

Illinois

R.E.N.

RURAL ELECTRIC NEWS

November, 1973

Waste too Valuable to Waste

America can lick the current energy crisis and at the same time solve its solid waste problem, the nation's utilities are discovering. All you have to do is burn the garbage to produce needed electricity.

At present, two experiments are being undertaken to see if this theory is viable. One project will use nothing but trash to create electrical power. The other will produce power by burning a mixture of refuse and soft coal.

In Menlo Park, a suburb of San Francisco, the Combustion Power Co. has built a plant it hopes will convert 100 tons of combustible trash into 1,000-kilowatts of electricity daily. Trash is hauled to the plant where it is shredded and stripped of all non-combustible materials. Then it is burned in furnaces to produce the power.

The only problem encountered so far involves the wide variety of materials found in trash that causes the material not to burn uniformly. Another involves the high water content of garbage—which can total up to 35 percent of volume.

In St. Louis, the Union Electric Co. is also shredding trash and hauling it to a power station for burning. However, the garbage will account for only 10 percent of the materials burned; with the rest consisting of soft coal.

About 30 percent of the solid waste collected in St. Louis is expected to be used for this product.

Experts in waste disposal matters predict that if all the garbage produced by Americans each year was burned, it would create 40 percent of the electricity needed in the United States.

Grain Harvest Demonstrates Reclaiming of Strip-Mined Land

A power supply cooperative and a coal-mining company have taken a significant step toward demonstrating that land from which coal has been strip-mined can be satisfactorily reclaimed.

In a joint project aimed at restoring the land to pasture land, Minnkota Power Co-op, Inc., of Grand Forks, N. D., and Baukol-Noonan Coal, Inc., which supplies fuel for the Minnkota's Milton R. Young generating station, planted about 20 acres of rye last fall and 100 acres of oats in the spring. The small grains were planted as nurse crops for native grasses like those present before the land was mined for lignite 18 months ago.

The rye and oats were harvested this summer by an area farmer with whom the cooperative and coal company contracted to do the combining. Proceeds are being donated to the local Boy Scouts.

Minnkota Manager Andrew L. Freeman said the project went beyond requirements of existing state legislation on mineland reclamation. After topsoil had been spread over the spoil banks, the mining company tilled the land with its own equipment and applied approximately 100 pounds of organic fertilizer per acre. Freeman said similar projects have resulted in corn and potatoes being grown and trees planted.—Rural Electric News Service.

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COVER — Fall and all of her beauty. This is the covered bridge at Sugar Creek.

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ILLINOIS

Rural Electric News

The Future Depends Upon Dedication

Around 35 years ago a group of dedicated men and women marched through Illinois attempting to foster a new idea—electricity for rural residents.

Their job wasn't an easy one. The idea that central station electrical power could be provided to areas where consumer density averaged less than three persons per mile was considered by some as foolish. Many said it couldn't be done.

But these rural leaders—pioneers—forged ahead, organizing electric cooperatives, getting members signed up to qualify for the long term, self-liquidating REA loans necessary to build rural electric systems.

Two such pioneers are retiring this month after 35 years of distinguished service at the local, state and national level—C. Glenn Jones, director and incorporator of Tri-County Electric Cooperative, Mt. Vernon, and Vincent W. Albers, director and incorporator of Clinton County Electric Cooperative, Inc., Breese.

Mr. Jones and Mr. Albers, and others like them, laid the foundation of the electric cooperative program. For years, the responsibility of what the electric cooperatives would become rested upon their shoulders. Today, that responsibility is slowly being passed down to a new generation.

Thirty-five years ago were exciting times for rural Illinois. The kerosene lanterns were being replaced by the wizardry of electricity. It must have been a tremendous experience for Mr. Jones and Mr. Albers to drive through the countryside and see that they had truly electrified rural America.

But those days are all behind us now. No longer are crowds gathered out in the cold waiting for the flick of a switch by a lineman that would help breathe new life into rural America. Anymore we not only expect electricity—we demand it.

True, maybe some of the magic of electricity has left our program, but the challenges are still there. In fact we've probably added a few new ones that were never considered 35 years ago.

Responsibility to the consumer, a concern for the environment, a dependable power supply, adequate financing and the energy crisis are just a few of the challenges we face today.

But according to Mr. Jones, our biggest challenge will be what he calls "consumer-owner education."

"We have to instill in our members," he recently said, "that the cooperative is their business, not the directors' or the manager's. Our members must realize that we are a people-owned business and the future of the cooperative is in their hands."

In the past, people like C. Glenn Jones and Vincent Albers overcame seemingly insurmountable odds in making their dreams for rural America come true. They planted it, nurtured it and watched it grow.

Now that responsibility and opportunity will be shouldered by a new generation of rural leaders. How well they carry the weight may determine the future of rural America.

More than 500 electric cooperative leaders from Illinois, Iowa and Wisconsin were warned at the recent National Rural Electric Cooperative Association's (NRECA) Region V meeting that the national energy crisis poses one of the most serious threats to survival that their consumer-owned systems have ever faced.

Robert D. Partridge, general manager of NRECA, said that as the pinch on fuel and energy supplies increase, electric cooperative systems, if they are not alert, could be driven out of business just as many independent gasoline retailers were this summer.

Partridge was one of the principal speakers at the NRECA Region V meeting of delegates representing 116 electric cooperative systems serving nearly two million consumers in the three-state region.

Declaring that narrow selfish interests should not set national en-

ergy policy, Partridge said: "There is too much at stake for America to let any industry call the tune to which we must march."

Defining what the energy crisis, which he predicted would last for some time, means to electric cooperative systems, Partridge said:

"First, I believe it means more demand for electric power as a replacement for fuels.

"Second, the cost of fuel will go much higher and electric rates will have to rise accordingly.

"Third, rural electric systems are going to have to rely more on their own generation and transmission.

"Fourth, the fuel and energy pie is relatively fixed in size. When they start dividing that pie, we're going to have to fight for our fair share or the big companies will hog it all."

"Fifth, the decisions on the courses of action this nation will follow on fuel and energy will be made in Washington, D. C. We must partici-

pate in shaping these decisions.

"There is a perilous decade ahead, and the gravest threat is delay," Partridge concluded. "Failure to act as a nation could bring disaster."

NRECA President Charles E. Wyckoff urged delegates not to be "carried away" by the victory they won this year in getting Congress to enact a new loan program legislation.

"Next time we could lose," the Picketon, Ohio, farmer warned, "and don't you ever forget there will be a next time."

Wyckoff said electric cooperative leaders must grid themselves to meet change, businesswise as well as in their thinking, pointing to the impact of the energy crisis and rising power costs.

"We are accustomed to declining power costs," he said. "Now they're rising fast. In the years 1968 through 1971, power cost to cooperatives nationally went up 15 percent. Tennessee Valley Authority power alone went up 50 percent.

"So far, the South and Southeast have been hardest hit, but any cooperative that hasn't had at least one sizable increase is extremely lucky. And any cooperative expecting to avoid big increases in the immediate future is either in a very lucky spot or living in a fool's paradise. Power costs are going up and your margins will go below zero if you don't increase retail rates."

Wyckoff went on to express disappointment with the Administration's slowness in implementing the new rural development program enacted last year.

"If we want to preserve and develop our rural economies and rural values, we have got to keep working at it very hard," he said.

Wyckoff urged electric cooperative managers and directors not to lose sight of the "proud history of public service."

"We came into being in response to human needs," he said. "When you look at the financial balance sheet, look also at the human resources of your organization, and look at the resources of spirit and philosophy. When we fail in one of these vital areas, we fail in all."



William H. McCamey, manager of Spoon River Electric Co-operative, right, confers with NRECA President Charles E. Wyckoff at the Region V ACRE breakfast.

Energy Crisis Main Topic of Discussion at Region V

We repeat:

In solving America's energy crisis consumers must be protected

Important decisions have to be made soon if our nation is to find solutions to the snowballing energy problem. And we've been speaking up for American consumers because we think it's crucial that, in making these decisions, their interests be kept uppermost in mind.

Thirteen years ago we began pressing for a national policy on energy and resources that would "recognize the needs of consumers . . . recognize the kind of national action required to achieve our goals." We repeat that statement today.

In other words, we've got to aim for abundant supplies of clean-burning fuel at prices all can afford.

This goal is attainable if we set it as our national objective . . . put our minds to it . . . and apply the well-known American ingenuity and know-how to working out the many intricacies involved.

It will not be easy. It's going to take unswerving commitment, and many dollars for research to develop the potentials of solar energy, magnetohydrodynamics, coal gasification, fusion, the fast breeder reactor, and other sources of energy, some perhaps yet unknown.

And why not, at long last, a nationwide power grid? If we're talking about economical

use, efficiency, and conservation of energy, a nationwide grid is one of the most logical answers. It would enable power producers and suppliers to move kilowatts from east to west and back again, to meet peak demands in every part of the country.

We don't pretend to have all the answers. But we do know that developing a national policy on energy and resources which makes human well-being the benchmark of progress will take the best efforts of all of us . . . will take straight talk . . . a clear spelling out of objectives and of the choices which have to be made in order to reach these objectives.

America's consumer-owned rural electric systems were created by people united by their common need for light and power in the countryside. Working together, and backed up by a national program, we solved that power crisis.

We say again, America's consumers, working together and with their elected leaders, can solve this one, too.

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the collector

What will you be doing at 81?

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a lapadarian . . .
or a numismatist . . .
or a philatelist . . .
or an archaeologist . . .
or a journalist . . .
or a historian . . .
or maybe just a simple cane maker and collector.

