in Wisconsin are grocery store companies. In the retail industry, the state's largest, sales of food rival automotive sales for the state's number one spot with sales of $6.6 billion (1992), and eating and drinking establishments ranked 5th with sales of $3.7 billion.

Big Numbers, Big Impact

Combining farms sales with farm industry and retail sales over the last eight years suggests that the total economic output by the state's agricultural and food sector could have been as much as $40 billion in 1995 – more than a quarter of the state's economic output. (The number isn't exact because they are derived from different data sets based on the most recent available economic reports). And those numbers don't include the output and sales of smaller industries such as a thriving biotechnology industry sparked by the presence of the University of Wisconsin-Madison's scientific research community, or the state's thriving seed industry sparked a generation ago by researchers and farm innovators using newly developed university varieties.

In short, because of Wisconsin's extensive farm base combined with agriculture's industrial and service contribution, the combined impact on Wisconsin's economy of farming is far greater than the sum of its parts. The debate over government involvement is therefore much broader than a debate over the public support of farmers.

Many government activities in agriculture are obvious and quantifiable, such as direct farm subsidies by the federal government. Other government activities are less direct, such as the University of Wisconsin's extensive research into new cheese production technology and new cheese products, and university training of the state's cheese makers.

"One of the reasons the cheese industry will stay in Wisconsin is because the infrastructure is here,'' said Paul Scharfman, a cheese maker who owns two cheese plants and heads the state's Specialty Cheese Institute, which is attempting to expand world markets for Wisconsin cheese by developing specialty cheeses. "The people who know how to build, maintain and repair the equipment to produce cheese are all here in Wisconsin. Locating anywhere else is far more expensive and difficult."

WISCONSIN'S AGRICULTURAL HISTORY: A STORY OF RAPID CHANGE

To understand Wisconsin agriculture and the government institutions that serve the industry, it is critical to understand the stunning rate at which the state itself has grown – and the intricate role government has played in helping promote and develop Wisconsin's modern agricultural industry.

When the state was founded 150 years ago, the state's population was less than 300,000 and two out of every three residents in the state lived on 20,000 farms averaging less than 100 acres each. That same year, the University of Wisconsin was founded – and later became one of the first "Land Grant'' universities in the nation in which the federal government gave land to states to establish universities to bring education, culture and economic development to rural America.

Only a century ago, most of the University of Wisconsin-Madison was still mostly a farm field. New York was the dairy state while Wisconsin was a declining wheat-producing state. There was no state Department of Agriculture.

Today, less than 4 percent of Wisconsin's people live on farms – and only 1.6 percent, or fewer than 80,000, live on full-time, commercial farming operations, according to the Census Bureau. At the same time, Wisconsin state government employs 63,000 people – more than the population of all but a few cities in Wisconsin.

Farming in Wisconsin: A Rapid Transformation

It's almost impossible to accurately portray how rapidly agriculture has changed in the United States.

There remains an entire generation of men and women still working on farms in Wisconsin today who have picked corn and milked cows by hand. Many farmed with horses and remember life on the farm without electricity. Former President Jimmy Carter once said that the two days he remembers most in his life were his wedding day and the day the electric lights were turned on in his family's rural Georgia home.

Agriculture in Wisconsin has been a dynamic, rapidly changing industry since settlers first arrived with their

cows, hogs, chickens and wheat seeds for their newly claimed farms. Wheat was the state's first cash crop as farmers found it easy to grow and easy to ship by horse-drawn wagon to local markets. By the onset of the Civil War, Wisconsin was the nation's third-leading wheat-producing state.

It didn't last long. Wisconsin's wet, humid summers brought insects and diseases that cut yields as much as two thirds in some years. As wheat yields declined and the Great Plains discovered wheat, pioneers such as W.D. Hoard, the founder of the national dairy magazine and later a Wisconsin governor, and Hiram Smith, a dairy farmer and university regent, were among those promoting the idea that the state's rolling hills and relatively thin soils were better suited for livestock than cash grain production.

Almost every farm had a dairy cow or two. But Hoard, a New York state transplant, saw Wisconsin as a place to build a new dairy industry.

It happened fairly quickly. By the start of World War I, Wisconsin had become the dairy state and the number of farms kept growing as new ground was broken for farms. Wisconsin actually advertised to attract immigrants to work the fields and dairy barns. Around World War I, farming was quite profitable. Agriculture drew new investment and new, young farmers, and it sparked the beginning of the diversified, commercial family farm operation as Wisconsin would come to know it.

Yet life was hard. Without electricity, cows were milked by hand and shipped in covered milk cans. Cows averaged about a gallon of milk per day – about five times less than they do today, according to the Wisconsin Agricultural Statistics Service, a state-federal agency that tracks agricultural production and economic impact. Wisconsin's huge network of more than 2,000 small, local cheese plants provided local markets for milk that could not be refrigerated. Cans were wrestled by hand to load on wagons and delivered twice daily to local plants to immediately make cheese. Farmers were isolated – and most were poor.

In the 1930s, life on the farm got substantially worse. The Great Depression created a panic in the countryside as well as the cities – and farms lost a third of their value between 1921 and 1933. Prices farmers received for

NUMBER OF FARMS AND LAND IN FARMS

Year	Wisconsin			United States		
	No. of Farms (Thousand)	Av. Size (Acres)	Land in Farms (Million Acres)	No. of Farms (Thousand)	Av. Size (Acres)	Land in Farms (MillionAcres)
1950	174	136	23.6	5,648	213	1,202
1955	155	150	23.2	4,654	258	1,202
1960	138	161	22.2	3,963	297	1,176
1965	124	173	21.4	3,356	340	1,140
1970	110	180	20.1	2,949	374	1,102
1975*	100	193	19.3	2,521	420	1,059
1980	93	200	18.6	2,440	426	1,039
1981	92	202	18.6	2,440	424	1,034
1982	90	206	18.5	2,407	427	1,028
1983	88	207	18.2	2,379	430	1,023
1984	86	209	18.0	2,334	436	1,018
1985	83	216	17.9	2,293	441	1,012
1986	82	217	17.8	2,250	447	1,005
1987	81	219	17.7	2,213	451	999
1988	82	216	17.7	2,201	452	994
1989	81	217	17.6	2,175	456	991
1990	80	220	17.6	2,146	460	987
1991	79	222	17.5	2,117	464	982
1992	79	219	17.3	2,108	464	979
1993	79	217	17.1	2,083	469	976
1994	79	214	16.9	2,065	471	973
1995	80	211	16.9	2,072	469	972
1996	79	213	16.8	2,064	470	970
1997	79	213	16.8	2,059	470	968

** Estimates from 1975 on include places with annual sales of agricultural products of $1000 or more.*

grain and livestock dropped 45 percent and those working for hire on farms saw their wages plummet 70 percent, according to H.M. Walters, Wisconsin's "statistician in charge'' who wrote a summary of state agricultural statistics history in his 1967 *Wisconsin Farm Statistics.*

In 1935, the number of farms in Wisconsin peaked at 200,000, but the vast majority of farmers were even poorer and more isolated. At the beginning of the Depression, only 13 percent had electricity and a third had telephones, according to the Rural Electrification Administration, founded in 1936.

Poverty and isolation meant that farm numbers would start dwindling. And with new job opportunities about to be created with the onset of war, those farm numbers would soon start collapsing.

World War II – Mechanization and the "Glory Years" of Agricultural Research

World War II changed America – and the agricultural industry was no exception, wrote Walters. Rural Wisconsin was being rapidly electrified; the milking machine became commonplace, allowing farmers to milk more cows. Tractors virtually eliminated horses after the war, allowing farmers to till more land. "World War II put Wisconsin agriculture into high gear,'' Walters said.

Farms grew in size as farmers specialized their operations. The 1950s and 1960s were also the "glory years'' for agricultural research. Scientists made great strides in farm productivity, developing new higher-yielding hybrids as well as new fertilizers and pesticides. Larger, mechanized farms combined with collapsing prices and a post-war depression created a mass exodus from American agriculture.

Nationwide, there were still 6.9 million farms in the United States in 1950. Today there are fewer than 2 million, a loss of 1 million farmers from the land every decade. Even more dramatic is that only about 300,000 of those farms produce more than $100,000 worth of products, according to the U.S. Department of Agriculture and the Census Bureau.

In the 1930s, most farms were simply too small to generate much of a living, and they couldn't expand because they were also too small to attract investment capital, reflected former Secretary of Agriculture Bob Bergland in *A Time to Choose* – a study of small farms in America by the U.S. Department of Agriculture released in 1979. That's why they left – and that's why they continue to leave.

Wisconsin – A Microcosm of Farm Exodus

In Wisconsin, it is the same story.

In 1952, the state still had 165,000 farms averaging 142 acres each. An average 3,000 farms left the business every year for the next two decades – an average of 8 farms a day. Today, farm numbers have stabilized at around 79,000 farms averaging 213 acres each, according to the Agricultural Statistics Service.

But even that number masks what's really happening. Farm numbers have stabilized only because the number of hobby and part-time farms also continues to grow. Last year, for example, the Statistics Service reported that 32,400 of those farms averaged 83 acres and sold less than $10,000 worth of farm products. Another 16,400 averaged 159 acres sold less than $40,000 worth of products – the milk of about 22 low-producing dairy cows. That's nearly 50,000 farmers with gross sales of less than $40,000 a year, or far less than $10,000 a year in net income after the cattle are fed, tractors repaired, or the bills paid, according to most surveys of farm income.

But those smaller farms are still a big part of Wisconsin's dairy industry. A sixth of the state's 23,000 dairy farms average only five cows and another third average just 26 cows, according to *Dairy Facts 1997* published by the Wisconsin Agricultural Statistics Service. That's more than half the state's dairy farms, many of which are small operations run by older farmers who have been dairying all their lives. When they retire, they will close their barns and leave the dairy industry. That's because no young operator could purchase that business, retire debt, and make a living and that's why the state's dairy farm losses are so high, and will remain high, for at least another decade, said UW-Madison dairy economist Bob Cropp.

By, contrast, the 19,200 farmers considered "commercial'' operations with sales of more than $100,000 in Wisconsin today are farming 9 million acres, an average of 469 acres each. Farms get bigger because, in a low-margin industry, larger farms tend to generate more income and provide more economic and management freedom, Cropp noted.

But that's not unique to farming. That has happened to retailers, manufacturers and wholesalers as well. Wisconsin once had 2,800 cheese plants. Today it has 222 – and they produced a record amount of cheese in 1997, according to the Wisconsin Agricultural Statistics Service.

Yet, that transformation is never easy – and poses serious problems for individuals as well as the state's economy. It's as true today as it was in the 1930s.

Wisconsin agriculture is currently wrestling with the demise of its entire livestock industry outside of dairying. The state used to be a major hog-producing state, yet today there are fewer than 800,000 hogs on Wisconsin's farms – the lowest number since 1924. Hog numbers are so low, "we're worried about losing our infrastructure" of veterinarians, equipment companies, feed dealers and marketing organizations, said Bill Geary, former head of the Wisconsin Agri-Business Council, a Madison-based organization that represents the state's farm businesses.

The state has also lost 11,000 farms that raise cattle for beef as the feed beef farming operations continue to concentrate in large feedlot operations in the Great Plains and the West. Processors have concentrated their industry as well. Four meat packing companies now process nearly 80 percent of the nation's meat, according to Bruce Marion, a University of Wisconsin-Madison agricultural economist. Nationally prominent Wisconsin meat processors such as Oscar Mayer and Jones Dairy Farm no longer slaughter animals, but purchase meat for processing from those large packers based in Iowa, Illinois and Nebraska.

And even the state's dairy industry, which is still relatively healthy, is in the midst of big changes. Wisconsin has lost 410,000 cows in the last decade – a number that is larger than the collective herds of many states. California is now the nation's number one milk-producing state. By itself, that's not a crisis. But if the cheese industry starts moving to states where milk production is climbing, Wisconsin could lose its dairy process-

THE DISAPPEARANCE OF THE MID-SIZE FARM IN WISCONSIN

Wisconsin's farms grouped by the value of their sales shows a distinctly different pattern of family-sized farms in Wisconsin. In 1997, Wisconsin only had 30,200 farms that could support a family. A farm with gross sales of $40,000, for example, would likely produce an income of below poverty for most families. In just four years, the number of very small farms grew the most, and farms with sales of between $40,000 and $100,000 appeared to be disappearing the fastest. This is especially true in dairy farming where operations with 20 to 50 cows are disappearing.

SIZE RANKED BY GROSS SALES	1993	1997
LESS THAN $10,000	29,000	32,400
$10,000 - 40,000	17,200	16,400
$40,000 - 100,000	14,800	11,000
OVER $100,000	18,000	19,200
TOTALS	**79,000**	**79,000**

Source: Wisconsin Agricultural Statistics Service

The number of farms in Wisconsin peaked at 200,000 in 1935 in the midst of the Great Depression. Between 1935 and 1985, the drop in farm numbers was precipitous — 117,000 over 50 years.

Dairy farm numbers also plummeted. Because virtually all of them are full-time farms, their numbers also paint a picture of rapid decline in numbers of farmers. Virtually all farms had a few cows on them in the early part of the century. Nationally over the same time period, dairy farm numbers declined from 3.6 million to 135,000.

YEAR	FARMS	DAIRY FARMS
1935	200,000	-
1940	193,000	-
1945	179,000	-
1950	174,000	143,000
1955	155,000	130,000
1960	138,000	105,000
1965	124,000	86,000
1970	110,000	64,000
1975	100,000	53,000
1980	93,000	45,000
1985	83,000	41,000
1990	80,000	34,000
1995	80,000	28,000
1997	79,000	25,000

Source: Wisconsin Agricultural Statistics Service, USDA.

ing industry, and farmers will lose their markets for milk, Cropp warned. If that happens, Wisconsin's milk prices – currently among the nation's highest – could collapse.

Wisconsin's livestock industry and dairy industries generate tens of thousands of jobs – and livestock is more profitable and environmentally cleaner than growing and selling cash grain. "We should be selling pork, not corn,'' Geary said.

The Growth of Government

Overlaying this rapid and constant restructuring of Wisconsin's agriculture is a rapid growth of Wisconsin's government — and its involvement in agriculture.

This is not surprising.

Government involvement in agriculture has a long, rich history. Virtually every government in the world today regulates food and agriculture because political leaders know that a safe, affordable food supply is a basis for political stability. Conversely, the lack of one can be the basis for civil unrest or, at the very least, a loss of votes.

Even before the United States became a country, George Washington suggested that the Continental Congress form a National Board of Agriculture. The awkward name of today's state agriculture department – the Department of Agriculture, Trade and Consumer Protection – reflects its history as a business regulatory agency first, and as an agriculture department second.

"The department has deep roots in three worlds — the world of agriculture and the land, the world of business and commerce and the world of consumers,'' said the Department's own white paper on the agency's history.

In fact, because agricultural trade and food sales were the first cornerstones of Wisconsin's state economy, there are trade laws on the books enforced by the agency that predate Wisconsin statehood. The first Territorial Legislature meeting in Madison in 1839 passed one of its first laws: an act that prohibited the sale of adulterated food. It also ordered the hiring of food and grain inspectors — and the foundation of a state agricultural agency was born even before Wisconsin became a state, the white paper said.

The Legislature created an "Agricultural Society" in 1853 to promote agriculture and gave the society $1,000 to fund county fairs and to promote "the improvement of agriculture'' by forming county agricultural societies. It later created a "treasury agent'' to oversee food and grain inspectors who enforced laws such as the first "Hawkers and Peddlers Act'' and the state's first fair-advertising laws. Eventually, the treasury agent would become the state's agriculture secretary.

The early agency (or forms of it) took on all kinds of regulatory tasks – many of which it still has today: certifying scales statewide for their accuracy; investigating consumer complaints; inspecting and certifying the cleanliness of restaurants, grocery stores and food haulers. In 1858, the agency was even charged with enforcing a ban on the sale of "immoral or obscene books, papers pamphlets or playing cards'' (which it no longer does). A Board of Agriculture was created to oversee a new Wisconsin State Fair, to collect agricultural statistics and to "promote the interests of agriculture, dairying, horticulture, manufactures and the domestic arts.''

In 1915, the modern Department of Agriculture was formed by merging the Treasury Agent, the Dairy and Food Commissioner and the Board of Agriculture. The agency was charged with overseeing all the duties of its former agencies, including overseeing the state veterinarian and veterinary lab, inspecting honey bees and orchards for pests, regulating pesticides, seeds and fertilizers for their efficacy.

