

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
January 3, 1977

MSC
1-3-77
Immediate release

4-H NEWS

USSR - 4-H EXCHANGE
TO CONTINUE:
APPLICATIONS DUE

A grant from the International Harvester Co. in December has insured continuation of the 4-H Young Agricultural Specialist Exchange Program for a second year between the United States and the Union of Soviet Socialist Republics.

The Soviet Union will host 14 Americans from June through August. The program, coordinated by the Soviet Ministry of Agriculture, will include academic training, orientation and several weeks on state and collective farms.

Training for U.S. participants will start March 1 with a 14-week session at the National 4-H Center in Washington for Russian language instruction and Soviet culture orientation.

The 14 Soviet specialists will arrive in the United States in June for orientation and training at the National 4-H Center. Much of their time will be spent living and working on host farms in states to be selected. Included in the program will be academic seminars at a land-grant university and a week of travel and special studies.

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ATT: Extension Home Economists

EARNING OFTEN EASIER
THAN SPENDING WELL

"It's often easier to earn money than to spend it well," says Edna K. Jordahl, extension home management specialist at the University of Minnesota.

If you are curious about how your spending patterns compare with others, Mrs. Jordahl suggests comparing your budget with these after-taxes averages:

- * Housing -- 25-30 percent
- * Food -- 18-25 percent
- * Transportation -- 12-16 percent
- * Clothing -- 9-12 percent
- * Medical -- 6-8 percent
- * Recreation -- 3-4 percent
- * Life Insurance -- 2-3 percent
- * Education -- 1-2 percent
- * Charities -- 1-2 percent

If you find large differences between these figures and your spending, Mrs. Jordahl suggests you think about the reasons for this. The way others spend may not be best for you.

The larger your income, the smaller the percentage going for shelter and food. Expenditures for personal care and recreation may increase with income but the percentage could stay the same. Typically, medical, charitable and car expenses stay about the same or increase slightly at higher salaries, but the percentage of income spent may drop.

"Every plan for family expenditures needs to have a built-in emergency fund," Mrs. Jordahl says. "It relieves stress when the unexpected happens."

She also suggests setting family allowances for both adults and children. This is a sum of money that each individual can spend with no questions asked.

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ATT: Extension Home Economists

SEWING SUCCESSFULLY STARTS
WITH THE PROPER THREAD

Selecting the right thread today involves more than matching colors. Words such as tow-spun, silkspun, schappespun and European are entering the sewing vocabulary, according to Sherri Gahring, extension textiles and clothing specialist at the University of Minnesota.

They all describe a long staple polyester thread that has been popular with couturier designers and European consumers for years but is just becoming available in American stores.

"Long staple thread," Ms. Gahring explains, "is spun from 4 to 5½ inch fibers. Traditionally, 100 percent polyester thread was made from fibers no more than 1½ inches long."

The longer fibers result in more tangle-free thread, and it appears silkier and finer than short staple thread, Ms. Gahring says. It is premium thread that will withstand stress and will give enough to work with today's knits.

Some long staple threads come in two sizes. All purpose thread is intended for sewing on natural and synthetic fabrics by machine or hand. Buttonhole twist is for topstitching, buttons and thread loops. It is useful on all fabrics, including leather, where super strength is needed.

Some brands of long staple thread are recognizable by their thin spools. These have an inner tube to keep the spool stable on the machine spindle, according to Ms. Gahring.

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IN BRIEF

Litter Size. Swine litter size at weaning can be improved by starting with males and females from breeds that produce large litters. And the national preweaning death rate of 25 percent can be reduced by diagnosing and eliminating the major causes of baby pig mortality. The national mean for weaned pigs per litter is 7.2--larger for sow litters and smaller for gilt litters. However, weaned litter average by itself is not an adequate measure of reproductive efficiency since it doesn't account for females that do not farrow. Litter size at weaning is a complex interaction of ovulation rate, fertility rate, embryonal survival and baby pig survival, according to Dr. Al Leman, University of Minnesota veterinarian.

* * * *

Swine Reproduction. There are good reasons for increasing concern about swine reproductive efficiency. It's not uncommon to see investments of a quarter million dollars in breeding herd, farrowing and nursery facilities for a 250-sow herd. This \$1000 or more investment per sow is a far cry from the \$50 individual house and some fencing that might have been required in the past.

Feed costs are nearly double what they were a few years ago and it takes about a ton of feed to maintain a sow a year. If you only get 12 pigs per sow in the herd, you have to charge each pig with 167 pounds of sow feed; 100 pounds per pig if you get 20 pigs. Hog producers are keeping better records and some are "almost shocked" when they realize how poorly their sow herd is performing, says G.R. Carlisle, extension swine specialist at the University of Illinois.

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GRAIN DRYING
SYSTEM REDUCES
ENERGY NEEDS

A corn drying system combining two popular drying methods could save half or more of the energy used for drying corn on Minnesota farms.

Instead of using high drying temperatures to dry grain all the way down to 14 or 15 percent, the new system uses a combination of high and low drying temperatures. High temperature dryers are used to reduce the corn to a moisture content of 20-22 percent. Then natural air completes the process in storage bins.

"In an average year this would save at least 50 percent of the total on-farm energy used for drying corn," says Harold Cloud, extension agricultural engineer at the University of Minnesota. And it could save up to 75 percent, depending on initial moisture content of the grain.

"Last year was such a good drying year that a farmer who was set up to use the system wouldn't have needed to use the high temperature dryer. He could have used low temperature system only since field moisture content of much of the corn averaged less than 22 percent," said Cloud.

Presently, it's estimated that about 50 to 60 million gallons of propane are used annually for on-farm grain drying in Minnesota.

The low temperature phase of the operation involves drying the grain with natural air, or air heated from 2 to 5 degrees to increase its drying potential. Low temperature drying is a long term process where the storage bin is also used for drying.

-more-

add 1--new grain drying system

With low temperature drying, propane energy requirements are greatly reduced. However, electrical energy required for operating the fan on the low temperature drying system is increased.

But the overall result is a large net saving in total energy used for drying. Most of the electrical use also occurs in the fall and spring, which are between the seasonal air conditioning and heating peaks.

Equipment manufacturers are interested in the concept, Cloud says. He's also talked to many farmers who are interested in it and several who are already using it.

There are other advantages, aside from saving energy and reducing fuel drying costs. "Grain quality will be increased since there's less cracking and physical damage and a higher test weight when corn is dried at lower temperatures.

"Future chances of damage during handling also are reduced," says Cloud. Exported grain may be handled up to six times, increasing chances for damage.

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SHELTERBELT
BENEFITS TOLD

Shelterbelts on farms reduce the wind-chill, allowing families to do daily chores in greater comfort, says Harold Scholten of the College of Forestry at the University of Minnesota.

With shelterbelts, it will take less fuel to heat the house and livestock buildings will be warmer, resulting in lower feeding costs.

Shelterbelts should catch most of the snow--so it will take less time, labor and tractor fuel to plow out walks and roadways. Tractors, trucks and other vehicles that stand outside will not have to be dug out and will probably start better. Livestock feedlots will be cleaner and drier and animals will be more content.

Shelterbelts provide excellent habitat for songbirds--in fact, spruce trees are favored by mourning doves. Other wildlife also will make use of the shelterbelt. A mixture of conifers and hardwoods is ideal for wildlife, who prefer a great number of rows and variety of tree species.

Shelterbelts also muffle noise from adjacent roads and highways and from farm machinery. Shelterbelts also filter out dust from nearby gravel roads.

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4-H NEWS

THREE-DAY 4-H
COMMUNICATIONS
PROGRAM SET

An intense three-day experience in communications, the 4-H Communication Conference, starts April 21 at Silver Lake Camp in the Twin Cities area.

Two 4-H delegates from each county in the state are expected to attend this event, which includes exploration of several communications areas.

A section on public presentation deals with scripted speeches, extemporaneous speaking and being a master of ceremonies. Other areas are: Mass media, graphic arts, group communication and expressive arts communications.

The conference will provide 4-H'ers who have interests or responsibilities in the communications with tools that will increase their skills and provide them with added insights and information. The three-day event will also provide experiences in various communications areas.

For more information, contact _____ at the _____
County Extension Office.

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SEW EASY DRESS-ABILITY
INTO CHILDREN'S CLOTHES

Buttons, buckles, hooks and eyes and complicated lacings manage to baffle most children when they try to dress themselves. Whether you sew or not, you can adapt your children's wardrobes for easy dressing, says Sherri Gahring, extension textiles and clothing specialist at the University of Minnesota.

She suggests color coordinating a child's clothes so he or she looks good no matter what is pulled out of a drawer when parents aren't looking.

Ms. Gahring suggests using zippers with pull rings on tabs for children's clothes. Or if you buy a zippered outfit, add an applique, short cord or large plastic paper clip to the zipper tab to make it easier for little fingers to grab.

Being able to get dressed without help gives a child confidence. Ms. Gahring recommends eliminating hooks and eyes, snaps and small buttons to simplify dressing. Larger buttons are easier for little children to manipulate. Hook and loop closures are an alternative to buttons. They grip tightly and peel apart easily. These are available in precut shapes and sizes for everything from coats and dresses to coveralls and smocks.

Back closings pose problems for children. If you sew, consider putting a zipper into the center front seam of garments when the pattern permits, Ms. Gahring says. Then save stitching and fabric by centering the back stitching line on the fold of the fabric before cutting.

An easy-to-don washable coverup is a good garment to have on hand when children are working on crafts, eating or just playing. Vinyl or vinyl-like fabric can be wiped clean. Styles that slip over the head or close with hook and loop fasteners are easiest to get on and off, according to Ms. Gahring.

"Sewing in easy dress-ability or adapting ready-to-wear clothes may take a little time," says Ms. Gahring, "but it will be time well spent. Your children will become more independent, less frustrated and able to direct their energies to growing up and not to getting dressed."

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NEW FARM
BILL ISSUES

Target prices, disaster programs and reserve stocks are obvious issues facing Congress and the new administration as they write a new farm bill. The Agricultural and Consumer Protection Act of 1973 expires at the end of the year.

University of Minnesota Extension Economist Martin Christiansen says with new congressional budget procedures, legislation needs to be passed by mid-May. The new administration will need time to form positions and policies on agriculture and related consumer issues.

Christiansen says Congressional committees recognized the need to move rapidly on new legislation and likely will do so when the new session starts.

Meanwhile, extension economists are getting Minnesota farmers' views on farm policy needs in a survey that was recently mailed. The results will be made available to the news media and will help focus attention on farm policy. Christiansen says he hopes farmers give the confidential survey forms their consideration.

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GARDENERS COURSE
SET AT ST. PAUL
FOR FEBRUARY 12

Home gardeners can get a jump on the season at the Green Holiday Short Course offered by the University of Minnesota Agricultural Extension Service on Feb. 12 in the St. Paul Campus Student Center.

Morning topics include: New vegetable varieties, growing fruits and growing grapes. Afternoon sessions are: Vegetable gardening, blueberries, pickling cucumbers, wild edibles, jams, jellies, and preserves and landscaping with fruit plants.

Registration is \$5. For more information, contact the _____ County Extension Office or the Office of Special Programs, 405 Coffey Hall, University of Minnesota, St. Paul 55108. Phone (612) 373-0725.

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CAREFUL STUDY
SEPTIC TANK
SEWAGE SYSTEM

If you are planning to install a septic tank sewage system, first you will need a careful study of your lot to determine if the soil is suitable for treating sewage.

University of Minnesota Extension Agricultural Engineer Roger Machmeier says soil borings in the area where the drainfield is to be located are absolutely necessary. If the soil is suitable, then run percolation tests to see how much drainfield is needed.

In percolation tests, water is added to a hole and the rate at which the water level drops is measured. The percolation rate of the soil and the size of the home determine the size of the drainfield.

Extension Folder 261, "How to Run a Percolation Test," provides more information and includes a table of drainfield trench lengths as well as blank forms to record data from the percolation test. Single copies are available free from the _____ County Extension Office or the Bulletin Room, University of Minnesota, St. Paul 55108.

A properly designed, installed and maintained sewage system can last indefinitely. But enough drainfield trench must be installed to filter the sewage effluent and the solids must be pumped out of the septic tank and hauled away every one to three years.

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SHORT COURSE
OFFERED FOR
TOWN OFFICERS

Township officials from _____ County have been invited to a day-long educational program, the Township Officers Short Course, at 9:30 a.m. _____ (date)

in the _____ at _____. Registration starts at 8:30 a.m.
(place) (town)

Expected to attend from _____ County are (list names and offices if available).

Insurance, liability, finance, land use, fire protection and the board of review are topics for the morning session. Separate discussion groups for supervisors, clerks and treasurers will be held in the afternoon.