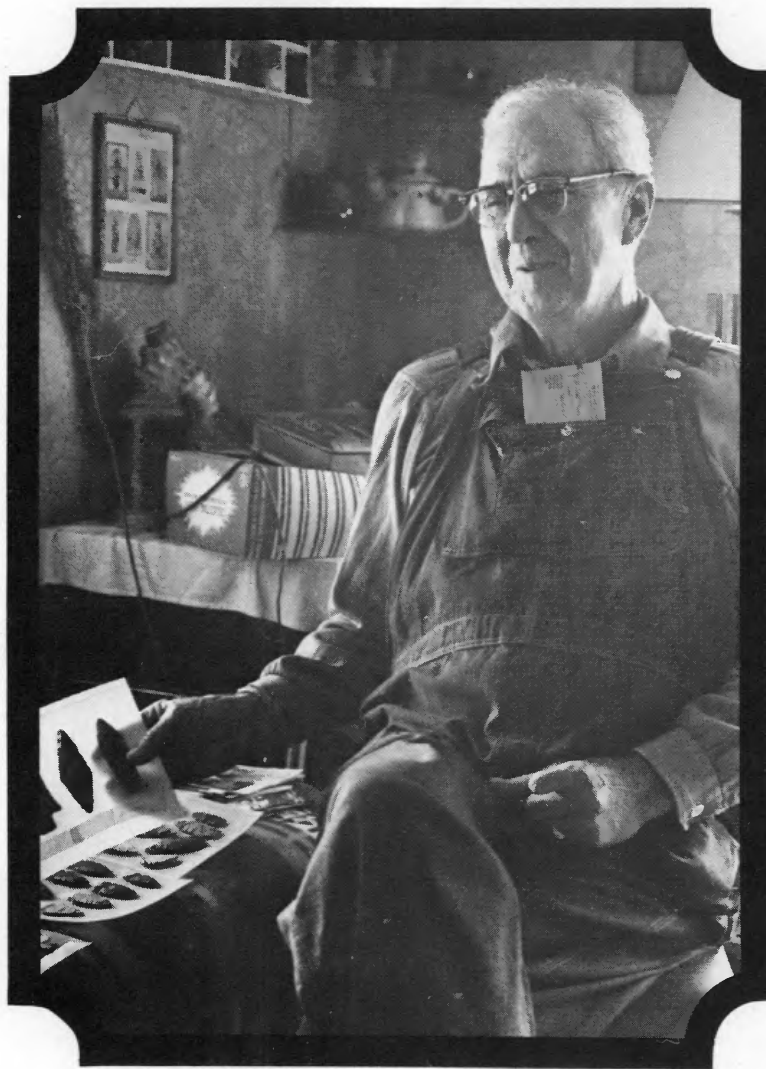
Ernest Elliot at 81 is all these things. A member of Clay Electric Cooperative, Flora, he began his collection of "everything under the sun" about 12 years ago.

His house is a collector's dream. The walls are covered with Indian artifacts and he said he has the horns of every North American mammal.

In the dining room is an old refrigerator filled with Elliot's favorite collection of semi-precious gems and stones. The refrigerator also stores a small coin and stamp collection. His valuable coins, gems and stamps are kept at the bank.

On the dining room walls are maybe 50 different canes—some he has made, others are gifts.

On a twin bed in the living room is a display of Indian arrowheads and artifacts. Across the room is a bear and buffalo skin that drapes over the sofa. In the corner is a book case that has part of an ancient mastadons jaw-



Ernest Elliot at 81 has turned his house into a collector's dream.

bone and sabertooth tiger's tooth displayed.

"If you don't know what to do, watch me," Elliot said as he quickly hands you something to look, feel and sometimes smell. "Most of these pieces I have collected myself. Others, I have gotten in trade from people all over the world."

Elliot is especially proud of his rock collection. He handles each piece as if it was an old friend. To shape and polish a stone for exhibit takes hours of work. "You never know what is going to be inside a rock until you open her up," he explained.

Between working on his collections, corresponding with other traders, handcarving canes, giving lectures to local schools and community groups, Elliot spends his time researching local history and writing for several newspapers.

"I guess I got my interest in history from my father," Elliot said. "He also wrote for the local newspapers. They sure have been a big help in my study of our area's history."

The next time you are down around Flora, look Elliot up. He will be glad to take you on a two hour tour of the past.

Only one catch. You have to sign his guest book.

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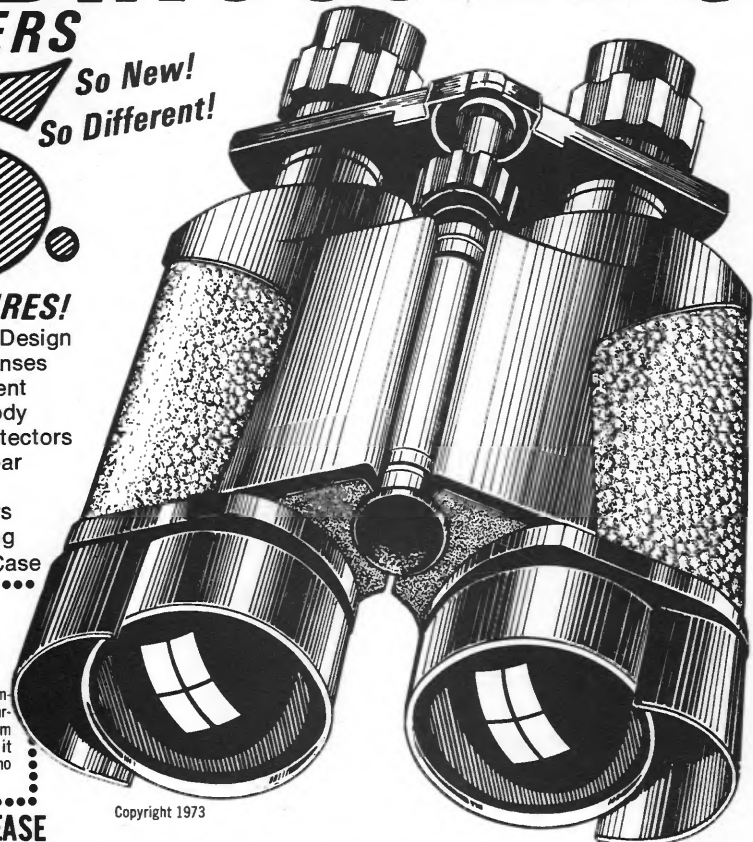
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They call her, "Mrs. Jean." And in their eyes—that is, the eyes of about 50 preschoolers—she's an understanding teacher who can answer every question and solve every problem.

And to Jean Patrick, her students are special. They're smart, eager to learn and are interested in what's going on about them.

And parents? Well, they look at Mrs. Jean's Country School in Edgar County near Paris as a fine beginning for their children's educational development. In fact there's a year's waiting list for enrollment.

"It takes a lot of work to keep a day care school operating," Jean commented. And she should know. She has been associated with day care schooling for nearly ten years.

"Some people regard day care

Katie Rooney, left, beams with joy on her first day of school.

Jean Patrick helps Kevin Hardesty and Patrick House construct a city, complete with skyscrapers.



centers as a glorified babysitting service," she continued. "But that isn't the case with Country School. We accept only full time preschoolers."

Jean, a member of Edgar Electric Co-operative Association, Paris, has her school set up into two groups of about 20 each. The older group of four and five year old children attend half a day on Monday and Friday with an all-day session on Wednesday. The younger group attend half days on Tuesday and Thursday.

"We've found that this schedule works best," Jean said. "The morning session is beneficial as it's a well-planned program. According to licensing regulations, an afternoon session has to consist of so much time for sleep, if there's been a morning class."

Jean explained that the reason for the all day session was to get the

children accustomed to being away from home for all day and to give them the experience prior to attending school on an all day basis.

"We call Wednesday our 'Fun Day,'" Jean said. "The children help churn the butter and set the table for the meal. We devote that day to a nature hike, or a visit to some 'real life' situation, such as the local fire station. Being on a farm, the children get a chance to watch farm-related activities such as shearing a sheep or milking the cows."

Jean pointed out that the children are well-behaved and that elementary teachers have reported that they know which children have had preschooling experience and which haven't.

"It's important to have control and discipline," Jean said. "Children are smart and they understand their limits. But those limits have to be

set for them. They'll only go as far as they know they can. Each child is different and it takes a while to know them. But once they know that the teacher is firm in setting the limits, there aren't any problems."

