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# extension review



## The Seaman Knapp Memorial Lecture—A Tribute To The Father Of Cooperative Extension

*Dr. Anson R. Bertrand, director of Science and Education, introduced the 1980 Seaman Knapp Memorial Lecture and the first lecturer, Lester Brown of Worldwatch Institute, before the National Association of State Universities and Land Grant Colleges in Atlanta, Georgia, on November 17, 1980, with the following remarks:*

Seaman Knapp was one of those remarkable persons whose ideas continue to affect our lives nearly 70 years after his death. By almost any measure, that is an impressive accomplishment.

One of America's great agricultural statesmen, Seaman Knapp is the father of the Cooperative Extension concept. Although he died in 1911, 3 years before the Smith-Lever Act was passed, his success as national leader of the farm and home demonstration system helped to bring about this landmark legislation . . . legislation which resulted in the organization of Cooperative Extension Services in every state.

It is especially appropriate for the first Knapp Lecture to be presented before this distinguished forum—the annual meeting of NASULGC's Division of Agriculture joined by the Council on Extension. Dr. Knapp would have felt at home here, just as his spirit is very much with us today.

What is the significance of Dr. Knapp's contribution to demonstration education? As Seaman Knapp put it:

"What a man hears he may doubt, what he sees he may possibly doubt, but what he does himself he cannot doubt . . . school teaching merely instructs; it rarely reforms."

The Knapp principle involved more than just a new teaching method. It also involved a new technique of persuasion—a new technique of leadership. It represented a deep insight into the motivation of people.

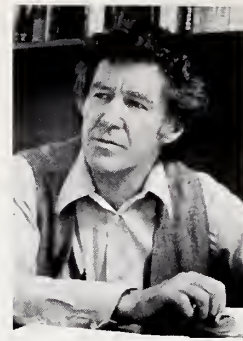
In the latter part of the 19th century, the Department of Agriculture had set up many demonstration farms. Dr. Knapp himself managed some of these.

These early projects all lacked a vital ingredient for success—local involvement. The average farmer's response to these early demonstration efforts was highly skeptical, to say the least. This skepticism was based in awareness that the government could afford to take a chance—a government that wouldn't go broke if things didn't work out. But the farmer knew *he* had precious little margin for error.

The essential financial support is what made the difference when Dr. Knapp established a demonstration project on John Porter's farm at Terrell, Texas, back in 1903. This support was not provided by a distant government in Washington, D.C. Rather, it was provided by his neighbors. That made a vital difference. Local backing meant local involvement. It meant that the community was committed to the success of the project.

Knapp also required the establishment of advisory committees—a concept that is very much a part of the decisionmaking process in the Science and Education Administration (SEA) today. Knapp's advisory committees involved local lay leaders from all socioeconomic levels, and they provided a broad representative base. The farm demonstration project became "their" program rather than a program decreed by the federal government.

This lecture series has been established to commemorate his life and work. These lectures also are a tribute to the proud history of the Cooperative State Extension Service—which is Dr. Knapp's concept working on the national level.



Lester Brown, president of Worldwatch Institute, is the first Seaman Knapp Memorial lecturer. A bronze commemorative medal, depicted on the cover of this issue of *Extension Review*, was presented to him in regard for his work and contributions to society.

The first Seaman Knapp Memorial Lecturer is Lester Brown, president of Worldwatch Institute—a private, nonprofit, Washington-based, international research institute devoted to the analysis of emerging global issues.

Brown was recognized as a leading authority on world food problems while still in his twenties, when he received the 1965 Arthur S. Fleming Award as one of the "Ten Outstanding Young Men in the Federal Government." He joined the staff of the Secretary of Agriculture in 1964 as advisor on foreign agricultural policy. As administrator of the International Agricultural Development Service from 1966 to 1969, he coordinated programs to increase food production in some 40 developing countries. In 1966, he was selected by the U.S. Jaycees as one of the "Ten Outstanding Young Men in America." From 1969 to 1974, Brown was a Senior Fellow with the Overseas Development Council.

He is a member of the Council on Foreign Relations, the U.S. Committee for UNICEF, and the Board of Directors of the Overseas Development Council. Brown has been a guest scholar at the Aspen Institute, served on the faculty of the Salzburg Seminar in American Studies, and delivered the Nobel Symposium address in Stockholm in 1974.

He is the author of articles for numerous professional journals and popular magazines, and he has written 10 major Worldwide Papers in the past 5 years.

The title of Brown's lecture is "The Role of Land-Grant Institutions in Developing a Sustainable Society." (Editor's Note: Excerpts from Lester Brown's remarks appear on page 4.)□

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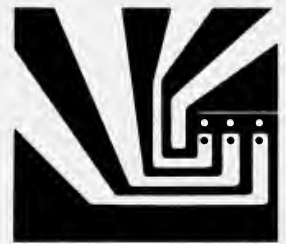


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## extension review

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SEA - Extension

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Correction: Zorika Petic Henderson, staff writer, Cornell University, New York, was senior author of the article, "The Marine Mobile" in the Fall 1980 Review. Her name was inadvertently omitted.

# The Role of Land-Grant Institutions In Creating a Sustainable Society — 1980 Seaman Knapp Memorial Lecture



Lester Brown  
Worldwatch Institute  
Washington, D.C.

Today is an exciting occasion—a chance to share with you the product of some of the research of the Worldwatch Institute. I am very much a product of the land-grant system, having come up through 4-H and having been trained at two land-grant universities, Rutgers and Maryland. As much as anyone can be, I am a beneficiary of the imagination and the ideas of Seaman Knapp. More than anything else, aside from being born on a farm, it was 4-H and the FFA that led me and my younger brother into farming in southern New Jersey. Then the experience of living in villages in India, under the International Farm Youth Program sponsored by the National 4-H Club Foundation, led me away from farming and into the broader issues of world affairs.

The topic—The Role of Land-Grant Institutions in Creating a Sustainable Society—implies that our current society is *not* sustainable. There are at least three important reasons why society as we know it cannot be sustained. First, the soil around the world is being washed out from under us. Second, we're putting excessive pressure on the basic biological systems that form the under-

pinnings of our economic system—the forests, grasslands, fisheries, and so forth. And third, we live in a petroleum culture, and the oil wells are starting to go dry. Each of these threats to the sustainability of civilization requires adjustments. . . .

## Soil Erosion

USDA estimates that something like 30 percent of our soils are now losing topsoil at a rate that is slowly undermining their long-term inherent productivity. For the world as a whole, according to the U.N., at least one-fifth of our soils are in this precarious position, and that could be a conservative estimate.

A very detailed study in Iowa pointed out that not only are we losing soil at a rate that is undermining the productivity of much of our cropland, but that it's not economic to do anything about the problem as far as the individual farmer is concerned. . . . In the absence of major public policy intervention in the form of cost sharing, it may not be possible to stabilize the soils on which our contemporary civilization depends.

We also see cropland being converted to nonfarm uses on every continent. . . . We've been treating agricultural land as a reservoir, turning to it whenever we needed land for something else. We're probably reaching the point where it will not be possible to continue that practice. . . .