The course is presented at 10 locations throughout the state by the University of Minnesota Agricultural Extension Service Office of Special Programs under sponsorship of the Minnesota Association of Township Officers.

The course provides township officers with technical information to effectively and efficiently carry out their duties and responsibilities.

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Dates, locations:

- March 21, Technical School, Waseca.
- March 22, Holiday Inn South, Rochester.
- March 23, Willmar Community College.
- March 24, Southwest State College, Marshall.
- March 25, St. Johns University, Collegeville (St. Cloud).
- March 31, Brainerd Moose Lodge.
- April 1, Fergus Falls Holiday Inn
- April 4, Area Vocational-Technical Institute, Detroit Lakes.
- April 5, Auditorium, Thief River Falls.
- April 6, Rainbow Inn, Grand Rapids

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IN BRIEF. . .

Sheep Day. The 50th annual Sheep and Lamb Feeders' Day will be held at the University of Minnesota West Central Experiment Station at Morris on Feb. 3. "This is Minnesota's oldest livestock program," says Bob Jordan, University animal scientist. Burdette Breidenstein, vice president in charge of research for Wilson Foods, will speak on the sheep industry from a meat processor and purveyor's standpoint. Successful sheep producer Laird Noh of Kimberly, Idaho will also speak. He is past president of the National Lamb Feeders' Association.

* * * *

Beef Days. Beef cow-calf days are scheduled for 10 locations in Minnesota in January and February. The meeting for this area is set for _____ .
date & location
Registration begins at 9:30 a.m. University of Minnesota specialists will discuss topics such as growing replacement heifers, feeding pregnant cows, herd bull management, minerals, steer calves and forage harvesting and feeding. The national beef referendum will also be discussed by a beef producer.

Dates and Locations

Jan. 25, Mora, Library Meeting Room
Jan. 26, Grand Rapids, Rainbow Inn
Jan. 27, Staples, North Campus Auditorium, Area Vo-Tech Institute
Jan. 31, Bemidji, Holiday Inn
Feb. 1, Roseau, Roseau Auditorium
Feb. 2, Crookston, Northwest Experiment Station
Feb. 14, Rochester, 4-H Bldg., Fair Grounds
Feb. 15, Amboy, Norman's Cafe
Feb. 16, Westbrook, Country Club
Feb. 17, Morris, Edson Hall, University of Minnesota

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FEEDING HIGH
PROTEIN OATS
TO GROWING PIGS

High protein oats can replace up to 60 percent of the corn normally fed to growing pigs, according to University of Minnesota research.

For swine producers with no corn to feed due to last year's drought, high protein oats may be an alternative.

In the study, University animal scientists H.E. Hanke and R.J. Meade used 160 crossbred pigs averaging 54 pounds at the beginning of the experiment. Dal, the high protein oats, was fed at 0, 20, 40 and 60 percent of the grain component. Dal oats used in the study had 16.6 percent protein and 0.6 percent lysine. "Average" oats has 11-12 percent protein.

Pigs fed the corn-soybean meal diet (no oats) gained "significantly faster" than those fed the diet with 40 percent of the cereal from oats until the pigs reached 100 pounds. And when oats made up 60 percent of the cereal component, average daily gain was slower than with any of the other rations up to 100 pounds of body weight.

"However, oat content did not affect average daily gain during the final growing period," Hanke said. More important, there was no significant effect of level of oats on average daily gain for the entire feeding period and feed requirement per unit of gain was not increased. As much as 5 percentage units of soybean meal was "spared" in the experiment.

-more-

add 1--feeding high protein oats

In another experiment, J.W. Rust and R.J. Meade fed Otee oats to 120 crossbred pigs weighing about 55 pounds initially. The Otee oats averaged 13 percent protein and 0.51 lysine and was fed at four levels: 0, 20, 40 and 60 percent of the cereal component. When oats made up 40 and 60 percent of the cereal component rates of gain were reduced by 5 and 7 percent for the entire feeding period. At the 40 and 60 percent levels feed required per pounds of gain for the entire growing period was increased by only 3 and 6 percent.

"We recommend having the high protein oats analyzed for protein and lysine content before you feed them," says Jerry Hawton, extension swine nutritionist at the University.

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FORAGE SESSION
SET FOR FEB. 24, 25

"Storing More Forage" is the theme of the Minnesota Forage and Grassland Council meeting Feb. 24-25, 1977.

The event is scheduled for the Area Technical and Vocational School Auditorium in St. Cloud, Minn.

The symposium is aimed at farmers and other members of the agricultural community.

Program topics will include what hay is worth, which forage crops to seed in 1977, how to preserve forage, how much forage to feed cows, and how much seed is available in 1977.

Vic Lectenbergh, agronomy professor from Purdue University, will be the featured speaker Feb. 24.

The registration fee is \$17, which includes milk breaks, a banquet, copy of the proceedings and membership in the Minnesota Forage and Grassland Council.

For more information contact your county extension office or the Minnesota Forage and Grassland Council, Room 213 Agronomy, University of Minnesota, St. Paul, Minn. 55108.

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FEEDING OATS TO
GILTS AND SOWS

Oats of known protein and amino acid contents can replace much of the corn and soybean meal during the gestation period for gilts and sows, University of Minnesota research shows.

"Oats can serve as the sole source of amino acids and energy," says J.W. Rust, University animal scientist. If you use oats as the only source of energy to make up about 97.5 percent of the diet, a daily intake of about 5.5 pounds of feed is required per sow. But make sure that mineral and vitamin needs are met, he advises.

Rust and R.J. Meade fed Otee oats containing 13 percent protein and 0.51 lysine to first litter gilts and second litter sows during the gestation period. The oats were used to provide 25, 50, and 75 percent of the diets.

The oats resulted in "satisfactory reproductive performance" as measured by sow weight gain, live pigs born, birth weights of live pigs, survival of live pigs and gain of pigs to 21 days of age.

The control diet was a conventional 14 percent protein corn-soybean meal mix (no oats), fed at 4.1 pounds per gilt per day; the second had 25 percent Otee oats replacing the corn-soybean meal and was fed at 4.4 pounds per day; the third was a 50 percent oat diet fed at 4.75 pounds; and the fourth had 75 percent oats, fed at 5.2 pounds daily.

Oats has less energy than corn and soybean meal so more needs to be fed.

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CONSUMERS CHANGE
ENERGY USE PATTERNS
TO REFLECT SHORTAGES

The energy crisis is now about three years old, and like any three-year-old it is making itself heard and felt around the house, according to Edna Jordahl, extension home management specialist at the University of Minnesota.

A recent survey by the Economic Research Service indicates that three-fourths of the 1,400 households polled are paying more for their energy and have attempted to reduce consumption. Curtailed lighting and heating were the measures consumers mentioned most frequently. About half the households claimed conservation in these areas and about 40 percent claimed to decrease air conditioning.

Nearly half of the families owning clothes dryers said they use them less now than when the energy crisis began. In the kitchen the most common adjustment was to use the oven less. Seventeen percent of the respondents indicated such a change, and 11 percent claimed to use their dishwashers less now.

Only nine percent said they had reduced the use of recreational items such as television, radios and stereos, according to Mrs. Jordahl.

Broken down by income levels, higher income households were more likely to have reduced energy consumption. About two-thirds of the households with \$15,000 to \$25,000 income had reduced lighting and heating and were willing to make further cuts. Of the households with incomes below \$5,000, only 41 percent claimed lighting cuts and 35 percent made do with lower thermostat settings.

-more-

add 1--consumers change

Age and household size also affected energy use patterns, Mrs. Jordahl reports. The elderly and very young families were least likely to change their habits. About 80 percent of households with three or more members reported making changes in energy consumption. Only about half the single family households had made adjustments to accommodate shortages.

Homeowners were more likely to have practiced conservation measures than renters, according to the survey results. Mrs. Jordahl says this may be because many renters pay for electricity and natural gas as part of rent so they have no financial incentive to cut back. They may not even know the cost of what they use.

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MEATS EXPERT PREDICTS
CHANGES IN BEEF PRODUCTION
TO SUIT 'HAMBURGER SOCIETY'

Two distinctly different types of beef production soon may evolve to meet consumer demand for both steaks and roasts and ground beef, Richard Epley, extension meats specialist at the University of Minnesota predicts.

Ours has become a "hamburger society," Epley says. Currently about 40 percent of all beef is consumed as ground meat. Predictions are that this will go even higher in the future, he adds.

"Intensive grain feeding of animals for the production of hamburger and ground beef is both unprofitable and unwise," Epley says. He foresees one type of beef production system that will strive for the maximum amount of lean meat in the shortest possible time. The resulting meat would be used for hamburger and similar products.

For example, the technology is now here to take very lean beef, process it into very fine flakes and press and mold these flakes into the form of a steak.

A second beef production system would yield high quality beef with a relatively high degree of marbling. This would meet the demand for high quality steaks and roasts, Epley suggests.

By weight, an average beef carcass now yields about 51 percent steaks and roasts and about 21 percent ground beef and stew meat. Trimmed fat and bone account for the remaining percentages, Epley says.

He also predicts that beef animals in the future will be bred and fed to produce minimum trimmable waste fat without sacrificing flavor, juiciness or tenderness within the lean. Research already is underway at the University of Minnesota and other institutions that will bring about exciting changes in beef production, probably within ten years, Epley says.

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FOLIAR FERTILIZATION OF
CROPS STILL EXPERIMENTAL

Spray applications of plant nutrients for increasing crop yields is still in the experimental stage, says George Ham, University of Minnesota researcher.

Recent trials at the University of Minnesota and other experimental institutions indicate that it's possible to increase crop yields by foliar application of nutrients, says Ham.

The most spectacular increases in recent trials have come from foliar sprays on soybeans using materials which contain nitrogen, phosphorus, potassium and sulfur. Experimental results show that omitting one of these nutrients usually results in little increase in yields.

University of Minnesota extension soils specialist Charles Simkins says a bushel of soybeans contains approximately 5 pounds of nitrogen, or a 40 bushel crop contains more than 200 pounds of nitrogen. And materials that supply one or two pounds of nitrogen per acre can have little influence on crop yields, he explains.

In general, soil scientists agreed that much more research is needed before foliar fertilizer application can be a recommended practice. Research to date has not shown that foliar applications of nutrients can produce dependable economic yield increases.

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IN BRIEF. . . .

Weather Information. Current weather forecasts for local areas as small as half a county may be available from private forecasters within the next five years. And you'll need no special expertise to tap the forecast other than a healthy curiosity and hunt and peck typing skills. The cost is estimated at several hundred dollars a month, so initially the service might be feasible for larger farms, grain elevator operators and cooperatives. Specialists say that we'll see an explosive growth in the quality and quantity of agricultural weather services, led primarily by non-government consulting and forecasting groups. Better forecasting could warn of impending heavy rains, hard frosts and heat spells.

* * * *

Sheep Award. Silver Bell awards will be presented for the first time at the 50th anniversary of the Sheep and Lamb Day, West Central Experiment Station, Morris, Feb. 3. Two sheep producers, chosen from a group nominated by county agricultural extension directors, will be honored this year, according to R.M. Jordan, University of Minnesota animal scientist.

Extension animal scientists at the University, along with the Minnesota's Wool Growers' Association and the St. Paul Union Stockyard Co. have established the sheep producer's Silver Bell award as a tribute to exemplary producers.

"For too many years we haven't paused long enough to recognize that Minnesota has some excellent sheep producers. They contribute greatly to the status and image of the sheep industry," says Jordan.

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GOLDEN ANNIVERSARY
SHEEP DAY, FEB. 3

Burdette Briedenstein, vice president of Wilson Foods, Oklahoma City, and Laird Noh, a large and successful lamb producer from Kimberly, Idaho, will be the featured speakers at the sheep and lamb program, Feb. 3.

Both speakers will focus on the sheep industry, solutions to its problems and the profit potential of sheep production during the next decade. The program will be held at the University of Minnesota's West Central Experiment Station, Morris.

Ken Egertson, University of Minnesota marketing specialist, will discuss the marketing and economic position of sheep today and what changes are apt to occur by 1985.

The 1977 program is the 50th anniversary of this oldest of all sheep days in America. This year's reports by animal scientists H. E. Hanke of the West Central Experiment Station and R. M. Jordan of St. Paul will include a summary of significant findings of the last 50 years that have influenced what and how sheep are fed and managed.

The 1977 reports will include research on feeding ewes corn silage supplemented with poultry litter, the effect of including poultry litter in finishing rations, feeding lambs navy beans, a look at some characteristics of sheep producers in Minnesota and the capital requirements of a sheep flock.