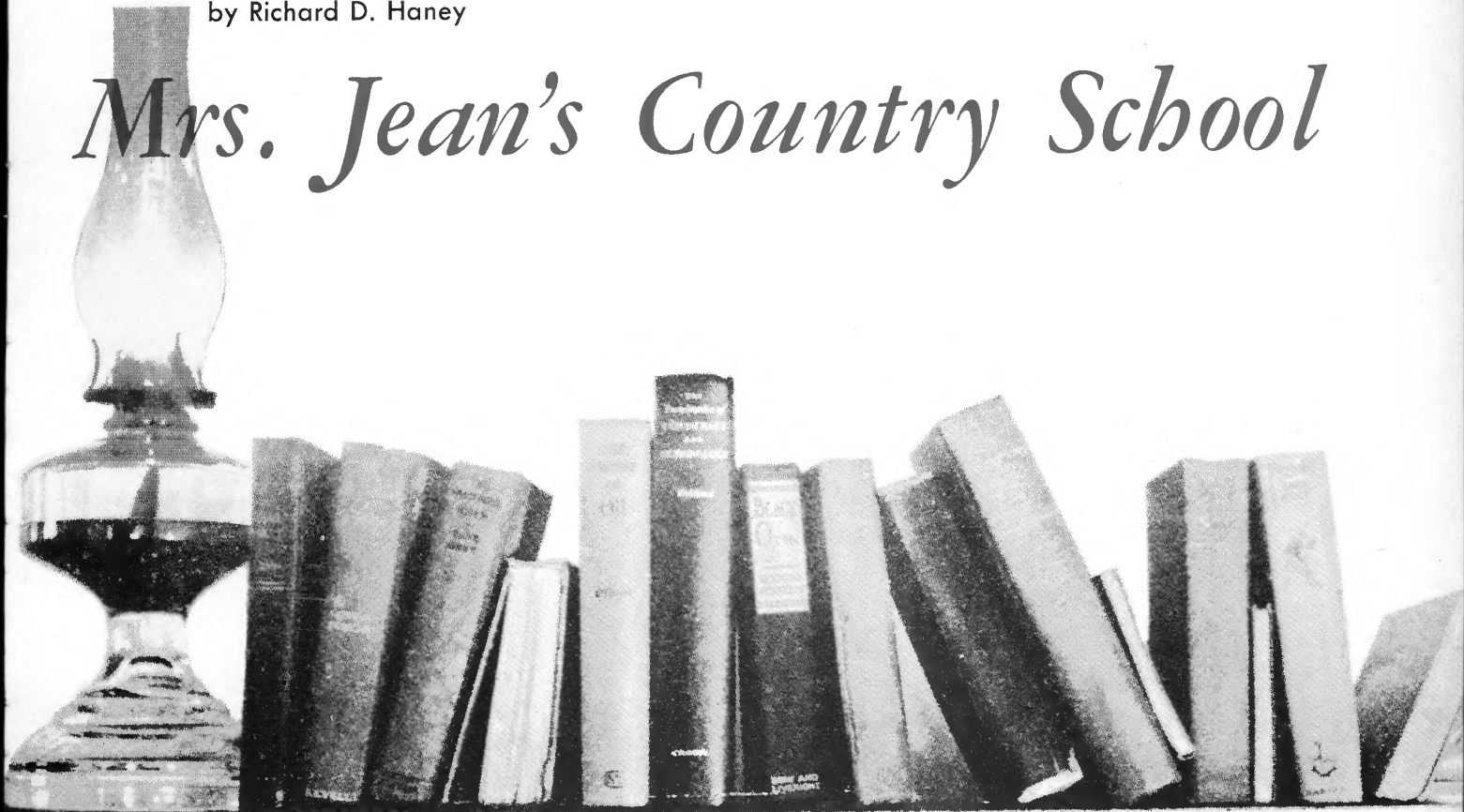
Jean admitted that having control allows for more creativity. Children need to concentrate, she said, and learn that learning is enjoyable, and that fun can be had without spending money.

"There's a need for more day care schools," Jean said, "and the future is promising. One area that is open is working with underprivileged children. There is so much to be done."

Perhaps each community could use three or four teachers like Jean Patrick. Give some thought to a day care center in your area. It could be a great step in developing the future citizens of your area.

by Richard D. Haney

Mrs. Jean's Country School



PCA/FICB: GROWING FOR AMERICA



ABOVE: Being interviewed, from left, are T. R. McGuire, president, Federal Intermediate Credit Bank of St. Louis, and Robert E. Parks, president, Champaign PCA.

BELOW: Attending the anniversary meeting and the Orin Samuelson's WGN Noontime Show were Mr. and Mrs. Don Ferguson of Clinton. The Fergusons, who are members of Bloomington-based Corn Belt Electric Cooperative, belong to the DeWitt County PCA.



September 19, 1973 was an historical day for American agriculture at an anniversary meeting in Champaign, Illinois.

The day marked an agricultural era which celebrated the 40th anniversary of the Production Credit Association (PCA) and the 50th anniversary of the Federal Intermediate Credit Banks (FICB).

Not only was the day appropriate for telling the success story of the FICB/PCA farm credit system, but Champaign was appropriate, too. For it was there on September 19, 1933 that the first PCA was founded under the Farm Credit Act of 1933. And the local association conducted its historic 40th annual meeting at the national meeting attended by nearly 7,000 people from across the nation.

President Robert E. Parks, Champaign PCA, pointed out that one of the year's highlights for the local group was when the member-owned association disbursed aggregate loans which had totaled \$1-million in one day.

"This year," he said, "our loans will total \$37-million. And our net worth has grown to \$4.1 million." That's a far cry from the group's first annual report which showed that a total of \$9,933 had been loaned and that the total profit that year had been \$14.28.

But such growth is not unusual for the PCAs. Today there are 435 PCAs with 1,535 offices. The Champaign office, for example, maintains offices in Watseka, Monticello, Tuscola and Gibson City. Nationwide there are more than 500,000 members and during 1972 alone, PCA members received loans totaling \$10½-billion.

Loans from the PCAs are made from monies of 12 FICBs which were established as discount banks by the Agricultural Credits Act of 1923 to provide funds for farmers. But their regional locations and the absence of farm-oriented lending units in rural areas were limiting factors in providing funds to the farmers. Thus, the need for local PCAs, formed by farmer-stockholders themselves, was essential.

And Secretary of Agriculture Earl L. Butz, the keynote speaker, pointed this out in telling of the growth of the PCA/FICB credit system:

"Here at Champaign, just a handful of determined leaders gave life to the first PCA. It was not easy to take such a bold step, to risk such an unusual new venture. On this day, 40 years later, we pay tribute to the foresight of those who helped this system take its first step . . ."

Secretary Butz said that the credit system had enabled farmers to obtain the capital items which transformed laboratory science into practical field and feedlot technology and had indirectly made its mark in the manner of all sound farmer cooperatives—by helping keep other credit institutions competitive in serving farmers' needs.

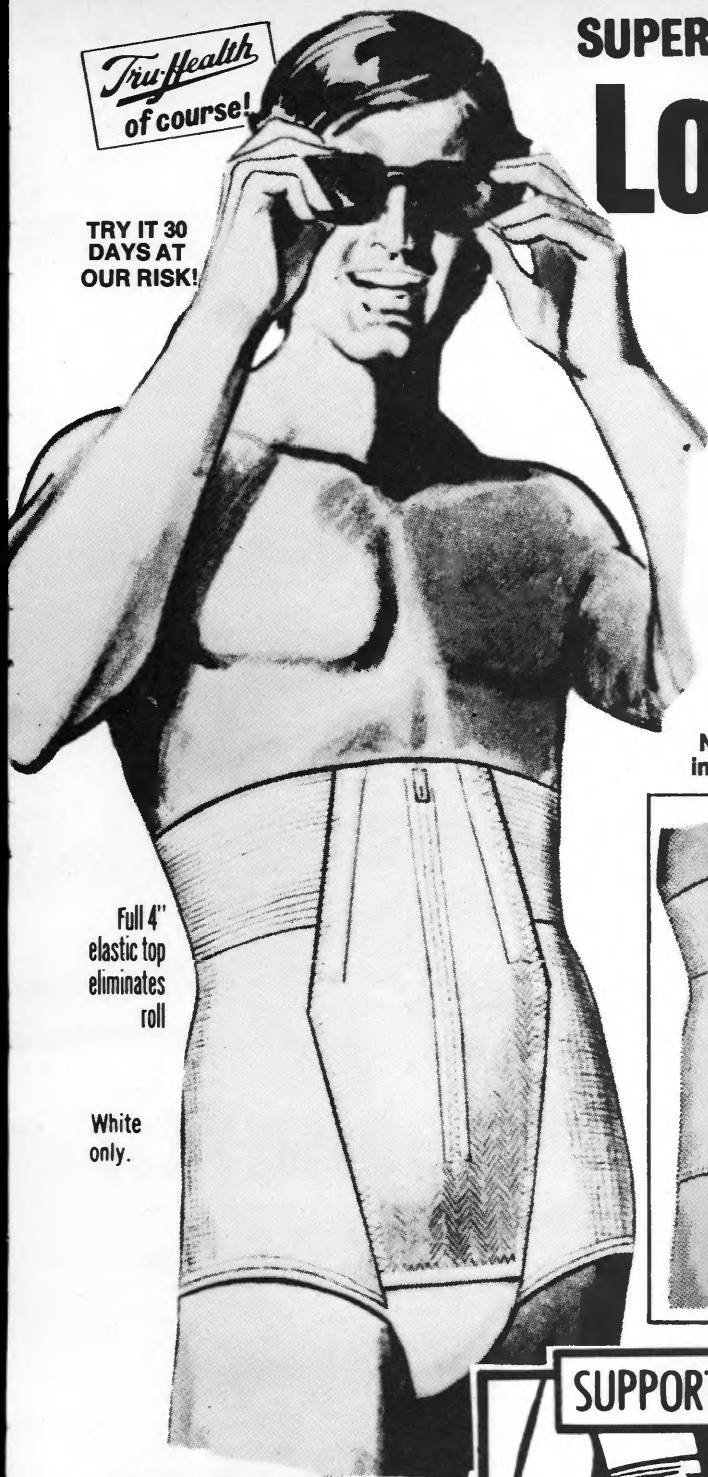
"Credit is an essential tool of agricultural production," Butz said. "Without it we cannot succeed in maintaining an efficient expanding agriculture."

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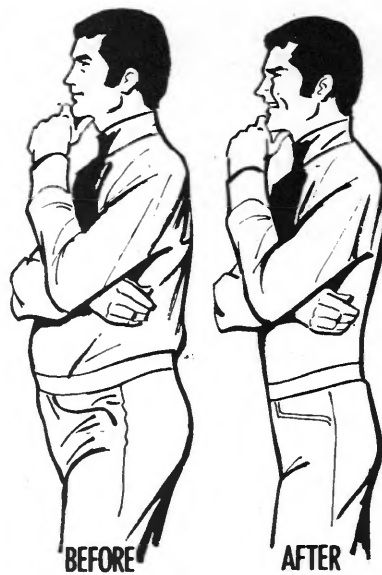
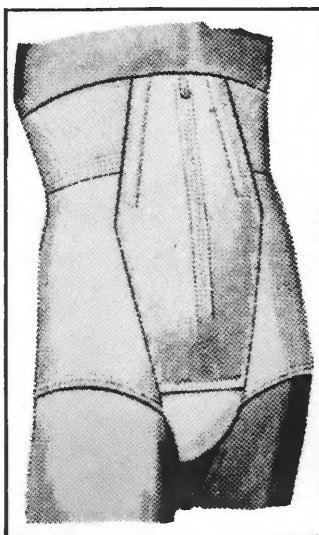


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So you look at your field of weeds and find that you're missing the pigweed, watergrass and most of the velvet weed. But somehow you still have a good stand of morning glories. So what does it all mean?

