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December 1984

## Illinois Rural Electric News

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Christmas



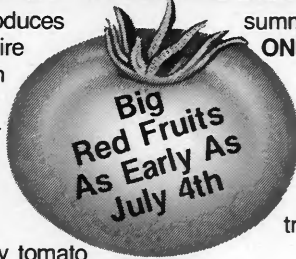
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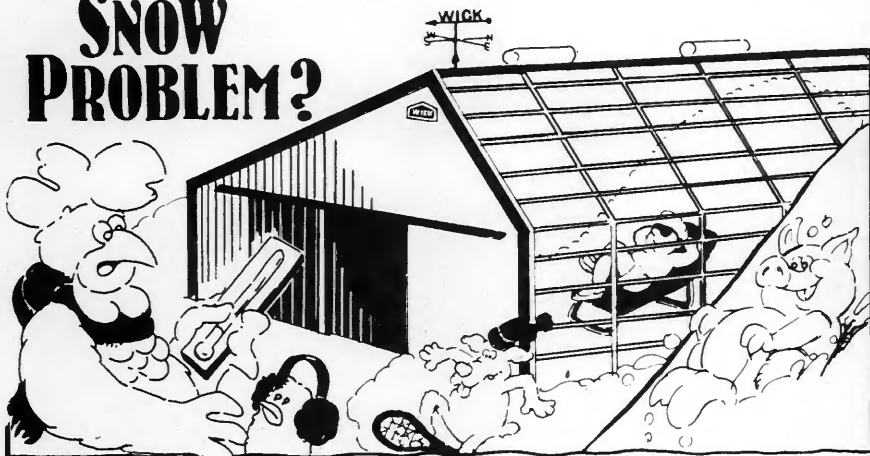
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# Illinois Rural Electric News

## REA proposals could harm agency and cooperatives

In two separate efforts, the Rural Electrification Administration is preparing to get rid of several operations that experts contend have been crucial to the agency's 50-year success record. One proposal would abolish the engineering standards division and another would move budget and personnel functions to another agency.

Rural electric leaders fear that without engineering standards and staff expertise, REA would become an ineffectual agency, unable to assure security on its billions of dollars in outstanding loans to rural utilities, and incapable of fighting internal Administration battles for adequate funding and personnel levels.

The results could eventually show up in a lower quality of service and higher prices for electricity in rural areas.

Of the two major moves, the shifting of management functions is virtually complete and is expected to take effect shortly after the first of the year. Under that plan, operations such as budget and personnel will be cut from REA and folded into a group covering several other Agriculture Department agencies.

The nation's 1,000 rural electric co-ops protested the action at an annual series of regional meetings around the country this fall, by passing a resolution stating, "We are not opposed to internal REA consolidations to cut costs. However, we strongly oppose administrative actions that remove key staff functions from REA and thereby cripple its ability and destroy its autonomy."

Norman Clapp, REA administrator under Presidents Kennedy and Johnson, said the management move would hurt REA's ability to protect its budget and employees.

The other effort under way at REA would eliminate the engineering standards division from the electric and telephone programs. REA will say only, in a prepared statement, that it is reviewing the division as part of a government-wide examination of management, and that, "Basic to this review is the question of what activities are properly the government's responsibility and what activities could be performed by the private sector . . . and is not directed primarily as an economy move."

REA's engineering standards division sets rules for the types of materials, contracts and construction specifications rural electric systems must use in order to borrow from the REA. Historically, the standards are credited with helping rural electric co-ops get off the ground, by requiring high-quality techniques and products especially suited to remote areas. Former administrator David Hamil says, "One of the strengths of the program is that these rural electric systems weren't thrown together with a bunch of junk."

Today, the standards guarantee a level of quality that provides a kind of security for REA loans. At the same time they help co-ops maintain a high level of service.

Lee Hogan, legislative chairman for the Power and Communication Contractors Association, told a Senate subcommittee that contractors can build projects for rural utilities for between 5 and 9 percent less than they would normally cost as "a direct result of a rather remarkable system of standardization that REA has perfected over the past 50 years, that gives us a truly unique mobility to go throughout the country."

—Rural Electric News Service

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### In this issue

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Lace, weeds and pine cones . . . 4 and 5  
Stray voltage . . . . . 6  
Swine confinement center . . . 8 and 9  
Space heater safety . . . . . 10 and 11  
Materials Handling Show. . . 14 and 15  
Sewing crafts . . . . . 16  
Using wood for heat. . . . . 18 and 19  
Casual holiday recipes . . . . 20 and 21  
Energy assistance. . . . . 22  
Trading Post. . . . . 23

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Illinois Rural Electric News

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Cover: The Christmas season brings out some outstanding handiwork by Illinoisans. This pine cone "tree" is the work of Garnette Hallwas of Macomb. See story on pages 4 and 5.

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endorsement by the publisher or the electric cooperatives of Illinois of the product or service advertised. Advertisers are screened by the publisher and every effort is made to protect the subscriber but the IREN is not responsible for the performance of the product or service advertised.



arnette Hallwas has been careful to see that her work would mesh well with her family life. Like many mothers, she wanted to work, and still stay home with her children when they needed her most. "I needed to work," she says, "partly as a creative outlet and partly to earn money,

but I still wanted to be home with my kids when they were little." She managed to do both, and mixed in her biking, camping, antique collecting and bridge hobbies as well.

The McDonough Power Cooperative member started nine years ago making wreaths, Christmas trees, center pieces and baskets out of pine cones. She gave them as gifts or sold them to friends and neighbors, who liked them well enough to suggest that she exhibit at area craft shows.

As her children grew, Garnett's work commitments grew too, both in and outside the home. Now, with Darrin a sturdy 17-year-old and Evan 10, she works a couple of days a week at Haeger Pottery in Macomb, where she is a

flower arranger. She also gives demonstrations to various groups.

Still, there has always been some family involvement in the craft business, Mrs. Hallwas says. "It takes an awful lot of cones to keep an operation like this going," she says, "and my husband, John, and the boys help gather them. I try to start the working season with a dozen garbage bags full of pine cones.

"John, who's a professor and director of regional collections at Western Illinois University, helps with the housework when I'm busy," she continues, "and almost all our vacations are given over to my search for cones. Most families bring home souvenirs from vacation. We bring home pine cones. We get back with our travel trailer full of them, and sometimes we may even stuff a few under the car seats!"

While the family travels far and wide, most of the raw materials are found nearby, she says. There are many coniferous trees — not just pines — around Macomb, and on the WIU campus. While pines yield many of the cones Garnette needs, many come from spruce, hemlock or any

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## Art in lace, weeds and

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of half a dozen varieties of trees. Incidentally, a cone that will work well as part of a basket will be useless as a Christmas tree component.

"Friends and neighbors help too," she says, "by telling us of good places to look and, sometimes, by bringing cones. I like to harvest as much of my material as I can, so I can keep my prices reasonable."

And it is well that she makes an effort to keep costs down, because it takes many a cone to make a respectable Christmas tree, with about 350 going into an 18-inch model. Hours of work, tender loving care and expertise also go into a tree, wreath or basket, before Garnette applies the last of five coats of lacquer that adds luster and protection.