"The lamb dinner should be delicious and the examination of the sheep industry and what the future holds for it promises to make the 50th sheep day one a sheep producer can't afford to miss," says Jordan.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
January 17, 1977

Immediate release

NEW U.S. TAX
LIMITS DEDUCTIONS
FOR HOME OFFICE

The Tax Reform Act of 1976 places a number of limitations on home office expense deductions from federal income tax, says Paul Hasbargen, University of Minnesota extension economist.

Home office expenses can only be deducted to the extent of income derived from the office in the home. Also, the office must be used exclusively for business and on a regular basis if expenses are to be deductible.

Deductions may be made if the home office is the taxpayer's principal place of business or if the home area is used by patients, clients or customers in the normal course of the taxpayer's trade or business. Deductions may also be allowed for a structure detached from the dwelling used in connection with the taxpayer's trade or business.

Deductions will be allowed if the dwelling is the sole fixed location of a trade or business involving sale of products at retail or wholesale and a specific part of the residence is used for inventory storage.

Farmers should be able to deduct costs of a home office in most cases, but they will have to halt any part time use of the office space for non-business activity, such as use by other family members, Hasbargen says. For many others, the new law will eliminate deducting the cost of home offices altogether.

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-daz-

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4-H NEWS

Immediate Release

YEAR-ENDER
FOR 4-H
IN MINNESOTA

One of the major happenings in the Minnesota 4-H program in 1976 was the hosting by Minnesota 4-H families of about 300 young people from other countries.

New ground in Minnesota involvement of 4-H international programs, which dates to 1948, was broken with the Agricultural Youth Leader Exchange with the Soviet Union in 1976. Minnesota was one of five participating states. The Soviet delegation of 15 young men received training in agriculture for two weeks at the University of Minnesota in addition to staying on Minnesota farms.

Other 1976 Minnesota 4-H highlights:

A total of 74,193 young people were enrolled in 2,648 4-H clubs or special interest groups throughout the state. Several thousand more young people were served by 4-H through other methods.

One of the most significant aspects of 4-H in 1976 and continuing this year is the involvement of volunteers as teachers, counsellors, advisors and enablers. Serving as volunteer leaders last year were 17,806 men and women, acting as club leaders, project leaders or countywide leaders.

4-H continued to be a significant part of the University of Minnesota's Cooperative Extension Service educational program, linked to county governments and the U.S. Department of Agriculture. Public funds employ extension workers and program support materials prepared by University specialists are made available to 4-H members and leaders. Private support is provided generously by businessmen, associations and other groups and is used for scholarships, training events, workshops, awards and launching new programs.

-daz-

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January 20, 1977

115C
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Programs are available to all
persons regardless of race,
creed, color, sex, age, or
national origin.

SPECIAL SHORT COURSE SCHEDULE (February - July 1977)

January 31-
February 11 Lumbermen's Short Course, Kaufert Laboratory of Forest Products,
St. Paul Campus. To bring retail lumber personnel up-to-date
on new ideas and techniques; acquaint industry with the
University's teaching, research and facilities; and train
personnel in the building supply field. For lumber and building
material industry personnel and people working with the lumber
industry in support activities.*PS

February 1 Winter Crops Day, Southern Experiment Station, Waseca.+

February 2 Beef Cow-Calf Day, NW Experiment Station, Crookston.+

February 3 Maple Syrup Short Course, North Star Ballroom, St. Paul Student
Center. Program is for people interested in learning about
the art and science of working the sugar bush.*PS

Feb. 8-10 Home Sewage Treatment Workshops, Feb. 8-10, SW State University
Feb. 22-24 Marshall; Feb. 22-24, Howard Johnsons, Bloomington; March 1-3,
March 1-3 Holiday Inn, Alexandria; March 15-17, McGuires Inn, Arden Hills;
March 15-17 March 29-31, Holiday Inn, Bemidji; April 12-14, Holiday Inn,
March 29-31 Eveleth. For county sanitarians, zoning officers, contractors,
April 12-14 county planners, public health inspector and building inspectors.*GW

February 12 Green Holiday Short Course, North Star Ballroom, St. Paul Campus.
For anyone interested in gardening and preserving the fruits
and vegetables they grow. Topics will include fruit and
vegetable varieties (where they can be obtained), featuring
grapes for Minnesota gardens.*RM

February 18-27 Red River Valley Winter Shows, NW Experiment Station, Crookston.+

Feb. 19,22,23, Quality Assurance Workshops; Food Service Sanitation, St. Paul,
26, March 2,4,7 Feb. 19; Bloomington, Feb. 19; St. Cloud, Feb. 19; Minneapolis,
Feb. 22; Fergus Falls, Feb. 23; Richfield, Feb. 26; Edina,
Feb. 26; Marshall, Feb. 26; Minneapolis, Feb. 26; Bloomington,
Feb. 26; Golden Valley, March 2; Rochester, March 4; Bemidji,
March 4; Mankato, March 7. For persons in the food service
industry and state sanitarians. The purpose is to achieve
quality assurance by preparing a sanitation plan for the
food service establishment.*RM

*For further information call Office of Special Programs
LF--LaVern Freeh 612-373-0725
CN--Curt Norenberg "
RM--Richard Meronuck "
GW--Gerald Wagner "
PS--Paul Stegmeir "
+For further information call the Research or Experiment
Station designated.

Page 2 - Special Short Course Schedule

- March 1 Garden Store Operators, North Star Ballroom, St. Paul Campus. Updated horticultural information and current business trends and problems. For nurserymen, florists and store operators.*RM
- March 1, 2,
3,4,8,9,15,
16,17,18,24,25 Commercial Applicators Pesticide Workshops, Rochester, March 1-2; Marshall, March 3-4; St. Paul, March 8-9; Crookston, March 15-16; St. Cloud, March 17-18; Mankato, March 24-25. Designed for pesticide dealers, custom applicators, educators and regulatory personnel. To provide information on plant and animal pest problems and pesticides and accreditation for retention of the pesticide applicator's license.*PS
- March 3 Small Animal Nutrition Workshop, North Star Ballroom, St. Paul Student Center. For practicing veterinarians, faculty and students in the College of Veterinary Medicine. The purpose is to present the latest information on dog nutrition in relation to: influence of dam on immunological capability of puppy; feeding animals under stress; maintenance of fluid and electrolyte balance in the critically ill; diet and effects upon diseases of the heart, liver and pancreas; federal and state regulations of pet food industry.*GW
- March 8 Marine Operators Conference, Holiday Inn, Roseville, Minnesota. The course is for the marine industry of Minnesota. The purpose is to bring together the marine operators of the state to talk about federal and state regulations and the business outlook.
- March 9,10,16,17 Fair Management Short Course, Elks Club, Owatonna, March 9; Donovan's Conference Center, Redwood Falls, March 10; Best Western Motel, Thief River Falls, March 16; Tobie's Restaurant, Hinckley, March 17. Management principles for county fair improvement. For fair board members, fair officers, superintendents and supervisors who have management responsibilities for county, district and state fairs.*CN
- March 10 Minnesota Commercial Aerial Applicators Workshop, Arrowwood Lodge, Alexandria. Designed for aerial pesticide dealers. To provide information on plant and animal pest problems and pesticides accreditation for retention of the pesticide applicator's license.*RM
- March 13-14 Commercial Small Fruit Growers, North Star Ballroom, St. Paul Campus. For commercial small fruit growers.*RM
- March 14,23 Dairy Day, Southern Experiment Station, Waseca, March 14; NW Experiment Station, Crookston, March 23.+
- March 17 Sugar Beet Growers, NW Experiment Station, Crookston.+
- March 20-22 Marketing for the Craftsman, McNeal Hall, St. Paul Campus. The purpose is: to present tools for crafts people to make a living; summarize the resources and services that are available to crafts people (volunteer lawyers, advocates, agents, etc.) to develop approaches to existing markets; provide pricing and costing information for use in marketing crafts; to provide a means of communication for crafts people to discuss mutual problems among each other; to develop a listing of workshops for crafts people. For producing crafts people, people dealing with crafts organizations, i.e. crafts administrators, educators, producers, shop owners, co-op directors.*GW

Page 3 - Special Short Course Schedule

- March 21,22,23,
24,25,31, April
1,4,5,6
- 1977 Township Officers Short Course, March 21, U of M Technical School; March 22, Holiday Inn South, Rochester; March 23, Community College, Willmar; March 24, Southwest State University, Marshall; March 25, St. Johns University, St. Cloud; March 31, Moose Lodge, Brainerd; April 1, Holiday Inn, Fergus Falls; April 4, A.V.T.I., Detroit Lakes; April 5, Auditorium, Thief River Falls; April 6, Rainbow Inn, Grand Rapids. To help officers understand their roles and responsibilities and provide them with technical knowledge and updated reference materials for the township officers handbook.*GW
- March 22
- Combined Turf and Athletic Turf Short Course, North Star Ballroom, St. Paul Campus. For personnel responsible for the upkeep of athletic fields. The course will cover sod management, fertilizer rates and recommended analysis, disease control, implications of the energy shortage on the turf industry, efficient fertilizer use, grass seed availability, minimum maintenance and quality turf.*RM
- March 21-23
- Liquefied Petroleum Gas, St. Paul Campus. A concentrated study program on the latest technical service, and commercial developments in liquefied petroleum gas equipment and appliances. For servicemen and technicians in the Minnesota gas industry.*CN
- March 21, 22,
23,24,30
- Forest Owners and Users Conference, March 21, St. Paul; March 22, Bemidji; March 23, Grand Rapids; March 24, Duluth; March 30, Rochester. For forest landowners and others interested in management of forest lands. Topic is alternative methods of increasing recreational, aesthetic wildlife and timber values of forest land.*PS
- March 23
- Shade Tree Short Course, North Star Ballroom, St. Paul Campus. To provide up-dated information on shade tree maintenance problems and tree laws, and to provide practical information on maintenance techniques.*PS
- March 23
- Station Dairy Day, NW Experiment Station, Crookston.+
- March 25-26
- Beekeepers Short Course, North Star Ballroom, St. Paul Campus. For hobby beekeepers and all others interested in beginning beekeeping.*PS
- March 25
- Dairyman's Day, NC Experiment Station, Grand Rapids.+
- April 2
- Meats Updating Conference, Meat Science Lab., St. Paul Campus. This conference is for foods educators who desire to stay current on latest topics concerning meat.*GW
- April 5
- Nature Photography Workshop; Landscape Photography, North Star Ballroom, St. Paul Campus. Photographing natural subjects, new developments in equipment and appreciation of the world around us.*PS
- April 6-7
- Pest Control Operators Conference, North Star Ballroom, St. Paul Campus Student Center. Current information on identification, prevention and safe control of structural pests.*PS

Page 4 - Special Short Course Schedule

- April 12 Dutch Elm Disease--Oak Wilt Tree Inspectors Short Course, North Star Ballroom, Student Center, St. Paul Campus. To inform municipal tree inspectors of the latest information for controlling these diseases.*RM
- April 14 Garden Store Employees Workshop, Hort. Science Building, St. Paul Campus. Updated horticultural information and current business trends and problems. For nurserymen, florists and store operators.*RM
- April 16 Upper Midwest Trout Symposium, North Star Ballroom, St. Paul Campus. For concerned trout anglers and resource managers. To discuss problems relating to research and management programs for trout and trout habitat in the Upper Midwest.*PS
- April 21-22 Transforming Knowledge Into Food, Spring Hill Conference Center. Involves 30-40 of the leading scholars in the world examining the role of the academic community in finding solutions to world food problems. Co-sponsored by the University of Minnesota and the American Academy of Arts and Science.*LF
- April 24-26 Minnesota FFA Convention and Leadership Conference, St. Paul Campus. To promote a learning experience for vocational agriculture students and FFA members.*CN
- May 5-7 The American University and Title XII, Registry Hotel, Bloomington. Involving 150-200 administrators, faculty and staff from state and Land-Grant colleges and universities plus government official and selected leaders from other nations discussing possibilities for effective university involvement in international development through Title XII legislation.*LF
- May 20-22 Minnesota State Fire School, St. Paul Campus. For volunteer and paid fire department personnel, city officials, and interested government and industry personnel who deal in fire safety, prevention, control and rescue and first aid work.*PS
- June 8 All Together Now in Agricultural Education, Radisson South Hotel, Bloomington. Summer conference of the Minnesota Council for Coordinating Education in Agriculture involving faculty, administrators and students from institutions and systems offering educational programs in agriculture in Minnesota. To discuss current trends, issues, problems and opportunities in agricultural education and the possibilities for dealing with them through the use of coordinated efforts and resources.*LF
- June 28 Crops and Soils Field Day, Southern Experiment Station, Waseca+

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4-H NEWS

WINTER FUN
FOR YOUNG

Have fun with winter sports, including the 4-H Snowmobile Project, but use common sense, says _____.