In the shoes of William A. Conterio, researcher and farmer in the Arcola-Humboldt area, it means back to the field with additional experimentation. And why? Conterio, an agronomist and 1957 graduate of the University of Illinois, specializes in agronomical research and the testing of agricultural chemicals.

Prior to starting his own firm—Crop Chemical Testing Service—

Conterio worked with chemical companies in the development of agricultural chemicals and research field plots. During this time he saw the need for a private research farm to carry out active studies geared to the needs of the industry in determining what would or would not work.

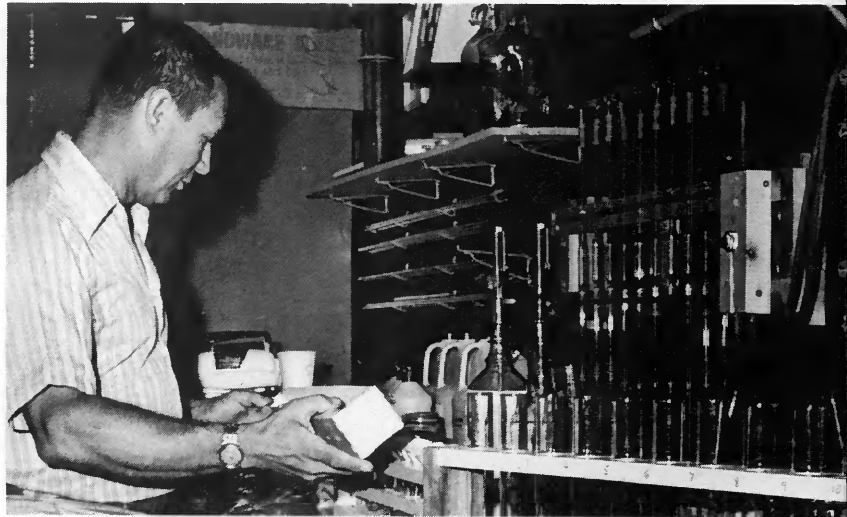
So he combined his knowledge with his desire to farm and bought some land in the Arcola area.

"Chemicals are essential for large scale food production," Conterio explained. "Without the modern tools

of herbicides, fungicides, insecticides and fertilizers, it would not be uncommon to find broccoli selling at \$14 a pound, tomatoes at 68 cents a pound and cabbage at 60 cents a pound. These prices aren't from inflation; they're caused by the increased expense created when a crop lacks the tools of modern agriculture—ag chemicals."

But agricultural chemicals mean more than lower prices. They also spell a decrease in land usage for crops and an increased protection of natural resources.

RIGHT: Conterio has his lab set up to handle ten units at a time. He can complete as many as 300 soil tests in one day. BELOW: Jim Leming, left, public relations director for Mattoon-based Coles-Moultrie Electric Cooperative, and Conterio inspect a field of cabbage which was treated with an insecticide. Note, the 'weedless' rows.



**research
farmer
grows
weeds...**

"Just for Illinois corn production in 1970," Conterio said, "farmers planted about 10-million acres. Herbicides increased production by about 30 percent. This means that chemicals decreased the need for an additional three-million acres."

Not having to plant that additional acreage, Conterio said, created the saving of 22-million pounds of phosphorous and 146-million pounds of potassium. As well as more than 12-million manhours in labor.

And to prove the point, Conterio and others established what is known as the "Pollution Solution" plots which even received nationwide television coverage. Since that time a traveling display has told the story in the lobbies of major airports and at non-agricultural national conventions.

"The 'Pollution Solution' plots were planted for untreated, mechanically controlled and chemically controlled classifications," Conterio explained. "Without treatment there was no production of cabbage, broccoli, tomatoes and soybeans. They were completely wiped out by weeds and insects. And corn only produced about 88 bushels. Chemically treated plots, compared to just mechanically controlled plots, showed substantial increased yield per acre: cabbage—15,800 pounds instead of 8,300; broccoli—10,000 pounds instead of 500 pounds; tomatoes 23,500 pounds instead of 8,600 pounds; soybeans—40.1 bushels instead of 26.6; corn—127 bushels instead of 88.5."

Conterio was quick to add that the Illinois Natural History Survey analyzed crops on which the chemicals had been used and found no residues. "This was a result of following the proper specifications on the company's label for application rates," the agronomist said.

And that's part of his job—determining what rates of a particular chemical will effectively destroy weeds or insects without harming the consumer.

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Fruit Farmer Changes With the Times



Pitchford displays some of his beautiful apples.

The fruit industry is changing in southern Illinois. One producer who is adapting to the changing times is Lester Pitchford of Richview, a member of Mt. Vernon based Tri-County Electric Cooperative.

Pitchford said weather conditions, marketing and labor have been the catalyst that have caused the change in the Illinois fruit industry. And although his main concern is his apple orchard, Pitchford now wears many different hats.

He and his son-in-law, Gary Creed, ride herd over about 1,500 acres of cropland, 250 head of beef, 70 acres of strawberries, a fertilizer and elevator business and a wholesale marketing operation of nearly 750,000 pounds of pecans annually.

His apple orchards produce

about 20,000 bushels a year. About 75 percent of his apples are sold locally with the rest being bought by truckers.

"It takes 10 to 17 years for a regular apple tree to produce," he explained. "That's why we went to dwarf tree varieties. They will produce in six to eight years.

"Strawberries are the uncertainty," he said. "Unless there is adequate rainfall and the right kind of temperature, production just won't be any good."

His 70 acre plot contains about 5,000 strawberry plants per acre. He estimates planting costs between \$300 to \$400 an acre. Production averages about 250 crates an acre with picking costs at about \$3.50 a crate. Fresh strawberries, he said, will sell between \$4.50 and \$4.75

per crate.

"It takes about two year's production," he explained, "to break even on strawberries with profits realized during the third and fourth year. That is, if you're lucky enough to have a crop."

And speaking of crops, area farmers who sell grain to his elevator are concerned about the fuel shortage, particularly gas for drying purposes.

"My outlook is simple," Pitchford said, "but it's the farmers who have the headache. If I don't have enough gas for drying to hold the grain, then I just quit buying grain. But the farmer may have to leave his crop in the fields. Most farmers rely on liquid propane gas for drying, but if soybeans need drying there's

(Continue on page 18)

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a day at the farm power show

Shows can be a lot of fun—especially when they're outdoor types such as the recent M & W Farm Power Show near Anchor, not too far from Gibson City.

Not only are shows an educational experience, but they also provide a chance to relax, visit with old friends, share some new farming ideas and reminisce about days-gone-by. It's also a great deal of fun watching children's expressions of awe when confronting a giant machine, such as a new 15-foot tall farm tractor.

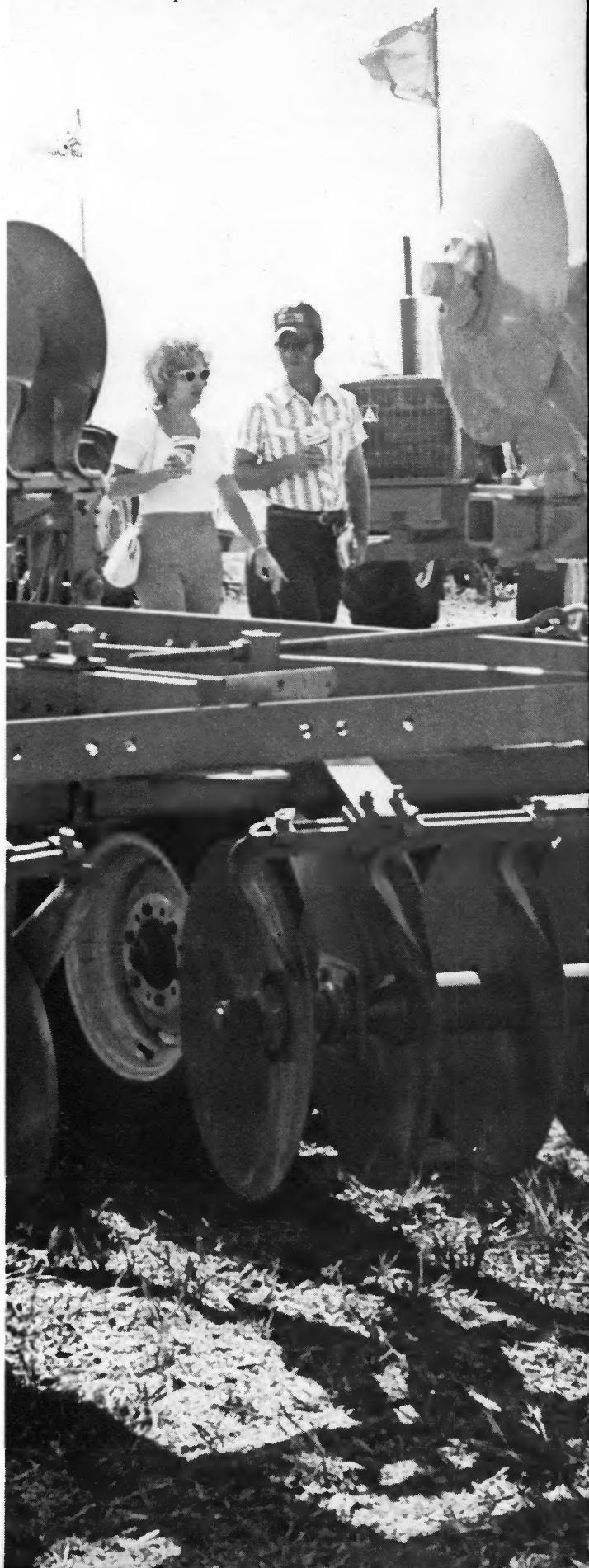
To have a successful show, it takes a lot of work and planning. Space had to be provided for the various exhibits of farm materials, equipment and machinery, motorcycles and chain saws. Acres of land had to be set aside for parking and farm machinery demonstrations. There was even an airstrip available for fly-in visitors.