One tree she made, to decorate her own home, took some 3,000 cones and stands five feet tall — in a Macomb bank. She had put it in an exhibit at the bank's request, and they liked it so much that they bought it from her. "I keep three trees in my house during the Christmas season," she says, "but they really liked it, so I sold it to them. The bank president came out and picked it up in his own car. I

was really impressed."

Besides making up many craft items for sale at shows and during the fall Spoon River Scenic Drive, Mrs. Hall was occasionally takes orders for particular items too. "A lady wanted a huge wreath," she says, "and she wanted to send it to Texas. She picked out a bow and the decorations she wanted, and I made it for her. I thought it turned out very well. I get a lot of orders for weddings and birthday gifts, and many of them are for wreaths made of baby's breath, which is becoming more popular all the time."

As Garnette polished her skills and developed a pleased clientele, more retail offers came along. "Famous-Barr, a Springfield department store, had a large selection of my work for a while," she relates, "and they sold well. A lady came over not too long ago from Oakford, near Springfield, and loaded up a big van with craft items for resale too."

Besides retail offers, Mrs. Hall was began receiving requests to teach her craft, some from civic groups and clubs, and another from the university, which asked her to teach an adult evening class. "I was a little nervous about that," she laughs, "because although I'd worked as a teacher's aide, that was with children. I was kind of afraid adults would ask tougher questions and be more critical, but it worked out well."

It is not uncommon for her to get requests to set up a craft display in a shop window or library showcase, and she does that fairly often.

As time has gone by, Garnette has noticed a shift in buyers' tastes and has changed her media to accommodate it. "I think the market for pine cone products has levelled off," she says, "and although I still make a lot of craft items from them, I've started making more and more things in the Victorian style, using lace, straw flowers, ribbons and baby's breath. I also use cinnamon curls, artemesia, rose petals, statice, tansy, eucalyptus and wheat. Of course, I don't necessarily use all ingredients on every piece I make."

She is also shifting to somewhat different colors for Christmas, instead of the traditional reds and greens that many of us automatically associate with that time of the year. Now, her Christmas wreaths, likely as not, will be lacy, gossamer creations with a few tiny dried flowers, a sprig of baby's breath, a curl of cinnamon and a pastel ribbon. "The Victorian arrangements are popular for weddings too," she says, "and many are made up on heart-shaped frameworks."

Whatever she uses to make her craft items, and for whatever occasion, it is safe to assume that Garnette will do a tasteful, artistic, craftsmanlike job as she has in the past.

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## pine cones

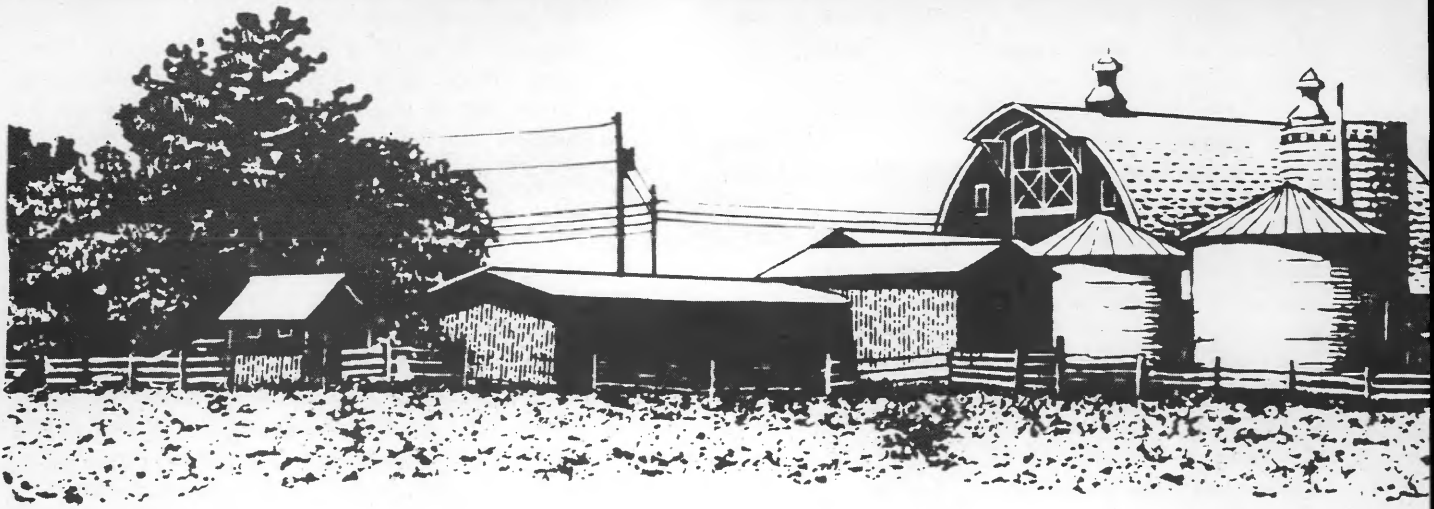
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*At far left, a selection of Garnette's work shows an increasing emphasis on the use of baby's breath to create Victorian articles, rather than a heavy reliance on pine cones. Near left, she exhibits one of her wreaths.*

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# STRAY VOLTAGE

**D**airy farmers and livestock producers know there are many conditions that can adversely affect the behavior and production of their animals.

Dairy cows exhibiting problems such as uneven milk letdown, nervousness in the parlor, poor eating or drinking habits, increased mastitis or reduced milk production likely are demonstrating the effects of one or more of several causes: herd diet, disease, equipment sanitation problems, rough handling of animals or improperly adjusted milking equipment. Other types of livestock may have lower-than-normal growth rates, high death rates, scours, among other problems, that may be caused by diet, disease, equipment or handling. Another area of concern, one that is quite complex, is stray voltage.

Identified about five years ago, stray voltage has drawn the attention of agricultural engineers, animal scientists and others in attempts to answer questions about the effect the phenomenon may have on dairy cows. Because there is no visual animal behavior unique to stray voltage stress among dairy cows, farmers should investigate a series of potential causes for unusual cow behavior. Stray voltage, research has indicated, may cause some of the problems described earlier in this article, although the five years of stray voltage study shows the following results: (1) considerable

variation in sensitivity to voltage seems to exist between cows in a herd, (2) although distinct behavioral responses were shown, no significant reduction in milk yield occurred when cows were given mild electrical shocks in the laboratory, (3) no significant difference in milk letdown or residual milk retention in the udder was observed for cows subject to mild shocks, and (4) somatic cell counts (indication of infection) were not elevated due to application of low-level currents.

The tests were conducted under laboratory conditions in which scientists simulated the conditions of stray voltage on dairy cows. While more research is needed, preliminary results indicate that there is no direct connection between the presence of low voltage levels and loss of production in dairy cows. The reaction of cows, however, to low voltage levels (nervousness in the parlor, kicking off milkers, or reluctance to eat or drink) will create a management problem for the dairy farmer and could indirectly affect milk production in the herd.