## Biological Systems—Excessive Pressures

As we begin the 1980's, the per capita production of virtually every major commodity of biological origin—wood, seafood, the products of our grasslands such as beef, wool, mutton, and tallow—is declining at

the global level. If you're having difficulty understanding the new inflationary forces, this is where to look for clues. In much of the world, as far as biological systems are concerned, we're now beginning to consume capital along with interest. We are actually consuming the productive resource base itself. By definition that's what overfishing, overgrazing, and deforestation are. . . .

## Depletion of Oil Reserves

Up until recently most projections showed world oil production peaking in the early nineties and then turning downward. These projections were based largely on physical factors, on production-to-reserve ratios. More recently projections, including our own at Worldwatch, have taken into account such things as "depletion psychology"—the desire of governments to stretch our remaining reserves in countries where the production of oil is exceeding new discoveries and where reserves are beginning to shrink. . . . Taking these new factors into consideration, we believe that world oil production is going to peak well before the 1990's. It is quite possible that it already has peaked and that the fall in 1980 from the 1979 level marks the onset of the gradual long-term decline in world oil production.

As fossil fuels are depleted we must turn to renewable energy sources in one form or another. The sunlight that's stored in fossil fuels, oil, coal, and natural gas has to be replaced somehow. Nuclear power is not going to play a large role—it now accounts for about 1 percent of the global energy budget. . . . We are going from an oil-based culture to a solar culture, with a greater use of coal during the transition. The difficulty is that we don't have much time. . . .

## World Food Situation

As the energy situation changes, so does the food situation. There has been a distinct loss of momentum over the past decade in the growth in world food production. There are several forces that have led to the slower growth in food output—soil erosion, conversion of prime cropland to nonfarm uses, higher energy costs, and diminishing returns on the additional use of fertilizer in the agriculturally advanced countries. . . . We see North America emerging as the world's breadbasket with every other region of the world becoming food-deficit. . . .

Agriculture is not doing well in much of the world because of poor management and because its food-producing ability is being outrun by population growth.

As we begin the eighties we face, again, a period of food insecurity. A decade ago we had two major reserves of food in the world. We had the carryover stocks of grain and we also had cropland idled under U.S. farm programs. The second reserve, roughly 50 million acres of cropland idled in 1970, has disappeared entirely, and now we have to make it from one harvest to the next with the carryover stocks of grain that we have. . . .

We're moving into a period where the energy sector competes with the food sector. . . . Brazil, for example, may be self-sufficient in liquid fuels by the end of this decade because of its alcohol fuel program, but it may also have more hungry people than it has today. We are beginning to see the same situation in this country, with the subsidies on alcohol fuels amounting to more than a dollar per gallon in some states. . . . In the years ahead, in addition to the traditional bidders in

the grain market—the millers milling grain for domestic consumption, the feedlots, and the exporters—we will have the distillers coming in, backed by a very hefty subsidy, bidding for the same grain supplies.

As we look at the other side of the equation, at population, we see substantial increases ahead, even though the rate of population growth is beginning to slow. . . . The existing projections of population growth, whether it's the U.N. or the World Bank, show our current population of just over 4 billion going to 10 to 12 billion before stabilizing sometime well into the next century. At the Institute, we doubt very much that these population projections will ever materialize. They are based on demographic models that do not have good feedback mechanisms for picking up the ecological stresses ahead. . . .

## The Role of Land in Energy

Looking ahead at the role of land, of agricultural land, and of land-use planning, we see a need to protect our prime croplands. . . . Clearly we have to rethink land-use policy, particularly as we move into a period where we depend on renewable energy. . . . While traditionally we have looked at man/land ratios in terms of their food-production significance, increasingly in the future we will look at man/land ratios in terms of their energy-production potential. . . .

Among the other adjustments that we will face, particularly in this country . . . we will have to move very quickly beyond the throw-away society. Any society that throws away materials throws away energy, and in the post-petroleum world we will not be able to afford that luxury. . . . The Japanese are way ahead of us in recycling raw materials; they're not throwing away

the energy that we are and consequently they have an advantage. We've got to adapt and adapt quickly. . . .

## Renewable Energy Sources

At the transition from a petroleum culture to a renewable-energy based economic system, we're faced with enormous changes . . . from dietary habits to population distribution to methods of transportation. Some of the renewable energy sources that we will be turning to are biological, some are mechanical. They include wood; waste, whether it's urban garbage or livestock manure; energy crops; hydropower, both large and small scale; wind; solar collectors; and solar architecture. . . .

**Waste**—We're going to look to waste, to livestock manure as fuel. In this area, China is way ahead. The Chinese as of 1978 had 7 million methane generators at the village level. . . . In this country some of our large feedlots are now beginning to generate methane from livestock waste. . . . One of the challenges is to develop the technologies not only to produce the methane, but where farmers have a surplus of energy in the form of livestock waste, to help them convert it into a form that's marketable. . . .

**Energy crops**—There are two types to consider. One is the commodities we distill to produce alcohol as a fuel, such as sugarcane and cereals. The other is crops that produce hydrocarbons directly, such as vegetable oil from sunflowers, soybeans, or other hydrocarbon extracts. . . . As we move toward the development of energy crops—particularly those where we extract hydrocarbons directly—we may find a rash of new plant domestications unlike anything that we have seen since the beginning of agriculture itself.

**Hydropower**—In much of the world, we have developed large-scale sites, but have not yet begun to develop small-scale hydro. According to the Corps of Engineers, we have more than 50,000 dams in place in this country, being used for flood control, water storage, recreation purposes, etc. That's 50,000 dams in place, with water spilling over them that is not being converted into electricity. There is enormous potential here for developing electricity, and many of the sites will be on farms in rural communities.

**Wind** is the real sleeper—the energy source that's going to come on fast once it reaches the commercial stage. Windpower probably will grow at an enormous rate during the last decade of this century. . . . Once we reach the assembly-line stage of production of wind generators, things will develop very fast. . . .

**Solar collectors** are going to become an important item in the global energy budget as we move toward the end of the century, especially for heating water. . . . As the price of oil continues to rise, we will see solar collectors sprouting on rooftops in the same way that TV antennas did during the fifties. . . .

**Solar architecture**—It probably makes no sense to put up a building today that does not incorporate at least the basic principles of solar architecture. . . . whether it's a private home, an office building, or a dairy barn. . . . We have technology now to do many things that we haven't even thought of before. The challenge is going to be to do it quickly.

In economic terms and in social terms, we're moving into one of the most dynamic periods in human

history. When we made the transition from wood to coal it was spread out over centuries and that from coal to oil was spread over several decades. But in going from oil to renewable energy sources, we're talking about a matter of years, a couple of decades. If the transition is not well under way by the end of this decade, then the possibility of economic disruption increases markedly.

What are the consequences of this transition to a sustainable society—whether it's stabilizing soil, or harnessing new energy sources, or managing more sensibly the basic biological systems on which we depend? First, in looking at energy, it seems to me there are two important dimensions of the energy transition. One has to do with efficiency, . . . redesigning the entire economic system so that it is more efficient, whether it's the design of the transportation system or the way in which we produce food. Second, we are converting largely to renewable energy sources.