As the federal government and Legislature passed new food safety and consumer protection laws, the agency continued to take on new duties – and new employees. Today, the agency also handles and investigates consumer complaints; it oversees auto sales, home repairs, the disposal and sale of refrigerants that might deplete the ozone, the sales of commercial art and product labeling. It inspects meat and dairy plants, regulates grain trade from the state's export ports in Superior, Milwaukee and Prairie du Chien and runs a sizable marketing operation to help small and middle-size companies sell products at home and abroad.

"We're largely a regulatory agency – and always have been,'' remarked Ben Brancel, the state's current Agriculture Secretary.

It was down the hill from Capitol Square, down a muddy, manure-encrusted State Street in Madison, where the real government action in agriculture was taking place in the late 19th century, however.

The Agricultural Roots of the University of Wisconsin

Agricultural science was an early mandate of the newly created University of Wisconsin, founded in 1848, the same year Wisconsin became a state. The university's new Board of Regents declared that agricultural science,

like all other sciences, “can only be acquired by study and research.’’ Without scientific principles applied to agriculture, they said, “the farming processes fall to the level of routine and drudgery. With it, agriculture rises to the dignity of a profession,’’according to John Jenkins, who wrote *A Centennial History*, a book on the history of UW-Madison’s College of Agricultural and Life Sciences.

To bolster the regents’ directive, Congress passed a set of sweeping laws – dramatic when considering that they were passed as the United States was embroiled in the Civil War – that would change forever the university’s relationship to agriculture.

Congress passed the Morrill Act in 1862 that established the Land Grant university system. The Act granted federal lands to states which could then use proceeds from those lands to fund a system of universities whose focus would be the cultural and economic improvement of rural America, and especially its farms.

Vermont Senator Justin Morrill noted that an increasingly industrialized society can’t survive with a system of agriculture based on subsistence farming. Further, he said, most farmers on the land have little or no idea how to improve their productivity or expand their business operations.

Subsequent acts by Congress created a federal system of agricultural research at those universities — and it created the Extension Service, which was charged with communicating the knowledge generated by Land Grant universities to rural America. (That’s the genesis of Land Grant college agricultural journalism programs, which predate modern journalism departments by decades. And that’s also why Wisconsin Public Radio and Television today are part of Wisconsin Extension.)

Politics and Research

Not only was farming a research mandate for the new university, but also a political mandate. Early university leaders, such as Regent Hiram Smith, realized that if Wisconsin was to become a successful agricultural state (and that meant a state with a successful economy in the Midwest of the 19th century), it had to develop its dairy industry. Smith was a successful Sheboygan Falls dairy farmer and a member of the newly formed Wisconsin Dairymen’s Association – a group of progressive dairy farmers that pushed hard for the university to help it improve its productivity and profitability.

Likewise, Smith and others realized, if the university was going to show its worth to taxpayers, it had to focus on tangible research and extension programs that could produce quick, easy-to-demonstrate results. And most of those tangible results with the greatest benefits would be in Wisconsin’s rapidly growing dairy industry, wrote Jenkins.

As wheat yields failed and the Great Plains states started becoming major wheat states, Wisconsin farmers knew that dairying would be their future, Smith said.

As early as 1866, when the University of Wisconsin first started offering Extension courses, the focus was on dairy and livestock farming. That was the same year that the university established a 175-acre farm on the edge of town – a farm that is now part of campus and the Near West Side of Madison.

To further educate farmers and promote the dairy industry, the university in 1885 created a program for farmers that was the first of its kind in the country: A 12-week “short course’’ farmers could attend to learn basic scientific principles and production techniques that would help them substantially improve their production and their incomes. The short course is still offered today, more than 100 years later.

Also that year, the Legislature provided $5,000 to create the Wisconsin Farmers Institute to disseminate university knowledge through three-day seminars held around the state. In the winter of 1887-88, the university held 81 institutes for more than 50,000 farmers, Jenkins wrote. The federal government chimed in with a second sweeping piece of Legislation in 1887 called the Hatch Act which, among other things, provided federal money to states to fund agricultural experiment stations around the country. Wisconsin received $15,000 a year to operate and expand its agricultural research farm – now called “stations” to present to the public the idea that these were research, not production farms. As state and federal money became available, the university’s 175-acre research station became the first of a series of agricultural research stations to be built around the state.

The “College of Agriculture’’ was formed in 1889, less than two decades after the university hired its first agricultural professor, a chemistry professor named William Daniells.

The college grew slowly at first – but its impact was nonetheless immediate.

The year after it was founded, a chemistry professor named Stephan Babcock created the nation’s first practical and reliable butterfat test. While seemingly an obscure invention, the “Babcock tester,” now on display in Babcock Hall which houses the university’s dairy foods research laboratories, enabled the dairy industry to easily and accurately test the fat in milk. That, in turn, greatly improved the efficiency of the commercial dairy industry because

farmers and cheese makers suddenly had a precise way to measure the value of the milk bought and sold in every community throughout the state.

Harry Russell, for whom the campus meat science laboratory (complete with its own slaughterhouse) is named, developed an effective way to test for tuberculosis in cattle – a widespread problem at the time. The two also developed processes to test milk for its freshness and new enzymes to improve cheese ripening and production.

University researchers helped develop better feeding programs through feed testing and proving that corn, when added to hay, could greatly increase milk production. Using a $4,000 grant from the State Legislature, they demonstrated the value of upright silos to store and conveniently disburse silage to livestock in the barns. They improved cattle breeding methods – later developing some of the first artificial breeding techniques in dairy cattle. They proved the value of alfalfa as a nutritional form of hay; they discovered new ways to test and fertilize soils to make them more productive.

They also made a substantial contribution to science. Henry Steenbock, for whom the college's research library is named, discovered that ultraviolet light generates Vitamin D – and the university still earns income from that discovery. In fact, the Wisconsin Alumni Research Foundation, WARF, was founded in order to patent and receive income from Steenbock's discovery. College scientists also discovered Vitamin A and Vitamin B as they were performing animal feed studies using the world's first experimental rat colony.

As the university grew, bolstered by federal assistance, the Legislature looked to the university not only to help Wisconsin's agriculture develop but also to help the state enforce the state's agricultural laws. In those years, the university was charged with testing seeds and fertilizers – and the university and agency worked closely together to promote and regulate agriculture.

A Conflict of Mission

The College of Agriculture continued to grow along with the tremendous growth in numbers of farmers and the scope of Wisconsin agriculture. The goal of Dean Henry Russell was to form departments to address every aspect of production agriculture, such as poultry science, entomology, home economics and plant pathology. In 1916, the college already had nearly 800 undergraduate and graduate students and was receiving 500 to 600 students per year in its dairy courses, including the Short Course. In the 1920s, several buildings were built or expanded, including Babcock Hall (with its own dairy plant), Russell Labs (with its own slaughter facility), the Bacteriology building, the Biochemistry building, the Poultry Center, and the Dairy Cattle Center (a working dairy barn where cows are still milked on campus). The college also purchased the 2,000-acre Arlington Research station near Arlington.

But the mission of the college always created some conflicts with leaders of other colleges in the university who felt the College of Agriculture was overreaching in its mission – a debate that continues to some extent today.

Prior to World War I, for example, College of Letters and Science Dean E. A. Birge argued forcefully that his college should conduct basic scientific research to advance human knowledge while the College of Agriculture should limit its mission to focusing on practical research.

"Dean Birge vehemently yet ineffectively opposed Russell," Jenkins wrote. But University President Charles Van Hise "saw things differently'' and saw that "emerging basic sciences were so inextricably associated with agriculture that they simply must be organized and developed with in its context. ''

Besides, Van Hise noted, the Morrill Act and subsequent federal and state legislation demanded that the college produce research as well as teaching, according to Jenkins.

So the building blocks of the college were laid.

Today, the College of Agricultural and Life Sciences (CALS) consists of more than two dozen departments and over two dozen laboratories, institutes and centers housed in 18 buildings on campus.

University Extension, meanwhile, was formed in 1981 into its own college as part of the restructuring of the UW-System. There is still strong cooperation between the two colleges – but Extension has its own chancellor, its own administration and its own faculty – though many faculty in agriculture still receive funding from both colleges.

CALS has its own dairy processing plant in Babcock Hall that takes milk from the university's research station on campus and near Arlington, Wisconsin to produce all the dairy products sold on campus, including the famous Babcock ice cream. The small dairy is used to train cheese makers and other dairy processors – and it is used to some extent in research.

CALS has its own meat slaughtering plant housed in its meat and muscle biology lab, which is used to examine how the feed animals receive affects the meat they produce. Scientists use the lab to examine muscle development, slaughtering techniques and meat preservatives – everything from basic research to ways to make better sausage.

The college also has a long tradition of farm industry cooperation. The state's pea industry in 1911 began funding research to help pea growers and vegetable processors deal with the diseases and insects that were devastating their crop. Potato growers, sweet corn growers, pork producers – virtually every commodity group in the state – now contributes some money to help fund the research they use to improve production.

Tops on the list are Wisconsin's dairy farmers who currently contribute 15 cents from every hundred pounds of milk they sell to fund national and state dairy research and promotion programs. With an annual state research and promotion budget of more than $20 million, the dairy industry is a major source of funds for the university's Center for Dairy Research and its Cheese Institute.

The Conflict Continues

The growth of government in agriculture in the 1970s and 1980s only heightened the debate over the relationship.

Since the 1960s, government leaders have been struggling in policy debates over the evolving structure of American agriculture – and the role government has played in encouraging, or at least facilitating, the expansion of large farms at the expense of small farms.

This is no small question – and has its roots in very basic questions about the role government plays in a free-market economy. Large farms have substantial advantages. They can operate on much smaller profit margins and still generate large incomes – not unlike a grocery store that relies on volume to convert its low-margin sales into a profitable business with a high return on assets.

Large farms are also better positioned to utilize tax investment strategies, including tax subsidies, for investment and debt. They are better able to leverage debt to improve productivity and reduce production costs. They employ workers who specialize in on-farm tasks, enabling farmer-owners to better manage their time and expertise. And they are generally more cost-efficient.

In a study of 1996 farm records collected by Cornell University's Farm Business summary, Ohio State dairy specialist Normand St.-Pierre showed in *Hoard's Dairyman* (August, 1998) that large dairy farms with more than 300 cows averaged 13 workers with labor costs of $2.50 per hundredweight of milk (11.6 gallons), while small farms of 40 to 54 cows paid $6.30 per hundredweight. The large farms produced 25 percent more milk per cow, produced almost three times more milk per acre of crops produced, and experienced nearly twice the capital efficiency ($2.57 per cwt. vs. $4.69 per cwt.) These are only averages, he cautioned, but the trend is clear.

It doesn't end there. Large farms are in a stronger position to utilize government farm programs. The largest 6 percent of farms receive 59 percent of all farm subsidies, according to the USDA's report in 1997 called, *A Time to Act.* Finally, large farms are critical to producing adequate flows of raw product to keep processing plants operating profitably. Large dairy farms, for example, command "volume premiums'' – higher prices for their milk because the farms are cheaper to serve than larger numbers of small farmers. That alone gives large dairy farms commanding advantages.

Finally, the growth of large farms in other states, especially the West and the South, are starting to put Wisconsin farms at a serious competitive disadvantage. California dairy farmers, for example, receive as much as $3 per hundredweight less for milk than those in Wisconsin. That means California cheese makers can produce a product for so much less money that they can export their cheese directly to Monroe, Wisconsin and undersell local Green County cheese factories. Large, efficient farms simply must become part of Wisconsin's dairy industry – or the state will lose its industry, many farm economists argue repeatedly.

But large farms also present large problems, the USDA study continued. In some parts of the agricultural industry, such as poultry, a few huge operations own most of the profitable production facilities, while passing the price- and weather-related risks to farmers with whom they subcontract. Further, dozens of studies show that these large farms do little to spur economic development in nearby communities. A UW-River Falls survey of 5,000 farms showed that smaller farms spend 75 percent of their money in local markets – which means that a middle-sized farm in Wisconsin with a gross income of $200,000 would create an economic impact of roughly $750,000, according to the study.

Large farms bypass local markets. "Communities surrounded by large farms have a bi-modal income distribution – a few wealthy elites, a majority of poor laborers, and virtually no middle class,'' the USDA study concluded.

Large-farm advocates note that what is happening in farming is little different than what is happening elsewhere in the economy and in large part they're correct — but with one exception, Bergland said in his 1980 report. That is the role government has played to encourage large farms, he said.

Federal farm programs were designed in the 1930s to encourage farms to expand. Because they lacked investment capital, farmers could never grow and improve their incomes, and most would be relegated to poverty. Even in the 1960s, rural incomes were substantially below incomes earned in urban areas, Bergland noted in *A Time to Choose*.

Federal farm programs are designed to stabilize prices and farm incomes in order to reduce the risk of farming. By removing risk, or at least minimizing it, investors and lenders were willing to pour money into agriculture, Bergland noted. The policies have been largely successful in helping farms grow and lowering food prices in the process. (Ironically, some consumer groups claim farm programs bolster food prices. That's true in the short run because they put floors under farm prices to keep them stable. In the long run, however, the increased production stimulated by the programs forces prices down. The price of food in the United States has dropped from 25 percent of an average worker's salary to less than 7 percent in the 1990s, according to the USDA. That's why farmers today call farm programs "cheap food policies.'')

State farm programs were developed with less conscious intent. But many university research programs nationwide paralleled the federal effort as scientists responded to demand by farmers for technologies that would aid them in their expansion efforts – and allow them to farm more land with fewer workers. The UW-Madison's research efforts were no different.

Critics of large farms also note that large farms mean large concentrations of manure – and potential pollution. That, in turn, requires government investments in farm pollution regulation. A hog, for example, produces about two and a half times the waste of a human, so an operation with 20,000 sows could produce about the same amount of waste as the city of La Crosse. Today, a farm with more than 1,000 hogs is regulated by the Department of Natural Resources which treats the farm just as it would a factory.

Finally, there is the political nature of the debate. Small farmers know that as large farms grow, profit margins will only get tighter and low-volume producers will be continuously squeezed. A survey of 1,100 farmers by UW-Madison researchers Douglas Jackson Smith and Fred Buttel indicated that only 26 percent favored the expansion of dairy and beef operations – and only 17 percent favored larger hog and poultry operations. Four out of five agreed that maintaining a system of family-operated farms is essential to the survival of Wisconsin agriculture. Three out of four opposed replacing family-sized farms with large farms using hired labor.

That can pose tremendous political problems for state agencies and universities supported by taxpayers. As an example, the state Legislature exploded in debate in the 1980s when it was learned that UW-Madison dairy scientists were participating with several large agricultural chemical companies to help develop and test an artificially engineered hormone to spur milk production in dairy cows. Critics feared that the hormone, called the bovine growth hormone, would drive up milk production and hasten the demise of smaller, family-sized farms.

Milk from university BGH-tested cows was banned from use in the university's own dairy plant – and Wisconsin dairies were given permission to label the milk they sold from cows that were not injected with the hormone. Eventually, the BGH research was concluded. But the research again raised the question in many farmers' minds: For whom are UW-Madison researchers, paid by taxpayers, actually working? asked Bill Wenzel, director of the Wisconsin Rural Development Center in Mount Horeb. Much of the university's research effort "only confirms their bias'' that big farms are the way of the future — a future that won't have a place for many of today's farm stakeholders and taxpayers, he said.

Back to the Future

As a result of the growth of government and the relative decline of farm numbers, the debate has only expanded. The agencies and the colleges are extremely aware of the demise of Wisconsin's mid-sized farms and, in some cases, attempted solutions have expanded government even further.

But far greater forces are at play in government than just the debate over the role of government in preserving farms. Concerns about farm pollution, food safety, the exodus of urban America into Wisconsin's countryside, and scientific exploration into the fundamentals of life science, have also played an enormous role in the growth of government.

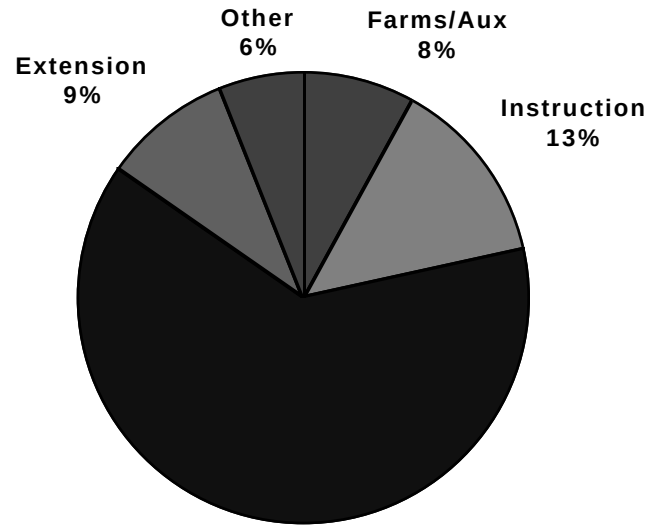
And that's where Wisconsin's agencies and academic institutions are today.