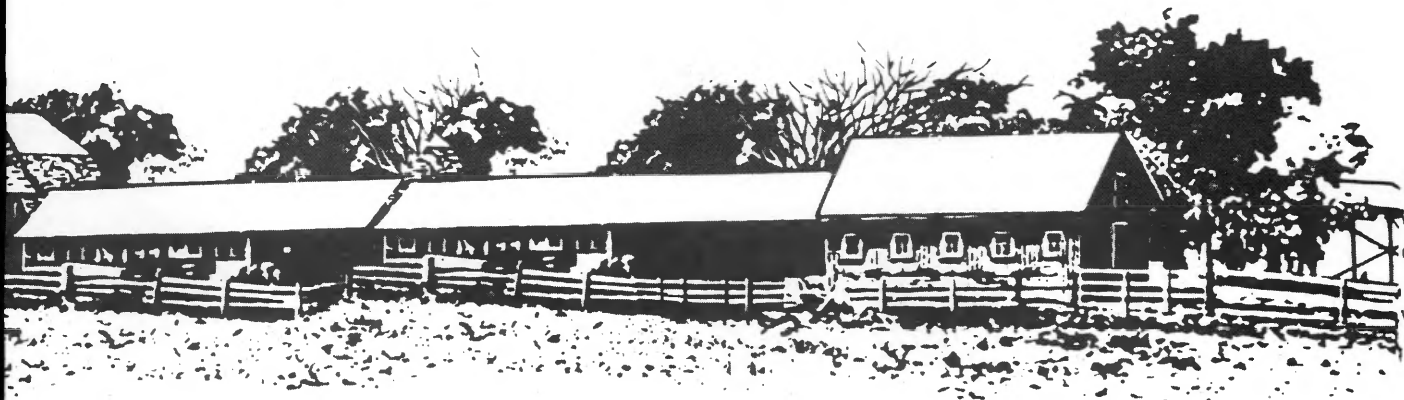
What is stray voltage? It is the term used to describe misplaced, low-level electrical impulses sometimes found in dairy parlors or other livestock facilities. In most instances, this low-level voltage (usually between one-half and five volts) is too small to be felt by humans or animals under most conditions. However, in dairy parlors and

some swine facilities, there are special characteristics which cause stray voltage to be a problem. Water, with its ability to conduct electricity, is present, and animals' feet have a good connection with the earth. Any small voltage on equipment such as milking stanchions, cattle trainers or watering cups will be conducted to ground through the animal's body. This will not harm the animal, but it may stress it and prevent a dairy cow from letting down her milk.

The most frequent cause of stray voltage is a neutral-to-earth voltage difference.

Working voltage for most farmstead equipment is either 120 or 240 volts. This is measured between the "hot" wire and the neutral wire. The third wire in the system, the ground wire, is present in case of an electrical fault or short. Normally, there is no current traveling through the ground wire, but if a fault should occur, this wire will provide an "easy path" to ground and allow the fuse or circuit breaker to open and safely deenergize the circuit.

Now, let's turn our attention back to the neutral wire. The "hot" wire is the "delivery" wire of the circuit and the neutral wire is the "return" wire. It is normal to have a small voltage reading (of five volts or less) on the neutral wire as compared to true ground, and normally this low voltage cannot be felt by people or animals. But in the unique environment of the



dairy parlor, this voltage difference between the neutral wire and true ground, now commonly called stray voltage, has become a subject of concern.

Basically, this is the situation that might exist. The neutral wire of the farmstead wiring system may carry a low-level current to earth through ground rods and through electrically grounded equipment and facilities in contact with the soil. All wires and electrical connections have some resis-

tance to the flow of electrical current.

Due to these resistances, whenever there is current flowing in the neutral wire, a voltage exists between it and earth. The cow's feet in contact with the wet concrete floor of the parlor provides a good electrical connection to ground. When the animal's nose touches the stanchion or when the milking cups are applied to the udder, the cow provides a "better path" for this low voltage to return to ground. Although the farmer cannot feel it,

the animal may be stressed by this low-level voltage.

Other situations causing stray voltage include currents, unbalanced electrical loads, improper grounding of service, faulty ground rods, galvanic action, electrical shorts and primary neutral current.

If you think you have a problem with stray voltage on your farm, you should contact your electric cooperative or the Cooperative Extension Service in your county.

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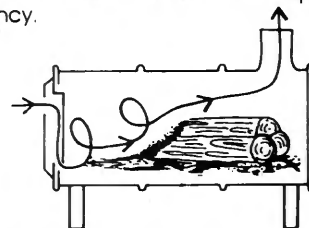


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*Inside the sealed environment of the confinement building*

## Swine center suited for the task

**T**he John Wood Community College swine confinement center is doing what it set out to do. Established as an educational service to provide management-qualified personnel for hog operations, the center, which is located near Perry (Pike County) in Illinois Rural Electric Co.'s service area, has a job offer for virtually every student it graduates. In fact, says Jeff Galle, coordinator of the program and president of the Pike County Pork Producers, there are about four times as many jobs as there are graduates.

"We graduated 10 students last year," he says, "and had 40 job openings. We have facilities to teach up to 50 students, and we're hoping to attract a bigger enrollment so we'll be able to help producers get top-quality managers."

Located next to the University of Illinois Orr Research Farm on Route 104 about 30 miles east of the Quincy main campus, the facility is, essen-

tially, a confinement building with a classroom attached. The environment-controlled structure features farrowing, nursery and breeding rooms, and houses a 72-sow breeding herd.

Galle notes that the program is not limited to people with farm backgrounds, as some would believe, and adds that a farm background would not necessarily give a student an edge in the curriculum.

Students at the facility work in a practical, everyday production environment, much as they would if they were employed in a swine production venture. They help raise 1,300 feeder pigs, farrow half a dozen sows every other week and use embryo transplants to keep the herd disease-free. Courses in the curriculum include nutrition, reproduction, health, breeding, genetics and management skills.

"Our students have two options," Galle says, "depending on what their goals are. Our one-year certificate

course deals specifically with pork production and can be completed in nine to 12 months. It's great for people who don't want to take English, math, speech and psychology. The two-year course includes a good grounding in those classes, in addition to swine production, and the student who completes the two-year curriculum will receive an associate of applied science degree."

Students who complete either course are well prepared to go out and get assistant manager positions with producers, Galle says.

"As I've said before," Galle stresses, "One good part of our program is that with our facilities, training program and hands-on kind of work, there's no handicap for the non-farm person. In fact, about a quarter of our students are from urban backgrounds. One of our students came from Burlington, Colo.," he says, "and went out to take a job in the San Joaquin Valley in



California, managing a 400-sow operation. He called a few weeks ago to say that he'd taken a new job managing a 1,200-sow operation. And a producer in Arizona called to ask for two workers. I just told him I'd put out the word that he was looking, in the hope that some of our past students would be interested."

Larry Fischer, director of agriculture programs for JWCC, shares Galle's enthusiasm for the program. "There's so much opportunity, it's almost inconceivable. There simply aren't enough students to fill the jobs we have requests for," he reemphasizes. "This is an all-teaching facility here at John Wood; there is no research. Our goal is to teach all types of swine production, too, not just confinement," he says.

Adams and Pike County pork producers were instrumental in establishing the program. The Ag Advisory Council at JWCC surveyed pork producers from those two counties and the Illinois Pork Producers Association executive board, asking: "What do we need?" The answer was: people skills.

Now in its fifth year, the JWCC program is the only one of its kind in the state. Joliet Junior College began a two-year confinement program in 1981, but does not have its own confinement facilities; a nearby swine farm is used for student experience.