One consequence is the need to restructure the labor force. The type of labor force that worked well in a fossil-fuel-based economic system is not appropriate for a renewable-energy-based economic system. One of the first symptoms of the transition to a solar-based economy was unemployment of the automobile assembly line. While we could see very clearly where employment was going to decline, what has not been so obvious is the other side of the coin—the new jobs that are being created. . . . Conservation is becoming the most economic source of energy available to us. . . .

In moving toward a renewable-energy-based society, we see agriculture playing a far more important role than it has in the

past. In fact, there will be a resurgence of agriculture as farmers become the source not only of food, feed, and to a lesser degree fiber, but of fuel as well—all energy in one form or another. Much of the world's land is owned by farmers and is in rural areas. Over the long term, this is where much of the energy will come from to fuel the economic system. . . . Land-grant institutions are going to be very much involved in developing this new source of energy. We will begin to see farmers not only as energy consumers, but in many cases, as important energy producers as well.

### Population Shift

Looking ahead at the world urban situation, we do not expect the projected growth in urban numbers to materialize. You can have large cities when you have cheap liquid fuel, but when that disappears it's very difficult to sustain those large cities. Renewable energy by definition is widely dispersed. You find it in the countryside, not in the cities. We've begun to see employment patterns shifting as a result of the move to renewable energy. . . . This means distillers will be located throughout the countryside and industrial employment will be created in rural areas rather than in the cities. . . .

We see a basic change in the type of investment occurring in the world. Up until recently most new investments were intended for growth. Increasingly, and we won't always be aware of it, new investment will be designed to achieve sustainability. . . . Home improvement loans are an example of investments for sustainability. . . . Today home improvement loans are used more for insulation, weatherizing, solar retrofitting—steps designed not to increase the capacity of the house, but to ensure that the people who live in it can

continue to do so as the world moves beyond the petroleum era.

### Implications for Land-Grant System

What does all this mean for universities, for land-grant institutions? It seems to me that land-grant institutions are remarkably well designed to provide leadership in the transition to a sustainable society. . . . In the land-grant system, we have ongoing research, education and extension services—you couldn't design a better system to facilitate, to lead the transition, than the one we have in land-grant institutions. Seaman Knapp would have enjoyed the challenge that we are now facing as we look toward the end of the century. If we are to successfully make the transition to a sustainable society, a great deal of re-education and retraining will be required. . . . We are not talking about retraining people for the middle of the next century, we are talking about new skills that will be needed this year and next. . . .

We are faced with the need for wholesale re-education, in a way that we have not been before. Imagine some of the short courses available at a land-grant institution, what farmers would be interested in spending a few weeks focusing on in the winter. Some would find interest in techniques for on-farm methane generation, principles of profitable woodland management, and the on-farm use of solar collectors, whether for heating dairy barns or for drying grain. In the farm management field, courses on the integration of food, feed, and fuel production. . . . If you have a farm unit, how do you maximize output and income from the resources, given the demand for food, feed and fuel? How does it affect cropping patterns? What about a course on organizing community

firewood plantations or on evaluating wind generation sites? . . . Or the economics and engineering of wind power? . . .

What about the use of soybeans as a dietary staple? It's clear that the world's not going to be consuming more and more beef or livestock protein per person. In fact, world beef production per person has fallen 8 percent since the peak in 1976. How do we evolve in the West a soybean-based cuisine like the one that exists in East Asia today? How do you ferment soybeans to get the oriental equivalent of cheese, for example? I think home economists are going to be thoroughly challenged by the need to develop new ways of thinking about food, new cookbooks, new menus.

At the community level and at the state level, there is enormous opportunity for land-grant institutions to participate in the transition, helping to design community recycling programs and to develop local farmers' markets.

What about doing a state energy inventory, looking at all the potential sources of renewable energy in the state? This could be an interdepartmental undertaking involving researchers on experiment stations as well as those who are teaching. Such a project could be immensely valuable to the citizens of the state, to your constituents.

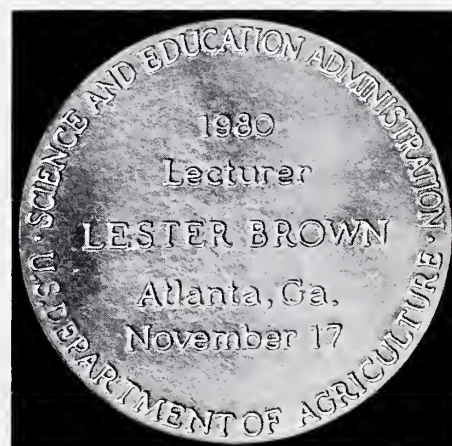
In this rapidly changing world, the role of information is going to become important. When the world is changing very slowly you don't need much information. But when change is rapid, then there's a premium on information to guide the process of change. We are going to have to educate people to the need for cost-sharing, governmental cost-sharing of soil conservation and of farm management practices to

stabilize our soils and ensure long-term food security.

### Conclusion

The enormous transformation in prospect over the next decade or two. . . . will not occur without a fundamental shift in values. What is the role of the universities in this shift in values? I mentioned earlier that we are going to have to move beyond the throwaway society. Planned obsolescence, an important organizing principle of our modern industrial society, is itself obsolete. We need to begin thinking about recycling and developing more durable goods. We may even begin to see values like conspicuous frugality replace conspicuous consumption. . . .

There is an exciting period ahead. I doubt that any period in recent history has been so exciting and so challenging. For the first time in many generations, our generation will have the opportunity to participate in the design and the creation of a sustainable society—one that is based on renewable energy resources and can potentially last forever. This will be an exciting period. . . . a challenging one. . . . Seaman Knapp would have enjoyed this challenge. □



# Energy Conservation — A Way of Life

Gary L. Bennett  
Extension Editor  
Colorado State University



Libby Colbert, an Extension home economics agent in Weld County, Colorado, needed a comfortable place to live. But her new, energy-efficient home has turned out to be one of her most effective teaching tools.

Colbert, located at the Greeley office of the Colorado State University (CSU) Extension Service, conducts numerous energy conservation education programs. Her home is the result of practicing what she teaches.

When Colbert pays her natural gas bill for home heating, she can do it with a smile. Unlike most people paying utility bills in this region of the country, her highest monthly gas bill last winter (1979-80) was only \$14.70.

## Home Construction

Her comfortable three-bedroom, 1,800 square-foot house closely resembles other homes in the subdivision. The differences become apparent, however, as Colbert points out the features that make it as much as three to four times more energy efficient than others in the neighborhood.

After moving to Greeley in 1976, Colbert rented an apartment while she began shopping for a home. Disappointed with the lack of energy conservation features available, she recalls that contractors were able to sell houses faster than they could build them and were not "going to" design beyond the code requirement for energy conservation.

"I started my own plans, although I had never designed a house before," she said. "First, I selected a lot that offered plenty of exposure to the sun in the winter and which, fortunately, is partially shaded by large trees in the summer."



*Libby Colbert inspects her new home—one of the most valuable visual aids the Weld County home economics agent could have. Solar panels on the roof (top) are for heating the domestic hot water system (left). Double-glazed windows and insulated shades (right) are two other techniques Colbert has used to reduce home energy costs. (Photos courtesy of Colorado State University).*



The home economics agent also gathered all the energy conservation information she could from the CSU Extension Service, supplementing it with material from libraries and other sources. She used only information readily available at no cost to the public.