AGRICULTURAL PROGRAMS IN THE UNIVERSITY OF WISCONSIN SYSTEM

No institution has wrestled with the decline in farm numbers and the changing structure of agriculture as much as the UW-System. And no college in that system has probably changed as much as the College of Agricultural and Life Sciences.

College administrators, farmers and lawmakers have fought over the role of the college at UW-Madison almost since the college was founded. As they battled, the college has emerged as one of the nation's preeminent practical science research institutions. From 1981 through 1993, college scientists were rated among the top five in the nation by *Science Watch* magazine that rated agricultural colleges based on the number of times their scientists had been cited in professional peer publications. From 1996 to 1997, the college led the university system in patentable discoveries, leading the medical and engineering schools more than two to one.

Figure 1 CALS Expenditures 1997

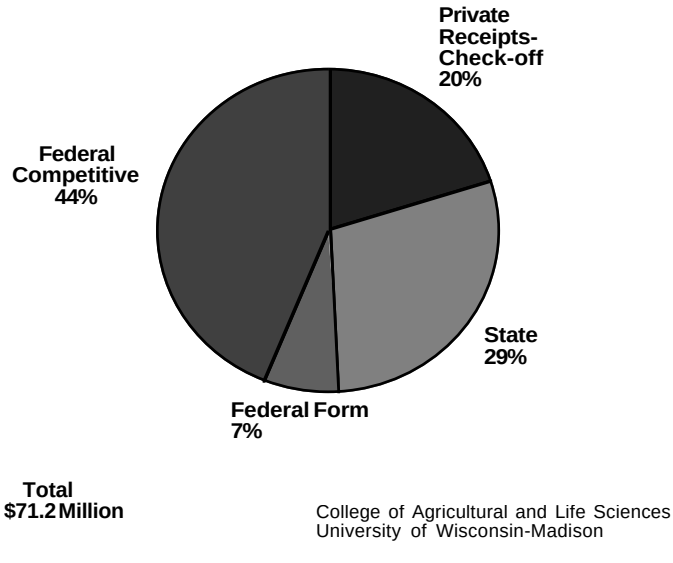


The college has grown from a few hundred students 40 years ago to 2,804 students, a third of them graduate students, taught by 277 faculty in 1997.

But the debate lives on today as the college has changed its mission – and even changed its name in 1967.

For the better part of the century, UW-Madison was both the research and the source of Extension agricultural programming. Even that has changed as the UW-System now holds the status of Land Grant University, not UW-Madison. Both UW-River Falls and UW-Platteville have become important additions to the university's agricultural education and, in some cases, research mission. At the same time, more and more of the College of Agricultural and Life Sciences' budget is devoted either to basic scientific research or to analysis and study of "end user'' problems, such as environmental problems, food safety, land use planning, food product development, and health.

Figure 2 CALS Research Funding Sources 1997



Even the departmental budgets devoted to traditional agricultural research, such as animal science and plant pathology, funnel a great deal of their research into basic science – and they receive a great deal of funding from the federal government and from private endowments and industry to pursue that research. (Which

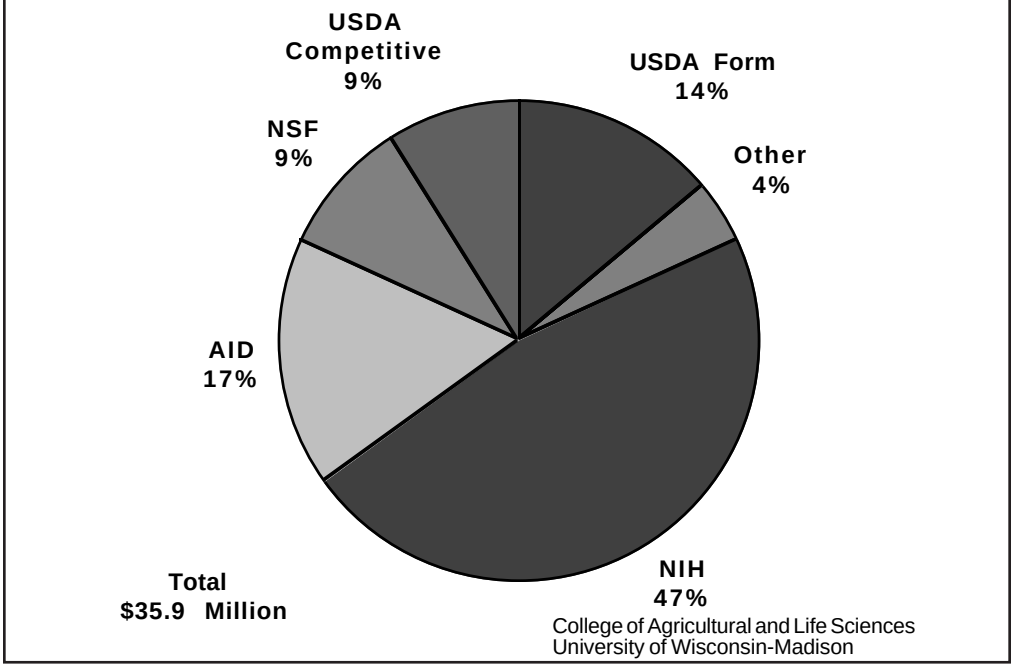
makes it difficult, and somewhat deceiving, to correlate the college's activities to its support for agriculture.) The primary reasons for the research emphasis shift are money and academic challenge – and, in many cases, both.

In 1997, the College of Agricultural and Life Sciences' research budget of $71.2 million included $35.9 million in federal grants and another $14.3 million in gifts, private grants and other non-public sources. That means the federal government and private groups play a heavy hand in the direction of the research college scientists pursue.

For example, more than half of the federal competitive grants comes from the National Institutes of Health (NIH) for basic research — and some of the nation's cutting edge research — in genetic engineering, cancer research, food safety, and other human health concerns. These are important and growing areas of scientific research and were major reasons the college recently completed a new biotechnology building with modern research laboratories.

A fifth of the college's competitive federal grants come from the Agency for International Development (AID) that provides grants for international agricultural and economic development research. At the same time, only 10 percent of the college's federal competitive research money stems from the U.S. Department of Agriculture. Only 29 percent of the college's research effort (which is 92 percent salaries and benefits) came from state taxpayers in 1997, according to college budget documents.

Figure 3 CALS Federal Research Funding 1997



But the source of that money — and the research directions the university has taken to win that money — has been a central source of controversy in the past decade.

In some cases, private-public partnerships have worked well. Dairy farmers currently contribute 15 cents per hundred pounds of milk to fund dairy research and promotion programs nationwide. About $1.6 million of that money is used to fund the Center for Dairy Research, founded on the campus in 1986 to help the industry develop new dairy products and new, more efficient processing technologies. Others, such as potato, cranberry, soybean and ginseng producers, provide another $1.14 million to the college for scientific help in producing better seed varieties, harvest and planting techniques and to battle the insect, weed and fungal pests that can wipe out their crops.

In other cases, the political battles have been heated. For example, a significant number of the state's dairy farmers were furious a decade ago when they began to invest in "grazing'' systems – systems that uses pastures scientifically to feed cattle at low cost and, presumably, higher profit with less investment. The university was doing practically no research on grazing systems which, they argued, could make small farmers more profitable.

At the same time, they complained, the college's scientists were using tremendous public resources to advance cloning and embryo transfer research — advanced breeding techniques that many farmers say they can't afford. In addition, other college scientists were assisting in the development of the recombinant bovine growth hormone (rBGH), an artificially engineered hormone that would spur milk production and milk supplies. That too, the dairy farmers and small-farm advocates complained, would hasten the demise of small farms as milk surpluses dampened prices and pushed marginal, low-volume operations out of business. Cloning and rBGH were two examples of small amounts of private money skewing the research priorities of entire departments, critics complained.

Those criticisms did not go unheeded.

An argument could be made that the college has become so focused on basic research and "end-user''

research (for consumers, for example) that practical agricultural research has been short-changed, said Len Maurer, assistant dean for the college. Cooperative Extension research and instruction specialists – many of whom work to solve farmers' problems — are down by half of what they were a decade ago, from 85 to 44, which has hurt the problem-solving role the college has always played in agriculture, he said.

"What has happened is that we've broadened our research agenda,'' Maurer said. The college is very good at both discovery at the molecular end of scientific research – and in helping solve environmental and social problems. "In retrospect, we didn't worry enough (about practical research farmers can use).''

The Legislature and the college responded in the 1980s to their critics' complaints. In 1986, it created the Center for Dairy Farm Profitability, a nationally recognized clearinghouse for information on management systems that help dairy farmers become better businessmen and managers. In 1989, it created the Center For Integrated Agricultural Systems, which brought together researchers from various college departments to explore ways farmers could farm more profitably with fewer insecticides and weed killers through better crop rotation strategies. It was charged with exploring technologies such as grazing, including researching both practical problems and economic benefits of grazing to help prove what was profitable, and more importantly, what wasn't. The Legislature also created the Agricultural Technology and Family Farm Institute (now called the Program on Agricultural Technology Studies) to research the impact of technology on Wisconsin farms — and explore technologies that farmers, large and small, can use to become more profitable.

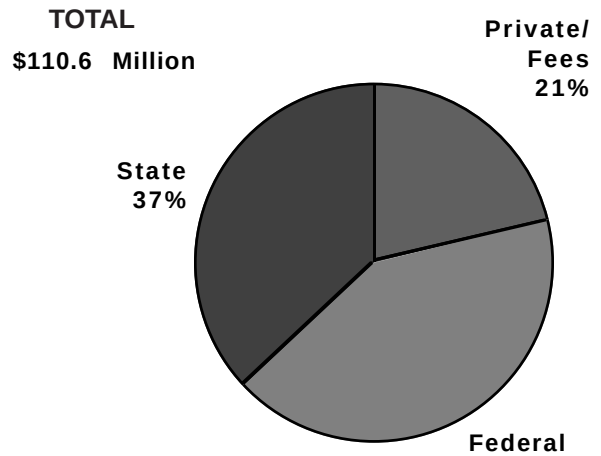
Nor has the college completely eschewed its practical agricultural research. The college is home to the nation's only milking systems research lab (one of only two in the world); it recently built a new, enclosed research livestock barn on campus to improve its husbandry, breeding and feeding research. And its on-campus dairy plant is still a place where the state's cheesemakers come to train. Its Department of Rural Sociology produced a substantive study which concluded that livestock farmers were badly over-fertilizing some fields, under-fertilizing others, and wasting money on commercial fertilizers. The study, by sociologist Peter Nowak, concluded that Wisconsin farmers could save millions of dollars a year through better soil testing, comprehensive manure spreading plans for their fields, and by calibrating their equipment so that manure is spread more accurately on fields. Both the Department of Rural Sociology and the Program on Agricultural Technology Studies today are heavily involved in providing research for today's local and state debate over land use policy.

But the debate remains, Maurer said, as the college continues to try to balance its educational program, research and role as a practical problem solver for agriculture. The debate over the fundamental questions of the role of the college probably will be with it always, he said.

For policy makers and administrators, the debate will only get louder as public budgets get tighter. Despite steady enrollments and expanded research efforts, the college's budget is down $9 million from fiscal 1995 — and is down more than 100 faculty positions from its peak in 1978-79. State taxpayers once funded 50 percent of the college. They now fund 29 percent.

The college is keenly aware of its dilemma and has published a series of planning reports to address budget deficits and the college's changing role in 1988, 1991, 1992, 1993, and 1994. In 1996, it published a report entitled: *An Update of College Plans to Recognize New Realities* to address a $3 million operating deficit. It recommended reducing budgets at farm operations, eliminating 20 faculty positions and two-dozen support staff, closing two centers, reorganizing departments and reducing the cost of administration by 10 percent. "It's now necessary to update our plan,'' the report said. The college needs "to seek greater innovation in how we teach, to focus our research efforts more sharply and deliberately to meet societal needs, and to attain improved efficiency.''

Figure 4 CALS Funding Sources 1997



College of Agricultural & Life Sciences
University of Wisconsin-Madison

College of Agricultural and Life Sciences.
UW-Madison
Total budget — $110.6 million.
277 faculty; 871 Academic and support staff.
(All sources, including Extension contribution to college — 1998.)

Center for Cooperatives — $354,757
Land Tenure Center — $3.7 million
Center for Dairy Research — $1.6 million
Center for Integrated Agricultural Systems — $845,108
Program on Agricultural Technology Studies — $619,203
U.S. Dairy Forage Research Center — $227,081
Center For Dairy Profitability — $595,526
U.S. Dairy Forage Research Center (state funds) — $22,185
Agricultural Engineering and Biological Systems — $2.8 million.
Agronomy — $5.5 million
Animal Science — $5.3 million
Animal Health and Bio Science — $5.7 million
Continuing and Vocational Education — $377,377
Dairy Science — $3.2 million.
Dairy plant — $3.22 million.
Entomology — $3.9 million
Forestry — $2.7 million
Horticulture — $6.1 million
Plant Pathology — $6 million
Soil Science — $4.3 million
Animal Health and Biomedical Sciences — $2.9 million.
Forest Ecology and Management — $1.65 million
University Agricultural Research Farms (general) $1.5 million.

- Arlington. $1.7 million
- Greenhouses $132,667
- Ashland. $141,648
- Dairy Forage Research Station $1 million
- Hancock $354,572
- Hayward $46,184
- Kemp Biological Station. $47,922
- Lancaster $197,433
- Marshfield $442,775
- Penninsular $114,977
- Rhinelander 94,809
- Spooner $110,634

Total farm operations — $8.4 million.

Source: *UW-System budget 1988*

UW-Madison School of Veterinary Medicine
Total budget — $26.1 million
Employees — 408

The School of Veterinary Medicine, created in 1987, graduates about 75 vets a year, only a portion of whom serve agriculture. About half the school's budget comes from taxpayers. The rest comes from gifts, grants and from fees for services provided by the school's teaching hospital.

Source*: UW-System budget 1998*

UW – River Falls

Total UW-River Falls budget — $55 million.

Programs directly linked to agriculture —- $7.2 million.

Agriculture, Food and Environmental studies — $3.8 million
Agricultural economics — $309,437
Agricultural education — $183,810
Agricultural engineering — $215,563
Animal sciences — $1.2 million
Laboratory farms — $518,545
Plant and Earth sciences — $962,401

***Source**: UW-System budget 1998*

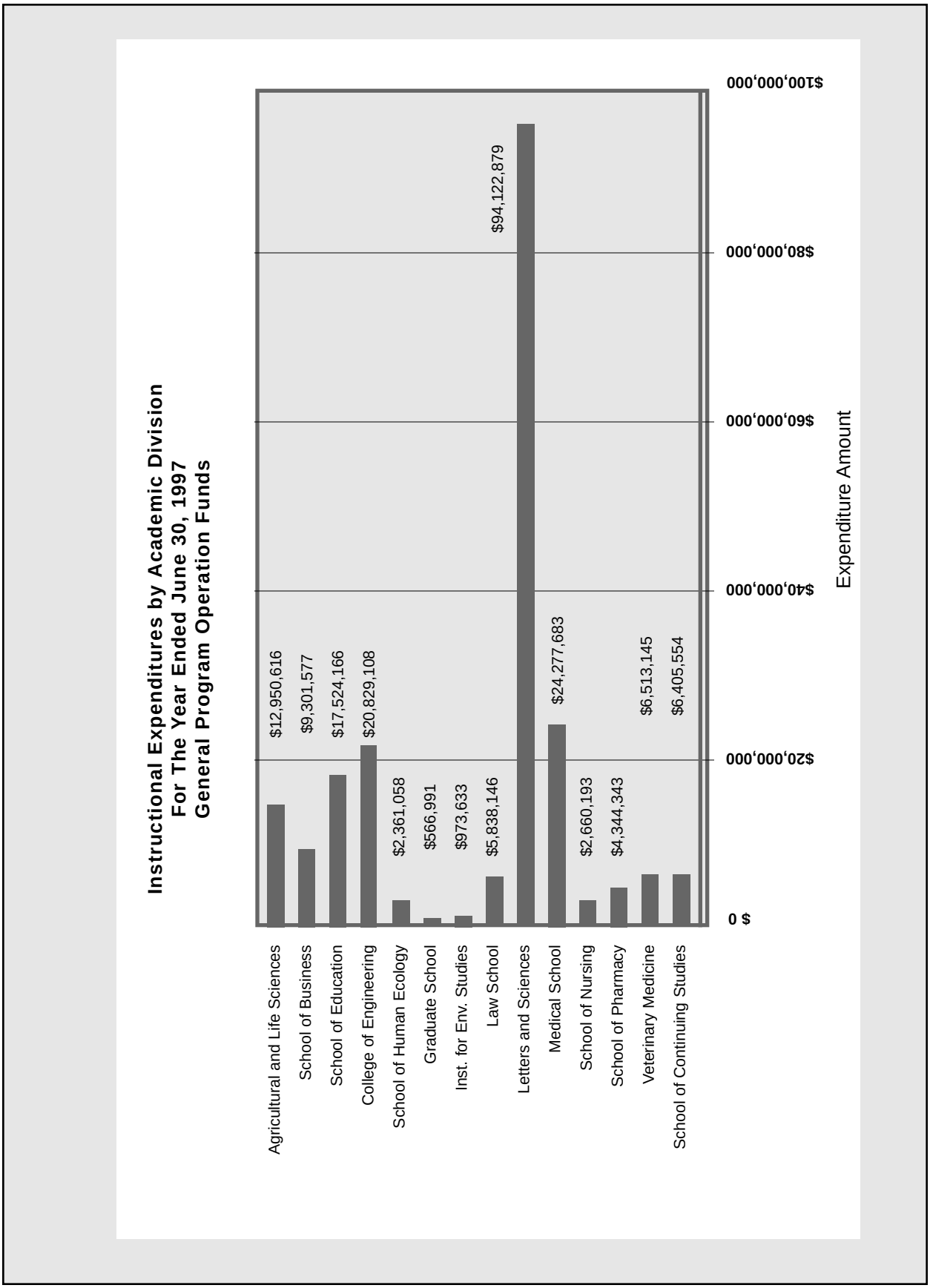
UW-Platteville

Total UW-Platteville budget — $59.9 million

Programs directly linked to agriculture — $5.2 million.