Fischer says the local community has worked well with the college in providing housing for the students. "I wouldn't anticipate a housing problem if we doubled enrollment," he says.



*From top to bottom: Jeff Galle, leaning on rail, is coordinator of the program. Larry Fischer, left, JWCC agriculture programs director, talks with Rick Edwards. Fischer explains about the waste treatment facilities at the center.*

**T**he idea of zone heating, or keeping a small part of the house comfortably warm and closing off the rest, is gaining in popularity. Some people prefer to heat limited areas rather than their entire home.

Many Illinois electric cooperatives have been boosting the idea of creating such a "comfort center" for those who would like to keep their home heating costs down or conserve energy.

Often families move in some type of portable heater: usually electric or kerosene (and sometimes gas), and dial

be at least as big as the cord coming from the heater, and it should be in good condition. When in doubt, you should use the next larger size. Both the heater and the cord, if any, should have the Underwriters' Laboratories (UL) seal of approval."

Hiatt added that under no circumstances should a portable electric space heater be used in a bathroom environment, where it might fall into a sink or tub of water.

Larry O'Neal, representing the Illinois LP Gas Association, pointed out that the use of unvented portable LP gas

# Safety is key space heating

down the thermostat on the whole-house heating system. Others choose a wood stove. Results, in some cases, have been disastrous.

The U.S. Consumer Product Safety Commission held a series of space heater safety programs in Illinois this fall to educate community leaders about space heating safety.

Victor Petralia, regional director of the CSPS Midwestern Regional Office, Chicago, recapped the problems involved. "In Illinois in 1983," he said, "there were 768 fires involving space heating equipment such as fireplaces, portable space heaters, wall heaters, and woodburning stoves and the vents, flues and chimneys associated with them.

"There were 42 injuries resulting from these fires," Petralia continued, "and the dollar loss amounted to \$3,150,866. None of these fires should have happened. This program is designed to bring the statistics down."

Richard Hiatt, assistant director of member services for the Association of Illinois Electric Cooperatives (AIEC), gave presentations on electric space heater safety at two of the sessions in Springfield and Mt. Vernon. Representatives of the gas and kerosene heater industries, and Don Davis, an insurance man, also gave presentations. Petralia conducted the discussions and Tom Quillan, fire chief from Skokie, represented the Illinois Fire Chiefs Association.

Hiatt demonstrated a variety of small electric space heaters and noted that any electric heater should have an automatic shutoff that deprives it of current if it tips over, so it will not ignite a rug.

"It's nice to have a light that glows when the heater's on, so you'll know that," he said, "and they should have a grille over the front to keep children from poking their fingers into the heating elements. Probably a main concern is that people sometimes have a tendency to run long extension cords to heaters and to run cords under rugs, which wears them very quickly.

"People should remember that an extension cord should

heaters is now legal in Illinois, but recommended that users crack a window while the heater is on, just to be on the safe side. "And whatever you do," he emphasized, "never disconnect the 20-pound LP bottle from your backyard barbecue grill and bring it into the house to fuel a propane heater. It is both illegal and dangerous. The legal limit on LP gas in a living area is one pound, and there's more than that in one of those small cylinders you buy in a hardware store for your little propane torch. The gas should be piped in, using only the proper connectors."

Most gas fires take place, he noted, when someone discovers a pilot light that is out and strikes a match to try to relight it, or tries to relight a flame that has gone out.

"If you can smell gas," he said, "you shouldn't try to light anything. You shouldn't turn on an electric switch or use a telephone, because both may spark. The best bet is to quickly leave the house, go to a neighbor's, and call a serviceman. Repairs should be made only by a trained gas service technician," he emphasized.

Dr. Harold Smith, president of the National Kerosene Heaters Association, noted that most kerosene heater fires have been caused by misfueling, or by improper fueling techniques. "By misfueling," he said, "we mean that the user accidentally or deliberately tries to use white gas, gasoline or JP-4, which is jet fuel. Improper fueling techniques," he adds, "usually involve refueling a stove while it is still hot."

Problems with kerosene heaters have been compounded by the use of red cans, and for two reasons, he notes. First, if a person takes a clean, completely empty red can to a gas station and asks the attendant to fill it up, the attendant will assume that gasoline is what he wants, since red cans and gasoline have been associated with each other for several years. The kerosene heater industry is pushing for a medium blue can with big block letters for kerosene, to avoid that problem. "Since the flash point of gasoline is -40 degrees F, while that of kerosene is 130-150 degrees F," he

said, the use of straight gasoline can be disastrous.

"Another 'red can' problem," he went on, "is that people will sometimes take a used can that may have a pint of gasoline in it and fill it the rest of the way with kerosene on the assumption that such a small amount of gas won't do any harm. That's not true! A pint of gasoline in a five-gallon can of kerosene lowers the flash point from 140 degrees F to about 30-40 degrees, and that's a world of difference."

Smith said kerosene heating is now beginning to

## consideration

approach the safety level electric heaters have had for years, while gas heat has involved far more accidents and wood heating fires are still on the increase.

Makers of kerosene heaters, gas heaters and electric units all warn against placing their heaters too close to combustible materials, and such misuse has been the cause of many fires. All also advise against drying damp articles of clothing by draping them over the heater.

Davis, of Country Companies, an insurance carrier, noted, that of all the heaters now coming into widespread use, the woodburning unit is probably the most difficult and expensive to install and operate safely.

"There are many rules that have to be followed to make an installation acceptable to an insurer," he said, "and many of them involve distance. For instance, there must be a certain distance from the stove to any combustible



*Richard Hiatt of the AIEC staff explains safety techniques for electric space heating devices.*

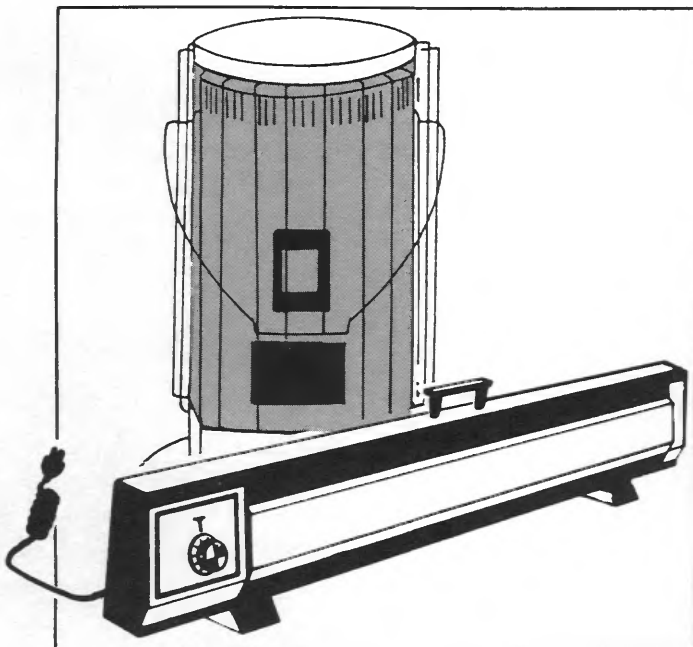
surface, and the pipes must have clearances, too. A properly installed stove and flue will take up an awful lot of space, and many people try to cut corners and 'fudge' a little. This is very dangerous. And any chimney must have a clay tile liner.