And for entertainment, an area was fenced off for a major tractor pull contest with contestants from Illinois, Iowa and Indiana.

But there was more to it than that, too. There was the need for electric energy to light-up the commercial exhibits' area and to provide power for operating some of the automated equipment on display.

Electric power was cooperative power, provided by Paxton-based Eastern Illinois Power Cooperative which serves the area. Three phase service with 50 poles and more than 40 transformers was installed, to be removed a week later.

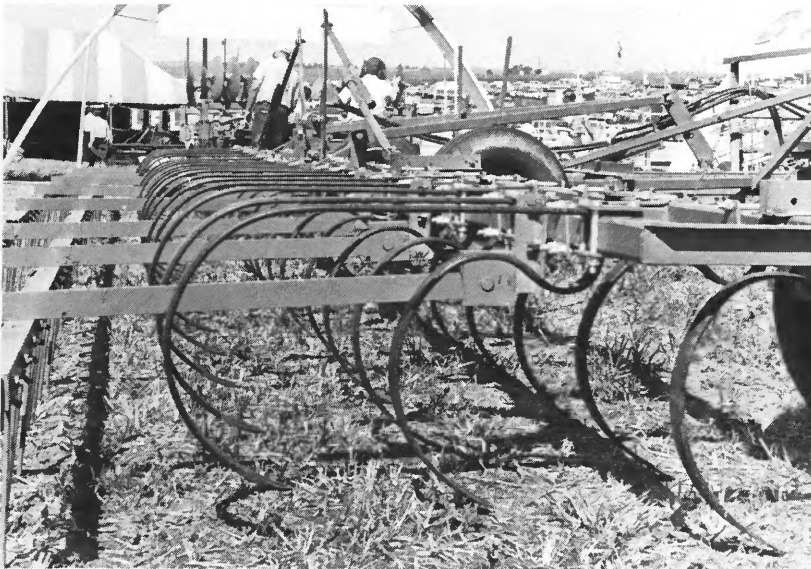
But to the people who attended—farm and urban, alike—it was well worth the effort of all involved. It provided another chance to see the changes in modern agricultural technology.





LEFT: Checking a corn display, from left, are Mark Sprague of Hull and Mike Burr of Kinderhook.
 CENTER: Donald Doerscher of Davenport, Iowa participates in the tractor pull.

BOTTOM RIGHT: Don Edwards of Maroa and Willard Cripe of Hammon, both members of Corn Belt Electric Cooperative, Bloomington, tour the show.



what's new?

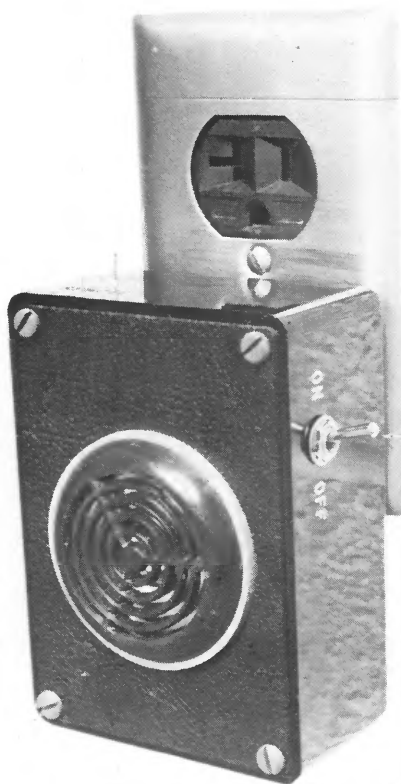
Vacuum

Sunbeam's new outdoor/indoor vacuum cleaner picks up wet or dry debris without changing the washable filter. The vacuum has a five gallon capacity steel tank and a 1.1 hp. motor. It's equipped with an 18-foot conductor cord and plug, cleaning attachments and a stainless steel four-wheel dolly. The vacuum retails at \$59.99.



Alarm

A power failure alarm that detects a power outage whether caused by a blown fuse or a service interruption has been developed by the Riton Manufacturing Company. The unit emits an 85 to 90 decibel siren-like sound when triggered and the horn is powered by two penlite batteries. A built-in 7 to 10 minute delay prevents momentary interruptions from causing a signal. It plugs into a standard AC receptacle and is supported by its case-mounted plug prongs.



(Continued from page 14)

going to be a shortage of corn drying. And corn drying is almost a must."

Pitchford indicated that comments had been made from farmers regarding low temperature grain drying with electric heat as the answer. But a backlog of work for electric power suppliers would be a problem this year.

Pitchford also realizes the importance of electric power in his home and business. Not only are his and the Creeds' homes all electric, but the cold storage building for pecans and apples require electric power. About 100,000 pounds of pecans are kept in cold storage each year.

"We buy nearly 750,000 pounds of wholesale pecans from Arkansas, Mississippi, Alabama and Louisiana," he said. "But pecan production varies from year to year. One year, it's good and the next poor. So cold storage keeps us in business during the lean years."

He mentioned that at one time three loads of pecans were bought weekly from the New Haven area in southeastern Illinois. But Illinois production had dwindled as most of the trees had been cut for lumber.

"Over a long period of time," Pitchford summarized, "the fruit industry is rewarding. But it takes a lot of work. Costs seem to keep going up. Fruit growers can mechanize to a certain point to overcome the increasing costs. But after that, there just isn't any way to keep retail prices lower."

All in all, it looks like the fruit industry has its good years and its bad. But thanks to electricity and technical innovations, perhaps fruit growers can have that extra edge necessary to keep in step with the changing times.

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Survey Points to End of Fossil Fuels

by Graham W. Howe

NRECA Washington Correspondent

A congressional energy survey indicates that the United States may run out of fossil fuels—coal, oil, natural gas—by the end of the century, Rep. Morris Udall of Arizona reported recently.

Udall, who made the survey with a staff scientist of the House Interior Committee, said it "confirms predictions of an imminent energy shortage."

The Arizona lawmaker said the survey uncovered the existence of "two crises. The first results from an inability to extract known resources at a sufficient rate, already made evident by the gasoline and heating oil shortages. The longer-term crisis involves the ultimate exhaustion of our fossil fuel resources and can be expected to occur around the end of the century."

The report predicts:

—Domestic oil and gas production will decline and reserves will largely run out by the year 2000.

—Processes to make coal clean will not be feasible by 1985 "and the high cost and large water requirements may limit their rate of installation."

—Nuclear power should furnish half the Nation's electricity by 2000. The fusion process, which might furnish unlimited energy some day, has "awesome technological problems" to overcome.

—Solar energy, while prospectively expensive because of the technological demands, may one day compete with other fuels.

—Geothermal energy, using steam from the earth's interior, may some day furnish a large part of our countries' energy needs.

The report recommended a strong program of energy conservation and increased efficiency in the uses of fuels.

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VERY FUNNY

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Kissner inspects some of his freshly-ground corn for his cattle.



getting out of the mud

There's a great deal of talk around the Wayne-White Counties Electric Cooperative service area about George Kissner's indoor cattle feeding confinement operation.

Once that you've seen it, you'll know why.

Driving through the countryside north of Keenes it's pretty hard to miss. It looks like someone misplaced a grain elevator out in the middle of a corn field. And according to the manufacturer, Kissner's confinement house is one of the largest of its kind in the world.

"I've been in the cattle business for years," Kissner explained, "and the last few winters finally made my mind up for me—I just plain got tired of wading around in all of that mud. I had heard a little about indoor cattle feeding confinement systems so I decided to build my own."

The confinement house is 80 by

360 feet. Inside are 14 pens 32 by 40-feet with slatted floors. At present, Kissner has about 750 head of cattle on hand. He can handle up to 1,100 head.

"I feed my cattle out for 140 days," Kissner said. "Above the pens are 38 blower fans. The shutters on the windows are controlled electrically, depending on the temperature. In the summer it's about 10 degrees cooler in here than it is outside. In the winter, I hope to keep the temperature at 38 to 40 degrees."

When Kissner said he wanted to get out of the mud, he really meant it. The concrete floors of the confinement house are swept once a day and the building seems to have little or no odor.

Kissner said he has licked the odor problem by installing a lagoon system under his confinement house. The system, which consists of three



Grain drying, storage and confinement house are all interconnected. As Kissner explains it, everything is done with the push of a button, thanks to electricity.

large lagoons, is designed after the sewage system at Wayne City.

"I think my exhaust fans have also helped," he said. "Flies don't seem to be much of a problem either."

Kissner stores 160,000 bushels of grain and 5,000 tons of silage in huge concrete silos next to his confinement house. He also has a grain drying installation. Adapting this system to his operation was no problem for him. Besides his cattle and grain farms, Kissner owns the grain elevator at Wayne City.

You can tell Kissner is proud of his operation. Many have questioned the feasibility of his project, but Kissner says for him it works:

"Everybody has their own idea on what's best for them when it comes to farming or raising cattle. There are advantages to this system, but it's costly. So far, I've spent over \$400,000.