College of Business, Industry, Life Sciences and Agriculture
Budget — $4.2 million.
Agriculture — $890,000
Farm operations — $98,587

***Source:** UW-System budget 1998*


Instructional Expenditures by Academic Division
For The Year Ended June 30, 1997
General Program Operation Funds
Agricultural and Life Sciences
School of Business
School of Education
College of Engineering
School of Human Ecology
Graduate School
Inst. for Env. Studies
Law School
Letters and Sciences
Medical School
School of Nursing
School of Pharmacy
Veterinary Medicine
School of Continuing Studies
$12,950,616
$9,301,577
$17,524,166
$20,829,108
$2,361,058
$566,991
$973,633
$5,838,146
$94,122,879
$24,277,683
$2,660,193
$4,344,343
$6,513,145
$6,405,554
$ 0
$20,000,000
$40,000,000
$60,000,000
$80,000,000
$100,000,000
Expenditure Amount

UW-EXTENSION: The "Pendulum" Swinging Away From Farms Back to Policy

UW-Extension, founded in 1866, is one of the UW-System's most historic, most notable — and today one of its most amorphous institutions.

While many of its roots are deeply imbedded in agriculture, its original purpose was broad: To serve as the community education arm of the university — the link between the scientists and educators at the Land Grant University and the state's citizens

Today, UW-Extension is its own separate college within the UW-System and is split into two pieces:

• General Extension, which provides thousands of course offerings from arts and crafts to literature to mechanical engineering, through the state's 26 two- and four-year colleges. It also includes Wisconsin Public Radio and Television, and;

• Cooperative Extension, a state-federal-county cooperative system that includes county agents in all 72 counties and cooperative scientists and other faculty at several universities, including agricultural researchers at the College of Agricultural and Life Sciences.

UW-Extension was blistered in April 1997 audit by the Legislative Audit Bureau that raised fundamental questions about Extension's "core mission.'' It questioned Extension's growth and its duplication of courses with the state's vast university and technical college system; its ability to provide staff for the wide array of courses it offers; its ability to serve all of Wisconsin's people, including its minorities; and its funding.

While he conceded that 71 percent of General Extension's budget was funded by tuition and fees, then-State Auditor Dale Cattanach noted in the audit that Extension had vastly broadened its mission "from practical skills in agriculture, home economics and industrial work to include all areas of human knowledge presented through an array of seminars, workshops and televised education.'' Extension now offers 8,400 courses — up 79.4 percent in a decade — which "raises questions about whether UW-Extension should refine its core mission,'' he said.

The same is true with Cooperative Extension, the bedrock academic and research institution for agriculture.

Cooperative Extension has been a source of controversy for at least two decades as operators of large farms employing new technology frequently complained that Extension was "behind the curve'' offering them little new information — and as small farmers complained that Extension was biased toward large farms, hastening their demise through transfer of technology that favored larger farms.

Today, Cooperative Extension faces different challenges as it expands its mission in public policy and social issues — and away from its former agricultural core mission.

"We've come full circle and history is really repeating itself,'' said Carl O'Connor, the dean of Cooperative Extension. A century ago, the local Extension office was the third most important place in the county, next to churches and taverns (or meeting halls) as the place where people talked about ideas,'' he said. Much of what Cooperative Extension faculty did was related to agriculture, "because that was the mechanism being used for economic development of the West.''

It was the first Extension programs at New York and Wisconsin where the link between economic development and agriculture was refined as a tool in Westward expansion. Later, the use of agriculture and the university to build communities developed into "The Wisconsin Idea.''

After World War II came the mechanization of agriculture and the development of new pesticides, crop varieties and farm management techniques. The result in Extension was the "explosion of specialists'' educated in agricultural science and trained to help teach farmers how to use the new technologies. "We were much more of a technological transfer agent from the 1950s through the 1970s,'' he said. "We lost our public policy development emphasis.''

Today, Cooperative Extension's "pendulum is swinging the other way'' and is less involved in agriculture — and back toward public policy, O'Connor said.

Extension still employs agricultural agents and researchers (and those agents received a fourth of the 1.1 million contacts served in 1994-1995, according to the audit). But Cooperative Extension is attempting to recapture its public policy role — as well as expanding its university-community efforts in areas such as land use planning, community waste management issues, inner city youth programs, water quality, and modern family issues such as day care, O'Connor said.

One new role of Cooperative Extension, for example, is to serve as a liaison between the Department of Natural Resources and the state agriculture department to help manage federal Environmental Protection Agency block grants to communities to address environmental problems. To receive the money, the agencies must hold community hearings.

"The DNR isn't set up to do that, but we are,'' O'Connor said. "So we're merging our strengths and, in some cases, our funding to address that.'' Other "mergers'' of funding and policy work include state and federal programs for families, welfare issues, even juvenile issues, he said. That has draw fire in agricultural circles, where some complain that as agriculture faces its current transition, it needs more help from Extension, not less. Wisconsin has about as many dairy specialists as Iowa State University in a state with far fewer dairy clients, Dairy Science Department Chairman Louis Armentano was quoted saying in the *Wisconsin Agriculturist* magazine in May of 1997. "Compared to the number of clients, we have to be near the bottom of the pack.''

O'Connor said that Cooperative Extension is still an important place to go for agricultural assistance — and in many counties the Extension agent plays a valuable role as Wisconsin's agriculture continues its transition.

Others note that UW-Extension is still a national leader in some areas of agricultural education, including its nationally known specialists in the Center for Dairy Profitability, its agricultural engineers, its nutrition and breeding scientists and its work in food science and cheese research.

"We still do technology transfer,'' O'Connor said. "It's hard to do good public policy without good technical input."

UW-Extension
The "pendulum" swinging away from farms back to policy

Total budget -- $142.9 million.
1,655 full-time employee positions

Cooperative Extension: $56.2 million
703 employees, including 298 county agents
78 agricultural agents
67 Community and natural resource agents
77 4-H agents
62 family living agents

Income source:
State funds -- $23.2 million
County funds -- $16.1 million
Federal (special projects) -- $3.4 million
Private (fees, gifts, grants) -- $2.8 million
Federal (regular funding) -- $10.6 million

(Co-op Extension budget includes money transferred to faculty at other UW-System campuses.)

Spending:
Administration -- $2.6 million
Support services -- $2.4 million
Agriculture -- $15.1 million
Family living -- $11.6 million
4-H and Youth Development -- $9.2 million
Community and natural resources -- $12.4 million
Spending Authority -- $2.6 million

Individual programs include:
Wisconsin Rural Leadership program -- $289,793
County and area Extension offices -- $2.4 million
Business and agricultural special projects -- $225,252
Rural Development Institute -- $120,674
Center for Cooperatives -- $7.1 million

***Source**: UW-Extension, UW-System budget*

Wisconsin's Technical Colleges – Big Contributors to Agriculture

Frequently overlooked in the discussion over agricultural education and training is the state's huge vocational technical system, which devotes tremendous resources to agriculture.

The vo-tech system, spread over 16 technical college districts and 47 schools, are impressive institutions. They see 450,000 students a year, 80,000 of them full time. They employ 9,060 full-time staff and the schools cost the state and local taxing disticts $476.7 million in 1996-97, according to an audit of the system by the Legislative Audit Bureau in August, 1998. Tuition pays about a fourth of the costs.

Enrollment in the colleges' agricultural classes is about 4,200 in classes ranging from agricultural diesel mechanics, to dairy herd management, to horticulture, says Bill Rockwell, the agricultural adviser to the system. Likewise, about 5 percent of the faculty and staff — or about 450 employees — are involved in agricultural programs, he estimated.

But agriculture isn't where the new demand for Cooperative Extension lies, he said.

"We're growing because our local communities and local organizations are demanding more from us — and they're providing local (and in some cases federal money) to expand what we do. Our mission hasn't changed. But the world around us has, and we're trying to meet the needs of the community.''

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

Known by its abbreviation "DATCP," this $59.6 million agency with 710 employees statewide in 1998 is the state's agriculture department. But it remains primarily a regulatory agency – just as it was when its predecessor agencies were created more than a century ago.

DATCP is an agency with five divisions. Four have their roots in agriculture, but all five deal with farmers and the farm service industry in some capacity. They include:

1. Food and meat inspection.

Total division budget — $12.2 million.
State taxpayer support — $5.7 million
Federal taxpayers support — $2.9 million

This division inspects and certifies the cleanliness of the state's food supply from farmers' milk houses, to dairy processing plants, milk haulers, meat packing plants, grocery stores and restaurants. Much of the inspection work of restaurants and grocery stores and processing plants are offset by fees. State taxpayers support nearly half of this division's activities, and the agency operates some programs on behalf of the federal government, which pays the agency for at least part of its work.

Top budget items include:
Food and dairy inspection — $3.1 million.
Meat inspection — $2.6 million
Food regulation — $3.5 million
Federally-funded food inspection — $2.7 million.

2. Animal health services.

Total division budget — $6 million.
Taxpayer support — $3.5 million

This division stems from the critical need early on in the state's history to eradicate animal diseases that could infect and destroy large percentages of the state's livestock. Today, it also investigates rabies and other domestic pet disease problems when they are a threat to public safety. It employs the state veterinarian and runs the state Animal Health Lab. The division charges fees for its services which offsets nearly half its costs.

Top budget items include:
General operations — $3.4 million

Animal disease indemnities – $108,600
Animal health lab — $2 million.
Inspection, testing enforcement — $151,000.
Other — $300,000

3. Agricultural Resource Management.

Total budget — $19.7 million.
State tax dollars support — $6.1 million
Federal tax dollar support — $2.1 million.
Special taxes charged to fund services (such as surcharges on sales of chemicals to fund clean-ups) — $10.5 million.

This division regulates the sale and use of the state's fertilizers, insecticides and herbicides to ensure that they're being properly used and are not polluting the state's rivers, lakes and groundwater. It runs the state's gypsy moth eradication program – an insect that has devastated hardwood forests in the Eastern United States. It tests seeds for germination and production to ensure they're properly labeled and sold.

An important job in this division is to provide money for county land and water conservation districts – and support them with engineering and inspection expertise in the regulation of farm manure storage and handling systems. Included in that responsibility is to administer the state's Farmland Preservation Program, which provides $35 million in tax incentives to farmers annually to protect their land from soil erosion or urban development.

The division also runs a program to dispose of used, hazardous chemical containers, especially those used in agriculture. It approves plats and provides engineering and design assistance for manure handling systems. It also oversees the state's drainage districts.

Budget items include:
General operations — $1.6 million
Soil and water resources — $2.5 million
Ag chemical cleanup — $1.8 million
Ag resource management services — $218,300
Seed testing and related services — $170,600
Ag impact statements — $168,000
Fertilizer research — $160,500
Animal waste critical site grants — $100,000
Gypsy moth eradication — $1.2 million
Federally funded pollution control programs — $2.1 million
Soil and water management —$2 million
Groundwater standards – $717,000
Agricultural chemical management — $1 million
Pesticide regulation — $2 million
Commercial feed and additives regulation — $736,400
Ag chemical cleanup and reimbursement — $2.8 million

4. Trade and Consumer Protection.

Total division budget — $5.5 million
Total to support agriculture — $1.7 million

The trade and consumer protection division regulates the grain and dairy trade, inspecting warehouses, ensuring that the state's scales (from grain warehouses to grocery stores and butcher shops) are accurate. It also runs the state's consumer complaint hotline and inspection system.

Warehouse keeper and grain regulation – $423,200
Weights and measures — $746,000
Dairy trade regulation — $616,000

5. Marketing

Marketing operations — $7.8 million.

The department runs the state's "Alice in Dairyland'' program and "Something Special from Wisconsin,'' a promotion program to label Wisconsin foods as unique because they were produced here. The division publishes guides to farmers' markets around the state, pick-your-own directories, a Christmas tree farm directory – and it assists vegetable, fruit, and livestock producers in promoting their products. The division runs a small-grant program to help fund the start-up of niche-products, such as fish farming and ethanol alcohol production. And it includes a small team of international marketing specialists that assist small and mid-sized companies without the resources to hire specialists to export their goods. (The department's team is separate from the state Commerce Department's international marketing division – a separation that is necessary to qualify for nearly $200,000 in federal Department of Agriculture funding.)

Budget items include:
General operations — $1.3 million
Farm mediation and assistance — $417,000
Fruits and vegetable operations — $1.3 million
Grain inspection — $2.9 million
Stray voltage program — $253,000
Marketing services — $300,100
Aid to county and district fairs — $264,000
Research and development grants — $400,000
Expo Center grants — $240,000.
World Dairy Expo aid — $25,000
Federal dairy policy reform — $50,000
Other — $300,000

Management services & other

Total budget — $8.4 million..
Wisconsin Agricultural Statistics Service (state funds) — $442,100
Management services — $2.4 million
Data processing and computer system service — $1.6 million
General laboratory services — $2.2 million
Central services — $696,000
Milk standards — $389,000.

Source: DATCP

DATCP – MANY MISSIONS

The Department of Agriculture, Trade and Consumer Protection has been considered in past years one of the state's best run agencies. Still, it's difficult to judge.

It is nearly impossible to compare Wisconsin's agriculture department to those in other states, for example, because state agriculture departments around the country perform many of the same core functions but are structured differently in every state, according to the National Association of State Departments of Agriculture.

Arkansas, for example, calls its department the Plant Board, with limited duties. California's department, by contrast, is very large – and even runs its own state milk pricing system similar to the federal government's. Many states, such as Minnesota, place their consumer protection divisions within the office of the attorney general. And many states relegate their food and processing plant inspections in regulatory offices outside of the agriculture departments.

Former state agriculture secretary Alan Tracy, who was president of the Washington D.C.-based National Association of Agriculture Departments for two years, spent substantial time visiting other departments and other agriculture secretaries and making comparisons. "Wisconsin would rank at, or near, the top in the nation in several categories including our pesticide program, consumer protection, trade regulation, food safety, gypsy moth (eradication) and export promotion,'' he said.

DATCP has a long reputation as a well-run agency. The 1965 Kellett Committee's study on state govern-

ment expenditures singled out the state ag department as “exceptionally well run’’ – and the subsequent SAVE Commission report in 1996 also had little criticism of the agency.

Parts of the agency are still well run. But in some areas it is struggling. And in some areas, it needs to redefine its mission. That’s according to the department’s critics – and its friends.

In some cases, the battle is simply over money and political turf.