"Creosote build-up is another danger," Davis continued, "and the more efficient, modern, airtight stoves add to the problem, since they burn more slowly. Such systems should be checked frequently by a certified chimney sweep. In fact, we're so sold on the idea of cleaning and inspection that we give a \$20 rebate to a customer who has his system cleaned by a sweep."

Quillan summarized the problem as a kind of generation gap. "One of the major problems," he stated, "is that nearly all of us are a generation or so away from the techniques needed to make wood stoves and portable space heaters safe and efficient.

"Our parents may have used one of the old kerosene heaters, or a woodburning stove, and they knew all the little ins and outs. There's a generation out there that's going to have to learn all those little techniques if they're going to get the most out of portable space heaters — no matter what kind — or wood stoves."

The workshops, Petralia said, were designed to bridge that gap. "We hope the community leaders here will take home the things we've brought out here and spread the word in their communities. If there's any one thing we've noted here it's that portable space heaters will do a good job if they're used for their intended purpose and used correctly."



**I**t's fireplace season again — time to spend relaxing evenings in front of a blazing stack of logs. But, fireplace owners who ignore basic safety rules may find their serenity interrupted by choking clouds of black smoke and the sound of fire engine sirens.

Don't assume that your fireplace is ready for another season's use just because fall has arrived," says Bob Aherin, University of Illinois Extension safety specialist. Aherin advises that a thorough cleaning and inspection each year is essential for the safe operation of an ordinary open-hearth fireplace.

The most common problem is a buildup of creosote, a tar-like substance, inside the chimney. Slowly burning wood produces acids that combine with moisture to form creosote. When ignited in the chimney, creosote burns with intense heat.

This creosote buildup can be scraped from the chimney with a flat metal blade on a long handle or a stiff wire brush. Another alternative is to hire a professional chimney sweep.

The use of properly dried wood can help retard the creosote buildup. The



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## Condition your fireplace before use this winter

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best fireplace logs are those that have been cut, stacked and allowed to dry for at least a year.

A person who burns high-moisture wood should plan to clean his chimney at least monthly. Otherwise a yearly chimney cleaning is probably sufficient.

If a creosote fire does break out, Aherin warns against spraying water into the hot chimney. This may cause the flue liner or bricks to crack.

Instead he advises immediately calling the fire department. Until professional help arrives, the homeowner can attempt to cut off the air supply to the chimney by completely covering the hearth opening with a wet blanket or other materials.

Large amount of coarse salt

dumped into the fire pit may also help in dosing the blaze.

"When creosote catches fire," he says, "the heat may elevate the temperature of the chimney or flue far above safe levels. This could cause the flue to fracture, igniting combustible materials in the walls. Hot creosote and sparks may also spill out of the chimney, setting the roof on fire."

In addition, homeowners should be sure that the hearth is covered by a tight-fitting screen to prevent sparks and hot coals from popping out.

Aherin further recommends keeping all combustible materials, especially cardboard, paper and fabric, well away from the fireplace.

Owners should also check the chimney and all vents to make sure

they are not obstructed. A blocked chimney may allow deadly carbon monoxide gas to filter back into the house.

Aherin explains that a properly functioning fireplace needs to have oxygen entering the combustion area. The heat from the combustion causes a strong upward draft in the chimney which carries the dangerous gases up and out of the house. An obstructed chimney may interfere with this normal pattern.

Aherin strongly recommends backing up these safety measures by installing a smoke detector. The homeowner should also have an escape plan. This combination should allow for a safe exit in case of a fire.

"Don't forget that when you're burning wood, you're introducing a fire hazard into your home," Aherin says. "One or more smoke detectors can provide an early warning of a problem. They are the best backup you can have."



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Good for ALL Illinois



## FMHS planned March 5-7 at Rend Lake College

Rend Lake College, located between Benton and Mt. Vernon, will be the site of the 1985 Southern Illinois Farm Materials Handling Show March 5-7. Seven electric cooperatives are among sponsors of the show, which for many years was held in Nashville. The show in 1985 will be the 24th.

Electric cooperatives participating as sponsors include: Southern Illinois Electric, Dongola; Clinton County Electric, Breese; Tri-County Electric, Mt. Vernon; Egyptian Electric, Steelville; Monroe County Electric, Waterloo; Southwestern Electric, Greenville, and Wayne-White Counties Electric, Fairfield.

In addition to the cooperatives, other show sponsors are Illinois Power Company, area Cooperative Extension Service advisers in agriculture, and Southern Illinois University-Carbondale.

Moving the annual display of farm and farmstead equipment to the Rend Lake campus will give us better facilities and more exhibit space, said show coordinator Richard J. Patterson. "We also think the academic atmosphere of the campus will help us better maintain the educational purpose of the



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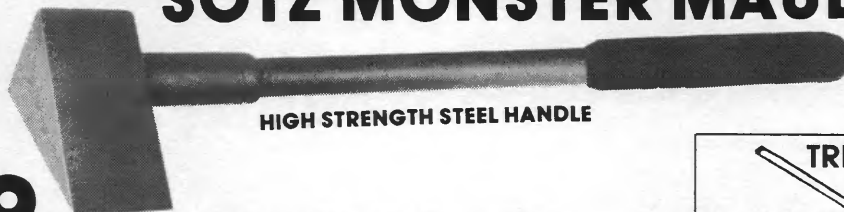
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show," he said. Patterson is an assistant professor of agricultural mechanization in the SIUC School of Agriculture.

The show has been held for more than 20 years at the Washington County Fairgrounds near Nashville. It emphasizes exhibits of nonfield equipment that eases the labor of drying, moving, pumping, stirring, storing or otherwise handling farm materials.

More than 150 exhibit spaces are expected to be filled when the show

moves to its RLC location. From 7,000 to 10,000 persons attend the show each year.

Patterson said the show planning committee will use classroom space at the college to expand the show's schedule of special seminars for farmers. Seminars on stray voltage, microcomputers in agriculture and other topics have been conducted in the past.


David Scott, chairman of the RLC division that includes agriculture, said

he is looking forward to the college's co-sponsor role. "We are ready to do whatever we can to make the show a big success," he said.

The Southern Illinois Farm Materials Handling Show was founded as the Farm Materials Workshop on the SIUC campus. It moved briefly to West Frankfort in the early 1960s, and had been at its Nashville location through the 1984 shows. Show planners said the move to RLC was prompted by a desire to expand the show.

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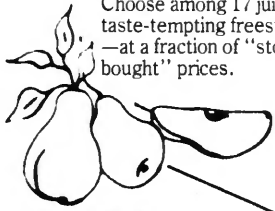
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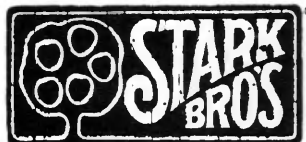
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**H**omeowners using wood heat have safety problems to consider, says Mike Bolin, University of Illinois Extension forester.

Bolin says many people not acquainted with wood heat or not familiar with today's efficient airtight stoves are ignoring safety precautions. The National Fire Protection Association reports that improperly installed or misused wood stoves cause more home fires than defective wood-burning equipment.