"Everything is fully mechanized. All it takes is a push of a button. And in case we have an electrical outage, I have a stand-by diesel generator."

Kissner plans to enlarge his herd to capacity. He also plans to eliminate the last bit of mud from around his confinement building—he's having it landscaped.

Now that's something we're going to have to see—a landscaped barnyard.

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SOMETHING DIFFERENT FOR THANKSGIVING

CRANBERRY RELISH

1 pkg. fresh cranberries
4 large apples
1 small can pineapple
18 large marshmallows
1/2 cup chopped nuts
1 cup sugar

Grind in food chopper, mix and refrigerate.

CORNISH HENS

Fix the night before. Use 1/2 Cornish hen per serving. Rinse hens in cold water and pat dry. Split into half. Salt cavity. Place each half on individual heavy foil squares. Pour 1 1/2 tablespoons sherry over each half. Make paste:

1 cup margarine
1/2 teaspoon pepper
1/2 teaspoon paprika
1 tablespoon soy sauce
1/4 teaspoon onion powder
1/4 teaspoon oregano

Spread paste over to cover outside of birds. Wrap each half separately and refrigerate overnight. When ready to serve, bake on cookie sheet 1 hour at 450 degrees. You may serve over dressing.

CHICKEN CRANBERRY SALAD

Dissolve 1 envelope unflavored gelatin in 1/4 cup cold water. Set over hot water. Add 1 can whole cranberry sauce, a 19-oz. can crushed pineapple, 1 1/2 cups chopped pecans, 1 teaspoon lemon juice. Let congeal. Soften 1 envelope unflavored gelatin in 1/4 cup cold water and melt over hot water. Blend 1 cup mayonnaise, 1/2 cup water, 3 tablespoons lemon juice (add extra gelatin). Add 2 cups diced chicken, 1/2 cup diced celery, 2 tablespoons chopped parsley. Pour over first layer, chill. Serve on lettuce leaf.

HERB BREAD

3/4 cup butter (1 1/2 sticks)
1/4 teaspoon salt
Dash of cayenne
1/4 teaspoon paprika
1/4 teaspoon savory
1/2 teaspoon thyme

Mix ingredients. Take 1 loaf of unsliced bread. Peel crust off bread. Slice and spread mix on bread and around. Wrap in foil and bake at 275 degrees for 1 hour. You can make this ahead of time and freeze.

BROCCOLI CASSEROLE

2 pkgs. frozen chopped broccoli
1/4 cup chopped nuts
CHEESE SAUCE:
2 tablespoons butter
2 cups milk
3/4 cup grated cheddar cheese

1/2 cup buttered bread crumbs
4 slices bacon, crisp-cooked, crumbled

2 tablespoons flour
1 teaspoon salt
1/4 teaspoon pepper

Cook broccoli according to package directions until tender, drain. Place in buttered casserole. Sprinkle with chopped nuts. Make cheese sauce. Pour sauce over broccoli mix. Sprinkle with crumbs and bacon. Bake 20 minutes at 350 degrees until hot and browned on top. Serves 12.

CURRIED FRUIT

1 can pineapple bits
1 can mandarin oranges
1 can pears
1/2 cup maraschino cherries
2 or 3 bananas, sliced on slant
1/2 cup brown sugar
2 tablespoons cornstarch
1/4 cup melted butter
1 tablespoon curry powder

Cut and drain fruit. Save liquid for other use. Peel and cut bananas in large pieces, on the slant. Combine sugar, cornstarch, curry powder with a little juice to moisten (mixture can be cooked a little). Add melted butter to fruit, then sugar mixture. Mix lightly. Turn into buttered casserole. Bake 40 minutes at 350 degrees. Serves 8-12.

FROZEN FRUIT SALAD

2 3-oz. pkgs. cream cheese, softened
1/2 cup mayonnaise
1/2 envelope Knox gelatin
1/4 cup fruit juice
2 cans Australian mixed fruit
1 large can sliced pineapple
1 large jar fruit salad
1/2 bag miniature marshmallows
2 tablespoons powdered sugar
1/2 pint whipping cream

Soften gelatin in fruit juice. Combine with cream cheese and mayonnaise in mixer bowl and cream well. Drain fruit, cut into pieces. Mix together with marshmallows and sugar. Add to creamed mixture. Whip cream and fold in. Pack in molds and freeze. Serve with any dressing desired.

PUMPKIN "PEACE PIPE" PIE

1 pint vanilla ice cream, softened
1 10" pie shell, baked
1 1-lb. can Libby's pumpkin
1/2 teaspoon salt
1 teaspoon cinnamon
1/2 teaspoon ginger
1/4 teaspoon cloves
1 teaspoon vanilla
1/2 cup whipping cream
1 cup slivered almonds
1/4 cup sugar

Spread the softened vanilla ice cream in pie shell that has been thoroughly cooled; place in freezer. FILLING: Start with pumpkin and mix in with 1 1/2 cups sugar, salt, spices, and vanilla. Whip 1 cup whipping cream until stiff and fold into pumpkin mixture. Pour over ice cream in shell, cover with foil, and freeze about 4 hours. TO CARAMELIZE ALMONDS: Combine almonds and 1/4 cup sugar in skillet over medium heat. To prevent burning, stir rapidly as sugar begins to turn color. When almonds are caramel colored, remove and spread on greased cookie sheet. Break apart when cool. At serving time, whip remaining cream, spread around edge of pie. Garnish with almonds.

CRANBERRY REFRIGERATOR CAKE

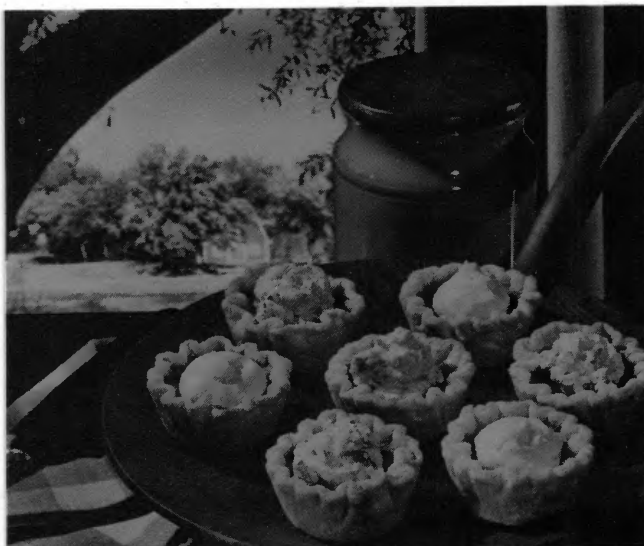
2 cups fresh cranberries, chopped
1 large banana, diced
2/3 cup granulated sugar
2 cups crushed vanilla wafers
1/2 cup margarine or butter
1 cup confectioners' sugar
2 eggs
1/2 cup chopped nuts
1 cup whipping cream

Mix together chopped cranberries, banana and sugar. Set aside while you prepare rest of recipe. Place one-half of the crushed vanilla wafers in bottom of an 8" x 8" pan. Cream margarine and confectioners' sugar together, add eggs and beat well. Spread this mixture over the crumbs. Now top with a layer of the cranberry-banana mixture and sprinkle with chopped nuts. Whip the cream until it stands in peaks and spread over the cranberries and nuts. Cover with all the remaining crushed wafers and chill at least four hours before serving or chill overnight.

PUMPKIN CHIFFON MINI-TARTS

1 pkg. pie crust mix
2 teaspoons unflavored gelatin
1/2 cup brown sugar (packed)
1/4 teaspoon each salt, ginger cinnamon and nutmeg
3/4 cup canned pumpkin
2 egg yolks
1/3 cup milk
2 egg whites
1/4 teaspoon cream of tartar
1/3 cup granulated sugar
Choice of Toppings (below)

Heat oven to 450 degrees. Prepare pastry for Two-crust Pie as directed on package except—divide in half and roll each half to a 14-inch circle. Cut six 4 1/2-inch rounds from each circle. Place rounds over backs of muffin cups or custard cups, making pleats so pastry will fit close. Bake 6 to 8 minutes or until lightly browned. Cool. In saucepan, mix gelatin, brown sugar, salt, spices, pumpkin, egg yolks and milk. Cook over medium heat, stirring constantly, until mixture boils. Place pan in cold water; cool until mixture mounds slightly when dropped from a spoon. In small mixer bowl, beat egg whites and cream of tartar until frothy. Beat in granulated sugar, 1 tablespoon at a time; continue beating until stiff and glossy. Fold pumpkin mixture into meringue. Divide among 12 baked tarts. Chill until set. Top each tart with choice of toppings. TOPPINGS: **Brown Sugar Topping:** In chilled bowl, beat 1 cup chilled whipping cream and 3 tablespoons brown sugar until stiff. **Cranberry-Orange Topping:** In chilled bowl, beat 1 cup chilled whipping cream until stiff. Fold in 1/2 cup cranberry-orange relish, well drained.



FRENCH ONION SOUP

5 small onions, thinly sliced crosswise
2 tablespoons butter or margarine
3 cans (10½ ounces each) beef consommé
2 cans (10½ ounces each) water
1 tablespoon Worcestershire sauce
½ teaspoon salt
⅛ teaspoon pepper
8 slices French bread, cut ¾ inch thick
3 tablespoons butter or margarine
⅓ cup grated Parmesan cheese

Separate onions in rings and cook in melted butter or margarine until glossy. Add consommé, water, Worcestershire sauce, salt and pepper. Bring to boil, cover tightly and cook over low heat 15 minutes. Spread butter or margarine on one side of each slice of bread. Sprinkle with Parmesan cheese. Place slices under broiler until slightly browned. Serve bread on top of onion soup. 6 to 8 servings.