Many of these activities involve fast movement through harsh elements, which can lead to unforeseen dangers such as frostbite. For instance, traveling on skis, sleds, skates or snowmobiles at 15 miles per hour at 10 degrees Fahrenheit can result in a -18 wind chill.

Constantly exposed flesh can become severely damaged as a result of frostbite. The wind chill index indicates the cooling power of cold air on exposed flesh at different wind speeds and temperatures.

Also be aware of poor visibility where there is blowing snow, snow drifts or foggy car windows. Recreational activities should be planned with great care and consideration given to all accident possibilities.

-daz-

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ATT: Extension Home Economists

NATIONAL HEALTH INSURANCE
LIKELY, BUT WHICH VERSION?

With health care costs skyrocketing beyond the reach of many people, a system of neational health insurance is likely during Jimmy Carter's presidency, says Edna Jordahl, extension home management specialist at the University of Minnesota.

She says there now are several bills awaiting Congressional action and new ones may develop. According to experts speaking at the National Outlook Conference in Washington, DC, costs for an insurance (projected to 1980) will be more than \$220 billion. Of this, 31 percent would come out of consumers' pockets, about the same percentage from private insurance and the remaining 38 percent from public funds, mostly the federal government.

Among the insurance proposals under consideration are these:

Catastrophic protection--Known as the Long-Ribicoff Bill, this would provide for persons in the general population who incur unusually long hospital stays or large health care expenses. Social Security taxes would finance the program and self-employed people could purchase similar private health insurance. The proposal also includes a federal medical assistance plan which would replace the Medicaid program, which is now part of the Welfare program.

Mixed private public plans--This system is favored by the Health Insurance Association and both physicians' and hospital professional organizations. It would cover the entire population, but individuals would have the option of belonging or not.

-more-

add 1--national health insurance

Under the plan employers would be required to offer their employees private health insurance. A federal plan would provide for low income persons and Medicare or some similar program would cover the aged. The self-employed also would be covered under provisions of the plan.

Federal program--This would be a federal program for the entire population financed through Social Security taxes and general revenue.

Mrs. Jordahl says studies by the government's Council on Wage and Price Stability indicate a national health plan will not hold health care costs down. The initiative for that must come from the private sector.

At least one large corporation has begun to process and pay its employees' medical claims directly instead of providing health insurance. There may be further movement in this direction, Mrs. Jordahl says.

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COLD WEATHER
COULD SLOW ELM
BEETLE GROWTH

Extremely cold weather could reduce the beetle population that carries Dutch elm disease. But a University of Minnesota extension entomologist emphasizes that unless an effective sanitation program is affected, any reduction will not mean a thing.

Entomologist Mark Ascerno says there is a possibility of a change in the beetle population if the extreme cold continues and there continues to be a lack of snow. Lower-than-usual temperatures have increased the chances that a higher percentage of beetles may die this winter. About 90 percent of the European elm bark beetle population probably die during an average winter. Continuous temperatures of at least -10°F for 10 days or short periods where temperatures reach at least -30°F would be required to reduce populations by 95 percent or more. Ascerno says that population reductions of 95 percent could occur but adds that any effect on disease incidents this spring is unknown.

He points out that such estimates deal with exposed elm wood. Elm wood protected by a cover of snow or elm firewood stored in a garage would not be subject to the record-breaking temperatures. Beetles from these sources will combine with those which can survive even the harshest temperatures to continue disease spread this spring.

Ascerno suggests that any beetle population reduction should be viewed as an unexpected improvement on last year's sanitation program increasing the chances of success in the fight against Dutch elm disease. However, any foothold provided by the elements would be lost without an intensive sanitation program. "It won't take the beetles long to return to their old levels if we leave dead and dying elm wood for breeding," he adds.

Ascerno emphasizes that predictions about the winter's effect on the disease and the beetle are speculation at this point.

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MOISTURE SITUATION
COULD BE 'GOOD'
SAYS UM SOILS SPECIALIST

A University of Minnesota extension soil scientist says "chances are we may have a good moisture situation this year" in western Minnesota.

Charles Simkins says after two dry years growers in the western part of the state will need normal spring and abundant summer rains for a good season. At any rate, soil tests are important for growers this year, particularly nitrate tests two-feet-deep.

Simkins advises checking phosphate and potash levels. If they are low to medium, get phosphorous and potash on. Wait until May and June to determine nitrogen needs. If the moisture situation improves, then you can put part of the nitrogen on for corn or small grain crops. Keep back part of the nitrogen to see how much rain you get during the growing season.

Moisture in the soil is critically low now in some parts of the state. In Lyon County and further west, there is less than a half-inch of moisture in the first five feet in some soils. But in some parts of Sibley County there is up to three-inches of soil moisture.

Simkins says generally snow does not help the soil moisture situation since the recharge period for most of the state is September through November. Snowfall after November generally runs off and does not add much to soil moisture. Normally by late May or early June there is seven to eight inches of moisture stored in our fine textured soils. Without abundant rain in the summer this stored moisture is needed by crops to produce good yields.

-daz-

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PESTICIDE BUYERS:
BEWARE OF PITCHMAN

"Herbicide Hookers" are working the phones, trying to get farmers and other consumers to buy chemicals that may be of questionable value.

University of Minnesota Extension Agronomist Gerald Miller advises consumers to buy products only after they have been able to read the product label. Telephone purchases are all right only if the buyer is dealing with a reputable agent personally known to him.

The statements and precautions on pesticide labels are backed by intensive scientific study and careful scrutiny. The label provides assurance that the product will do an effective job in an environmentally safe way. Users should always read and follow label instructions when applying a pesticide.

Telephone hucksters often claim the products are non-toxic to people, livestock and fish and will control all weeds. The fact is that the products will only control some weeds, are usually much more expensive than legitimate products and are often not suited to the suggested uses. Prizes are sometimes offered to the farmer if he will buy. The calls are normally made in the early morning or late afternoon.

Pesticide buyers should make it unmistakably clear to any telephone huckster that they are not interested in any weed control products. Federal, state and private organizations report that wavering buyers have sometimes been shipped the pesticides C-O-D.

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MARCH DAIRY DAYS
AT SEVEN LOCATIONS

University of Minnesota extension specialists will present their latest research results at dairy day programs at seven locations in March.

The programs are:

- March 14, Southern Experiment Station, Waseca.
- March 16, Souix Falls.
- March 17, Redwood Falls.
- March 18, West Central Experiment Station, Morris.
- March 23, Northwest Experiment Station, Crookston.
- March 24, Bagley.
- March 25, Grand Rapids.

Contact your county extension office for more information.

Topics and speakers include:

- Forage production and preservation, Extension Agronomist Neal Martin.
- Forages in the feeding program, Extension Dairyman Mike Hutjens.
- Economic considerations in feeding forages, Extension Economist Fred Benson.

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SUPER STARTERS
DON'T HELP PIGS'
FINAL GROWTH

Baby pigs fed "super-adequate" and very acceptable pig starters have no advantage over those fed simple corn-soybean meal starters by the time they get to the final growing period, according to University of Minnesota research.

There was no advantage in overall weight gain or feed efficiency for pigs fed the complex starters.

Many hog farmers continue to believe that complex and very acceptable starter diets and rapid early growth go hand in hand with more rapid gains and lower feed/gain ratios during the final growing period. There's also a feeling that pigs fed the complex diets have leaner carcasses. However, UM animal scientists say that the high powered pig starters will not lead to leaner carcasses.

In the experiment, 932 pigs from 108 litters were used to compare the simple vs. complex starters, each fed at two different protein levels, 20 and 17 percent.

Although the complex starters resulted in increased performance up to 40 pounds, there were no significant effects of either kind of starter or protein content on average daily gain during the growing period after 63 days of age. Likewise, feed/gain ratios after 63 days of age were unaffected by either kind of starter fed or protein content of the starter.

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JAN. 1 CATTLE ON
FEED NUMBERS ANALYZED

The Jan. 1 cattle on feed numbers came out "about as the trade expected," according to Paul R. Hasbargen, University of Minnesota extension economist. Marketings out of feedlots during the first half of 1977 will be about the same as a year ago.

January marketings will be higher, but February and March marketings will be lower. May and June marketings will be up slightly from last spring if placement rates remain high.

Choice steer price averages during each of the first two quarters may not be better than the \$37.80 and \$41.40 Omaha averages of 1976 by more than \$1 or \$2. However the monthly pattern will be different this year, with prices rising from January to March. The quarter-million reduction in steers on feed aimed at the February - March market should push choice prices through the \$40 barrier again.

Second and third quarter prices are highly dependent on weather and subsequent marketings of nonfed cattle. Poor spring rains and delayed pastures could put enough marketing pressure on to prevent the usual pasture related positive price buldge. "So I am rather pessimistic about second quarter beef prices--especially in light of recent cold weather and expectations for continued below normal temperatures that increase winter feed needs. This could cause unexpected forced sales prior to spring grass," Hasbargen says.

Third quarter beef prices will be strengthening again unless a summer drought forces continued heavy liquidation of cattle herds. "Barring that, I continue to suggest a planning price of \$43 to \$45 for the third quarter--about \$2 higher than either second quarter or fourth quarter suggested planning prices," says Hasbargen.

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TWO MINNESOTANS
ON NATIONAL
BEEF COMMITTEE

Two Minnesotans have been named to a national beef resources committee. They are Paul Hasbargen, extension economist at the University of Minnesota, and Lauren Carlson, national director of the National Livestock Feeders' Association from Chokio, Minn.

The committee consists of nine Extension Service representatives from Land Grant universities and the U.S. Department of Agriculture plus nine beef industry representatives. Industry groups represented include the American National Cattleman's Association, Advanced Beef Breeds Federation, Beef Improvement Federation, U.S. Beef Breeds Council, National Association of Animal Breeders and the National Livestock Feeders' Association.

It was formed to identify national problems and develop educational programs to educate beef producers.

Hasbargen will be responsible for leadership in disseminating information on supply-demand conditions and marketing strategies. His research on beef cycles and intermediate run beef outlook projections will be coordinated with information units of the various national beef industry groups.

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CA, IA, L
cc to Morris Paper

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NEW SPRING WHEAT
LINES HELP SOLVE
RUST PROBLEMS

New spring wheat lines provide general resistance to both stem and leaf rusts.

The general resistance is effective against all the races of rust fungi, says Roy Wilcoxson, plant pathologist at the University of Minnesota. Varieties of the past have had resistance to only a portion of the races that are present in nature.

"If this generalized resistance can be exploited we should be able to reduce rust losses to approximately 10 or 15 percent during a severe epidemic. Varieties without generalized resistance can suffer extensive losses of 50 to 90 percent.

"These general resistant genes help keep wheat healthy, and compare to man maintaining his health through immunization against potentially harmful diseases."

This type of resistance will first have to be varetally adapted for production in Minnesota before being distributed to farmers, says Wilcoxson.

"We don't know how much general resistance our present varieties possess, but 50 years' research shows some of the parents used for present varieties have exhibited significant general resistance to stem rust."

These sources of resistance can contribute to solving wheat rust problems beyond Minnesota. Leaf rust is the most serious threat to wheat production in underdeveloped countries, according to Wilcoxson.

"In India the disease is reducing yields by 25 percent. These sources of resistance could cut this loss in half, which translates into a 10 bushel per acre saving."

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CARRY HOGS TO
HEAVIER WEIGHTS?

Can you carry market hogs to 250 and 275 pounds and successfully market more pounds of live hog per sow farrowing?

It could reduce some of the hazards associated with production of young pigs. You also could farrow fewer litters to market the same tonnage of pork annually.

And using modern, late maturing hogs may let you market at heavier final weights without sacrificing carcass quality, say University of Minnesota animal scientists H.E. Hanke and R.J. Meade.

Hanke and Meade list some questions that hog producers should consider, providing they have hogs adapted to marketing at heavier weights:

--Will the animals gain as fast after they reach 225 pounds as they did from 50 to 225 pounds?

--How much will the feed/gain ratio be increased as the pigs reach weights in excess of 225 to 250 pounds?

--How much extra time will be required to get the hogs to market? In other words, what's the turnover rate and how can you adapt a farrowing schedule to accommodate increased time to market?

--What are the disease hazards, such as swine influenza and pneumonia, associated with keeping market hogs on the premises for an extra 15 to 35 days?

--Are disease problems associated with the breeding herd and with rearing baby pigs a large enough factor to justify fewer farrowings and increased market weights on market hogs?

-more-

add 1--carry hogs

--Will the packer pay the same price per hundred, either live or carcass, if hogs weigh 275 pounds instead of 225 at slaughter?