"One of the major problems facing the inexperienced wood burner is creosote build-up in the chimney flue and stovepipe," Bolin says. "Creosote is a complex mixture of unburned gases and tars condensed from smoke that deposits on the inside of the flue pipe. Creosote can range from a sticky fluid to a flaky solid, depending on flue temperatures."

Large creosote build-ups in the flue or stovepipe can cause dangerous chimney fires. Bolin says most wood burners who operate their stoves properly will frequently have minor chimney fires and never know it. But

it's because they never let the creosote build up to the point where it's a serious fire hazard.

Creosote can form anywhere in a wood-burning system — from the stove to the chimney tops, says Bolin.

Smoldering fires are excellent sources of creosote, he says. Because combustion is incomplete, large amounts of smoke containing unburned gases and tars are produced. The flue-gas temperatures generated by smoldering fires or fires burning at slow rates often are relatively cool. These gases can condense on the flue wall much faster than when the fire is burning vigorously.

Bolin says flue temperatures must be more than 250 degrees Fahrenheit (F) to reduce creosote formation.

Non-insulated metal and masonry chimneys also will build up creosote more rapidly than well-insulated chimneys that keep flue temperatures high. Air-cooled, triple-walled, metal chimneys are designed to draw in cold air so that the outer chimney wall keeps cool, reducing fire hazards. Because the colder outside air cools

## Poor installation and misuse major wood stove fire problems

flue gases, thereby promoting rapid creosote formation, their use with efficient airtight stoves should be carefully considered, Bolin says.

Restricting the outward flow of the flue gases will also cause increased creosote formation, says Bolin. As the hot gases travel up the stovepipe and out the flue, they heat the surrounding metal surfaces. If the stovepipe is extremely long, the gases may cool considerably before they reach the flue and may condense rapidly, leading to creosote build-up. He says numerous turns, bends or obstructions in the stovepipe also will slow the flue gases causing them to lose heat and condense.

Bolin says the type of wood and the size of the load or charge in the stove also can promote creosote formation. Burning wet, freshly cut wood leads to incomplete combustion

ILLINOIS RURAL ELECTRIC NEWS



and may add to creosote formations. However, a more important point to consider is that green, wet wood has less available heat than does dry, air-seasoned wood, he adds.

Stoves that are loaded to more than one-third of their capacity will produce volatile gases from the wood near the top of the stoves. Because these gases are not near the fire they may not burn and may condense inside the stovepipe, says Bolin. Burning smaller pieces of wood also adds to creosote build-up. Small pieces burn faster and produce more smoke than large pieces of wood, he adds.

If a homeowner suspects that he has more than a quarter-inch of creosote build-up in the stovepipe or flue, the deposit should be removed immediately by brush. After the flue and stovepipe are clean, Bolin suggests the following steps to avoid future build-up problems.

- Avoid prolonged, low-burning periods. Each morning when the stove is reloaded with fuel, take 10 to 15 minutes to burn a hot, vigorous fire in the stove by putting in smaller, dry

pieces of wood and opening the air inlets. This will help burn off small deposits of creosote which formed the previous day.

- Before damping down the stove for the evening, vigorously burn a new charge of wood until a good bank of coals develop. High temperatures will cause the volatile gases to burn in the stove rather than escape unburned up the flue.

- Fill the stove with a partial load of moderate-sized pieces.

- Avoid horizontal stovepipe runs of more than six feet where possible.

- Avoid more than two 90-degree elbows in the stovepipe.

- Run as much of the chimney as possible inside the home.

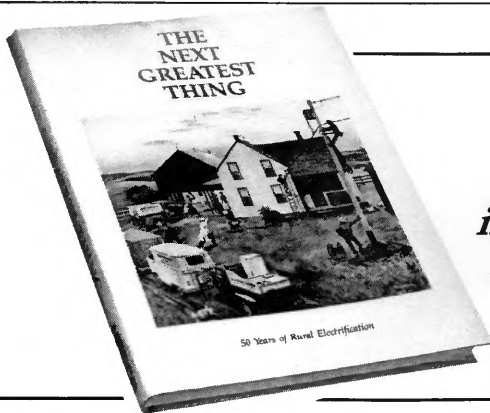
- Use only class A, all-fuel, or solid fuel double-walled, insulated or triple-walled, air-insulated metal chimneys or tile-lined masonry chimneys with efficient airtight stoves or furnaces.

- Keep flue and stovepipe temperatures between 250 to 400 F. Flue and pipe thermometers are available through stove dealers.

- Burn well-seasoned, air-dried wood.

Bolin suggests that all wood burners clean out their stove ventilation system at least twice a year. Homeowners can clean the system themselves or hire a chimney sweep. Some homeowners prefer to use chemical products that can be burned in the stove to clean off creosote deposits. Bolin points out that testing of these products indicated that they have very little effect on reducing creosote deposits. Similarly, he says that salt is the primary ingredient in many of these products and that when salt is burned it can produce an acid in the flue vapors. If these products are used in excessive amounts, they may affect the life expectancy of the flue.

An important point for all wood burners to remember is that the greater the efficiency of the wood-heating unit, the more creosote it is likely to produce. The more heat you gain from the stove, the cooler the flue gas temperature will be, which will encourage condensation and creosote formation. So, if you're buying for maximum efficiency, you should plan to clean the system frequently.



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### SWEETENED CONDENSED MILK

2 cups instant non-fat dry milk  
1 1/3 cups sugar  
2/3 cup boiling water  
6 tablespoons melted oleo

Combine all ingredients and blend until mixed well in electric blender. Store in refrigerator. Yields about 2 1/2 cups.

### LIME JELLO SALAD

1 box lime Jello  
1 cup boiling water  
Small box sour cream  
1/2 cup chopped nuts  
1 small can crushed pineapple, drained

Add Jello and boiling water. Cool. Add remaining ingredients.



# Then, Let's Entertain Casually

## CRANBERRY SALAD

1 pkg. cherry Jell-O  
1 cup hot water  
1/4 cups sugar  
1 teaspoon lemon juice

1 cup fresh cranberries (ground)  
1 orange (ground)  
1 cup nuts  
1 cup crushed pineapple, drained

Dissolve Jell-O in hot water. Add 1/2 of sugar and lemon juice and pineapple. Stir until dissolved. Add other half of sugar to cranberries, let set about an hour. When Jell-O is partly set, combine ingredients and chill till firm in oiled shallow pan. Can be cut in squares or served on lettuce leaves.

## SCALLOPED OYSTERS

Heat oven to 450 degrees. Mix 1 1/2 cups dry bread or cracker crumbs with 1/2 cup melted butter. Spread 1/3 of crumbs in greased baking dish. Arrange over crumbs in 2 layers, 1 pint of oysters, drained, 1/2 teaspoon salt, 1/4 teaspoon pepper, 1/4 cup diced celery, 2 tablespoons minced parsley. Put 2/3 cup liquid (1/2 oyster liquor, 1/2 milk or cream) over mixture. Add remaining crumbs. Bake 30 minutes. 4-6 servings.

## DIVINITY CANDY

3/4 cup water  
4 cups sugar

1 cup white corn syrup  
3 egg whites

Place sugar, syrup and water in saucepan over slow heat. Stir only until sugar is dissolved. Cook to soft ball stage. Add half of syrup to egg whites, which have been beaten stiff. Cook rest of syrup until it will crack in cold water. Add to first mixture and beat until stiff enough to drop from spoon on waxed paper.