The result is a house 30x30 feet, a cube, with two floors and double-car garage. The square design was selected because, with the exception of a sphere, it has the least surface area, reducing heat transfer.

### **Energy-saving Features**

Heat-generating rooms—kitchen, bathrooms, laundry rooms, and furnace area—all are located on the north or colder side of the house. Living areas are arranged on the south.

Colbert says the house resembles a ship in some respects because there is something planned in every space. The open interior not only makes the home look spacious, but most importantly, allows heat from the sun to circulate.

The house has seven windows and one sliding glass door. Most of the exposure is on the south side. The double-glazed thermal windows are wood framed with anodized aluminum covering on the outside for easier maintenance.

Walls are of standard 2x4 construction with thermal-efficient sheathing inside and out. Coupled with 3-½ inches of fiberglass insulation, the walls have an "R" value of at least R-19. The ceiling is R-30. (An "R" value indicates a material's ability to resist heat transfer. Higher numbers mean better insulation.)

Although the house faces north, the garage is at an angle to the house to provide a buffer against the prevailing cold, northwest winds. An earthen berm across the lower level on the north side of the house provides further insulation and wind protection.

Draperies and curtains have either insulated lining, or are woven wood. Most windows have complete or partial valances or draperies that extend from floor to ceiling to further restrict the flow of air.

Clothes closets, which because of their space and contents offer significant insulation value, are located on north walls. A simple damper with a lint filter on the electric clothes dryer exhaust tube vents the dryer's warm air into the house in the winter and outside in summer.

### **Exterior Features**

Exterior walls are standard brick veneer with cedar trim.

To enter the house, one always has to go up a flight of stairs, another feature that minimizes heat loss.

Up to this point, the house appears similar to most other suburban homes. But after examining the roof line from the back, the home's active solar features are apparent.

On the back, or south side of the roof, are located 41 square feet of solar collector panels for heating most of the domestic hot water. The panel plumbing, which circulates an antifreeze liquid to gather and transfer the sun's heat, runs to the lower floor where it connects with the specially jacketed water heater. As it is used, hot water then circulates through the water heater.

The roofline on the house is pitched differently in the front than in the

back to assure the optimum angle of exposure for the solar panels. The roof overhang in the back, or south side, is designed to shade the interior in the summer and allow a heat gain from the sun in the winter.

The angle and length of the overhang allow sun to reach up to 14 feet into the house in the winter, but prevent its entry entirely in the summer.

Because the gas, forced-air furnace runs minimally during the winter and the sun does much of the work to heat water and space, Colbert had a 12-month gas bill of only \$128.70 in 1978. This is just a little more than what many people with comparable homes pay for 2 months of gas service in the winter.

Colbert is presently working with neighbors to obtain a permanent solar easement for her property. Such a legal document would prevent neighbors from building structures or planting trees that would cross a certain plane above the house and block the sun.

### **Educational Value**

Her new energy-efficient home is one of the best visual aids available to Colbert in her Extension educational programs. A slide-set she developed featuring the home has been shown at numerous meetings across the state.

The agent also conducts tours of her home for groups particularly interested in energy conservation. Recent tours have been sponsored by the Energy Extension Service and the Solar Energy Association of Northeastern Colorado, the state convention of industrial arts instructors, home economists' organizations, and the county Extension homemakers. □

# Cutting Home Building Costs

Michael Levi  
Forest Resources Specialist  
North Carolina Agricultural Extension Service

The biggest single investment most people ever make is the purchase of a home.

In recent years, home prices have escalated because of increasing costs of material, labor, and land, plus the invisible costs of meeting a wide variety of government requirements. The builder and prospective homeowner cannot avoid many of these price increases. However, the wood products industry has developed a range of cost-saving building techniques which can save the homeowner more than \$500 on an average-size house.

Wood is the major construction material used in home building. When used properly it will give long, trouble-free service. When selected or used improperly it can be affected by moisture, rot, and insects. It is estimated that U.S. homeowners will spend more than \$2 billion this year to repair damage caused by rot and termites. This damage can be prevented easily and cheaply—but it is not. Most people remain ignorant of the importance of the careful selection and use of wood products.

## Challenge

The challenge to Extension staff in the wood products field is to help overcome this ignorance of “proper” utilization and of new cost-saving construction techniques. Success will help hold down housing costs and reduce homeowner repair and maintenance bills.

No single audience holds the key to wise use of wood in construction. The builder, building inspector, architect, mortgage company, building material supplier, and homeowner all influence the methods and standards of construction. Of these, only the homeowner has been a traditional Extension target audience. We need to reach some of those other groups to broaden the impact of our message.

“We’ve spoken to home building groups at their various local and state meetings. However, many of the people active in these professional associations are not the ones most in need of education. Foremen, counter personnel, and other people “on the ground” rarely attend such meetings. One-day meetings attract a broader audience, but still have limitations. Smaller companies

rarely send participants, and larger organizations often send only one or two of their top management people.

## A Better Way

In North Carolina, we needed a better way to reach our audience and still present them with detailed technical information. Ron McBrayer, the senior field services representative in North Carolina for the American Plywood Association, suggested a series of evening meetings to attract builders and suppliers. A series of eight such meetings were held across the state.

A key to the success of the meetings was cooperation—cooperation between state specialists and county agents in organizing the meetings; cooperation between Extension and professional associations in promoting the meetings; and cooperation between Extension and trade associations in providing speakers.

The State specialists arranged for speakers from various trade associations and the university and obtained support of the local home builder’s association.



Each series consisted of 3-hour sessions held one evening a week for 5 weeks. Session topics included: cost-saving building techniques using solid wood, plywood, hard-board, and particle-board; specification and selection of wood products; wood preservation; protection from rot and termites; paints and stains; and insulation.

More than 550 people attended at least one meeting and 270 received certificates for attending 4 or more meetings. Approximately two-thirds of the participants were builders or building material suppliers. The remainder were lay people interested in home building.

### **Program Success**

The program's real success can be measured not by attendance figures, but by changes in practices. Participants from a major construction company that builds approximately 2,000 houses a year revised their company's wood materials purchasing system as a direct result of the workshops. This company estimates a yearly savings of more than a quarter million dollars by reducing the amount of material rejected or replaced due to incorrect specifica-

tion. Other attendees showed interest in using or recommending the cost-saving building techniques discussed and now understand the causes of some of the problems they had with wood.

"These meetings give us 3 hours with people we normally have problems talking with for 30 minutes," says Ron McBrayer, field representative for the Southern Forest Products Association.

"We know of no other way we could get this much time with so many builders and suppliers at one place," adds Jerry Craig, another field representative.

After reading a newspaper article based on his program on paints and stains, one speaker exclaimed "that's fantastic coverage, I really see tremendous opportunities in working with Extension."

### **Other Benefits**

The county agents also derived other benefits from their current programs. Don McSween, Mecklenburg forestry agent, says the meetings open up more opportunities for him to work with builders on protection of yard trees. "Several

attendees stated they were willing to pay their workers to attend future programs," he says.

Bill Fowler of Wilkes County combines forestry with community development responsibilities. Through the meetings, he established a good working relationship with several potential community leaders who were previously unaware of Extension's capabilities.