Hanke and Meade used 240 pigs in a study to get information on the effects of dietary protein and final weight (200, 225, 250, and 275 pounds) on rate of gain, feed efficiency and carcass characteristics. Reducing the dietary protein from 16.2 percent to 12.2 percent when pigs average 110 pounds resulted in decreased gains to 200 pounds and increased feed/gain ratio. However, when the protein was reduced to the 12 percent level once pigs reached 200 pounds there were no effects on daily gain or feed efficiency from 200 to 225, 250 or 275 pounds.

Average daily gain decreased after pigs reached 200 pounds and feed/gain ratio increased. Pigs marketed at 225, 250 and 275 pounds required more time to market (17.4, 31.3, and 50.7 days) than those marketed at 200 pounds. Hanke told producers that the increased times to market will be influenced by season and that pigs carried to heavier final weights during cool weather may not require as much additional time to reach final weights.

Diet protein didn't affect carcass characteristics of pigs marketed at 225, 250 and 275 pounds. However, when the protein level was reduced to 12.2 percent at 110 pounds for the hogs marketed at 200 pounds loin-eye area decreased, backfat thickness increased and percent lean decreased.

Dressing percent, carcass length, backfat thickness and loin-eye area all increased as market weight increased, while percent lean decreased. "We expected these to happen as market weight increased. However, heavier market weights will decrease percent lean even more if pigs have more backfat than those we used in the study," the scientists said.

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Immediate release

MEATS EXPERT PREDICTS
CHANGES IN BEEF PRODUCTION
TO SUIT 'HAMBURGER SOCIETY'

Two distinctly different types of beef production soon may evolve to meet consumer demand for both steaks and roasts and ground beef, Richard Epley, extension meats specialist at the University of Minnesota predicts.

Ours has become a "hamburger society," Epley says. Currently about 40 percent of all beef is consumed as ground meat. Predictions are that this will go even higher in the future, he adds.

"Intensive grain feeding of animals for the production of hamburger and ground beef is both unprofitable and unwise," Epley says. He foresees one type of beef production system that will strive for the maximum amount of lean meat in the shortest possible time. The resulting meat would be used for hamburger and similar products.

For example, the technology is now here to take very lean beef, process it into very fine flakes and press and mold these flakes into the form of a steak.

A second beef production system would yield high quality beef with a relatively high degree of marbling. This would meet the demand for high quality steaks and roasts, Epley suggests.

By weight, an average beef carcass now yields about 51 percent steaks and roasts and about 21 percent ground beef and stew meat. Trimmed fat and bone account for the remaining percentages, Epley says.

He also predicts that beef animals in the future will be bred and fed to produce minimum trimmable waste fat without sacrificing flavor, juiciness or tenderness within the lean. Research already is underway at the University of Minnesota and other institutions that will bring about exciting changes in beef production, probably within ten years, Epley says.

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Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
January 25, 1977

MSC
2/27/77
Immediate Release

CONSUMERS CHANGE
ENERGY USE PATTERNS
TO REFLECT SHORTAGES

The energy crisis is now about three years old, and like any three-year-old it is making itself heard and felt around the house, according to Edna Jordahl, extension home management specialist at the University of Minnesota.

A recent survey by the Economic Research Service indicates that three-fourths of the 1,400 households polled are paying more for their energy and have attempted to reduce consumption. Curtailed lighting and heating were the measures consumers mentioned most frequently. About half the households claimed conservation in these areas and about 40 percent claimed to decrease air conditioning.

Nearly half of the families owning clothes dryers said they use them less now than when the energy crisis began. In the kitchen the most common adjustment was to use the oven less. Seventeen percent of the respondents indicated such a change, and 11 percent claimed to use their dishwashers less now.

Only nine percent said they had reduced the use of recreational items such as television, radios and stereos, according to Mrs. Jordahl.

Broken down by income levels, higher income households were more likely to have reduced energy consumption. About two-thirds of the households with \$15,000 to \$25,000 income had reduced lighting and heating and were willing to make further cuts. Of the households with incomes below \$5,000, only 41 percent claimed lighting cuts and 35 percent made do with lower thermostat settings.

add 1--consumers change

Age and household size also affected energy use patterns, Mrs. Jordahl reports. The elderly and very young families were least likely to change their habits. About 80 percent of households with three or more members reported making changes in energy consumption. Only about half the single family households had made adjustments to accommodate shortages.

Homeowners were more likely to have practiced conservation measures than renters, according to the survey results. Mrs. Jordahl says this may be because many renters pay for electricity and natural gas as part of rent so they have no financial incentive to cut back. They may not even know the cost of what they use.

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University of Minnesota
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February 7, 1977

Immediate release

TOP MINNESOTA SHEEP
PRODUCERS AWARDED

Two outstanding Minnesota sheep producers received silver bell awards at the annual Sheep and Lamb Feeders' Day Feb. 3.

Awards went to John Larick, Austin, and DuWayne Swenson, Dawson.

Larick was cited as a "hard working young producer doing an excellent job with Minimal equipment." He lambed 203 ewes in December and January and marketed or retained as flock replacements 144 percent of all lambs born. Last year he sold his lambs at about five months. They weighed 104 pounds and brought an average price of \$48.80. His gross return per ewe was \$79.56.

A portion of his ewes are $\frac{1}{4}$ and $\frac{1}{2}$ Finn and his market lambs are sired by fast growing, meaty Suffolk rams.

Swenson is a purebred Suffolk breeder who runs about 90 ewes in drylot plus corn field gleaning and crop aftermath. He had a 169 percent lamb crop and marketed his lambs at 4.5 to 5 months with an average weight of 110 pounds. The lambs sold for \$60 per 100 pounds and his gross return per ewe was \$97.52.

Swenson was cited as a "progressive, innovative manager whose pride in producing the best sets a high standard for others to follow."

The event was held at the University of Minnesota's West Central Experiment Station, Morris. The 1977 event was the 50th annual Sheep and Lamb Feeders' Day.

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February 7, 1977

Immediate release

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HAYES LECTURER SET;
STUDENT TO GET AWARD

Glenn W. Burton, a distinguished research geneticist from Georgia, has been chosen to deliver the fourth annual H.K. Hayes Memorial Lecture at 8 p.m. Feb. 28 at the University of Minnesota's St. Paul Campus Student Center.

Burton serves with the Agricultural Research Service of the U.S. Department of Agriculture and the Georgia Coastal Plain Experiment Station, Tifton, Ga. He is a past president of the American Society of Agronomy, a national and world leader in crop science and has contributed significantly through the development of several grass varieties, 500 research publications, and contributions in international agriculture. His topic will be "Our Role in Feeding the World." Burton has traveled extensively and recently returned from China.

At the lecture, the H.K. Hayes Graduate Student Award will be presented to Steve R. Simmons, an agronomy major who has excelled in the classroom, in research and involvement in department and student activities at the University.

The award, consisting of \$500 and an engraved plaque, and the memorial lecture were established in remembrance of H.K. Hayes, a distinguished plant breeder, teacher and author who was affiliated with the University's Department of Agronomy and Plant Genetics for more than 40 years.

-daz-

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Immediate release

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TOP FORAGE EXPERTS
SLATED FOR ST.
CLOUD MEETING

"Store More Forage" is the title of a symposium set for St. Cloud, Minn. Feb. 24-25.

And farmers who take the title literally and store more forage stand to improve their profit prospects. "The forage shortage may be with us through 1977 and into 1978," says Neal Martin, extension agronomist at the University of Minnesota.

"We can overcome forage shortages by knowing the limitations and potentials of cropping and feeding alternatives," he adds.

The meeting features 20 of the top forage authorities and farmers in the Midwest. Registration begins at 11 a.m. Thursday, Feb. 24 at the Area Technical and Vocational School, St. Cloud.

Topics and speakers for the Feb. 24 program include new quality standards for hay marketing, Gordon Marten, forage researcher with the University of Minnesota and USDA; new methods of forage preservation, Vic Lectenbergh, agronomy professor from Purdue University; the role of forage in balancing a dairy ration, Mike Hutjens, extension dairyman at the University of Minnesota; and panel discussions on how much to pay for forage and forage alternatives for 1977.

The Feb. 25 program begins at 8:30 a.m. with the annual business meeting of the Minnesota Forage and Grassland Council. Topics and speakers scheduled for later in the morning include a saleable silage system, Jerry Price, from Rochester Silo, Inc.; forage in our beef operations, Dave and Warren Roberson; and the forage seed industry outlook for 1977, Dick Johnson, Pioneer Hi-Bred. More information is available from the Minnesota Forage and Grassland Council, 213 Agronomy, University of Minnesota, St. Paul 55108. The \$17 registration fee includes milk breaks, a banquet, MFGC membership and a copy of the proceedings.

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IN BRIEF. . . .

Dairy Heifers. A balanced diet with good management will help insure that replacement dairy heifers can be bred to freshen at 24 months with enough size to produce adequately.

With adequate energy, protein and good management dairy heifers will grow well without getting fat. More detailed information is available in a new publication available from your county extension office. Ask for Dairy Husbandry Fact Sheet 18, "Raising the Replacement Heifer." Free single copies also are available from the Bulletin Room, University of Minnesota, St. Paul 55108.

* * * *

Farm Business Arrangements. Selecting a farm business arrangement is an important decision that you shouldn't take lightly. Many farm families face the problem of how to get a son or son-in-law started in farming and successfully transfer both property and management control to the next generation. Older farmers without relatives to take over the business face similar problems in bringing an unrelated young person into the business as a working manager or partner. And to further complicate things, "it appears that too many young people are attempting to start farming relative to the number of longer term full-time opportunities available," say agricultural economists Kenneth Thomas and Michael Boehlje. The two have just published a new publication entitled "Farm Business Arrangements: Which One For You?" Free single copies are available from Minnesota county extension offices or the Bulletin Room, University of Minnesota, St. Paul 55108.

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ATT: Extension Home Economists

Immediate release

FOOD PROCESSING ADDS
TO PROTEIN DEFICIENCY

"Up to 50 percent of available protein can be lost during food processing," says David Thompson, food engineer at the University of Minnesota.

Plant proteins are particularly susceptible to losses of essential amino acids such as lysine. Losses of limiting amino acids decrease digestability of present protein, according to Thompson.

"Processing, while causing protein damage, is essential for nearly all plant products. Digestability of soybeans and cereal grains is enhanced through processing."

University research has shown processing can reduce the available lysine by half. However, it has also been discovered that soybean protein can develop a protective structure to stop lysine losses.

"It is important now to determine whether we can develop this structure in other proteins. Since the number one world food problem is protein deficiency any reduction in losses during food preparation will have a substantial nutritional impact."

-dcc-

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Immediate release

SWEATERS TAKE ON
NEW WARDROBE IMPORTANCE

At today's lowered thermostat setting, sweaters and other warm garments are getting a workout, says Lois Ingels, extension textiles and clothing specialist at the University of Minnesota. There is a knack to staying warm in chilly rooms and clothing is the key, she says.

Layers of warm air trapped between the body and clothing or between layers of clothing enable us to stay comfortable. Two thin shirts may be warmer than one heavy one. Generally, heavy fabric is warmer than lightweight fabric and fuzzy fabric is warmer than smooth.

Ms. Ingels says clothing design also is important. Garments that fit close to the body are warmer than loose clothes. Pants are about $1\frac{1}{2}$ degrees warmer than skirts and a heavy sweater is 4 degrees warmer than a lightweight shirt or blouse. Layer a lightweight sweater over a heavy one and you'll add more than 5 degrees.

Sweaters should be washed regularly before soil has a chance to become embedded. Follow the directions on the care labels for best results, Ms. Ingels says.

Most sweaters made of manmade fibers are machine washable and dryable, but some acrylics are best dried flat because they become limp after repeated machine drying.

Wools, unless labeled as machine washable and dryable, should be hand washed and blocked to its original shape during drying. To do this, Ms. Ingels suggests tracing around the sweater before it is washed. Then shape the wet sweater to conform to that outline as it dries on a flat surface. You may need to block and shape the wool sweater several times while it is drying, she says.

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4-H NEWS

Immediate release

CITIZENSHIP-
ACTION GRANTS
FOR 4-H CLUBS

Grants to local 4-H Clubs from Reader's Digest Foundation through the National 4-H Council will be made in the near future for Citizenship-In-Action projects.

4-H groups and members in _____ County should submit proposals to the State 4-H Office by March 1.

Citizenship-In-Action projects this year may take innovative approaches to the energy situation, environment, economics, international understanding and other special needs identified in the 4-H Program.

For more information, contact _____ at the _____ Extension Office.

-daz-

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February 7, 1977

4-H NEWS

Immediate release

'77 4-H WORKSHOP:
YOUTH INVOLVED
IN COMMUNITIES

Two teenagers from _____ County are delegates to the Minnesota Youth Involved in Communities Workshop March 31 through April 2 at Silver Lake Camp in the Twin Cities area.