## CHRISTMAS HOLIDAY COOKIES

1 cup shortening  
1 box brown sugar  
2 eggs  
1/2 cup buttermilk  
3 1/2 cups flour

1 teaspoon soda  
1 teaspoon salt  
1 cup dates, chopped  
1 cup cherries, chopped  
1 1/2 cups pecans, chopped

Cream shortening and brown sugar, add eggs; beat well. Add buttermilk alternately with flour, which soda and salt have been sifted in. Add dates, cherries and pecans. Mix together. Chill several hours in refrigerator. Using a teaspoon drop onto cookie sheet. Bake at 350 degrees for 8 to 10 minutes. Cool for a few minutes, lift off onto a brown paper sack to cool.

## SAUSAGE BALLS

1/2 lb. mild pork sausage, uncooked  
1/2 lb. hot pork sausage, uncooked

1 lb. sharp cheddar cheese, grated  
3 cups biscuit mix

Combine uncooked pork sausages and cheese in mixing bowl or food processor bowl. (When using processor, divide ingredients in half and make in 2 batches.) Add biscuit mix and blend thoroughly. Shape into 1-inch balls on cookie sheet. Bake in preheated 375 degree oven for 10 minutes, or until brown. Serve hot or cold. Yields 100 balls.

## DATE NUT CHEWS

1 cup brown sugar, packed  
1 cup granulated sugar  
1 cup shortening  
2 eggs  
2 1/2 cups flour

1 teaspoon salt  
1 teaspoon soda  
1 cup dates, chopped  
1 cup pecans, chopped

Mix brown sugar, sugar, shortening, eggs, flour, salt and soda. Add dates and pecans. Roll into 1-inch balls and place on greased cookie sheet. Bake at 350 degrees for 15 minutes. Makes 6 to 7 dozen cookies.

## PENUCHE

1 1/4 cups granulated sugar  
1 1/4 cups brown sugar  
1/3 cup light cream  
1/3 cup milk

2 tablespoons butter or margarine  
1 teaspoon vanilla  
1/2 cup broken walnuts or pecans

Butter sides of heavy 2-quart saucepan. In it combine sugars, cream, milk, and butter. Heat over medium heat, stirring constantly, till sugars dissolve and mixture comes to boiling. Cook to soft ball stage (238 degrees), stirring only if necessary. Immediately remove from heat and cool to lukewarm (110 degrees). Do not stir. Add vanilla. Beat vigorously till candy becomes very thick and starts to lose its gloss. Quickly stir in nuts and spread in buttered shallow pan. Score while warm; cut when firm.

## BEST EVER COOKIES

1/2 cup white sugar  
1/2 cup firmly packed brown sugar  
1/2 cup butter, softened  
1 cup oil  
1 egg  
1/2 teaspoon vanilla  
1/2 teaspoon salt

1/2 teaspoon soda  
1/2 teaspoon cream of tartar  
1 3/4 cups flour  
1/2 cup rice cereal or wheat cereal  
1/2 cup oats  
1/2 cup flaked coconut  
1/2 cup pecans, chopped

Combine sugar, brown sugar, butter, oil, egg and vanilla. Mix well. Combine flour, salt, soda, and cream of tartar, add to creamed mixture. Mix well. Stir in cereal, coconut, oats and pecans. Shape dough into small balls and place on cookie sheet. Bake at 250 degrees for 10 to 12 minutes.

## ORANGE CROWN

**ORANGE GLAZE:**  
1/4 cup sugar  
2 tablespoons orange peel  
2 tablespoons orange juice  
2 tablespoons butter

**ROLLS:**  
1/2 recipe Sour Cream Yeast Dough  
2 tablespoons butter, melted  
1 cup sugar  
1 tablespoon grated orange peel

For orange glaze, mix together all ingredients. Boil 2 minutes. Cool. Pour into well-buttered 9-inch fluted tube pan or ring mold. For rolls, shape dough to form 1 1/2-inch balls. Dip balls into melted butter, then into sugar combined with orange peel. Arrange balls in 2 layers in prepared pan. Cover and let rise until doubled in bulk, about 30 minutes. Bake at 350 degrees 35 to 40 minutes. Turn out immediately onto large tray, leaving pan over cake about 1 minute for glaze to drizzle over cake. Yield: 1 coffee cake.

## CHRISTMAS TREE COFFEE CAKES

4 1/2 to 5 cups all-purpose flour  
1/2 cup sugar  
1 teaspoon salt  
2 packages active dry yeast  
1 cup milk  
1/2 cup (1 stick) butter

2 eggs  
2 tablespoons grated lemon peel  
1 teaspoon crushed cardamom seeds  
1/2 cup chopped mixed candied fruits  
1/2 cup golden raisins  
Eggnog Glaze

Thoroughly mix 2 cups flour, sugar, salt and undissolved dry yeast in large mixer bowl. Combine milk and butter. Heat to very warm (120 degrees F. to 130 degrees F.). Gradually add to dry ingredients; beat 2 minutes at medium speed, scraping sides of bowl occasionally. Add eggs, lemon peel, cardamom and 1/2 cup flour. Beat at high speed 2 minutes, scraping sides of bowl occasionally. Stir in enough additional flour to make a soft dough. Turn out onto lightly floured surface; knead until smooth and elastic, about 5 minutes. Place in buttered bowl, turning to butter top. Cover; let rise in warm place until doubled in bulk, about 1 hour. Punch dough down; turn out onto lightly floured surface. Knead in fruits and raisins. Divide dough in half. Shape each half as follows: Divide dough into 4 pieces; shape each to form an 18-inch rope. Shape ropes together on a buttered cookie sheet to form a "tree" by looping dough back and forth in a figure 8 pattern. Pinch ends together. Use a small ball of dough for trunk. Let rise in warm place until doubled in bulk, about 30 minutes. Bake at 350 degrees 25 to 30 minutes. Drizzle with Eggnog Glaze and decorate with candied cherries and pineapple. Yield: 2 coffee cakes.

Eggnog Glaze: Combine 1 cup sifted confectioners' sugar with 2 tablespoons dairy eggnog. Yield: enough for 2 coffee cakes.

## SOUR CREAM YEAST DOUGH

4 1/4 to 4 3/4 cups all-purpose flour  
1/3 cup sugar  
2 teaspoons salt  
2 packages active dry yeast  
1/2 cup water

1/2 cup (1 stick) butter  
1 cup dairy sour cream  
2 eggs  
1 tablespoon grated lemon peel  
1 tablespoon grated orange peel

Thoroughly mix 1 1/2 cups flour, sugar, salt and undissolved dry yeast in large mixer bowl. Combine water, butter and sour cream. Heat to very warm (120 degrees F. to 130 degrees F.). (Mixture will have a separated appearance.) Gradually add to dry ingredients; beat 2 minutes at medium speed, scraping sides of bowl occasionally. Add eggs, lemon and orange peel and 1/2 cup flour. Beat at high speed 2 minutes, scraping sides of bowl occasionally. Stir in enough additional flour to make a soft dough. Turn out dough onto lightly floured surface; knead until smooth and elastic, about 5 minutes. Place in buttered bowl, turning to butter top. Cover; let rise in warm place until doubled in bulk, about 1 hour. Punch dough down; turn out onto lightly floured surface. Divide dough in half. Prepare Schnecken from half of dough and Orange Crown from other half.