Home economics agents who led several series said the meetings gave them credibility with the builders and suppliers and opened up a new audience for them. Sara Casper in Wake County and Sandra Barrett Hughes in New Hanover had attendees signing up for other workshops before the series was over.

No single series of meetings or single teaching technique will solve the problems arising from poor use of wood in home construction.

By taking the Extension message beyond the homeowner to the builder and building material supplier, the programs are not only improving the chances of this message being implemented, but are also developing an important new Extension audience. □

# Extension Chairman Meets City Challenges

Betty Fleming  
Communications and Family Education  
Program Leader  
Washington, D.C.



"Personal satisfaction and new challenges"—these are the rewards of an Extension chairman in an urban county, says Sally Ebling, Cuyahoga County, Ohio—population 1,650,000.

But what is an urban Extension chairman's job? For Ebling, it's the ups and downs of managing a million dollar budget, overseeing a 45-member staff, coordinating programs, and teaching selected programs through mass media.

First appointed to her position by an Ohio State University dean in 1977, Ebling will be eligible for her third 4-year term in July 1982. In addition

to the dean's appointment, she must be "elected" by her co-workers. Beginning as an Extension home economist in 1958, Ebling has worked on the Cuyahoga staff for over 20 years.

"The big thing we stress here is teamwork," says Ebling. And regular county staff meetings reflect this sharing among staff members. There are 10 Cuyahoga County agents in horticulture, 4-H, home economics, EFNEP, and urban gardening programs. Also on the staff are eight CETA aides and an office manager.

Cuyahoga's Extension office is located in Cleveland in a renovated building that used to house a stockyard headquarters. It's central to the county—on a bus line, near freeways—and it provides Extension

with ample space for parking, offices, storage and meeting room, and seating for up to 200 in the lower lobby.

"Newer staff would like a central city address," says Ebling, a Cleveland native, "but they weren't with us when we had one and had to pay high rents, park in crowded alleys and expensive lots, and convince people it was safe to come to the city."

## Funding

Cuyahoga's county chairman believes in writing proposals. "I started writing proposals when I was



*above: Cleveland residents reap food and friendship in their own backyards through Cuyahoga County Extension's urban gardening program.*

*opposite: Extension Chairman Sally Ebling discusses budget with Virgil E. Brown and Robert E. Sweeney, two Cuyahoga County commissioners.*



a county home economist," Ebling says. "It was obvious if we were ever going to expand our staff, someone had to do it, and no one else lined up." Now, she encourages other staff members to do the same. So far, most of the additional funding has been from the Office on Aging, such private foundations as the Cleveland Foundation, and 4-H.

Soon, Ebling and her staff will have new, hard data from which they can write statements of the need for grant proposals.

"We're conducting surveys, to provide program direction for the eighties," she says. "We've done 600 telephone surveys using volunteers to reach home economics and horticulture readers of our newsletters. 4-H is handing out ballots at the county fair. And, soon, the agents will be doing face-to-face interviews with key policy leaders. If I have to make program or personnel cuts in the future," Ebling says, "I'll have

a basis for making those hard decisions."

### Programs

Talk to Ebling about programs and she'll tell you about a 4-H activity at the county fair, a new leaf compost project, the master gardener program, volunteers who teach parents about family life, and the new code-a-phone system that's handled 28,000 horticulture calls the first 6 months of operation.

Ebling may take you to one of Cuyahoga's famed greenhouses—a \$13 million industry—where energy-saving techniques are in operation. Double-layering polyethylene on greenhouse roofs, made air tight and inflated so that they provide dead air space, is one method of saving energy. Another technique is the "bubble house" treatment, in which a vinyl house is kept inflated with a fan. When the growing season is over, the house comes down. "We can get four crops of lettuce a year this way," Ebling says.

Ebling keeps her hand in home economics, her speciality, by teaching at clubs, writing newsletters, and appearing on radio or TV spots. "I want to be involved in both programs and administration," she says. "But I can't schedule too much because, sure as I do, they'll call a budget hearing."

### A Day in the Life. . .

Every minute is made accountable in a busy county chairman's life.

*The busy chairman's schedule includes inspecting a new lettuce crop in an energy-efficient bubble greenhouse with Nick Stephin, horticulture agent.*



During a photo session with two of the county's commissioners, Ebling discussed plans for a downtown consumer information center, making arrangements for Extension to have a desk at the proposed storefront office.

Again, friendly conversation switched to a discussion of a possible TV series at TV Station WKYC when Ebling posed for a shot with TV public affairs manager Kay Smith. "You just can't know who to call or who to see," says Ebling. "You've got to stay in close, personal touch—that's when things happen."

What's a typical day like for the Cuyahoga County chairman? Ebling laughs and says it begins with a 7 a.m. call at home from an agent who's been up all night with an upset stomach, can't come to work, and has a meeting scheduled that day for 100 people.

At 8 a.m., Edna Nosko, office manager, greets Ebling with the word that the offset printing machine is

**A volunteer auditing group headed by Edna Noska, office manager (center) confers with Ebling on the current monthly expenditures. Ebling plans a TV-show on money management with WKYC-TV public affairs manager Kay Smith (bottom right), and revises a new 4-H exhibit with Dennis Pittenger, 4-H agent (bottom left).**



broken and, "We need handouts for today's meeting." Ebling has to quickly decide whether to go to a quick print office, a copy machine, or a nearby Extension office. Then, she sets out to find a "body" to conduct today's meeting.

Meanwhile, there are the "May I see you for a minute" interruptions and questions like, "Where are the paychecks?" Ebling says, "Anything can happen from staff car accidents to problems with clientele or upset

advisers. They all come here—to this office." Meanwhile, she's trying to prepare for a noon radio show.

By 2 p.m. Ebling is back in the office writing a proposal, training a new agent, or proofing a newsletter. On her way home at 5 p.m. she drops some material off to a volunteer.

What are the qualifications for an urban chairman's job? Established contacts in the community, management and administrative skills, fiscal experience, personnel expertise, public policy and public relations abilities, and good educational principles are most important, says Ebling.

She's especially pleased with "networking" that was involved in lining up an urban Extension advisory committee which includes a radio station executive, an attorney, a TV newsman, corporation head, utility company vice president, Farm Bureau official, county fair president, community center head, TV community affairs person, and others.

A county chairman doesn't often take time to sit back and consider what he or she is proud of, but Ebling took a moment to do that. "I'm pleased with the fact that our staff has grown," she says. "We're getting more financial support, and I feel like we're upgrading our facilities and equipment. And everywhere I go," she says, "people compliment our staff." □

# A Nebraska Dividend— 4-H'ers and IPM

Lloyd W. Andersen and David L. Deith  
Extension Entomologists  
University of Nebraska-Lincoln

A Brown County corn producer, Dave Jones, describes the Nebraska 4-H Corn Insect Field Scouting Project as "fantastic." Over the past 2 years, the 4-H project has helped Jones save approximately \$14,000 in controlling corn rootworms on his 840-acre farm.

Begun in 1978, the project is part of the delivery system for the Integrated Pest Management (IPM) program at the University of Nebraska. IPM employs a combination of techniques in controlling the many potential pests that threaten a crop. The main components of the Nebraska IPM program are: maximizing existing natural controls to prevent the buildup of pests, monitoring to determine the need for further measures, and using the most effective pest suppression technique or combination of techniques when necessary to prevent economic damage to crops.