Selected from _____ County for contributions to community betterment are: (Names, hometowns and project).

The workshop is planned to give teenagers a learning experience in how they can become more effective in planning and conducting community improvement activities. Counties select two delegates and two alternates to attend the three-day meeting.

The workshop will focus on how the community development process is used in obtaining community goals.

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Immediate Release

PINE TREE DISEASE COULD SPREAD TO MINNESOTA

A serious disease that has killed thousands of red and Scotch pine trees in New York could spread to Minnesota and neighboring states.

Scientists are worried that the disease could spread into the Lake states where red pine is a major timber species. "The disease could wipe out Christmas tree plantations in Minnesota, just like it's done in New York," says Darroll Skilling, a plant pathologist stationed in St. Paul.

Scotch pine is the most common Christmas tree species. Ponderosa pines in western states are also extremely susceptible.

"We're worried that the disease could spread by Christmas trees being transported from New York to other states," says Skilling. "We know the disease can spread this way and presently there are no transportation restrictions on cut Christmas trees."

The fungus disease is called Scleroderris canker. Over the past three years it has affected over 4,000 acres of pine plantations in nine northern New York counties. This recent and dramatic rise in tree mortality has scientists worried that a new and more virulent strain of the fungus is present in New York.

"This strain is different from any other strain of the fungus present in North America. Our research shows it's identical to the strain that has caused extensive damage to conifers in Europe," says Skilling.

Skilling is stationed with the U. S. Department of Agriculture's North Central Forest Experiment Station in St. Paul. He also holds a faculty appointment with the University of Minnesota's Department of Plant Pathology.

-more-

add 1--pine tree disease

In Sweden, the disease killed 20 million nursery seedlings in one year. However, trees in Europe have built up more resistance to the fungus, compared to the more susceptible U.S. pines. "Hard" pines such as red, jack and Ponderosa are more susceptible to the disease while softer species such as white pine have more resistance.

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MSC
2/14/77

IN BRIEF. . . .

Weed Control. A newly revised publication on chemicals for weed control in corn is available at county extension offices. The publication has tables on herbicide names and formulations, effectiveness of herbicides on weeds in corn and suggestions for chemical control of weeds in corn. Ask for Agricultural Chemicals Fact Sheet 6.

* * * *

Corn Hybrids. A revised fact sheet on selecting corn hybrids is available from your county extension office. It describes the types of hybrids suitable for various regions of the state, insect and disease control, maturity and yields. Ask for Agronomy Fact Sheet 22.

* * * *

Pork Improvement. A newly revised publication on pork improvement through carcass evaluation is available from county extension offices. It's designed to help hog producers develop quality pork carcasses efficiently and identify superior lines of breeding stock. Ask for Extension Bulletin 364.

* * * *

Ice Dams. A new University of Minnesota publication gives some practical design concepts for preventing snow-water damage on roofs of newly constructed homes. It also explains why ice dams form, extent and severity of damage and inadequate methods of dealing with ice dams. Ask for Extension Bulletin 399.

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KEEPING GOOD HELP
ON THE DAIRY FARM

Providing good living conditions and wages is the first step for a dairyman who wants to retain good labor.

But making hired labor feel they're important and worthwhile is just as important, according to a University of Minnesota study. Many Minnesota dairymen are relatively inexperienced in supervising labor and have not yet recognized the motivational strategies necessary for good working relationships, said researcher Lora Smith.

"In some cases even the basic physical satisfactions are not being met. Much of the 'hired hand' stigma still remains. But the dairymen we interviewed wanted to discuss their labor problems and find solutions."

Smith worked with Extension Dairyman Bob Appleman in the study, which consisted of interviews with 24 dairy farmers and their full-time employees. "Seldom did any of the employees we interviewed mention low salary or inadequate housing as a key source of friction. But it's important that these material needs be met. If they aren't, the wife is usually the first to notice. An unhappy household eventually leads to job dissatisfaction and usually job termination," the researchers said.

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PROPER VENTILATION
PROMOTES CALVES' HEALTH

The economic loss from postnatal death of dairy calves in the United States is estimated to be 15-23 percent, according to an extension agricultural engineer at the University of Minnesota.

"These figures are representative of Minnesota except that some diarmen are losing 50 percent or more of their calves and are unable to raise adequate herd replacements," says Donald Bates.

The most critical preventative measure is an improved environment in properly insulated calf barns. Fundamental of maintaining a healthy environment is providing continuous exhaust at a minimum rate of about four air changes per hour. This dilutes aerosol contaminants and controls moisture, according to Bates.

Generally, ventilation systems have been designed to control moisture within the housing unit they serve. Although such control is fundamental, there has been a tendency to observe the condition of the structure and presume animal health and comfort come automatically, Bates says.

"Just because a building is dry does not insure that it is either comfortable or healthful for the animals."

There has been lack of attention to aerosol contamination. Small calves give off little heat. If an acceptable temperature--50-55⁰F is to be maintained in cold weather, either the ventilation rate must be lowered or interrupted, or supplemental heat must be added, Bates states.

-more-

add 1--proper ventilation

Often the first alternative is chosen, usually by interruption. This results in an increase in aerosol contaminants concentration. There is a cyclic fluctuation of temperature within the limits of the temperature control device. This is easily measurable.

Under time-clock control, temperature variation may be even greater. These abrupt changes stress the animals and may be injurious to the lung tissue making it vulnerable to bacterial and viral invasion, Bates says.

"The interval timer system is adequate only if the calves have the capacity to hold their breath for the durations the system is off."

While the fan system is off the humidity rises from the moisture exhaled by the animals' breath. The temperature will probably also rise when supplemental heat is used. This leads to a wide variation in environmental quality.

When heat is added there is a tendency to under ventilate to reduce fuel costs. Recirculating air within the housing compartment is sometimes recommended. This concentrates rather than reduces aerosol contamination, and cannot make up for a fundamental heat deficiency in the building.

A problem common to smaller calf barns is obtaining a quality fan of the desired minimum capacity. Variable speed fans may have their place but it is not in supplying the minimum exhaust in a calf barn. This should be supplied by a single speed fan rated at 1/8" static pressure without a temperature control, Bates says.

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Immediate release

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PRODUCE SUPPLIES ADEQUATE
DESPITE FLORIDA FREEZE

While certain fruit and vegetable crops have been hard hit by freezing weather in Florida, adequate supplies probably will be available throughout the remainder of the winter, according to the United Fresh Fruit and Vegetable Association.

Economist Charles Porter of the U.S. Department of Agriculture's Economic Research Service predicts, "The Florida freeze might cause consumer prices of tomatoes and other tender vegetables to double. . . . However, fresh commodities from other regions and some Florida vegetables should continue to be available in good supply at no or only moderate price increase."

Even crops hardest hit in Florida--citrus, tomatoes, green beans and peppers--are being shipped from other producing states and Mexico. Although costly, these fruits and vegetables are expected to be readily available throughout Florida's recovery period.

Iceberg lettuce, produced primarily in California, is expected to remain available in undiminished supply. The national supply of potatoes is eight percent above the supply at this time last year.

Some of Florida's heartier vegetables such as cabbage, carrots and celery were not severely affected by the cold weather. They continue to be shipped from there in quantities that are only slightly diminished compared to normal seasons, according to the United Fresh Fruit and Vegetable Association.

The association says that six of the twenty major commodities in this country are not shipped from Florida at all during the first three months of the year. They are apples, bananas, lemons, onions, pears and sweet potatoes. Less than ten percent of the nation's first quarter supply of potatoes, carrots, lettuce and other greens comes from Florida farms.

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Immediate release

ATT: Extension Home Economists

UNSAFE FOOD PRACTICES
COMMON IN HOME KITCHENS

More than half of the household cooks interviewed in a U.S. Department of Agriculture (USDA) report have been doing at least one of several things which violated safe food handling practices. The survey polled more than 2,500 households as a basis for the recently published booklet, "Food Safety: Homemakers' Attitudes and Practices."

Many homemakers reported leaving cooked meat or poultry or salad sandwiches out at room temperature for more than two hours. Others cooked hamburgers rare, maintained refrigerator temperatures above 45^oF or stored leftover stuffing in fowl.

Although high-risk cooks turned up in each of the demographic subgroups studied, younger homemakers, those with more education and those from higher income homes were more likely to make food safety mistakes in the kitchen.

Other consumer awareness problems revealed in the survey were homemakers' lack of understanding of federal meat and poultry inspection procedures, of their responsibility within the home for safe food preparation, improper refrigerator temperatures and lack of knowledge about bacterial food contamination and cross-contamination.

Most homemakers interviewed said they wanted to see all ingredients in foods listed on their labels.

The report calls for more consumer education, identifies groups needing food safety information and lists ways of reaching consumers with this type of information.

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(Note to home economists: "Food Safety: Homemakers' Attitudes and Practices," AER-360, is available free from Publications Services, Economic Research Service, U.S. Department of Agriculture, Room 0054-South Building, Washington, D.C. 20250. Please make your request on a postcard and include your zip code.)

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Immediate release

INTERFACING CAN SPELL
SUCCESS OR FAILURE
TO GARMENTS SEWED AT HOME

The proper use of interfacing can make the difference between a professional looking garment and a disappointment to the person who sews at home, says Lois Ingels, extension textiles and clothing specialist at the University of Minnesota.

She says the wide range of interfacings available today allow consumers to use interfacing successfully in many fabrics and garment designs. It can add body, crispness, stability, durability or strength.

Choose an interfacing that is slightly lighter weight than your garment fabric, Miss Ingels advises. Interfacing also should have the same care requirements as the garment fabric. While it need not have the same fiber content, the interfacing should be washable if the garment fabric is washable.

She also suggests looking at the give or stretch of your garment fabric before selecting interfacing. Generally woven interfacing is used with woven fabric and knit or nonwoven interfacing is used with knits.

Stitch-in interfacing generally gives softer, more subtle shaping. It may soften slightly after laundering and does require some basting, however.

Fuse-in interfacing is quick to use, and the firmness that it adds to a garment makes topstitching easier. It gets firmer after fusing, however, and it may flatten such fabrics as gauze and seersucker or fail to adhere to others. The fusing agent also can seep through sheer fabrics or become too stiff if applied with too much moisture.

Miss Ingels discusses interfacing uses and techniques in a new booklet, "Choosing and Using Interfacing," (Extension Folder 341). Single copies are available free from your local county extension office or by writing to the Bulletin Room, 3 Coffey Hall, 1420 Eckles Avenue, University of Minnesota, St. Paul 55108.

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IN BRIEF. . . .

Hog Housing. Farmers who have invested in hog housing the past few years probably need prices in at least the low \$40 range to break even. Break even production costs with new facilities ranges from about \$38.50 to \$42, according to a University of Minnesota study. The open pen system was the cheapest with a break even price of \$38.49 needed to cover production costs. The modified open front needed \$40.20 while the totally slatted system required \$42. However, this does not take energy consumption or feed conversion differences into account.

* * * *

Alfalfa Yields. Poor variety selection limits alfalfa production. Higher seed prices for new varieties will more than pay off since stands will remain productive longer. Many newer alfalfa varieties yield 10 percent more than old varieties during the first three years and 15 percent more where stands have been in more than three years. Unless you run into unforeseen problems, good varieties should give you longer stands--you should be able to figure on at least five years. So figure seed charges against the lifetime stand.

University of Minnesota specialists say you should be able to get yields of about eight tons per acre on good ground if you do a good job with alfalfa. The state average is about three tons and could be boosted to about 4.5 tons if each farmer did a good job and Mother Nature cooperated. Lack of fertilization--especially for potash--is a major limiting factor in alfalfa production.

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Immediate release

ADULT ED
WEEK SET

The number of Minnesotans participating in adult education is greater than the combined enrollment in formal classes, kindergarten through college.

That's the word from _____ County Extension Director _____.

This widespread interest will be featured during Minnesota Adult Education Week, March 6-12, proclaimed by Governor Rudy Perpich.

During this week many _____ County educators are making special efforts to answer questions about adult education. _____ urges all interested adults to contact their local schools, churches, colleges, voluntary organizations, libraries or county extension office for more information on the opportunities.

"Even listing the various organizations involved is risky," _____ says, "because I may inadvertently leave out some fine group or organization."

Included are our public schools with their evening offerings, adult classes, and many community activities.

Churches, farm organizations, libraries, museums, local community colleges, and technical or vocational institutes all have programs geared to adults, _____ points out. In all, a million and a half persons participate in adult education in one form or another in Minnesota.

The county extension service itself estimates that it served _____ people in 1976, _____ said. This includes both its youth programs through 4-H and other activities as well as its home economics, agriculture, forestry, and resource development efforts, _____ says.

(Elaborate more on basis of local Extension programs).