## CARAMEL TOPPING:

1/2 cup (1 stick) butter  
1/2 cup firmly packed brown sugar  
Pecan halves  
Red candied cherries

## SCHNECKEN

**ROLLS:**  
1/2 recipe Sour Cream Yeast Dough  
2 tablespoons butter  
1/4 cup granulated sugar  
2 teaspoons cinnamon  
1/4 cup raisins

For caramel topping, heat butter and sugar until butter is melted and ingredients are well blended. Spoon about 2 teaspoons butter-sugar mixture into each of 18 well-buttered muffin cups (2 1/2 x 1 1/4-inch). Place 2 or 3 pecan halves and 1 cherry over butter-sugar mixture. For rolls, roll out dough to form a 13 1/2 x 9-inch rectangle; spread with butter. Combine sugar and cinnamon; sprinkle over rectangle. Sprinkle with raisins. Roll up, beginning at wide side. Pinch edge of dough to seal well. Cut into 18 slices. Press 1 slice in each muffin cup over caramel topping. Cover and let rise until doubled in bulk, about 30 minutes. Bake in preheated 375 degree oven 20 to 25 minutes. Turn out immediately onto large tray, leaving pan over rolls about 1 minute for caramel topping to drizzle over rolls. Yield: 18.



# IHEAP

## Qualified persons may receive state aid

**L**ocal administering agencies are now accepting applications from those who believe they are eligible for assistance through the Illinois Home Energy Assistance Program (IHEAP).

IHEAP is a program administered on the state level by the Illinois Department of Commerce and Community Affairs. Illinois is scheduled to receive \$123 million for the program from the U.S. Department of Health and Human Services in Fiscal Year 1985. That is a 3 percent increase over last year's amount provided for use in the state. IHEAP provides grants to income-eligible renters and homeowners to pay heating and medically necessary cooling costs and to reconnect services lost. During 1983, some 429,000 households in the state received aid. Eligibility is based on the number of family members and gross income for a 90-day period prior to the application date.

The program is not designed to pay all energy costs of the needy, but rather to reduce those costs by providing either a one-time grant to the family or paying the utility directly. Families who think they may be eligible for IHEAP assistance should contact the administering agency for their county or call DCCA's toll-free energy hotline at 1-800-252-8643.

The following is a listing of agencies

and telephone numbers in counties with electric service by cooperatives:

**Bond, Clinton, Marion and Washington counties:** BCMW Community Services, Centralia 618/532-7388

**Knox County:** Carver Community Action Agency, Galesburg 309/342-0158

**Christian, Clay, Effingham, Fayette, Montgomery, Moultrie and Shelby counties:** CEFS Economic Opportunity Corp., Effingham 217/342-2193

**De Witt, Logan Menard, Mason and Piatt counties:** Central Illinois Economic Development Corporation, Lincoln 217/732-2159

**Macon County:** Decatur/Macon County Opportunities Corporation, Decatur 217/428-2193

**Clark, Coles, Crawford, Cumberland, Douglas, Edgar, Jasper, Lawrence and Richland counties:** Embarras River Basin Agency, Greenup, 217/923-5155

**Fulton County:** Fulton County Health Department, Canton 309/647-1143

**Calhoun, Greene, Jersey and Macoupin counties:** Illinois Valley Economic Development Corp., Carlinville 217/854-9677

**Madison County:** Madison County Development, Edwardsville 618/692-6200 ext. 4386

**Livingston and McLean counties:** Mid Central Community Action, Bloomington 309/829-0691

**Cass, Morgan and Scott counties:** MCS Community Services, Jacksonville 217/243-4711

**Jo Daviess and Stephenson counties:** Northwestern Illinois Community Action Agency, Freeport 815/232-3141

**Peoria County:** Peoria Citizens Committee for Economic Opportunity, Peoria 309/671-3943

**Henry, Mercer and Rock Island counties:** Project NOW, Rock Island 309/793-6383

**St. Clair County:** St. Clair County Intergovernmental Grants Dept., Belleville 618/398-6320 ext. 288

**Sangamon County:** Sangamon County Community Devl., Springfield 217/789-6688

**Alexander, Hardin, Johnson, Massac, Pope, Pulaski and Union counties:** Shawnee Development Council, Karnak 618/634-2201

**Bureau, Carroll, LaSalle, Lee, Marshall, Ogle, Putnam, Stark and Whiteside counties:** Tri-County Opportunities Council, Rock Falls 815/625-7830

**Tazewell and Woodford counties:** Tri-County Regional Planning Commission, East Peoria 309/694-4391

**Adams, Brown, Pike and Schuyler counties:** Two Rivers Regional Council of Public Officials, Quincy 217/224-8171

**Champaign County:** Urban League of Champaign County, Champaign 217/356-1364

**Ford, Iroquois and Vermilion counties:** Vermilion County Citizens Action Committee for Economic Opportunity, Danville 217/443-2705

**Franklin, Jefferson and Williamson counties:** Volunteer Services, Marion 618/997-4371 ext. 286

**Edwards, Gallatin, Hamilton, Saline, Wabash, Wayne and White counties:** Wabash Area Development, Mill Shoals 618/896-5375

**Jackson, Monroe, Perry and Randolph counties:** Western Egyptian Economic Opportunity Council, Steeleville 618/965-3458

**Hancock, Henderson, McDonough and Warren counties:** Western Illinois Regional Council, Macomb 309/837-2997

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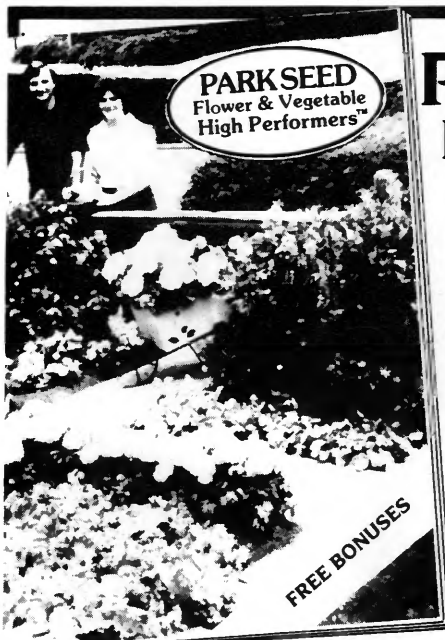
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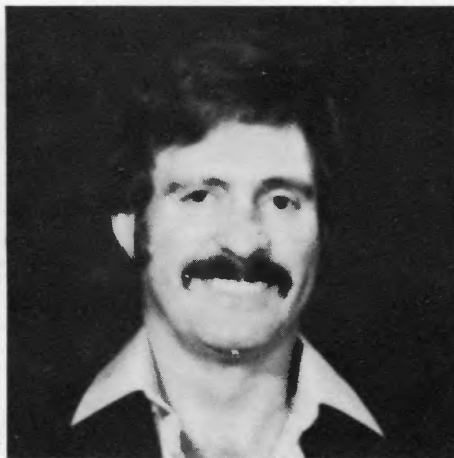
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