One of the keys to the program, says Jones and neighbor Henry Rudnick, whose sons are scouting their corn fields, is "record keeping." Identifying which fields need corn rootworm treatment the following year will be an added savings for them. On those acres not needing treatment, a savings of \$8.00 an acre is possible.

4-H scouting participants must be at least 12 years old and enrolled in the 4-H Entomology Project. The youths must also complete a 4-H record book and write a project story relating to their summer field activities. Those completing the project receive an attractive IPM certificate.

## Project Elements

The corn insect field scouting project stresses the identification of major pests, insect biology, basic population sampling techniques, and use of economic thresholds to determine the need for control. Emphasis is placed on the ecology of the farm—the relationship of crop and livestock ecosystems and the pests and beneficial insects likely to be found in each situation.

Within the project, 4-H'ers have the opportunity to select a single corn pest species, a combination of insects, or the total pest complex affecting corn production to scout for the season. These pests include grasshoppers, European corn borers, cutworms, corn rootworms, and others.

## Training

Training is conducted in two parts. For the first session, the 4-H'ers meet at the University of Nebraska district stations to use their laboratory facilities—microscopes, insect collections, and visual aid equipment. Each youth receives a packet with information about corn production and scouting at the lab session.

Following this initial training, apprentice field scouts conduct weekly field surveys and complete scouting reports for use by producers and county Extension agents in assessing the insect situation in their areas.

The second training session, or followup field tour, is an integral key to the program. Here, the scouts, parents, and Extension specialists review the information developed from field surveys. The scouts' field reports and results are



checked for accuracy and proper survey procedures.

Additional followup tours are offered, if necessary. These can be organized by an individual or a club through the county Extension agent.

## Community Participation

Parents of 4-H'ers are urged to attend all training sessions to better understand the scouting project and its relationship to the overall Nebraska IPM program.



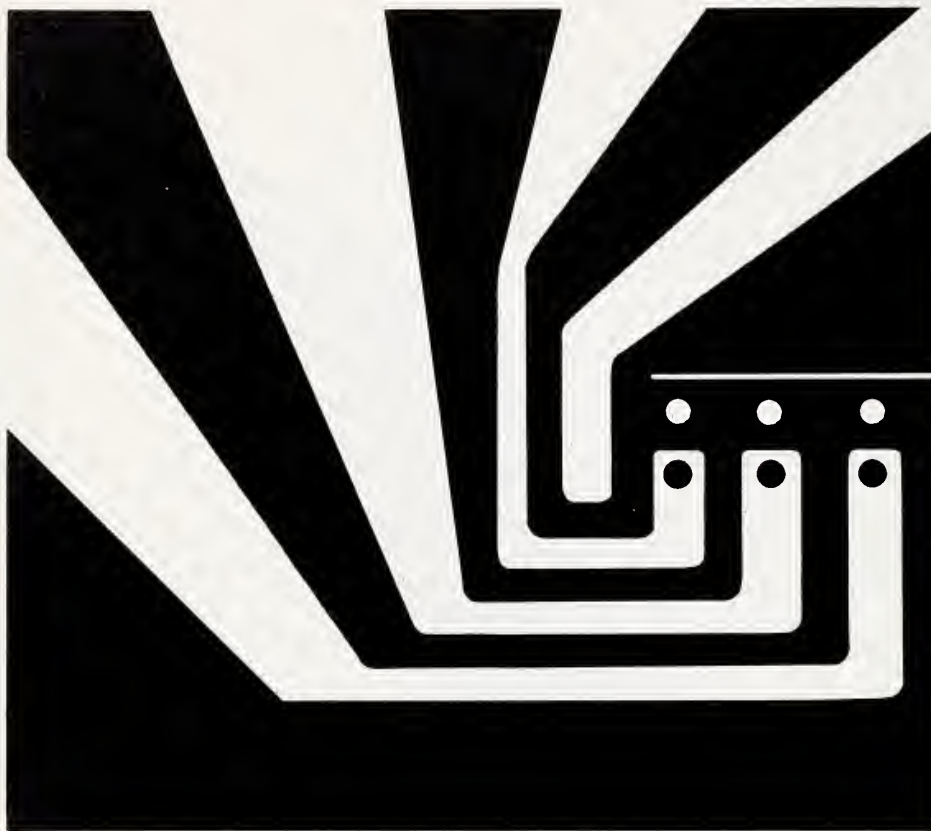


Optional activities to develop and encourage leadership and organization abilities are offered the scouting participants. These include organizing a visit to a local seed or chemical dealer, organizing a community-wide insect survey, leading a school class discussion on IPM, or entering the 4-H speaking and demonstration contest.

The philosophy behind the Nebraska 4-H IPM scouting program is for youth to learn the basic principles of integrated pest management in order to develop a greater appreciation for innovative approaches to agriculture in later life.

For the 4-H scouts, producers, and Extension agents in Brown County, that philosophy is already paying big dividends. □

# A Calculated Success — Small Towns Reduce Utility Billing Time



**John A. Wallize**  
*Communications Specialist*  
*Iowa State University*

More than 200 small towns in Iowa were still computing their utility bills manually, according to a study by the Iowa Office of Planning and Programming in 1979.

Many of these towns billed consumers quarterly. But with increasing utility costs, city officials considered implementing monthly utility bills to soften the blow to customers' budgets. That move, however, could have tripled billing costs for these small towns.

But the Local Government Programs office at Iowa State University (ISU) tackled the problem. With an eye on the many uses of programmable calculators in state agricultural pro-

grams, Jack Whitmer, Extension political scientist, discussed the utility billing issue with Harold Walter, Extension fiscal officer.

Using the miniature calculators, Walter developed a program to compute water bills based on consumption and a step rate structure; calculate and add the state sales tax; calculate the late payment penalty based on the size of the bill; report the net and gross bill; and add any payments in arrears.

## **Pilot Project**

The city of Monticello in Jones County volunteered to pilot test this program. After a short training session, the city billing clerk computed

the quarterly bills using both the old manual method and the Extension program method with a calculator and printer. Accuracy, performance, and time were carefully recorded.

Using the programmable calculator, billings that once required 1 hour took 12 minutes. Five days of billing work could be done with the program and calculator in 1 day. Monticello immediately purchased its own calculator-printer for less than \$400.

At ISU, programs have now been developed for two other brands of programmable calculators. The three machines have been demonstrated at the Iowa Municipal Finance Officers Association to acquaint small towns with equipment and programs. Whitmer and Paul Coates, another Extension political scientist, include a demonstration of the new utility billing method with their orientation program for newly elected mayors and council persons conducted throughout the state.

## **Expanded Program**

Twenty-three other small towns have converted to programmable calculators, and others are studying the possibility. In addition, programs are being developed to handle combination billing for several utility services—electric, water, sewage, and trash collection. Other programs will be developed for payroll and special assessment calculations.

Extension area resource development specialists located throughout Iowa are also trained in the use of the calculators so that they can work with city personnel locally on the calculator programs. (Editor's note: For additional information concerning this program contact Jack Whitmer, Extension Political Scientist, 506 Ross Hall, Iowa State University, Ames, IA 50011.) □

# Extension Serves Handicapped

Glenn I. Latham  
Cooperative Extension Service  
Utah State University



Cooperative Extension is uniquely equipped to serve the handicapped, particularly those living in rural areas.