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Immediate release

MINNESOTA HORTICULTURIST
SEEKS OLD VEGETABLE SEEDS

University of Minnesota Horticulturist David W. Davis and the Minnesota State Horticultural Society are searching for vegetable seeds that may be traced to plants grown by past generations.

These seeds may have been saved by Minnesota gardeners.

These "heritage" seeds are sought because it is thought that they may have valuable disease resistant qualities or unusual qualities of size, shape, color, or flavor that would make them useful in developing new and unusual vegetable varieties.

The interest in old and unknown vegetable varieties comes at a time when the practice of saving seeds, common until the early 1900's, is relatively rare. "Nor is saving seed each year a practice we are recommending," says Davis. High quality, disease-free seed is available each year from the seed industry.

The seed search focuses on beans, muskmelon, squash, pumpkin, peas, radishes, and sweet corn. Minnesota gardeners who have saved seeds from these vegetables for 10 years or more are asked to do the following:

- (1) Send 20 to 50 seeds to David W. Davis, Minnesota State Horticultural Society, 161 Alderman Hall, University of Minnesota, St. Paul 55108.
- (2) Indicate the original source of these seeds, if known.
- (3) Note how long seed of this particular vegetable has been saved.

-more-

add 1--Minnesota horticulturist

(4) Describe how this variety is different from other varieties; for example, is it early maturing, or does it have special eating qualities.

Davis plans to develop a registry of people who are involved in keeping and maintaining old varieties and to conduct tests to see if the seeds collected are suitable for use in breeding programs. For those that will be used in breeding, a seed sample also will be sent to the United States National Seed Storage Laboratory at Fort Collins, Colorado.

-daz-

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Immediate release

TWO NEW SEWAGE
PUBLICATIONS

Two new publications on home sewage treatment systems are available from the _____ County Extension Office and the Bulletin Room, University of Minnesota, St. Paul 55108.

The publications are written by Roger E. Machmeier, University of Minnesota extension agricultural engineer.

"Town and Country Sewage Treatment," Extension Bulletin 304, contains comprehensive information on the proper design, installation, use and maintenance of onsite sewage treatment systems. Although intended primarily for homeowners; contractors, installers, local officials, consultants and anyone involved with onsite sewage treatment systems should find the material useful. It is intended the publication provides sewage treatment solutions for a wide range of site and soil conditions.

General background information for persons interested in home sewage treatment systems is provided in "Get to Know Your Septic Tank," Extension Folder 337. It includes general information on how an onsite treatment system works, onsite sewage treatment systems, types of soil treatment systems, site evaluation and care and feeding of your septic system.

-daz-

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Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
February 22, 1977

ATT: Extension Home Economists
Immediate release

COFFEE GROUNDS
ARE RECYCLABLE

Coffee is joining the list of "recyclable" products along with cans, bottles, paper and clothing.

Isabel Wolf, extension foods and nutrition specialist at the University of Minnesota, says a number of consumers have reported drying coffee grounds and using them a second time.

One drying method is to spread used grounds in a ½-inch deep layer in a shallow pan. They then should be stirred occasionally and dried for about an hour in a 275 to 300 degree oven.

Mrs. Wolf suggests that the coffee drying should be done when the oven is being used for something else as well. Otherwise the savings on coffee grounds could vanish as your gas or electricity bill climbs.

The recycled grounds can be used only one time, and consumers report using 25 to 30 percent more of them than other grounds, Mrs. Wolf says. The coffee made from recycled grounds is slightly milder and less acid than coffee made from fresh grounds.

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
February 22, 1977

4-H NEWS

Immediate release

LOCAL 4-H'ERS
SELECTED FOR
CITIZENSHIP '77

4-H club members from _____ County have been selected to attend the 1977 Citizenship Short Course this summer at the National 4-H Center in Washington, D.C. _____ (See green sheet in January Monthly Memos for dates).
(date)

Attending from _____ County are: (names and hometowns)

More than 6,000 4-H'ers from 43 states and Puerto Rico will participate in the week-long living experience in citizenship.

Using the nation's capital as a classroom, the program includes a day on Capitol Hill to meet Congress members and field trips to historical and cultural sites. Seminars will be held at the 4-H Center.

-daz-

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
February 28, 1977

4-H NEWS

Immediate release

4-H CAMPING
WORKSHOPS

Volunteer adults and teens and Extension Service staff interested in camping are invited to participate in the 4-H Camping Workshop _____ (dates) at _____ (place) in _____ (town).

The workshop is designed as a model of camps where learning and practicing skills take place. Persons who serve on camp staffs will be interested in attending the workshop.

For more information, contact _____ at the _____ County Extension Office. Extension Service programs are offered to all persons regardless of race, creed, color, sex or national origin.

-daz-

Locations, dates:

- Camp Shetek, Slayton, March 31-April 2
- Silver Lake, New Brighton, May 5-7
- Bald Eagle Center, Cass Lake, April 28-30.

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February 28, 1977

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ATT: Extension Home Economists

Immediate Release

(First in a series of four articles)

WHERE DOES TRUTH LIE
AMID MYTHS OF AGING?

A frail, sickly retired factory worker lives alone and forgotten in a rundown hotel room. His meager pension check seldom stretches to meet a full month's expenses so the old man often goes without food, decent clothing, heat and social contacts.

Or there is the active, alert widow who maintains her small home in the friendly neighborhood where she lived for 30 years and raised four children. Her health and finances allow her to fill each day with volunteer work, craft classes and visits to neighbors and relatives.

Which is the true picture of aging? Both, plus the whole range of cases and situations between, says Susan Meyers, extension family life specialist at the University of Minnesota. "There is no such thing as a typical old person just as there is no such thing as a typical 40-year-old," she says.

A recent study by Robert Havighurst for the National Council on Aging explored how the elderly perceive themselves and others in their age group. Each was asked whether common stereotypes of aging applied to them and whether they applied to elderly people generally.

The results were eye-opening and they have prompted varying interpretations, Ms. Meyers says. Most of those polled said that the common problems of aging--not having enough money, poor health, fear of crime, loneliness and inadequate medical care--applied to others in their age group but not to them.

Only about a quarter of the elderly claimed that the biggest problems of poor health and fear of crime applied to them, but half or more of them said that others

add 1--where does truth lie

in their age group suffered from these. Only 15 percent or less of the elderly admitted to money problems or loneliness, but nearly two-thirds of them said that their cohorts had these concerns.

"One possible interpretation of this study is that the elderly may be under-reporting their own situations," Ms. Meyers says. "They may come closer to the truth in what they attribute to others near them in age. Or it could be that conditions really aren't as bad for the elderly as we sometimes think."

Another possibility is that the results represent a self-fulfilling prophecy, according to Ms. Meyers. The loneliness, poverty and poor health that they see as problems among other elderly persons soon may be their fate also, no matter what their current situation.

"There has been criticism of the techniques of Havighurst's study," Ms. Meyers says. "Critics say that the younger elderly--those who have recently retired--may be overrepresented in the sample. Their situations and perceptions probably would be brighter than among the very elderly whose health, savings and living arrangements are more likely to have deteriorated."

She says, "This Havighurst report, called The Myths and Realities of Aging, really points out that there are factors more powerful than age itself that determine the conditions the elderly encounter."

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February 28, 1977

ATT: Extension Home Economists
Immediate Release

POSSIBLE BAN ON
FLAME RETARDANT CHEMICAL
CAUSES CONSUMER CONCERN

News reports about possible links between the flame retardant fabric finish TRIS and cancer in laboratory animals have caused concern and confusion among consumers, says Sherri Gahring, extension textiles and clothing specialist at the University of Minnesota.

The Consumer Product Safety Commission is considering banning the sale of some children's sleepwear in sizes 0-14 treated with TRIS. The Environmental Defense Fund is petitioning for the ban because of National Cancer Institute findings that the chemical causes cancer in laboratory animals.

Miss Gahring assures consumers that the TRIS study is one of the Consumer Product Safety Commission's highest priorities so a decision on the ban should be made soon. In the meantime, she offers some advice for consumers who are worried about the possible presence of TRIS on their children's sleepwear.

Because garment labels do not state which clothing items have been treated with TRIS, she advises checking the fiber content before buying flame retardant children's sleepwear. Acetate and triacetate sleepwear up to size 14 usually is treated with TRIS, according to a report by the Environmental Protection Agency.

Polyester sleepwear in smaller sizes, through size 6X, also is TRIS-treated, but polyester sleepwear in sizes 7 through 14 may or may not be treated with the chemical. A recent report in a textiles industry magazine said that polyester passes the less stringent flammability standards for the larger sizes without additional flame retardancy treatment.

-more-

add 1--possible ban on chemical

Without writing to the manufacturer for information, there is no sure way that a person buying larger size polyester sleepwear can know if the garment was treated with TRIS, Miss Gahring says.

If you are purchasing children's sleepwear and want to avoid TRIS-treated fabric, Miss Gahring says Dacron 900-F is one type of polyester which has been formulated to meet flammability standards without the addition of flame retardant chemicals.

Modacrylics such as Verel and SEF and modacrylic-polyester blends do not contain TRIS because they are inherently flame retardant. Matrix fabrics such as Leavil and Cordelan also are inherently flame retardant without additional treatment.

Nylon and 100 percent cotton sleepwear usually require the addition of a chemical other than TRIS to achieve flame retardancy.

As a precaution, Miss Gahring says newly TRIS-treated sleepwear should be washed several times prior to wearing. Follow the garment care label instructions. This should reduce the amount of surface TRIS on the clothing.

The Consumer Product Safety Commission says that TRIS-treated garments already in use that have been washed several times present little, if any, risk to consumers.

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Note to home economists: Additional material on the TRIS controversy will be coming to you from Sherri Gahring. These details should further help you to answer questions from consumers in your area.

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
February 28, 1977

MFC
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Immediate release

FARMERS PREFER "MINIMUM"
GOVERNMENT INVOLVEMENT

Minnesota farmers favor an extension of 1973 farm legislation but with higher target prices and loan levels, according to a University of Minnesota survey.

"Farmers prefer a minimum of government involvement in farming, but with governmental assistance available during periods of excess production and low prices," said Martin Christiansen, extension economist in agricultural policy who conducted the study.

"Drouth conditions probably influenced the responses of many farmers. Many commented on the need for improved disaster assistance and the effect of drouth on costs and income. Past price increases on things they buy were a major concern," Christiansen said.

Minnesota farmers were divided on the question of returning to an acreage set aside program if one might be needed. "There's a good chance they'd support government assistance in farmer stored grain produced on a specified number of acres. But farmers are distrustful of government held stocks.

"Farmers recognized the importance of foreign markets. They strongly support agreements that will assure steady access to foreign markets. They're generally opposed to export controls, although many farmers recognize that such controls may be necessary during national emergencies.

"Farmers also support efforts to provide food aid to victims of disaster abroad and low income people at home. But they're somewhat divided on the usefulness of continued P.L. 480 programs," Christiansen said.

Survey results were obtained from questionnaires sent to almost 1,500 Minnesota farmers in December, 1976. A total of 458 reports were returned.

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February 28, 1977

Immediate release

FAIR MANAGEMENT
COURSE SET

A fair management short course for county fair officers, directors and department superintendents is scheduled for _____ starting at 9:30 a.m.
(date and location)

Ray Aune, secretary of the Olmsted County Fair at Rochester, will speak on "Sharing Our Ideas on Fair Management." Discussion leaders will be _____
(list those for
your area)

_____ will represent the Minnesota State Fair Board of
(Name and address)
Managers on the program.

A special session on bookkeeping and reports for fair secretaries, accountants and treasurers will be conducted by Henry Hammer, secretary of the Anoka County Fair, and Margaret Schwingler, secretary of the Kandiyohi County Fair.

Food stand regulations and canning exhibit problems will be discussed by

(name of person from your area)

A slide presentation on fair management will be given by Wayne Hanson, assistant program leader with the University's Agricultural Extension Service.

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February 28, 1977

Immediate release

NEW HAY MARKETING
STANDARDS PROPOSED

A new system for establishing feeding value and equitable market pricing of hay has been proposed by the Hay Marketing Task Force of the American Forage and Grassland Council.

The new system consists of five market grades plus a sample (unmarketable) grade. It's meant to replace an outdated and cumbersome system devised in the 1940's, according to U.S. Department of Agriculture researcher Gordon C. Marten.

There are two primary determinants of hay quality in the new system. They are concentrations of acid detergent fiber (to estimate digestibility) and neutral detergent fiber (to estimate intake potential by ruminant animals). Other characteristics that can alter a hay grade established by these two assays are crude protein concentration, moisture level, and degree of contamination with injurious foreign material.