When it comes to working with the federal government, “in some cases, we work well together, in some cases we’re the poor stepchild,’’ confessed DATCP Secretary Ben Brancel, a former Assembly Speaker and dairy farmer who still raises beef cattle at his farm near Endeavor. And when it comes to working with other state agencies, “sometimes the right hand has no idea what the left hand is doing.’’

Much of the confusion – or at least lack of coordination – arises from the haphazard growth of government as it responded to past problems. Those problems are compounded in agencies such as DATCP and the Wisconsin Department of Natural Resources that have been saddled with hundreds of missions by the Legislature and Congress over the decades.

These programs grow over time, and agencies do their best to keep the wheels going in the same direction at one time. But there is rarely a well-thought-out design to growth in government, and some of Wisconsin’s agricultural government endeavors are no exception.

Some of the conflicts are well known. DATCP runs the state’s consumer protection program, but the state Department of Justice prosecutes violators. The Department of Regulation and Licensing and DATCP share in the issuing of licenses to businesses. The state has two international trade divisions that duplicate some support staff efforts and offer two sets of trade teams that sometimes travel the same turf.

But there are other examples. Wisconsin, for example, runs its own state meat inspection system. So does the federal government, which inspects the state’s larger meat processing and packing plants. As federal budgets got tighter, federal meat inspectors allowed slaughtering plants to inspect themselves – while the USDA focused on spot inspections and inspecting the inspectors. Brancel said that even though state inspection is more thorough, the state can’t win federal certification of the state inspection system – which, in the end, results in two systems.

The state has two stray voltage programs, one in DATCP and one in the Public Service Commission, to help dairy farmers cope with an odd physical phenomenon in which electricity travels through the ground from power lines, transformers and electrical equipment into livestock barns. The electricity, undetectable to humans, gently shocks cows and can keep them from drinking water or eating.

“We need to invest more in education up-front,’’ Brancel said, so people know what the agency is doing – and why. And, in some cases, the department and the government need a shake-up, he said.

Challenge: Marketing

One of DATCP’s broadest and least-defined duties is marketing — carving out a government role to help private industry sell its products.

The goal for both Wisconsin’s farm industry and government is simple: With a population of 4.9 million, Wisconsin is a small domestic market for the state’s agricultural sales. As a result, Wisconsin’s farmers and processors must export to other states and other countries most of their production, including nine-tenths of the state’s dairy products, most of its Christmas trees, ginseng, cranberries, vegetables for processing, dairy genetics, beef, and significant amounts of corn and soybeans.

Much of those sales are to other states where market relationships are well developed and where demand is fairly static, Brancel said.

DATCP has 20 full-time employees in its marketing division, including a full-time public relations specialist named “Alice in Dairyland’’ – a woman who represents Wisconsin agriculture in classrooms, county fairs and presentations all over the state.

It includes staff to help improve and advertise farm markets and pick-your-own operations that allow farmers to reap higher profits by directly retailing their own products. Those specialists also work directly with commodity groups and processors to expand their sales and develop new products, with the goal of exploring ways to make low-margin farm operations more profitable.

Nevertheless, the largest and potentially most lucrative opportunities are markets in other countries, especially Mexico, Japan and other Pacific Rim nations, Brancel said.

In the dairy industry, for example, domestic milk consumption only rose one-half of one percent from 1996 to 1997. At the same time, the United States increased its world share of the dairy products export market from 4.4

percent to 8 percent, according to the National Milk Producers Federation.

Within DATCP's marketing division is a team of a half dozen export specialists which form the International Agri-Business division of the agency. Many Wisconsin companies don't need state help. Foremost Farms, for example, is a Baraboo-based dairy cooperative that occasionally ranks among the Fortune 500 of the nation's largest companies. ABS Global in DeForest is the world's largest animal genetics company.

So the specialists focus their assistance toward small- and mid-sized food processors and agricultural technology and equipment companies that can't afford their own export expertise to develop export markets.

Simply put, exports are an area where a strengthened DATCP program can directly stimulate Wisconsin's agricultural economy, Brancel said. So expanding that export marketing team is "my number one priority. I'm going to ask for more resources there in my next budget.''

As an added incentive, there is federal matching money available for the state's effort – which is why there is a foreign trade division in the agriculture department as well as the state Commerce Department.

The USDA's Foreign Agricultural Service encourages states to get involved in export promotion because, if they don't, other countries will seize those markets even though the United States is the world's largest surplus producer of food and fiber.

As it is, the United States is outspent 20 to one by competitors in the world export market in promoting, developing and subsidizing agricultural sales to foreign markets ($8.7 billion compared to $432 million), it said in its report: *Competition in 1997*.

Some states respond strongly. "Kentucky runs its own international food shows. Texas and Illinois have very large export promotion programs,'' said Karen Putens, a legal and regulatory affairs specialist for the National Association of State Departments of Agriculture in Washington, D.C.

Wisconsin is among the states that conducts foreign trade missions and uses its five overseas offices (run by the Commerce Department) to build foreign markets for Wisconsin products. Wisconsin is also among the few states whose agriculture secretaries and governors frequently travel with export development teams. Traveling with a top government official is critical in many countries to get doors open for trade, said Tracy, a former undersecretary of agriculture for international affairs under President Reagan, and now the executive director of U.S. Wheat Associates in Washington, D.C., a wheat export market development organization.

"There's still a lot more we can do,'' Brancel said. The leveraging of state tax dollars with federal money – and the long-term economic return on that investment makes marketing programs worthwhile, he said.

Challenge: Saving the Family Farm

DATCP has been given many jobs. It is charged with protecting the environment, saving agricultural land from development, building the state's agricultural economy, fielding consumer complaints, and performing dozens of very labor-intense regulatory functions.

Among its most difficult tasks is helping to save Wisconsin's family farms. The division administers:

- **The Agricultural Development and Diversity program**, which has provided $2.5 million in grants over the last decade to projects designed to expand Wisconsin's agricultural industry by promoting alternative crops for "niche'' markets. Some of the grants have been used to fund businesses that grow ligonberries, a high-profit berry that is a relative of the blueberry and cranberry, coneflowers, buffalo and strawberries. An excellent alternative crop in Wisconsin would be "industrial hemp,'' said Bud Sholts, who runs the ADD program, in an interview with *Country Today*, one of the state's farm newspapers. Industrial hemp is a fast-growing, fibrous plant that could substitute for wood in the manufacture of fine paper.
- **The World Dairy Expo**. The department assisted farmers get the dairy show started and still provides staff and some financial support for the Expo, which has become the world's largest exposition of dairy cattle and dairy equipment. In 1998, it drew 71,000 visitors, including 3,500 from 78 countries. It helps keep Wisconsin's dairy industry in world focus.
- **The Farm Mediation Program**. Helps farmers deal with debtors, restructure debt and keep their farms. The program also runs a hotline for farmers in crisis and it operates a program to help retiring farmers successfully sell their farms to young farmers.
- **Future Fields**. DATCP has received about $1 million a year in federal grants under the federal Job Partnership Training Act to help farmers who are leaving the business find new careers. (It's administered jointly with the Department of Workforce Development.) In 1996, the program provided help for 772 people, 469 of whom found jobs averaging $9.09 an hour. The department calculates there are more than 4,600 eligible displaced farmers and agricultural workers in Wisconsin.

These are relatively low-cost programs to state taxpayers that provide a great deal of department contacts with Wisconsin's farmers. Some, such as the Dairy Expo, are extraordinarily successful. Others have been less successful – if judged by the continuing loss of full-time farmers from the business. And, like the UW-System, DATCP receives criticism from small-farm advocates that it is doing little to help small- and medium-sized farms survive.

"DATCP has pretty much bought into the idea that the future of Wisconsin agriculture is in larger farms,'' said Bill Wenzel, head of the Wisconsin Rural Development Center, based in Mount Horeb. When Tracy was secretary, he actually discussed recruiting large California farmers to Wisconsin to demonstrate how farms with large numbers of cows can profitably operate in Wisconsin.

"All the (state's) resources are being used to drive that model,'' Wenzel said.

Brancel has disagreed repeatedly with that criticism. A former "family'' dairy farmer himself who still runs a beef farm with his sons and wife, Brancel said Wisconsin needs farms of all sizes – big farms and small farms — to survive into the next century.

CHALLENGE: ECONOMIC DEVELOPMENT – SAVING THE DAIRY INDUSTRY

One of the most-dispersed duties in state government is agricultural economic development – a job involving three state agencies and one federal agency.

In addition to DATCP's program, there are four farm- and industry lending programs in the Wisconsin Housing and Economic Development Authority. The Department of Commerce has both a small grant and lending programs for farmers and agricultural processors.

On top of that, the federal government's Rural Development Agency, formerly the Farmers Home Administration, has budgeted $121.5 million in lending money in 1998 for Wisconsin's rural housing, rural communities, rural water systems and farm loans.

Department of Commerce

Formerly known as the state's Department of Development, the Commerce Department is the state's business development arm. In the past few years, the Legislature has charged it with helping Wisconsin's agricultural industry to grow and remain competitive.

The programs remain controversial. While critics say that the agency's mission should not include helping Wisconsin regain its "America's Dairyland'' title, the economic stakes of losing that title could be substantial.

This isn't a small issue. Several states, including California, Arizona and New Mexico are waging strong public relations campaigns to convince Wisconsin's cheese makers and dairy processors to move to their states. They're offering tax incentives, grants and the lure of low-priced milk – and several Wisconsin companies are building plants in those states.

Schreiber Foods, based in Green Bay, is the world's largest private cheese maker. It has expanded six times, and all of those expansions occurred outside of Wisconsin, noted Debra Van Dyke, the company's director of legal affairs in a March 1997 round-table discussion in the Capitol sponsored by the Assembly Agriculture Committee on the future of Wisconsin's dairy industry.

"We have to be aggressive in keeping these companies in Wisconsin and helping them succeed in any way we can,'' said then-Commerce Secretary Bill McCoshen in an interview. "A cheese plant by itself doesn't create many jobs,'' he said. But if those processors leave Wisconsin, farmers in this state will lose their market for milk, and they'll see milk prices plummet. The spiral downward decline could cost the state's billions in lost economic activity, he said.

To help promote economic development in rural Wisconsin's dairy industry, the Commerce Department's programs have two goals: One is to help Wisconsin's dairy farmers survive in a competitive national market. Those who want to expand or build new dairy operations can receive start-up grants for business and engineering plans.

The others include industrial revenue bond lending and grant programs to dairy processors who want to expand or build new dairy operations in Wisconsin. The programs are run under one budget item called Rural Economic Development. They include grants and loans for farms and farm businesses considering expanding or building new facilities. The industrial revenue bond program does not separate out agricultural processing loans. Under the program, the state allows municipalities to issue bonds, which allow them to lend money to businesses at 75 percent of the prime rate.

Under the program's "Dairy 2020'' program designed to encourage new investment in the state's dairy farms, the Commerce Department had awarded 192 grants (maximum $3,000) to farmers for the development of

business plans as of September, 1998.

McCoshen said that through the Rural Economic Development grants and the expanded use of industrial revenue bonds for agriculture, the Commerce Department has helped save more than a dozen cheese plants that were preparing to close shop or move.

Some farmers and legislative conservatives strongly criticize the program as needless government interference. Farmers who find it profitable to expand don't need state money to help them determine that – and selecting "winners'' isn't something the government should do. McCoshen said he's heard the argument and disagrees:

"It is absolutely worth the investment,'' he said. "Small amounts of public money can leverage large amounts of private money. We're seeing positive results every day.''

Dairy 2020

Budget $706,500. 1 full-time employee.

WHEDA

In addition to the Commerce Department's grant and loan activity, the Legislature over the past several years has added new agricultural programs to the Wisconsin Housing and Economic Development Authority (WHEDA) to provide loans for young farmers, those who are struggling financially and for farmers who want to expand. Except for the start-up money provided by the Legislature to fund the loan and loan guarantee programs, the programs do not receive taxpayer money on an annual basis. Taxpayers are liable, however, if the cost of the loan programs was to outstrip the income they generate.

The programs include:

- **Credit Outreach Program.** CROP provides agricultural production loans of up to $20,000. The low-interest loans are only available to farmers who are unable to get credit from commercial lenders, but who have debts that are no greater than 40 percent of their assets.
- **FARM.** Provides loan guarantees for agricultural expansion and modernization. Farmers must have a debt-to-asset ratio of 85 percent or less and can use the guarantees on loans of up to $100,000 or 25 percent of a producer's net worth.
- **Beginning Farmer Bonds.** These bonds are sold by the state to help finance the establishment of new farming operations. The maximum loan under the bonding program is $250,000.
- **The Agribusiness Loan Guarantee Program** helps small businesses develop new products using Wisconsin's raw commodities, such as corn, soybeans and milk.

WHEDA's lending programs are well-intended and were all created to meet a specific need. In addition, they don't cost taxpayers money. But at the heart of these programs is the assumption that agriculture is unique and requires special programs, said Rep. David Ward, R-Fort Atkinson, who sits on the WHEDA board and is himself a dairy farmer. "The fact is, farming is a business. And we have to start thinking of it that way,'' he said.

CHALLENGE: CONSERVATION – THE "HYDRA" OF FARM PROGRAMS

By virtually universal agreement – from state farm organizations to county boards of supervisors to state agency heads – Wisconsin's state's soil conservation, farm preservation and pollution control programs are the many-headed monsters of government, and taming them is one of state government's single largest challenges in agriculture.

There are more than a dozen state, federal and county programs designed to deal with farm pollution regulation. Many have a role in enforcing the 1972 Clean Water Act – a measure that required the nation's waters to be "fishable and swimmable.'' The Act required the clean-up of non-point source pollution and provided some federal funds to help do the job. And it helped spark an explosion in the size and scope of government programs to battle the problem.

Added to that are a host of other state and federal programs designed for a wide range of purposes including providing wildlife habitat, protecting wetlands from drainage, encourage forestry, protecting farmland from urban development, and saving the family farm.

The Legislature and the executive branch have tried many times to streamline the programs. The Kellett Committee in 1965 and 1966 singled out the state's "Conservation Department'' as one of the state's top priorities for government reorganization – a recommendation that resulted in the creation of the modern Department of Natural

Resources. The programs have been reorganized since as well, the latest in the 1997-1998 Legislature which ordered a redesign of water conservation programs. The DNR and DATCP have already held months of "listening sessions'' and have produced reports on ways to better coordinate their activities.

But the work is unfinished as the programs – and the funds – remain badly split among state agencies, federal agencies and county land and water conservation districts.

The proliferation of staff and money may only grow too. Congress passed the Coastal Zone Act designed to clean up pollution of U.S. coastal waters. As the Mississippi River and the Great Lakes are considered part of the United States "coastal zones,'' the Act could require dairy farms as small as 20 cows could be regulated.

That means more state and federal money to enforce the laws – a cost to Wisconsin taxpayers and farmers of as much as $210 million a year, according to Rep. DuWayne Johnsrud, R-Eastman, the chairman of the Wisconsin Assembly Natural Resources Committee, and Rep. Al Ott, R-Forest Junction, chairman of the Assembly's Agriculture Committee.

TACKLING STRAY VOLTAGE: SVAT!

The Wisconsin Public Service Commission regulates the state's utilities, including the companies and cooperatives that serve rural areas.

Included in its $76 million budget is $192,800 for its Stray Voltage Assessment Team (SVAT), a team of inspectors that assists dairy farmers whose cows are hurt by stray voltage. That's a phenomenon in which electricity from power lines or farm equipment travels through utility and farm grounding systems to gently shock cows. The voltage is low and not detectable by humans. But cows are sensitive to it, and it can keep them from feeding and drinking water.

The PSC money employs an electrician, an electrical engineer and a technician and uses advisers as well. At the same time, the state agriculture department also has a stray voltage team. "We know the utilities, they know the farmers,'' explained a PSC spokesman.

PSC Stray voltage program —$192,800
3 employees
1998 Stray voltage spending — $480,00

— source PSC

A Big Battle – Lots of Soldiers

Many of the state's conservation efforts are actually run by county employees who belong to their local Land and Water Conservation Departments. Taken together, they're a sizable force. Each of Wisconsin's 72 counties has its own conservation team which serves as the delivery system for many of the state's conservation and preservation programs – and many work closely with federal soil and water conservation officials, some even sharing the same offices and telephones.

Unfortunately, some counties have as many as a dozen conservation staff members. And in some parts of the states, one conservationist will serve four counties, according to the Wisconsin Land and Water Conservation Association.