During the last 3 years, this service to the handicapped has been demonstrated by the Cooperative Extension Project for the Handicapped (CEPH), a joint effort of Extension Service and the Exceptional Child Center of Utah State University.

Supported largely by a special projects grant from SEA-Extension, CEPH has established programs in four areas of Utah. These programs are available to handicapped individuals residing primarily in rural areas.

One program, the only one of its kind in the United States, brings CEPH services to Blanding, Utah's Navajo and Ute American Indian reservations through a Navajo field worker employed as an Extension agent. The three programs are:

- *Individual services*—help to handicapped individuals and their families at home,
- *Community development*—assisting communities in becoming better places for the handicapped to live,
- *4-H for the handicapped*.

## Individual Services

Jim Brown (not his real name) graduated from high school in Utah and wanted to go to college, but college posed more than ordinary challenges for him. Jim has muscular dystrophy.

Jim lived 30 miles from the nearest college, but the severity of his handicap prohibited him from living independently or driving a car.

Utah's Division of Family Services could not assist Jim because his father's income level is too high. The Division of Vocational Rehabilitation provided some financial aid for his education, but was unable to help Jim relocate or adjust to college life.

To help meet Jim's special needs, the Division of Vocational Rehabilitation referred him to CEPH.

CEPH's goal was to help Jim enroll in college and find housing. Program agents made provisions for him to take his college entrance exams, helped him register for classes, and worked with the registrar to move classes into facilities more accessible to a wheelchair.

By advertising in the student newspaper, CEPH found students to escort Jim to classes and help with his personal needs, including dressing, eating, bathing, and getting in and out of bed.

Now that Jim Brown is adjusted, both scholastically and socially, to college life, CEPH's services are no longer necessary on a daily basis.

## Community Development

The three members of the Jones family (not their real name)—parents and child—are handicapped. Before they were referred to CEPH by an

Extension home economist, they lived in a ramshackle house infested with rats. The Joneses were unable to manage the home on their own, but no existing service agency could help them. The Health Department could have condemned the house, but that would have left the Joneses homeless.

By organizing the community, including local government and church organizations, a CEPH field worker relocated the Joneses into a new mobile home on their own property. Now, an Extension home economist helps them manage their home, and an Extension nutrition specialist is teaching Mrs. Jones how to plan balanced meals for her family.

## 4-H for the Handicapped

CEPH has also started a 4-H program at a workshop for handicapped adults in a northern Utah farm community. The 10 4-H'ers learn to crochet, hook pillows and rugs, build with popsicle sticks, and make clay pottery. At a recent county fair, the club's entries won blue and red ribbons, and one 4-H'er was invited to enter her project in the state fair. They also enjoy field trips to the fire department, police station, bank, zoo, and a cheese-making plant. □

# Pig Producer Pushes For Full-time Farm

George T. Brandsberg  
Assistant Extension Editor  
Kansas State University

The Fout family (below) survey their Wabaunsee County farm and a pen of hungry hogs. K-State Extension economist Leo Figurski and Fouts (right) analyze prospects for expanding the producer's pork operation. (Photos courtesy KSU Extension Information.)



Being a part-time farmer wasn't exactly what Justin Fouts had in mind. But rising costs, tough competition for rented land, and a turn in health forced him to reconsider.

In 1973, Fouts was farming wheat and sorghum on 550 acres of principally rented land near Maple Hill in Wabaunsee County, Kansas. In his area, about 20 miles southwest of Topeka, the land is somewhat hilly, except for the choice bottom ground.

"I was beginning to wonder how a farmer was going to make it with farm machinery costs going up, land

getting harder to rent, repairs getting more expensive, and dependable help practically impossible to hire," Fouts recalls.

Then he came down with the mumps. The childhood disease settled in his neck and laid him up for several months.

"Because of my bout with the mumps, I can't turn my head to look back. So, I'm not much use when it

comes to running a tractor, pulling a plow, or other machine that requires looking back to watch what you're doing," he says.

While his illness put a financial strain on his family, Geraldine Fouts' position as a nurse at Topeka State Hospital kept the episode from becoming a disaster.

Once Fouts was able to work again, it was clear that he couldn't do everything he had done earlier. "That's when we took a serious look at what we could do. I've always liked working with livestock. So, we decided to specialize," he says. In addition to health matters, high costs of buying and maintaining equipment and trouble finding farm labor helped Fouts decide to sell out most of his grain farming operation.

"I just can't see investing \$30,000 in a tractor and then having to hire someone who doesn't know how to operate it. The wrong kind of operator can tear up an expensive piece of equipment and do thousands of dollars of damage in practically no time. Unfortunately, the supply of skilled people for hire is limited," Fouts says.

So, he decided it would be best to go into an area of production that he and his family could handle with their own labor.

## From Sorghum to Sows

"I'd been in the hog business as far back as 1957," Fouts recalls. "But for many years I was farming on rental land that didn't have suitable buildings to expand my hog operation. When you're on a rented farm, you don't usually make improvements, especially when the landlord doesn't want to put money into them," he says.

Another factor that favors Fouts' specialization in hogs is that his children can be more helpful in hog production than in a grain farming operation. Bruce, 16, and Kim, 14, are both active 4-H'ers and are already raising purebred Durocs to finance their future college education.

Fouts has studied the possibilities for expanding his hog operation for several years. "We've looked at lots of operations and have sorted out the ideas we think work best for us," Fouts says. "I've talked to Wendell Moyer, K-State Extension animal scientist, Pat Murphy, K-State Extension ag engineer, Darold Marlow and Herb Bulk, county Extension directors for Wabaunsee and Shawnee counties, and a lot of people at the National Pork Congress. Whenever I could find someone who knows about hogs, I talk to them," he says.

#### **Computer Assistance**

On a few occasions, Leo Figurski, area Extension economist for north-eastern Kansas, helped Fouts analyze financial aspects of the proposed operation on a computer.

"You tell Leo what you want to do and he can run a 5-year projection on the operation you're thinking about," Fouts says. "It shows you cash flow and all that."

Marlow says that Fouts has been a good cooperater with Extension specialists, seeking advice from many sources. "Even with good information, the operator with limited resources has an uphill job getting financing and all the inputs he needs to expand," Marlow says.

A significant number of small farm operators in Wabaunsee County are fortunate in having employment opportunities in Topeka, Emporia, and Manhattan to supplement their income, Marlow adds. "As a matter of necessity, most limited resource farmers are part-time farmers who earn some of their living at an outside job."

Last spring, Fouts and his son planned to provide most of the labor to build new facilities to expand the family hog operation. They intended to have a subcontractor handle the excavating and heavy concrete work and then do the carpentry themselves on a 24- by 86-foot farrowing house and nursery that would feature elevated cages for baby pigs.

"Our total plans called for a farrowing house and nursery, remodeling a 22- by 55-foot Quonset for use as a nursery and building a 34- by 60-foot shed for a finishing floor. The whole project should cost around \$35,000," Fouts figures.