ROAST RIBS OF BEEF

2 to 4 lb. rib beef standing rib roast
Salt
Pepper

Have retailer remove chine bone (for easier carving) and tie roast. Season meat with salt and pepper. Place roast, fat side up, on rack in open roasting pan. Insert roast meat thermometer so bulb is centered in the thickest part, making sure bulb does not rest in fat or on bone. Do not add water. Do not cover. Roast in 325°F. oven to desired degree of doneness. The meat thermometer will register 140°F. for rare, 160°F. for medium, 170°F. for well done. Allow 23 to 25 minutes per pound for cooking roast to rare, 27 to 30 minutes for medium and 32 to 35 for well done. Roasts are more easily carved if permitted to "stand" in warm place 20 to 30 minutes after removal from oven and before carving. Since roasts do continue to cook after removal from oven, it is best to remove roast when thermometer registers about 5°F. below the temperature of doneness desired.

HOT PEACH GARNISH

1 can (16 ounces) cling peach halves
1 jar (6 ounces) maraschino cherries
Watercress

Drain peach halves and place cut side up in baking dish. Place 1 cherry and 1 teaspoon cherry juice in each peach half. Heat in slow oven (325°F.) for 10 minutes. Remove from oven and arrange sprig of watercress on each half, sticking end under cherry. Serve hot.

MINCEMEAT WALNUT PUDDING

1 jar (1 pound 12 ounces) mincemeat
2 eggs, beaten
4 slices wheat bread, cut in ½-inch cubes
½ cup firmly-packed light brown sugar
1 cup sifted flour
1 teaspoon baking soda
1 teaspoon salt
½ cup chopped walnuts

Pour beaten eggs over bread cubes, mixing well. Stir in brown sugar until dissolved. Sift together flour, baking soda and salt. Stir mincemeat and dry ingredients alternately into egg mixture. Fold in walnuts. Pour into well-greased 6-cup mold. Cover mold with double thickness of aluminum foil, pressing around top to secure. Place in container holding water to depth of 1 to 2 inches. Cover and steam over low heat for three hours. Remove foil and let stand 15 minutes. Invert pudding on plate and remove mold. Serve warm with

FOAMY LEMON SAUCE

1 cup confectioners' sugar
1 tablespoon cornstarch
⅓ cup butter or margarine
2 eggs
2 to 3 tablespoons of lemon juice

Cream confectioners' sugar and cornstarch with butter or margarine in top part of double boiler. Separate eggs, beat yolks and stir into creamed mixture. Cook over simmering water, stirring constantly until thickened. Remove from heat and stir in lemon juice. Beat egg whites until stiff and fold into sauce.

NOVEMBER, 1973



Basic laundering procedures--

SORTING, PRETREATING AND WASHING CYCLES

■ Even people who have washed clothes for years need to review their procedures every so often. Knowing how to handle today's fabrics, appliances and detergents is important for efficient, satisfactory results. Here's background information involving sorting, pre-treating and washing cycles.

SORTING: Laundry should be sorted into loads that will wash well together with the same water temperature, agitation and spin speeds. Sort by color, separating whites and colorfast items, other colors and those that are not colorfast. White permanent press and man-made fabrics are prone to picking up color. Dark or very bright colors should be washed only with similar items.

Sort by type of fabric and construction. Fabrics that are delicate in construction should be separated from regular washloads. Also, lint givers, such as chenille robes and bath towels, should be washed apart from lint attractors, such as corduroy, permanent press and man-made items.

Sort by amount of soil—heavy, normal and light. And, finally, consider the size of items. Heavy,

bulky things like blankets, bedspreads and slipcovers should be washed alone.

PRETREATING: Prepare clothes for washing by checking pockets, brushing lint and dirt from pant cuffs, closing zippers and hooks and removing any unwashable trimmings. Certain items may need pre-treating for spots, stains and heavy soil. It's a good idea to keep a stain removal chart in the laundry room as a guide for unusual or difficult stains.

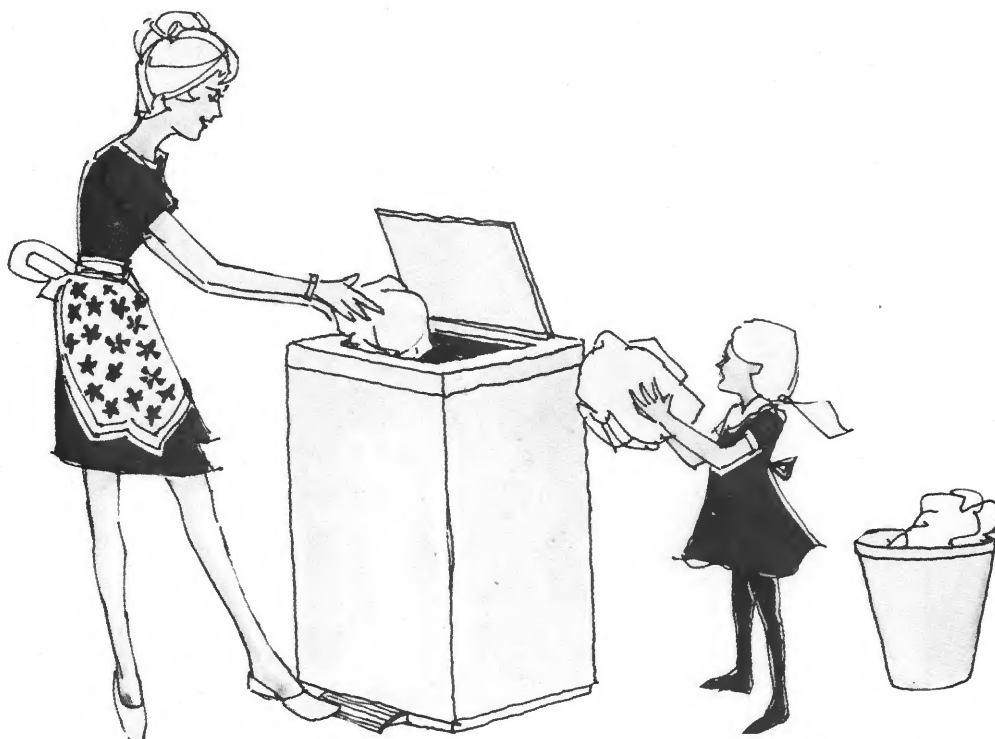
Soil lines around collars and cuffs and small stained areas can be pretreated by dampening the area and rubbing with (1) a paste made of detergent granules and water, (2) a liquid detergent or (3) a bar soap. Heavily soiled articles and those that have yellowed will benefit from a pre-soak before washing. Dissolve a pre-soak product or laundry detergent in the soak water. Products that contain enzymes are especially effective for stains caused by body soils, blood, eggs, baby formula, grass and chocolate. Use warm water, as hot water can sometimes set stains. And again, be sure to separate whites from colors before

soaking. The time needed with enzyme pre-soak products varies from 15 minutes to overnight, depending on the age and amount of stain. And finally, it is important to spin out the soak solution before washing in fresh water and detergent.

A pre-wash includes agitation, unlike soaking, and it provides extra cleaning power for heavily soiled work or play clothes and diapers. Use hot water for oily soil and warm or cold water for protein stains, such as blood, milk or grass. For machines that do not have a pre-wash cycle, fill the tub and turn to deep rinse. Add laundry detergent and clothes. When washer shuts off, reset and launder as usual. Add additional detergent.

WASH CYCLES—Temperature and Speeds: Water temperature influences cleaning, wrinkling, dye stability and the durability of fabric finishes. A good rule is to use the hottest water the fabric and color can stand. Check instructions on labels and home furnishings for recommended water temperatures.

Hot water (140F-160F) is for white and colorfast cottons, diapers and heavily-soiled permanent press and man-made fibers. Keep



in mind that for hot water to be delivered to the machine, the water heater thermostat should be set at HIGH or at least 160F. Use warm water (about 100F-120F) for non color-fast fabrics, washable wools, permanent press and man-made fibers. Cold water (80F or under) can be used to protect sensitive colors and reduce shrinkage and wrinkling.

The permanent press cycle, available on many washers, provides a special cool-down right after the

wash portion of the cycle to cool garments before they are spun. This tempering treatment, followed by a cold rinse, helps prevent wrinkles.

Another choice must be made dependent on fiber content, fabric and garment construction and the amount of soil. This is washing action; the time and vigor with which laundry is moved about in the wash and rinse cycles. Sturdy whites, colorfast and heavily soiled items should be washed for 10 to

15 minutes at regular agitation and spin speeds. Non-colorfast fabrics require normal speeds but less agitation time—6 to 8 minutes—to reduce color loss. Permanent press and synthetics respond best to frequent laundering in small loads using regular agitation for about 6 to 8 minutes and a slow spin to minimize wrinkling. Delicate fabrics and those that may ravel or fray easily should be washed 4 to 6 minutes with slow agitation and spin speeds.

CHOOSING AND USING A SOAP OR DETERGENT

■ The primary purpose of a soap or detergent is to loosen and remove soil from fabrics and to hold the soil in suspension in the wash water until it is drained away. There are many products on the market designed to do just that. Which you choose depends on water conditions in your area, the kind of washer used, fabrics laundered, degree and types of soil and personal preference. Soap and detergents are classified according to use. The following information will assist you in selecting laundry products for your needs.

It should be noted that the main difference between a soap and detergent is in the way each performs in hard water. While soap is satisfactory in soft water, in hard water it reacts with the minerals, to form an insoluble curd or film which deposits on clothes. Detergents give satisfactory results in hard and soft water, and are therefore more widely used for home laundry. There are two categories for both soap and detergent products—light-duty or all-purpose.