Department of Natural Resources

At the same time, the state Department of Natural Resources, is the state's pollution control agency and administers federal Environmental Protection Agency regulations. That means it also plays a heavy role in agricultural regulation. The DNR has wide jurisdiction over agriculture and its potential pollution problems caused by soil, fertilizer, pesticide and animal waste runnoff or seepage into rivers, lakes, streams and groundwater. That pollution is called "non-point source" pollution because it is the type of pollution that doesn't come from a single sources, such as a sewage pipeline.

Wisconsin's Forests – a Big Crop

Wisconsin's forests are almost three times larger than the state's cultivated acreage for agriculture – and produces an impressive crop by itself.

The state has 50.9 million acres of forest lands that generate sales of forest products worth $19 billion a year, according to the Department of Natural Resources.

Every year, those forests produce 345.4 million cubic feet of round wood, about 60 percent of it for the state's paper industry, according to Jim Whipple, a Department of Natural Resources forest products specialist in Tomahawk, Wis.

"It's definitely a crop," he said. "It just takes a little longer than corn to grow. An aspen tree will take 35 to 50 years to mature while a red oak will take 100 years," he said.

The DNR employs about 280 people in its forestry division which assists some of the more than 200,000 people around the state improve the forests they own. Because most forests are managed with the harvest only as part of their goals, it's difficult to determine how much of the DNR's staff and budget is devoted to harvest of wood, however, the DNR says.

The DNR also oversees programs for the state's wildlife which sometimes encroach on farmers' ability to produce crops. To assist farmers, the state has a wildlife claims and abatement program that compensates farmers when wildlife, such as deer, destroy their crops – and helps them build fences or other means to keep wildlife out of fields.

Department of Natural Resources – Forestry
280 employees (1998).

Resource aids – Forest croplands and managed forest aids — $1.2 million
County forests and forest cropland assistance — $1.3 million.
Wildlife abatement program — $2.2 million.
(funds don't include employee costs which are widespread among many forestry programs.)

The Federal Role

Complicating the regulatory task even further is the overwhelming presence of the federal government in soil and water conservation. In 1997, the federal government spent $63 million to administer programs and subsidize farmers who install conservation structures on their farms, dwarfing state and county efforts.

Slow Progress

Coordinating conservation programs was one of the top recommendations of the Kellett Committee in 1965. It was a recommendation of the SAVE Commission. It is currently a top priority among the DNR, DATCP and the county land and conservation offices.

A 1994 audit of "surface water pollution programs" by the Legislative Audit Bureau blasted the state and federal government's water clean-up efforts. In 1993, the audit said, five state agencies spent $124.3 million to improve water quality of lakes, rivers and streams in Wisconsin — and they lent municipalities another $136.5 million to make improvements in sewage treatment plants. The money is doled out in 27 separate programs, yet many of the programs have difficulty proving that they've improved water quality in Wisconsin.

"From our analysis of available comprehensive monitoring data, it appears that water quality has changed little over the past 10 years," the Legislative Audit Bureau said. In fact, three out of the state's four "eco-regions," showed substantial increases in salts in the state's surface waters. The audit found no significant change in most other pollutants. There was one exception, however. In the southeastern third of the state from Green Bay to Madison and eastward, the study found a reduction in phosphorus and dissolved oxygen pollution – two of the most common pollutants from livestock and crop farms.

Progress has been encouraging, but nevertheless slow in bringing these agencies together to work better, according to government leaders trying to bring the forces together.

Both Brancel and DNR Secretary George Meyer admitted that agricultural conservation and pollution control programs have been a vexing problem. "We've made a lot of progress since then," Meyer said. But when it comes to cleaning up non-point source pollution "it's going to take 15 to 20 years to solve the problem," he said.

It takes time to convince landowners to participate in the program. And once they do, it takes time to get systems in place – and working, he said. The most effective non-point control for farmers, for example, is the installation of "buffer strips" or grasslands between waterways and farmers' fields. These take time to fund, install and become effective, conservationists note.

The department has also more heavily invested in monitoring to determine what is working – and what isn't, said Jill Jonas, head of the DNR's non-point program.

In the battle to stem soil erosion and protect wildlife habitat, however, there have been some stunning successes.

Only two decades ago, farmers used plows that turned over the soil to prepare seedbeds – and the result was massive soil erosion. Many farmers were losing a bushel of soil for every bushel of corn they produced. Today, almost all of the state's 4.5 million acres of row crops are protected by conservation tillage – a system that leaves crop residue on the fields to protect the top soil, said John Pingree, an agronomist for the U.S. Natural Resources Conservation Service.

Farmers today are also using far fewer pesticides and fertilizers – and they're making far fewer trips over the fields with their tractors, which helps preserve farmland, said Pete Nowak, UW-Madison rural sociologist.

Confusion, Turf Battles, Budget Cuts

The agencies may be getting better at putting conservation systems in place and monitoring their results, but the structural problems of administering the programs remains, most observers agreed. "These agencies are all asking for the same things," said Adam Payne, executive director of the Wisconsin Land and Water Conservation Association, the umbrella group for the 72 county departments. "There's a lot of rhetoric out there about pulling together all of the stakeholders, but it's amazing how difficult it is to fight through the turf battles." And even Payne said its nearly impossible to track all the money that is "pigeon-holed" in the state and federal government to run these conservation programs. At the same time, the agencies and the Legislature have been aggressive about speeding up the timetable to tackle non-point and – at the same time – cut budgets for the programs, he said.

"We have dozens of overlapping programs with similar goals that lack coordination and have absolutely no accountability for any type of achievement or goals," added Rep. Mike Powers, R-Albany, a former Green County conservationist who ran for the Legislature, in part, out of his frustration with the bureaucratic inefficiencies he was facing as he attempted to implement soil and water conservation programs.

"We spend a tremendous amount of money on pollution reduction measures, but we fail to do any scientific measure of whether those practices actually reduce pollution – or whether there's any relation between the money spent and the pollution reduction achieved," he said.

Powers was appointed four years ago to a special subcommittee of the Assembly to examine ways to overhaul state conservation programs. But he said that, after years of hearing county supervisors complain about the programs' inefficiencies, they failed to support major changes. "Culturally, there is tremendous resistance to change." That doesn't mean there isn't a lot of good conservation work being done in Wisconsin, Powers added. And it doesn't mean Wisconsin's reputation as being one of the best in the nation at soil and water conservation isn't merited. It's just that the system is extraordinarily inefficient. "You couldn't have designed a more inefficient system."

The problem, however, is that agencies such as the DNR are caught in the middle. If they cede too much authority and money to other groups for conservation and the job isn't done correctly, "Washington will really come down on us," said Jim Kurtz, a DNR attorney who has been charged with working with the farm community to help redesign conservation programs.

The task is to design a system that county land and water conservation districts like, that farmers can live with, and that the federal government will approve, he said. "In a sense, we're the victims of our own success," said Al Shea, director of the DNR's watershed management program. The DNR and DATCP have helped counties, communities and local groups develop conservation teams "and now they've taken ownership," he said. The current system isn't "good government." What is needed is a clearer statement of responsibilities – and accountability for the money that goes with those responsibilities, Shea said.

STATE, COUNTY AND FEDERAL CONSERVATION PROGRAMS

County Land and Water Conservation Departments

$7.9 million in county money.
402 county employees.
— source. WLWCA

DATCP Soil and Water Programs

Assisting the counties is DATCP's Soil and Water Resource Management Program, which provides matching money for the offices and works with the counties to administer state programs, including the:

- **Farmland Preservation Program**, which is a tax credit programs farmers can join provided they agree to protect their farms from erosion and development. County Land and Water Conservation offices actually run the programs and ensure farmers comply.
- **Nutrient Management Program**, which provides county offices with engineering and regulatory expertise to help farmers build systems to store and spread manure without polluting streams, lakes or groundwater.
- **Agricultural Shoreland Management program**, which helps organizations and groups protect lakes from nearby run-off pollution.
- **Regulatory Animal Waste Management** (NR243) which is the state's master plan to control animal waste pollution in the state.
- **Resource Management Plan Implementation**, which helps counties design and implement county nonpoint pollution plans for agriculture.

The division also helps oversee the state's drainage districts, of which there are more than 60 (some are inactive, so the number isn't precise). "Drainage doesn't sound very exciting," Brancel noted, "But these districts can be very powerful. If you can't drain the land, you can block development.'' DATCP received the authority over drainage districts because in many cases they were created to help make farmers' land more productive by funneling away excess water from fields.

The DNR's Pollution Programs for Agriculture Include:

- **Wisconsin Nonpoint Source Pollution Abatement program**, also called the Priority Watershed) Program in which the DNR (and DATCP) work with farmers in "priority'' river and steam basins to keep sediment and farm chemicals and manure from running off fields and barnyards into streams. Communties and towns in watersheds volunteer for the program which wins them state match-grant money. Once they're selected, however, every farm in the watershed must participate.
- **Animal Waste (WPDES) Permit Program** which grants pollution discharge permits to farms with more than 1,000 "animal units.'' At that level of livestock production, farms produce so much manure that the Federal Clean Water Act requires they be treated as factories and must be licensed to "discharge'' manure. The measurement is based on manure production. So a farm with 1,000 "animal units,'' for example, would be one with 1,000 or more steers, 700 dairy cows, 2,500 hogs, or 100,000 chickens.
- **Lakes Planning Grants Program,** which provides incentives to communities and other groups to build programs to protect lakes from pollution.
- **Stewardship Fund**, which uses state funds to purchase lands deemed important to preserve as parks or green space.
- Other programs, including the **Forest Crop Law** (tax incentives to allow public hunting on private land), the **Stewardship Incentive Program** and the **Forestry Incentive Programs** (protect and expand forest resources).

DNR watershed and water quality staff.
218 employees.
$17.9 million (source DNR)

Aids for non-point source pollution abatement. — $6.3 million
Environmental aids for rural non-point practices — $425,000
Environmental aids, non-point source pollution — $6 million
(1998 budget. Dept. of Administration.)

The Federal Natural Resources Conservation Service (NRC)

The federal Natural Resources Conservation Service (NRCS) and the Farm Service agency run several programs in tandem with the state and county programs, including:

- **Conservation Reserve Program**, which pays rent to landowners not to grow crops on lands that are easily subject to erosion. In 1998, Wisconsin had 5.9 million acres of land enrolled.
- **Environmental Quality Incentives Program,** provides up to 75 percent cost-share to protect soil from erosion and to prevent runoff into streams. The program awards up to $50,000 in grants over the lifetime of the conservation contract.
- **Wetlands Reserve Program**, which pays landowners for 10-year contracts or 30-year easements to restore wetlands from existing farmlands. The federal government will pay 75 percent of the value of the agricultural land value. So far, about 20,000 acres are enrolled in Wisconsin, which has about 6 million acres of wetlands – about half of what it had before the state was settled.
- **Wildlife Habitat Incentives Program** provides cost share money up to $10,000 to seed, fence, rebuild streams or other actions to improve wildlife habitat on private land.
- Other programs. **Partners for Fish and Wildlife** (U.S. Fish and Wildlife Service cost share money to restore fish and game habitat), the **Grazing Lands Conservation Initiative**, and wetlands programs operated by the U.S. Army Corps of Engineers, which oversees and regulates the drainage of wetlands.

NRCS 1998 budget — $22.3 million.
Employees — 230 staff in 75 field offices.

Spending includes:

$405,000 to restore wildlife habitat.
$3 million to share the cost with farmers of soil erosion control structures.
$7.4 million for the Wetlands Reserve Program to help restore wetlands.

Source. FSA, NRCS, USD

THE FEDERAL GOVERNMENT'S ROLE IN WISCONSIN AGRICULTURE

Despite efforts by the state government to save family farms, to stabilize farm incomes, or to provide farmers with financial assistance, it is still the federal government that is largest public player in Wisconsin agriculture.

In 1998, the federal government directly employed 1,081 scientists, technicians, managers and staff to run farm, conservation and rural development programs and conduct university research in Wisconsin – a total of nearly $300 million in federal spending.

But that's not the extent of federal involvement. The Environmental Protection Agency, the U.S. Food and Drug Administration and the U.S. Department of Agriculture set many of the rules that are enforced by state agencies – and federal agencies supply substantial amounts of money to help fund the regulatory efforts (though, rarely, is the funding sufficient.)

The federal government also funds roughly a third of the College of Agricultural and Life Sciences $71 million research budget – and it funds a fifth of the federal/state/county's $56 million Cooperative Extension Service.

In direct support of agriculture, the federal government has three agencies that work side-by-side to directly assist farmers:

One is the Farm Service Agency, formerly known as the Agricultural Stabilization and Conservation Service, which administers federal farm commodity loan and grant programs. The agency has offices that serve every county (many county offices are now merging).

FSA Operations Budget — $17 million.
Employees: 423

Last year, the agency provided:

— $159 million in farm payments, including price supports. These payments, which averaged $210.6 million between 1992 and 1996, are expected to rise substantially in 1998-1999 as crop prices for the 1998 crop were at Great Depression lows, and;

— $36 million in payments to farmers for the Conservation Reserve Program (1998) which contracts with farmers to lay idle fragile or environmentally unique land.

The second is the Natural Resources Conservation Service, formerly called the Soil Conservation Service, which administers soil and water conservation programs that help farmers combat erosion and water pollution.

NRCS budget — $22.3 million
Employees — 230 staff in its 75 field offices.

The third is the USDA's Rural Development Agency, which provides low-interest loans to farmers, rural communities, rural homeowners and rural businesses for the purposes of economic development and environmental improvement in rural areas.

Rural Development operations budget — $6.6 million
Employees – 115 in 22 county offices.
Lending budget — $159.5 million in FY98.

Source. FSA, NRCS, USDA, Rural Dev.

The state also enjoys the presence of several federal agricultural research institutions on the UW-Madison campus including:

• The **Forest Products Laboratory**. Located in 17 buildings on the Forest Products Lab, a division of the U.S. Department of Agriculture, employs 247 people and has a budget of $20 million which it uses to research and develop new wood and paper products and new technologies for the wood and paper processing industries.

• The **U.S. Department of Agriculture's Forage Research Cente**r. The laboratory researches new ways to convert cellulose-laden crops, such as alfalfa and corn silage, to improve the feeding of the nation's animal foragers, including cows, sheep and goats. Budget: $3.2 million (All federal.) The U.S. Agricultural Research Service also funds centers on the UW-Madison campus for cereal crops research ($963,956), plant disease research ($760,506), and vegetable crop research ($956,333). The four federal centers employ 68 people.

• The **U.S. Barley and Malt Laboratory**. The lab is a $1 million a year operation funded by federal and private dollars to conduct research on barley varieties used in the malting process to make beer.

It should be mentioned here that a final area of federal involvement in Wisconsin is the federal dairy price support system – which economists argue is punishing Wisconsin's dairy industry.

Contrary to popular belief, it does not result in lower milk prices to Wisconsin farmers. In fact, Wisconsin dairy farmers average among the top five states every year for the highest milk prices in the country.

What the policy does, however, is subsidize Wisconsin's cheese industry competitors – which could have devastating consequences for Wisconsin's dairy industry if left unchecked.

The federal dairy pricing system guarantees higher prices for fluid milk put into bottles and cartons for drinking the further farmers live from Eau Claire, Wisconsin, once the center of the nation's milk surpluses. The policy is designed to ensure that local farmers everywhere in the country can profitably produce milk for drinking. This has caused substantial dislocation in the dairy industry. Farmers who receive high fluid milk prices in the South and the West can sell their surplus milk at substantial discounts to cheese makers – and new cheese plants are starting to appear in large numbers in the arid plains of Texas and New Mexico.

As a result of this "cross subsidization,'' cheese processors in California (which has a state pricing system that echoes the federal pricing system) can ship cheese to Wisconsin and sell it for as much as a dime a pound less

than stores located right next to cheese plants in Monroe, Wisconsin, a fact that UW-Madison economist Ed Jesse and Bob Cropp have noted in several studies presented to the USDA during hearings on the nation's milk price system.

The system is forcing Wisconsin's cheese processors to relocate in other states – and the law must be changed, Cropp has said repeatedly.

FARM PROPERTY TAXES: A MAJOR POLITICAL DEBATE IN WISCONSIN

Wisconsin's high property taxes have been the subject of intense debate in state agricultural policy discussions for years. Wisconsin farmers say they face the highest property taxes in the Midwest – and it's hard to argue with as farm property taxes paid sometimes exceeds Wisconsin's net farm income, according to the Wisconsin Agricultural Statistics Service.

Almost every year, property taxes are singled out as the one action the Legislature and governor could take to improve economic conditions for Wisconsin's farmers.

Critics of Wisconsin's high property farm property tax burden, such as Howard Richards, a former state agriculture secretary who now raises hogs near Lodi, charge repeatedly that those taxes put Wisconsin farmers at a competitive disadvantage with farmers in other states.