Fouts' lender had given the go-ahead to build. "Lenders sure like to see that you have plenty of collateral," he says. "Then, too, you'd better figure out exactly where you're going, what your cost will be, and how your cash flow is going to make it all work. You need complete records from past years to help show that you can make a go of it," he adds.

But slumping hog prices and soaring interest rates forced the Fouts to scrap their expansion plans for now. "I figured the longer you spin your wheels, the deeper you get," Fouts says. "If we had gone ahead and expanded as planned, we'd be losing a dime or more per head per day with hogs on feed. At that rate, it would take all of the next rise in prices to get back out losses," he says.

#### **Part-time Producing**

Fouts says his present, modest facilities are the kind he can walk away from and leave idle or at a minimal capacity while he goes to work elsewhere until prospects look better. If he had expanded, his fixed costs would have forced him to operate at full capacity unprofitably.

Until recently, his operation was based on 60 Yorkshire-Hampshire crossbred sows, which he bred with Duroc boars. As a producer, his goal is to achieve an average of 9.3 pigs per litter.

"Getting this kind of litter average means you have to live with your sows," Fouts says. "When you've got brood sows that deliver a litter of 10 or 12 pigs, it seems like there's always one or two that come with a membrane stretched over their heads. If you're not there to take it off, they die. And at today's hog prices, saving a pig or two a day is pretty good wages," he says.

In slack time, Fouts occasionally works for neighbors. One is a feed equipment dealer and the other a large-scale farmer. However, the farmer has since reduced his operation to a size he can handle by himself. Fouts figures he spends about 50 percent of his time working off the farm. When he gets his new farrow-to-finish hog operation going, he'll be fully employed at home.

"Right now we're aiming for an operation we can handle ourselves," Fouts says. "Someday we may want to expand, but first we have to see how our present plans go." □

# The Stress Connection

Jayne E. Marsh  
Information Coordinator/4-H Youth  
Michigan State University

Adolescence is a trying, confusing time for most young people and their parents. Peer pressure, changing body functions, and the search for independence all take their toll on parent-child relationships.

To help young people and adults cope with the pressures of growing up, Michigan 4-H Youth Program has developed a new health project.

Funded by a special grant from the Robert Wood Johnson Foundation through the National 4-H Council, the "Stress Connection" teaches 4-H'ers about coping with stress through use of workbooks and two slide-tape presentations.

The project is based on the premise that self-identity strongly influences a person's responses to life's challenges. By getting to know themselves, young people are more apt to make wiser decisions concerning their future.

"The Stress Connection includes exercises in developing self-concept, communication, problem-solving, and decision-making skills," says Judy Goth-Owens, a Michigan State University (MSU) graduate student who helped develop the program.

"Through exercises and activities, leaders and members learn together about the consequences of stress

and the importance of learning to deal with it effectively," she says.

## Identifying Stress

Since many people do not understand why they feel uncomfortable or pressured, one of the project's first exercises is designed to help participants identify stress and its potential causes.

"Through these exercises, the participants learn what stress is, what happens to the body during stress, and how people usually cope with it," Goth-Owens explains. "The goal is to teach 4-H'ers that responding to stress with aggressive behavior or ignoring the problem only makes the situation worse and can damage their health."

The Stress Connection project treats stress as a personal challenge. Humorous artwork and an informative question-and-answer format help leaders and members learn to recognize stress-producing situations and how to handle pressure effectively. Participants can write about their reactions to stress in the study guides and keep journals for recording their feelings during stressful situations.

## Project Materials

The two slide-tapes are entertaining, yet informative. One tape explores

the causes of stress, its symptoms, and coping techniques. The other tells the story of Ernie Smith, a young boy who has moved to a new community and new school. He experiences stress as he tries to adjust to his new surroundings and make new friends. Ernie then joins a local 4-H club and learns how to handle his anxiety effectively.

"Leaders will find the materials very easy to use," says Goth-Owens. "The workbook format and supplementary slide-tapes combine excellent materials and visuals in teaching how stress affects people's lives."

Goth-Owens says that the Stress Connection can be used in any 4-H group or club. "You don't have to organize a special group to use the material."

"Many clubs use the stress workbooks and slide-tape sets within their existing club to help members understand and cope with anxious feelings about a deadline or goal," she says.

Though the Stress Connection was developed as a pilot project in Michigan, the materials were distributed nationwide this spring. Interested leaders should check with their local county Extension offices for availability. □

# H.E.L.P. for Dental Health

*Patsy White*  
Associate County Extension Agent-4-H  
Dale County, Alabama



Smile, you're on 4-H camera. This is not a photography project—it's much more serious. It is a dental health story.

Dental disease attacks 95 percent of the Dale County, Alabama population. They feel it in the mouth first and in the pocketbook second. In county classrooms, 4-H has an educational opportunity to reach those students who cannot afford the cost of dental care. Preventive dental health care is an effective solution to escalating medical costs.

## **Program Inception**

Auburn University, the University of Alabama, and the State Department of Public Health joined together in 1972 to disseminate health information to Alabama citizens. The project was named H.E.L.P. (Health Extension Learning Program).

H.E.L.P. provided Extension agents with the training needed to tell the dental health story. Since 1972, Extension has used three different approaches in the program.

Senior 4-H Clubs were its first target audience. Although past the primary teeth stage, these 4-H'ers had only a few years before they had children of their own. This group studied in detail the structure and function of teeth, as well as diseases of the mouth.

Their lessons concluded with a workshop on dental disease prevention. Red wafers were used to show plaque buildup. At first the teens were reluctant to chew the disclosing wafers and look in the mirror for problem areas. Once they relaxed, however, the kids removed the plaque with toothbrushes and began to enjoy themselves. Each student also used dental floss.

## **Next Step**

This year, the 4-H teens shared what they had learned by writing a skit to introduce the dental health program. Two sixth-graders played the part of clowns named Bozo and Coco.

Gaining kindergarteners' and first graders' attention, the clowns told them about how diet affects teeth. Afterwards, an older 4-H'er explained the parts of a tooth with posters.

The three 4-H'ers then divided up the class and showed the youngsters how to use wafers, toothbrushes, and dental floss.

## **Teaching the Handicapped**

Patsy White, county 4-H agent and a volunteer leader, expanded this program by teaching handicapped children in the local school system. The majority of these children came from low-income families. The classroom teacher taught the children a preliminary lesson on dental health before Extension visited.

The Extension agents wanted the school to see a real need for this program, so the functions of the teeth were covered in more depth. Their discussion of the structure of

the teeth was brief. Another lesson stressed that people need teeth not only to speak correctly, but to eat and smile pleasantly.

Next came the workshop. The children chewed the wafer and laughed. Although their handicaps made teaching them to brush and use dental floss much harder, the experience was most rewarding for the agents.

Dental health care supplies were kept at the school and used every school day for a month. At the end of a month, Extension agents evaluated the program. Although the handicapped children could not readily recall the parts of a tooth, they remembered how to clean their teeth properly. Since then, the dental health program has been presented to five groups of handicapped persons.

## **Other Assistance**

A local dentist suggested other areas to cover in the program, including dental policies offered by insurance companies.

He explained that companies in Dale County with insurance dental riders were paying a higher percent for 2-year cleaning, X-rays, and checkups than they did for dental work. The insurance company believed that they spent less by using preventive measures in their dental program. □

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