LIGHT-DUTY SOAPS: These are primarily pure soap and are formulated for laundering diapers, other baby clothes and lightly-soiled delicate garments such as lingerie, stockings and fine woolens. Suited for both machine and hand washing, they are available in two forms—flakes and granules.

ALL-PURPOSE SOAPS: These are designed to clean full range of fabrics found in family wash. All-purpose soaps contain builders and often fluorescent whitening agents and come in granule and flake form.

LIGHT-DUTY DETERGENTS:

These, like light-duty soaps, are designed for laundering delicate, lightly-soiled fabrics. They are found in granule and liquid form. **ALL-PURPOSE DETERGENTS:** As classification suggests, these are designed for the entire household wash from heavily-soiled work clothes to delicate fabrics. They are available in granule, liquid or tablet form and are generally identified by their sudsing characteristics—high (normal), intermediate and low.

High and intermediate sudsing detergents can be used in top-loading washers, the automatic and wringer types. The low sudsers can be used in all washers but are of particular advantage in front-loading, tumbler-type washers where an excessive amount of suds can interfere with washing action.

All-purpose detergents are also available for cold water use. The cold water detergents are designed for situations in which cold water may be desirable, e.g. to guard against shrinkage, wrinkling or color loss. They are also effective in water of any temperature.

The following basic types of ingredients are found in most all-purpose detergents:

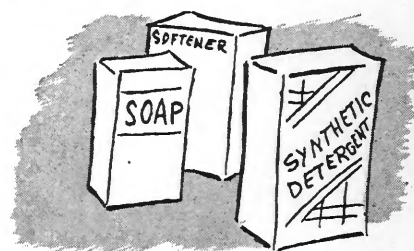
Surfactants (surface active agents) to make water wetter, to loosen, make soluble and/or suspend soil.

Builders to tie up hardness minerals, maintain desirable alkalinity and help disperse and suspend soil.

Suds control agents to establish and control desired sudsing characteristics.

Corrosion inhibitors to protect metal parts of the washers.

Soil redeposition inhibitors to



help prevent loosened dirt from settling back on the fabrics.

Fluorescent whitening agents to whiten and brighten fabrics.

Perfumes to help cover odor from soiled cloth during washing and give a clean fragrance on clothes after washing.

One or more of the following optional ingredients may be incorporated into a laundry product:

Oxygen bleach to aid in removal of some soils and stains.

Borax to aid in removal of some stains and to impart a sweetness and freshness to clothes.

Bacteriostats to inhibit the growth of some bacteria on washed fabrics.

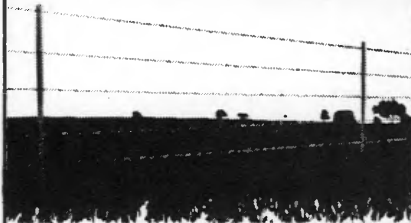
Bluing to leave a slight blue tint on fabrics and thus tend to counteract yellowing.

Colorants (other than bluing) to impart individuality to a product.

Enzymes to aid in cleaning and stain removal, especially protein soils.

USING SOAP & DETERGENTS: Follow package directions for the amount to use. The recommended amount on the package is based on average washing conditions: a five to seven pound load of clothes, moderate water hardness (four to nine grains per gallon), and average water volume (about 17 gallons for a top-loading washer, eight gallons for front-loading washer).

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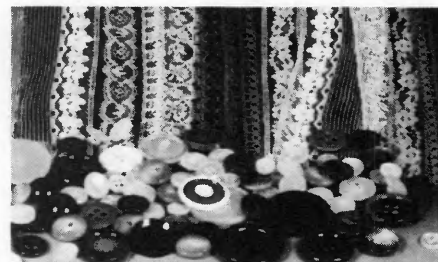
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ILLINOIS RURAL ELECTRIC NEWS

DOING HER OWN THING

When people look toward retirement, they're also considering what they'll be doing with their free time. And Mrs. Harlan Monroe of rural Roseville has done just that.

When she retired from her teaching career at the Roseville elementary school, she had already decided to spend her spare time pursuing what had been a sort of hobby—upholstery.

And today, a few years after retirement, she not only occupies her spare time as an upholsterer, but she also derives some supplemental income. And her basement workshop serves as a sort of retiree's reclusive.

"After teaching all those years," Mrs. Monroe commented, "I just didn't feel that I could just retire and let the time go by. Although I remain active in community events, helping on the farm and in the family garden, I wanted my own self-satisfaction. And that happened to be upholstery."

Under her skillful touch, Mrs. Monroe can turn an old piece of furniture—such as a sofa or chair—into what appears to be a rare piece of antique art. She orders her material, which includes velvet for tap-estry work, according to her customer's tastes. In addition she has a button maker and a commercial sewing machine, which allows for professional quality. And an electric stapler also speeds up her work.

Electricity, which is essential in her business, is provided by Maccomb-based McDonough Power Cooperative. Her husband is a director of the cooperative and serves as vice president.

Retirement doesn't have to be a drag. And if you're like Mrs. Monroe, you'll find it most enjoyable.

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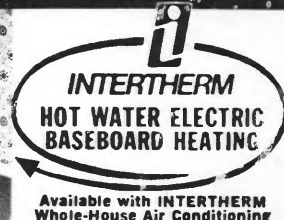
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9463
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4770
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9386 SIZES 7-15



4925
SIZES 8-20



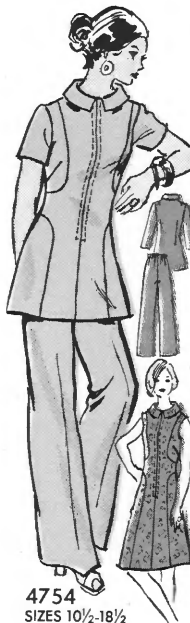
4624
SIZES 8-18



9015 SIZES 8-18



9185
8-18



4754
SIZES 10½-18½



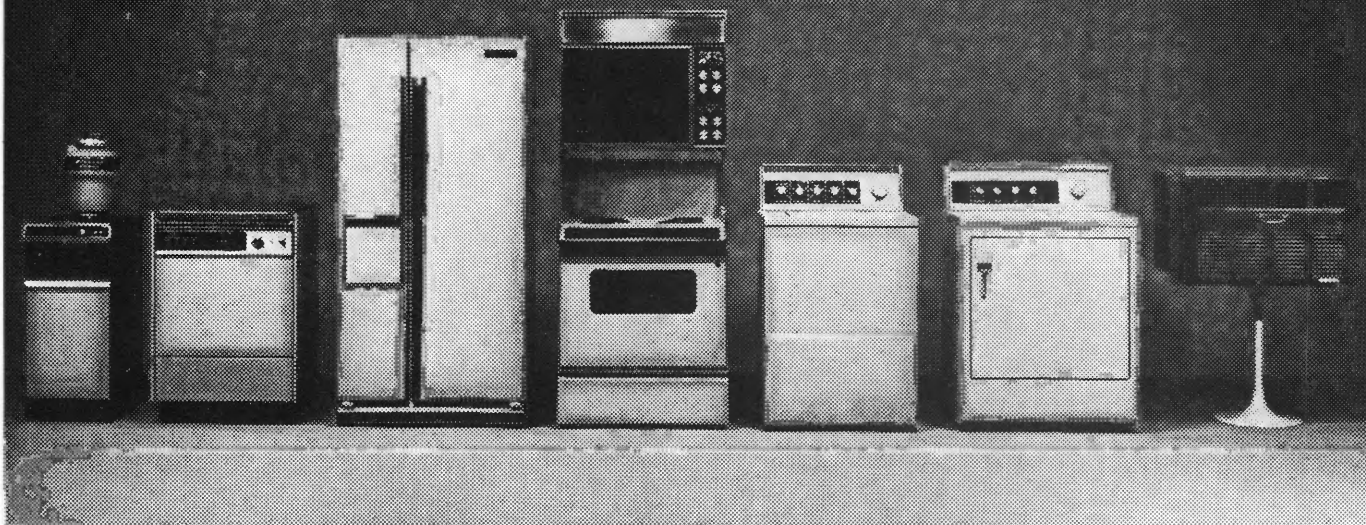
9379
SIZES 2-8



4981
SIZES 10½-20½

- No. 9217 is cut in sizes 10½, 12½, 14½, 16½, 18½. Size 14½ (bust 37) takes 1⅝ yards 60-inch; ½ yard 39-inch contrast.
- No. 4606 is cut in child's sizes 2, 4, 6, 8. Size 6 takes 1¾ yds. 45-inch; ½ yd. contrast.
- No. 9463 is cut in sizes 8, 10, 12, 14, 16, 18. Size 12 (bust 34) takes 2⅛ yards 45-inch fabric.
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- No. 9386 is cut in Jr. Miss sizes 7, 9, 11, 13, 15. Size 11 (bust 33½) pantsuit takes 2⅜ yards 60-inch fabric.
- No. 4925 is cut in sizes 8, 10, 12, 14, 16, 18, 20. Size 12 (bust 34) takes 3¼ yards 45-inch.
- No. 4624 is cut in sizes 8, 10, 12, 14, 16, 18. Size 12 (bust 34) takes 2⅛ yards 45-inch fabric.
- No. 9015 is cut in sizes 8, 10, 12, 14, 16, 18. Sizes 12 (bust 34) takes 2⅝ yards 45-inch fabric.
- No. 9185 is cut in sizes 8, 10, 12, 14, 16, 18. Yardages in pattern.
- No. 4754 is cut in sizes 10½, 12½, 14½, 16½, 18½. Size 14½ (bust 37) takes 2½ yards 60-inch fabric.
- No. 9379 is cut in sizes 2, 4, 6, 8. Size 6 takes 1⅝ yds. 35-inch; ¼ contrast.
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