In addition, they have charged, Wisconsin farmers are also contributing heavily to a taxing system created during a time that a significant number of families lived on farms – and their property taxes paid for services they used, such as schools. With farms now few in number, farmers are now heavily contributing to services they're not using, Richards notes.

Wisconsin	**Net Farm Income**	**Farm Property Taxes** (millions of dollars)
1992	$762.8	$370.2
1993	$378.1	$384.3
1994	$481.4	$413.5
1995	$284.1	$472.5
1996	$560.4	$431.6

Source: Wisconsin Agricultural Statistics Service

The Legislature has responded over the years, creating a number of programs to help offset this property tax burden, including the Wisconsin Farmland Preservation Program and a special Lottery-financed tax credit called the Farmland Tax Relief program.

Over the last four years, farmers have also benefited tremendously from the Legislature's decision to pay two-thirds of school operating costs, as well as a new law that will tax farmland based on its ability to produce crops and livestock, not on the market value of the land. (It will be phased in over 10 years.)

But the programs remain controversial.

The tax credit programs need to be revisited, said Agriculture Secretary Ben Brancel. In fact, he said, the two tax relief programs, which last year gave farmers $35.3 million in property tax relief, are poorly structured and may actually be counter-productive in some cases.

To join the Wisconsin Farmland Preservation Program, counties must adopt agricultural zoning systems and the farmers in those counties must comply with the zoning and practice good soil stewardship. The program is enforced by county land and water conservation departments which are overseen by the state Department of Agriculture, Trade and Consumer Protection. Then the Department of Revenue issues the tax credits based on property taxes assessed locally.

"You could not create a more convoluted, tangled, bureaucratic method to create tax relief and hook it into zoning,'' complained Rep. Mike Powers, R-Albany, a former county conservationist who for eight years was one of the people in charge of implementing the programs in Green County.

The program has been amended and changed so many times, it should be revisited, said Paul Zimmerman, a lobbyist for the Wisconsin Farm Bureau Federation. "No one's quite sure what the goal of the program is anymore,'' said Adam Payne, executive director of the Wisconsin Land and Water Conservation Association. Is it soil protection? Is it preventing urban development? Is it preserving family farms? Is it halting non-point source pollution?

Nor has the program done much to save farms or halt urban expansion. In some cases, the system has actually fostered the disappearance of farms, Brancel said. Under the Farmland Preservation law, farmland can only be sold in parcels of 35 acres or more. As a result, farmers can't carve out and sell land they can't farm, such as a woods, gullies or hillsides. Instead, they must sell large portions of their tillable land — frequently to people not looking to farm but to find a place in the country. "That land then goes out of production,'' Brancel said. In the debate over land

use, the program has to be carefully examined, he said.

The Legislature's decision to levy property taxes on farmers' land based on its productive value and not its market value has already been challenged in court – and will likely be revisited by future Legislatures as well. The legislation provides enormous tax breaks to farmers sitting on valuable land near urban areas – and those are breaks that will have to be paid for by urban taxpayers and, in some cases, by other farmers.

Finally, Brancel noted, it may be time to take a deep breath and let the numbers catch up with the farm property tax laws that the Legislature has just passed.

Most of the debate surrounding property taxes is based on information collected before the Legislature's recent tax changes, such as the $1.2 billion in new property tax relief passed by the Legislature in 1995. That assistance was provided for all taxpayers, not just farmers, but if farmers were paying disproportionately high property taxes, they'll receive disproportionately high tax relief as well. The new law that taxes farmland at its ability to produce crops saved farmers $25 million in property taxes in 1998, according to the Wisconsin Department of Revenue.

Nor does the debate over farm property tax burdens usually include the income tax credits Wisconsin farmers enjoy to help offset farm property taxes. Because those are credits against income taxes, the property tax bottom line looks higher than farmers' actual tax burden – and makes Wisconsin's property tax comparison to other states not as accurate.

In the end, the irony of all these tax breaks to farmers is that they sometimes don't grant much relief because they fly in the face of the market place, warned Douglas Jackson-Smith, assistant director of the Program on Agricultural Studies, UW-Madison. If farmers win a large tax break, "a lot of times it just incorporated into higher prices for the land.''

But that doesn't mean the property tax problem isn't still significant for Wisconsin farmers, Brancel noted. It just means the programs need a comprehensive overhaul – and not a piecemeal repair based on old information.

Farmland Preservation Program and the Farmland Tax Relief Credit

Purpose: To protect farmland from development and erosion and to offset Wisconsin's farm property tax burden.

The Farmland Preservation Program provided a tax credit for 22,500 farmers who in 1997 agreed not to develop their farm and to follow agreed-upon conservation practice. The credits averaged $1,000 per claim – and amounted to 29 percent of the property tax bill of the landowners who claimed the credit, according to the Wisconsin Department of Revenue.

The Farmland Tax Relief Program, funded by the Lottery, can be used to offset up to 10 percent of the first $10,000 of a farmers' property tax bill. In 1997, 59,000 farmers offset their property tax burdens with an average credit of $217.

Farmland Preservation Tax Credit — $22.5 million
Farmland tax relief credit — $12.8 million. *Source: 1997 Department of Revenue*

CONCLUSION

Agricultural programs, like most of government, tends to be cumulative. Programs are authorized, funded — and rarely revisited. The programs are generally created in response to a crisis or urgent need, then take on a constituency of their own after the crisis passes.

Wisconsin has, on occasion, revisited these programs. The Kellett Committee in 1965 and 1966 reorganized and revamped much of state government — and is largely responsible for its structure today. It made no recommendations for agriculture, though it did recommend a restructuring of the Department of Natural Resources conservation programs. In 1967, the College of Agriculture reorganized, naming itself the College of Agricultural and Life Sciences — a name that reflected its growing and vastly expanded scope of research, teaching and intellectual pursuit.

The Department of Agriculture, Trade and Consumer Protection also reorganized around this time — taking its current name in order to reflect its broader mandates and regulatory responsibilities. The 1995 SAVE

Commission recommended new management systems in government more than specific agency budget cuts or restructuring.

But agriculture has been relatively untouched in any systemic way simply because the programs span so many agencies and include so many different sources of money, including federal, state, county, fees-for-service and private grants. Agricultural programs tend to be affected more by larger political and fiscal battles, not by a systemic look at what they do and whether they're working.

In 1994, Gov. Tommy Thompson reorganized state government and shifted both DATCP and the Department of Natural Resources from agencies run by citizen-boards to secretaries he hires as part of his cabinet. He argued, successfully, that the governor should be accountable for the actions of his agencies. That didn't change the mission of either agency, just the accountability of the agencies.

That same year, Thompson also successfully engineered $1.2 billion in new property tax relief — and cut every agencies' planned funding by 5 percent per year in order to pay for the tax cut. That has brought about some governmental restructuring — especially in the Department of Natural Resources which cut nearly 300 positions and reorganized virtually every department. However, that did nothing to change the DNR's regulation of farm pollution — except to cut staffing and money for programs.

In that same budget, Thompson created several new agencies, including the Department of Commerce, the Department of Workforce Development and the Department of Health and Family Services. Here too the only change that affected agriculture was the appointment of an aggressive Commerce secretary, Bill McCoshen, who raised the priority of saving Wisconsin's dairy farms and dairy processing infrastructure through its business development programs and Dairy 2020 program.

At nearly the same time, CALS was undergoing its own budget crisis with a substantial budget deficit. A new dean, Roger Wyse, was hired by then-Chancellor Donna Shalala to examine the college's mission, reorganize, and propose new efficiencies. In the end, the budget crisis was solved, and some departments, such as Poultry Science, received fewer faculty and lost its department status. The Department of Animal Husbandry moved to the Department of Veterinary Science. Many of the more radical reforms, such as the elimination of entire departments, were not incorporated because, it was concluded, their value to the college was justified.

Policy Options

But the political debate over how to run government better and more efficiently will likely never end — nor should it. Few could have foreseen the technological revolution coming so quickly, for example. Yet the state gets relatively high marks for the speed with which its agencies invested in computer technology.

In agriculture, especially in some areas, government leaders and lawmakers have been struggling to streamline and improve the delivery of agricultural programs. This debate will likely continue in 1999 as Gov. Tommy Thompson proposes reforms in several areas such as the Farmland Preservation Program, conservation programs, Dairy 2020, and tax policy.

Here are some of the policy ideas garnered from interviews that the Legislature and the governor might consider examining for better efficiencies, budget cuts, or in some cases investment:

- **Revisit programs.** One of the major recommendations of the SAVE Commission in 1995 was to revisit programs and determine whether they are still cost effective. This has not been done in an organized way in agriculture as near as most observers can tell — and should be. DATCP's dairy farm inspection program, for example, is expensive and may not be worth the cost, as most farms today are Grade A and their milk is scrupulously inspected.

- **Require results.** The SAVE Commission also recommended that real measurements be put in place to determine whether programs are working. DATCP's marketing programs, while important, have done a poor job of quantifying results. Most of the state's anti-pollution programs are only now being measured for the results — and most investments in anti-runoff devices are still not rated for their cost effectiveness.

- **Continue to push for integration of soil, water and farmland protection programs.** Both DATCP and the DNR are attempting to work with counties to streamline the state's vast and sometimes conflicting conservation programs. The programs still need a fundamental overhaul built on a county model — not a top-down state model. This is the only way to truly integrate the efforts of the state agencies with those of the

federal government. The counties should be given standards and held accountable for results. At the same time, they should be given more discretion over how the money is spent — and the gains they've achieved. The governor and the Legislature should appoint a bi-partisan panel to restructure the programs — and agree to pass it into law. It is unclear whether the political will inside the agencies is sufficient to reform from within. Some recommend block grants to counties and organizations. Others recommend separate pots of money for different types of conservation activity which would allow the state and federal governments to maintain more oversight while still giving local groups responsibility and control.

• **Continue to streamline environmental red tape for landowners.** These regulations remain a nightmare for those who have to live with them. DATCP recently opened a website for livestock producers to apply for pollution permits. Using a county-based model, the entire regulatory process could be better streamlined in all areas.

• **Revisit low-interest loan and grant programs.** WHEDA currently runs four separate lending programs for agriculture designed to encourage the development of new farming operations, assist farmers in obtaining credit and to help preserve and modernize the state's dairy processing industry. The Commerce Department also operates lending and grant programs for the same purpose. The two agencies, now housed in the same building, do communicate well together. It may be time to examine the intent of the WHEDA lending programs, which haven't been used much, and either eliminate them or consolidate them with the rest of its business lending programs. At all levels of government, farmers are being encouraged to consider farming a business. The state's lending programs should reflect that.

• **Set a sunset date for Dairy 2020 grants.** The program is the Commerce Department's dairy farm development program. Giving farmers and cheese plants money and loans (or tax-increment financing) appears to be a good investment for the state. Farmers use the money to hire experts to develop a business plan for the next century. Those small grants are modest subsidies to farmers at low-cost to taxpayers — and are easily repaid to the state in greater economic activity and, of course, tax revenue. It is critical that Wisconsin dairy farmers meet the competition from dairy farmers in the West and the South. If they don't, Wisconsin will see dramatic declines in one of its more important industries. At the same time, giving farmers money to help them invest in something they plan to invest in anyway may be a questionable investment by government and usually is something the government doesn't do very well. Sunset the program. If the program proves worthwhile, the Legislature should renew it.

• **Continue to assist dairy processors with their investments — but sunset those too.** Several states, including Arizona, New Mexico, Idaho and California, are using tax incentives and extensive public campaigns to win cheese companies away from Wisconsin, and they have been successful. The state simply must meet the competition. Most of Wisconsin's milk is made into cheese. If the state loses its dairy processing industry, Wisconsin's dairy farmers will see their prices plummet dramatically as they're forced to ship their milk to more-distant markets — and the economic losses to the state's manufacturing and agricultural sectors will be tremendous. The sunset should be at least every four years, however, as the programs should cease if competitive forces change.

• **Revisit the meat inspection programs.** Wisconsin currently has a state meat inspection system that runs in conjunction with a federal meat inspection system. The state must reinforce its lobbying of the federal government either to cease federal inspection programs and let the state do the inspecting — or the state should turn the job entirely over to the federal government and let it pick up the tab.

• **Reassess the marketing programs.** DATCP is in the process of examining ways to enhance its marketing division. This is a wise investment of taxpayers' dollars. But DATCP's program is currently in an upheaval with substantial personnel turnover and a lack of clear mission. These programs, too, should be sunsetted and reauthorized occasionally as market forces change. Currently, the United States lags in developing international markets for its agricultural products behind aggressive European and New Zealand international marketers. DATCP's small national and international marketing division (which works in conjunction with the state Commerce Department's marketing efforts) provides expertise and political support to

small and mid-sized companies that can't afford it on their own. The demand for cheese, milk and manufactured dairy products is relatively static in a small state such as Wisconsin. Investment in export markets — either to other states or abroad — remains a good investment that has, so far, paid for itself in increased sales and economic development. In addition to sunsetting and review, the state might consider more partnering with private export development firms to help it do its job.

• **Revise the Wisconsin Farmland Protection program.** This law is now nearly two decades old and virtually every observer with knowledge of the program said it badly needs to be revisited. In some cases, it is encouraging the disappearance of farms, not preserving them. The funding for them has been skewed, as the program has taken on more mandates. A revision is already in the works and may be part of the next state budget. The Legislature must address the program seriously.

• **Hold off on any more farm property tax relief legislation.** Property taxes continue to plague Wisconsin farmers as the state is seventh in the nation in property taxes compared to the incomes Wisconsin residents earn. Farm property taxes average just over $400 million a year — which means farmers paid more in property taxes in 1993 and 1995 than they took home in net farm income. Wisconsin farmers pay more in property taxes than farmers in all other Midwestern states. Property taxes must be addressed as part of the debate over state farm policy. However, lawmakers tend to consider farm property taxes in a policy vacuum. Wisconsin farmers also receive income tax credits to offset their property taxes — and this is not calculated in the debate over farmers' property tax burdens or in comparing Wisconsin to other states. In 1995, the Legislature enacted a law that will assess property taxes based on the land's ability to produce income, not its market value. The Legislature also passed a $1.2 billion property tax relief measure and looks likely to revise the Lottery credit for homeowners and farm owners. All these measures will dramatically reduce farm property taxes. Before any more tax reduction is undertaken for farmers, lawmakers should wait until they have good data on the tax cuts they've already passed — and take a close look at farmers' actual, total tax burdens.

• **Review food safety and inspection fees.** These are fees farmers and food processors pay to finance the cost of state inspectors. In the past, funding for these was a 50-50 split; now farmers and food processors pay 60 percent — reflecting tight budgets more than a change in philosophy over who pays. Consumers benefit from regulation of processors. They should pay half the cost.

• **Monitor Cooperative Extension.** Funded by a partnership of the federal, state and county governments, Cooperative Extension is on the front-line of Extension in delivering research-based information to the public — and especially to the agricultural industry. Like the rest of Extension, it has already undergone considerable scrutiny by the 1995 SAVE commission that looked at reorganizing state government and by an especially critical audit by the Legislative Audit Bureau in 1997. Only about a third of the state's Cooperative Extension Service deals with agriculture. The rest includes community development, youth development, natural resource protection. A refocusing of priorities and funding may be in order. Extension, for example, runs the county 4-H programs. It could be argued that these clubs, while extremely valuable, no longer need to be a government program. More importantly, policy makers should at least be aware that Cooperative Extension is returning to its roots as a policy developing agency and getting away from its roots as a transfer agent of technology and expert advice. As Wisconsin's dairy industry continues with its extraordinary transition, this may not be the ideal time to focus resources away from agriculture. In fact, some argue that the Cooperative Extension research and information delivery systems need strengthening.

• **Pursue more fee-based Cooperative Extension services.** One solution, of course, is assessing fees, albeit small ones, for Extension services. Extension agents use "multipliers'' such as farm meetings, farm publications and meetings with private crop and livestock consultants to more quickly and efficiently spread information to the public. But one way to test the value of Extension, as suggested by the 1997 audit, is to begin charging fees to help finance agents' roles as consultants and, perhaps, to garner more resources where the agents prove valuable to their "customers.'' Wisconsin has some of the nation's best and most-quoted dairy Extension agents. The market would likely prove this, allowing Cooperative Extension to expand its services to farmers at less cost to taxpayers.

• **Review, evaluate and invest in CALS and USDA labs**. The Legislature has been very supportive of the college. But some of the current working industry labs, such as the miniature dairy plant on campus that manufactures the university's dairy products, are old and out-of-date. The Legislature and CALS need to decide whether to reinvest in these labs, as they have in other scientific areas (such as the new Biotechnology building), or look to more efficient ways to use their resources. Michigan State University, for example, just built a new campus dairy plant — and its dairy science department and dairy industry are substantially smaller with far fewer needs from industry and researchers. The university's dairy plant isn't just a research plant, it's a training tool for industry. These labs should either serve industry as modern laboratories or the Legislature should close them.

• **Review, fund research.** CALS has played a key role in building UW-Madison into one of the nation's premier research institutions. The college has vastly expanded its basic research efforts — and vastly expanded its work among "end users" by focusing on research and instruction in food science, consumer science, environmental sciences and landscaping. Those efforts not only helped to broaden its attraction to students who vie to attend the college, but it has also helped attract millions in federal research dollars as well as private money such as grants and industry-funded research. However, the college has been criticized for falling short in applied research, as acknowledged by former Dean Wyse.

• **Keep college funding in perspective.** Any evaluation of the practical value of the college, which is enormous, should also remember that the College of Agricultural and Life Sciences, with a budget of $110 million, is $70 million smaller than the University Medical School and $65 million smaller than the College of Letters and Science.

• **Applied research — and extension of that knowledge in agriculture — still remains a primary mission of the college.** With limited resources available, however, CALS is considering focusing on what it does best, such as dairy science, and allowing other land grant universities to focus on what they do best. Iowa State University, for example, is a world leader in swine research. More specialization, combined with better cooperation with other land grant universities, might make CALS even stronger — and provide more and better applied research to farmers in the process.

• **Maintain federal lobbying.** DATCP and CALS have a very small budget for lobbying Congress — and these efforts have been a target for state budget cuts. But CALS as well as UW-Madison are national leaders among research universities in attracting federal dollars. The current federal budget contains large increases in food safety, environmental research and health research dollars, so more opportunities remain. At the same time, Wisconsin farmers continue to be plagued by a federal milk marketing system that forces consumers to heavily subsidize the price of milk produced by farmers who live the furthest from Eau Claire. As a result, states that bottle much of their milk receive very high prices for it — and then receive rock-bottom prices for the milk they use to make cheese. Wisconsin dairy farmers sell most of their milk to cheese companies which then have to compete with companies in other states that make their cheese from cheaper milk. To save Wisconsin's cheese industry, the state must invest heavily in a public relations and lobbying effort to force the federal government to eliminate the system. Currently it is spending $50,000 a year to participate with other states in the Midwest Dairy Coalition to convince Congress to drop its federal milk pricing system.

• **Maintain cabinet government.** There will be continuous pressure to remove agencies from the governor's control and place them back under the management of citizen panels. This isn't going to happen and shouldn't. DNR and DATCP are huge agencies that should be responsive to the person in charge of the executive branch — and to voters. At the same time, governors can enhance their reputations, and the reputation of state government, by ensuring that their professionals make key regulatory decisions and that critical agency jobs aren't used for patronage, which appears to be the case in some areas. The Legislature should monitor this carefully — but it is important not to overreact. Many of the accusations leveled at the Thompson administration are the result of actions in place years before the agencies were under the governor's control And it is unrealistic to suggest that patronage and unqualified employees weren't occasional

problems before the agencies became part of a cabinet form of government. Farmers, especially, complained that the DNR was extraordinarily unresponsive to their complaints under the old board-ruled agency.

• **The Legislature and governor should cut government — not force agency managers to do it.** The last four years, it has been the practice by the Legislature and the governor to cut agency budgets across the board, forcing managers to re-organize their staffs and become more efficient. This works well in the short run. But it is also governing on the cheap. Strangling these agencies of funds eventually leads to breakdowns in service, backlogs, corner-cutting and the loss of good employees. If the Legislature and the governor want to cut agencies further, they should step up and make the political decisions about the programs that should be cut or eliminated, not unelected government managers. The DNR is considering no longer regulating rural septic systems, for example, because it simply doesn't have the staff. This may make sense. But lawmakers enacted the program. If this is a job that the state should no longer perform, lawmakers should eliminate it, not a DNR manager who simply trying to save money to preserve other programs.

• **Finally, lawmakers and policy makers should be realistic about what state farm programs can achieve.** The market forces bearing down on agriculture are enormous — and much more powerful than any program run by the state can enact. The federal government has enormous power, but government activities usually only distort the market, not help in the long run. For example, in 1979, the federal government artificially bolstered the price of milk, spurring farmers to expand production. Within four years, the United States had enough surplus dairy products in government storage to supply Canada for a year. The program grew to cost $2.2 billion for a program benefiting a few hundred thousand dairy farmers. In the end, the program only hurt Wisconsin dairy farmers as the new price incentives created an explosion of investment in the dairy industry in the West and the South.

On a state level, both agencies and the university recognize that family farms are unique and special capitalistic institutions in Wisconsin. There are small programs state government maintains to help those small farmers. But neither the agencies nor the university should get pulled into an either/or debate over farm structure. Government and government alone should ensure that policies they enact aren't biased to purposely put small farms out of business. At the same time, large farms are family farms too —and Wisconsin's large dairy farms are proving to be as profitable, and in many cases substantially more profitable, than their competitors in the West and the South. These farms are a critical part of Wisconsin's farm future — and may represent the survival of Wisconsin's dairy processing industry. Failure to acknowledge this is simply poor public policy.

1766 – George Washington suggests to Congress the establishment of a National Board of Agriculture.
1810 – New York establishes first State Board of Agriculture.
1820 – Congress established agriculture committees in the House and Senate.
1839 – Wisconsin Territorial Legislature meets for the first time in Madison. Enacts laws prohibiting fraudulent sale of adulterated food. Penalties include six months in jail and a fine of not more than $100. Legal standards are also established for scales. Inspectors are hired to regulate food production and sales, and to certify scales.
1848 – Wisconsin, with fewer than 300,000 people and about 20,000 farms, becomes a state. The University of Wisconsin established in Madison.
1850 – UW-Madison Board of Regents declares "Agricultural Science, like all other sciences, can only be acquired by study and research.''
1853 – Legislature appropriates $1,000 for the establishment of a State Agricultural Society "to promote and improve the condition of agriculture, horticulture and the mechanical, manufacturing and household arts.'' Later creates county agricultural societies.
1860 – Wisconsin is a wheat state, hitting its peak production of 29.7 million bushels, third in the nation. Virtually all farms have a few dairy cows as well.
1862 – Enactment of the Morrill Land Grant Act that gave land to states that agree to use sales of the land to provide education and research in agriculture and mechanical arts.
1862 - U.S. Department of Agriculture officially established, raised to cabinet status in 1880.
1863 – State's first cheese factory built in Lagoda, southwest of Fond du Lac.
1866 - UW-Madison begins offering Extension programs through the College of Letters and Science. Wisconsin's corn crop yields 28.5 bushels per acre.
1866 - Federal government conducts its first farm "census.'' Wisconsin has 100,000 farms averaging 30 acres of cropland each. Wheat production spans 1.34 million acres, nearly half the total acreage planted. Wisconsin has fewer than 1 million people, more than half living on farms.
1866 – The university takes over the 195-acre Dane County experimental farm located west of the original campus. Scholars, however, are hard to find to conduct research and teach.
1867 – Wisconsin Legislature creates the office of Treasury Agent to enforce the "Hawkers and Peddlers'' law and the state's new advertising law.
1868 - William Daniells becomes the first professor of agriculture and chemistry, but farmer disinterest and high admission standards result in little interest in his work. William Aaron Henry hired a decade later to teach botany and work with farmers.
1870 – Wheat is still the dominant crop, but yields are collapsing as well as the farm economy. Humid summers promote diseases. Combined with lack of fertilizers, wheat yields plummet to as low as 8 bushels per acre. Farmers look to dairy farming.
1879 – Legislature prohibits misbranding of food. The 1870s census shows two out of three people in Wisconsin live on farms, fewer than 20 percent in communities of more than 2,500.
1883 – Legislature creates the first Agricultural Research Station west of the campus. Wheat production starts plummeting as wheat diseases flourish during the state's humid summers.
1885 – Board of Regents approves the university's Wisconsin Farm Short Course, the first in the nation, to provide young farmers with the fundamentals of livestock, soil and crop science as well as farm management. Wisconsin Farmers Institute formed to present seminars to farmers on the application of scientific techniques to agriculture. The Legislature creates the office of the State Veterinarian.
1885 – Future Gov. William D. Hoard founds "Hoards Dairyman,'' a farm magazine to promote scientific principles in the dairy farming business.
1889 – The College of Agriculture is established at UW-Madison. Enrollment in the Short Course grows to 41, convincing lawmakers and Regents of the practical value of university agricultural research and instruction. The Legislature creates the office of Dairy and Food Commissioner to enforce state food laws and inspect farms, food stores, processing plants and handlers.
1890 – Stephen Babcock, a University of Wisconsin chemistry professor, creates the first practical butterfat tester. This enhances commercial sales of milk to processors, ensuring farmers are paid for the value of their milk.
1890, 91 – Congress establishes meat inspection acts.

1891 – University establishes the first dairy school in the nation.
1895 – The Legislature creates the state's first fertilizer law to prevent fraud in fertilizer sales. It is to be administered by the UW College of Agriculture.
1897 – The Legislature creates the Board of Agriculture appointed by the governor to over see the Wisconsin State Fair and to "oversee the interests of agriculture, dairying, horticulture, manufacturers and the domestic arts.''
1901 – The Legislature creates the State Livestock Sanitary Board and the state's first commercial feed law.
1906 – Extension is expanded to include two divisions, one for agriculture and one to reach all residents of the state called the University Extension Division.
1907 – The Legislature creates the Board of Immigration to encourage immigrants to settle in Wisconsin. Also creates the State Board of Veterinary Examiners.
1909 – The state's first commercial seed law passed.
1911 – The Legislature provides money to UW-Madison to employ county agricultural agents to counties willing to share the cost. Legislature orders the Dairy and Food Commissioner to oversee weights and measures, setting legal standards and inspecting scales.
1914 – Congress enacts the Smith-Lever Act which provides federal funding for county-based Extension agents. The Cooperative Extension Service is formed.
1915 – Wisconsin Department of Agriculture created and all previous agriculture boards are combined into the agency. Commissioner of agriculture appointed by the governor to a four-year term. Seed, fertilizer and pesticide programs all eventually transferred to the department as well.
1917 – Wisconsin edges New York as the nation's top dairy state.
1917 - Establishment of Wisconsin's Cooperative Crop and Livestock Reporting Service, later to become the Wisconsin Agricultural Statistics Service. State Capitol completed. Wisconsin's corn crop yields 22 bushels per acre. Cows produce an average of 4,780 pounds of milk per year, about a gallon and a half per day.
1922 – The number of cheese plants in Wisconsin peaks at 2,800.
1928 – The Extension is expanded by Congress to include funding for agents to focus on youth and home economics.
1929 – Legislature creates a new Department of Agriculture and Markets, merging the Department of Agriculture, the Treasury Agent and the Dairy and Food Commissioner into one large regulatory agency overseeing trade laws, unfair business practices, consumer protection programs, food grading, food and farm inspection, and feed, seed, fertilizer and pesticide regulation. Headed by three commissioners appointed by the governor.
1930's – Wisconsin nicknamed "America's Dairyland.'' June Dairy Month established.
1933 – The Agricultural Adjustment Act by Congress establishes first production controls to improve farm prices. New Deal programs founded in the 1930s and 1940s. Soil Conservation and Domestic Allotment (1936), marketing orders (1936), the Farmers Home Administration (1936).
1935 – The number of farms in Wisconsin peaks at 200,000 covering more than 20 million acres. Virtually all have dairy cows on them, but few specialized dairy farms.
1937 – A seven-member Board of Agriculture to oversee the powerful Agriculture and Markets Department is created to separate farm and business regulation from politics. Members appointed by the governor. But the board, not the governor, hires and fires the "director," later to be called the "secretary.''
1940 – The Agriculture Department regulates roofing, siding and home improvement businesses. Later expanded to include wide variety of consumer goods and services, including auto repairs.
1945 – The number of cows in the state peaks at 2.36 million.
1946 – Congress creates the National School Lunch Act.
1947 – Legislature creates the first of several farmer "security programs'' funded by food processors to ensure that farmers get paid in the event that processors default or go out of business. Eventually includes dairy, vegetables and grain.
1951 – Wisconsin Department of Agriculture begins advertising its dairy image around the country. Eventually it also instructs the department to advertise in international markets as well.
1956 – The Soil Bank program established.
1962 – Rachel Carson publishes *Silent Spring*, which triggers a revolution in skepticism about the pesticides agricultural scientists have developed.
1964 – Wisconsin's state colleges become state universities.
1964 – Food Stamp Act.

1965 – UW-Extension is formed into a college of its own with its own chancellor to oversee Cooperative Extension, the General Extension Division, the Wisconsin Geological and Natural History Survey and WHA Radio and Television.
1966 – Wisconsin's corn crop averages 85 bushels per acre. Wisconsin's dairy cows average 9,153 pounds of milk per cow, about 2.9 gallons per day.
1965 – The Legislature establishes a comprehensive set of state meat and poultry inspection laws to be administered by the Agriculture Department.
1968 – College of Agriculture changes its name to the College of Agricultural and Life Sciences.
1969 – Enforcement of false advertising and some consumer fraud programs goes to the State Department of Justice.
1971 – UW-System created to put state universities, UW-Madison and Extension under the UW Board of Regents.
1972 – Clean Water Act, provides federal funds to clean up agricultural pollution.
1975 – Wisconsin farm numbers drop to 100,000, half their peak.
1977 – The Agriculture Department renamed the Department of Agriculture, Trade and Consumer Protection. The Farmland Preservation Program is created to give farmers income tax credits to keep their land in production.
1977 – Wisconsin's corn crop averages more than 100 bushels per acre for the first time.
1982-88 – Extension faculty are integrated into the UW-System, allowing Extension faculty to become members of faculties in other departments.
1984 – Landmark legislation passed to protect the state's groundwater. New pesticide regulations passed.
1985 – Farm numbers drop to 83,000, decline slows substantially. Milk production peaks at 24.7 billion pounds.
1986 – The Center for Dairy Research established on UW-Madison campus.
1987 – The Legislature creates the School of Veterinary Medicine.
1988 – As farm numbers continue to decline, the Legislature creates the Farm Mediation and Arbitration Program to help farmers deal with debtors.
1989 – The Legislature creates the Agricultural Diversification and Development Grant Program to help farmers explore new opportunities in agriculture, such as fish farming, sustainable agriculture (low-technology farming) and projects such as alcohol fuels.
1990 – The Division of General Extension becomes the Division of Continuing Education Extension.
1994 – California edges Wisconsin as the nation's leading producer of milk.
1996 – Legislature gives authority over DATCP back to the governor. Board becomes advisory.
1997 – Wisconsin's corn crop averages 132 bushels per acre. Cows average 16,057 pounds of milk per year, about five gallons a day.
1997-98 – Wisconsin has 79,000 farms covering 16.8 million acres, but only 19,200 farms with sales of more than $100,000. The state has 1.4 million cows, almost a million fewer cows than in 1945, but collectively they produce a third more milk. Hog numbers are less than half their peak in 1925, and chicken numbers are a third of their peak set in 1945.
2000 – Dairy farm numbers are expected to drop below 20,000.

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About the Institute

The **Wisconsin Policy Research Institute** is a not-for-profit institute established to study public-policy issues affecting the state of Wisconsin.

Under the new federalism, government policy increasingly is made at the state and local levels. These public-policy decisions affect the life of every citizen in the state. Our goal is to provide nonpartisan research on key issues affecting Wisconsinites, so that their elected representatives can make informed decisions to improve the quality of life and future of the state.

Our major priority is to increase the accountability of Wisconsin's government. State and local governments must be responsive to the citizenry, both in terms of the programs they devise and the tax money they spend. Accountability should apply in every area to which the state devotes the public's funds.

The Institute's agenda encompasses the following issues: education, welfare and social services, criminal justice, taxes and spending, and economic development.

We believe that the views of the citizens of Wisconsin should guide the decisions of government officials. To help accomplish this, we also conduct regular public-opinion polls that are designed to inform public officials about how the citizenry views major statewide issues. These polls are disseminated through the media and are made available to the general public and the legislative and executive branches of state government. It is essential that elected officials remember that all of the programs they create and all of the money they spend comes from the citizens of Wisconsin and is made available through their taxes. Public policy should reflect the real needs and concerns of all of the citizens of the state and not those of specific special-interest groups.