A "relative feed value" is derived from estimating digestible dry matter intake for each hay lot. Then an equitable price for the hay can be calculated from a localized base price for Grade 4 hay with a relative feed value of 100. Relative feed values would range from a high of 140 percent for early cut legumes to about 83 percent for late cut grasses.

Faster tests for fiber and crude protein are needed to make the system workable for small lots of hay in transit. Marten says a new technique called infrared reflectance analysis is being developed to meet this need.

The Federal Grain Inspection Service of USDA must react favorably to the proposal before the new quality standards can be officially used for hay marketing. Marten spoke at a recent meeting of the Minnesota Forage and Grassland Council in St. Cloud, Minn. CA. IA. D. L.

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February 28, 1977

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Immediate release ✓

TIPS FOR STORING,
FEEDING LARGE HAY
PACKAGES

Here are some storage and feeding tips on large hay packages from Vic Lechtenberg, Purdue University agronomist.

--Package the hay at a low moisture content. Large hay packages (especially the dense, large round bales) must be as low in moisture as conventional hay bales in order to prevent mold and spoilage.

--Do a good job of packaging the hay. Be sure that the packages are dense and evenly formed, especially with compressed stacks.

--Leave space between the packages at the storage site. If the packages touch each other, moisture is trapped between them after a rain, increasing spoilage.

--Select a well-drained storage site to minimize deterioration of the package at the soil surface. Storing the packages on crushed rock may help. "Remember that you will be feeding the hay during the winter and early spring," says Lechtenberg. Storage sites that are dry and easy to get to in July are often wet and muddy in March.

--Use a feeding rack to minimize hay waste, especially if you're feeding a small number of animals. If you must feed big hay packages without racks, feed about a one-day supply of hay to reduce waste.

Lechtenberg spoke at a recent symposium sponsored by the Minnesota Forage and Grassland Council in St. Cloud, Minnesota.

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CA. IA. L.

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February 28, 1977

Immediate release

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SMALL GROUP
SEWAGE SYSTEMS

The most cost-effective sewage treatment solution for many small cities is a number of small group systems located as needed, says Roger Machmeier, University of Minnesota extension agricultural engineer.

Small sized lots that have inadequate space for an on site sewage treatment system often are a problem on Minnesota lakes, but this does not mean that the entire lake must have a sewer all the way around. The latter usually is an extremely expensive solution and unfair to most property owners who have adequately sized lots and soils that are suitable for septic tanks and drainfield trenches, Machmeier says.

Small lots are often a problem in small cities, but a municipal sewer system for an entire small city usually is extremely expensive on a per lot basis. Small group sewage treatment systems using available undeveloped land are usually the most cost effective solution.

Group or collector sewage systems that serve only property owners with sewage problems usually can adequately treat the sewage at about the same cost as if a septic tank and drainfield trenches were located on each lot. So small group systems usually are the most cost-effective solution to sewage treatment.

Group systems for 10 to 30 homes have been installed in Minnesota. Costs per lot for the collector sewer line, pumping stations and common soil treatment systems have ranged from \$800 to \$1,200 per lot depending on treatment site accessibility and land cost. Each home owner pays for his own septic tank and hookup costs which usually run about \$500. The total installation cost

add 1--small group sewage systems

to each property owner in a group system has been about the same as if the owner had an individual sewage treatment system. But annual operating costs are much less than a municipal sewer system.

Individual septic tanks are used for each home to separate sewage solids. Septic tank effluent flows in a four-inch gravity or a two-inch pressure collector sewer line either to a main pumping station or directly to the soil treatment system. Since sewage solids have been retained in the septic tanks relatively inexpensive submersible sump pumps are adequate for the pumping stations.

Local expertise, such as sewage system contractors and zoning administrators, can usually design the simple system. Expensive design costs are unnecessary. Fundamental design principles for adequate on site sewage treatment systems are used for small group systems.

Property owners must agree on organizational and operational details before the sewage treatment system can be designed. Success of the group system depends on mutual cooperation and understanding by all participants as well as proper design, installation and maintenance. Competent legal advice is necessary to develop an agreement for the property owners.

Small group systems are being successfully used in Minnesota and more are under construction. Learn more about small group or collector sewage treatment systems from Extension Bulletin 304, "Town and Country Sewage Treatment" or Extension Bulletin 394, "Shoreland Sewage Treatment." These bulletins are available from your county extension office or from the Bulletin Room, Coffey Hall, University of Minnesota, St. Paul, 55108.

-daz-

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
February 28, 1977

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Immediate release

DAIRY BEEF MAY
BE PROFITABLE

Dairymen feeding their bull calves out as dairy beef need about \$34 a hundred to record a profit, provided no charge is made for labor or housing.

"Many dairymen figure they have the buildings and time available anyway," says Bob Appleman, extension dairy specialist at the University of Minnesota. "We recommend either selling the new calves or feeding them all the way out. This looks more profitable than selling as feeders or veal calves," he says.

However, the \$34 per hundred figure Appleman uses assumes that hay can be purchased at "reasonable" prices of \$70 a ton or less. "You can't afford \$100 a ton hay for dairy beef during the growing period."

Specialists recommend separating heifers from the dairy steers at about 800 pounds, then putting the steers on full grain feed with limited hay or corn silage. The animals should reach a market weight of 1,150 pounds after a 140-day feeding period.

"You should be able to make \$30 or \$40 a head for your labor, provided you don't have a high death rate. But a high death loss will wipe out any profits in a hurry," says Appleman.

Holstein steers can reach market weight by the time they're 14 to 15 months if you separate them from heifers at about 400 pounds and push the feed to them. However, feeding the extra grain may not be profitable, say University of Minnesota agricultural economists.

Holstein steers normally bring a lower price than English beef breeds. This means you shouldn't try to put as much finish on Holsteins as you would British breeds.

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CA, IA, D, L

Department of Information and
and Agricultural Journalism
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St. Paul, MN 55108
March 1, 1977

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Programs are available to all
persons regardless of race,
creed, color, sex, age, or
national origin.

SPECIAL SHORT COURSE SCHEDULE (March - August 1977)

- March 1-3 Home Sewage Treatment Workshops, March 1-3, Holiday Inn, Alexandria;
March 15-17 March 15-17, McGuires Inn, Arden Hills; March 29-31, Holiday Inn,
March 29-31 Bemidji; April 12-14, Holiday Inn, Eveleth. For county sanitarians,
April 12-14 zoning officers, contractors, county planners, public health
inspectors and building inspectors.*GW
- March 1,2,3,4, Commercial Applicators Pesticide Workshops, Rochester, March 1-2;
8,9,15,16,17, Marshall, March 3-4; St. Paul, March 8-9; Crookston, March 15-16;
18,24,25 St. Cloud, March 17-18; Mankato, March 24-25. Designed for
pesticide dealers, custom applicators, educators and regulatory
personnel. To provide information on plant and animal pest
problems and pesticides and accreditation for retention of the
pesticide applicator's license.*PS
- March 2,4,7 Quality Assurance Workshops; Food Service Sanitation, Golden Valley,
March 2; Rochester, March 4; Bemidji, March 4; Mankato, March 7.
For persons in the food service industry and state sanitarians.
The purpose is to achieve quality assurance by preparing a
sanitation plan for the food service establishment.*RM
- March 1 Garden Store Operators, North Star Ballroom, St. Paul Campus.
Updated horticultural information and current business trends
and problems. For nurserymen, florists and store operators.*RM
- March 3 Small Animal Nutrition Workshop, North Star Ballroom, St. Paul
Student Center. For practicing veterinarians, faculty and
students in the College of Veterinary Medicine. The purpose is
to present the latest information on dog nutrition in relation
to: influence of dam on immunological capability of puppy;
feeding animals under stress; maintenance of fluid and electrolyte
balance in the critically ill; diet and effects upon diseases of
the heart, liver and pancreas; federal and state regulations of
pet food industry.*GW
- March 8 Marine Operators Conference, Holiday Inn, Roseville, Minnesota.
The course is for the marine industry of Minnesota. The purpose
is to bring together the marine operators of the state to talk
about federal and state regulations and the business outlook.*RM

*For further information call Office of Special Programs

LF--LaVern Freeh 612-373-0725

CN--Curt Norenberg "

RM--Richard Meronuck "

GW--Gerald Wagner "

PS--Paul Stegmeir "

+For further information call the Research or Experiment Station
designated.

Page 2 - Special Short Course Schedule

- March 9, 10, 16, 17 Fair Management Short Course, Elks Club, Owatonna, March 9; Donovan's Conference Center, Redwood Falls, March 10; Best Western Motel, Thief River Falls, March 16; Tobie's Restaurant, Hinckley, March 17. Management principles for county fair improvement. For fair board members, fair officers, superintendents and supervisors who have management responsibilities for county, district and state fairs.*CN
- March 10, 11 Minnesota Commercial Aerial Applicators Workshop, Arrowwood Lodge, Alexandria. Designed for aerial pesticide dealers. To provide information on plant and animal pest problems and pesticides accreditation for retention of the pesticide applicator's license.*RM
- March 13-14 Commercial Small Fruit Growers, North Star Ballroom, St. Paul Campus. For commercial small fruit growers.*RM
- March 14, 23 Dairy Day, Southern Experiment Station, Waseca, March 14; NW Experiment Station, Crookston, March 23.+
- March 17 Sugar Beet Growers, NW Experiment Station, Crookston.+
- March 20-22 Marketing for the Craftsman, McNeal Hall, St. Paul Campus. The purpose is: to present tools for crafts people to make a living; summarize the resources and services that are available to crafts people (volunteer lawyers, advocates, agents, etc.) to develop approaches to existing markets; provide pricing and costing information for use in marketing crafts; to provide a means of communication for crafts people to discuss mutual problems among each other; to develop a listing of workshops for crafts people. For producing crafts people, people dealing with crafts organizations, i.e. crafts administrators, educators, producers, show owners, co-op directors.*GW
- March 21, 22, 23 1977 Township Officers Short Course, March 21, U of M Technical School; March 22, Holiday Inn South, Rochester; March 23, Community College, Willmar; March 24, Southwest State University, Marshall; March 25, St. Johns University, St. Cloud; March 31, Moose Lodge, Brainerd; April 1, Holiday Inn, Fergus Falls; April 4, A.V.T.I., Detroit Lakes; April 5, Auditorium, Thief River Falls; April 6, Rainbow Inn, Grand Rapids. To help officers understand their roles and responsibilities and provide them with technical knowledge and updated reference materials for the township officers handbook.*GW
- March 22 Combined Turf and Athletic Turf Short Course, North Star Ballroom, St. Paul Campus. For personnel responsible for the upkeep of athletic fields. The course will cover sod management, fertilizer rates and recommended analysis, disease control, implications of the energy shortage on the turf industry, efficient fertilizer use, grass seed availability, minimum maintenance and quality turf.*RM
- March 21-23 Liquefied Petroleum Gas, St. Paul Campus. A concentrated study program on the latest technical service, and commercial developments in liquefied petroleum gas equipment and appliances. For servicemen and technicians in the Minnesota gas industry.*CN
- March 21-25 DHI District Meetings.+

Page 3 - Special Short Course Schedule

- March 21, 22
23, 24, 30 Forest Owners and Users Conference, March 21, St. Paul;
March 22, Bemidji; March 23, Grand Rapids; March 24, Duluth;
March 30, Rochester. For forest landowners and others
interested in management of forest lands. Topic is alternative
methods of increasing recreational, aesthetic wildlife and
timber values of forest land.*PS
- March 22-23 High Pressure Liquid Chromotography Applications to Food Analysis,
Food Science & Nutrition. A short course for beginning students
and technicians in the field of high pressure liquid chromatography
applications to food analysis. *GW
- March 22 Minnesota Livestock Industry Day and Annual Meeting; Minnesota
Livestock Breeder's Association, U of M Technical College,
Waseca. Latest trends and issues in the livestock industry and
their implications for the Minnesota Livestock breeders.*CN
- March 23 Shade Tree Short Course, North Star Ballroom, St. Paul Campus.
To provide up-dated information on shade tree maintenance
problems and tree laws, and to provide practical information
on maintenance techniques.*PS
- March 23 Station Dairy Day, NW Experiment Station, Crookston.+
- March 25-26 Beekeepers Short Course, North Star Ballroom, St. Paul Campus.
For hobby beekeepers and all others interested in beginning
beekeeping.*PS
- March 24 Dairyman's Day, NC Experiment Station, Grand Rapids.+
- March 30 -
April 1 Minnesota Planning Association Annual Conference, "Who Says Planning
is for Pros?", Sheraton Inn Northwest, Brooklyn Park, Minnesota.
Objectives of the confrence are: a. To identify issues in state &
regional planning; b. Identify means of coordinating planning with
other governmental agencies; c. Determine eeconomic and environmental
impacts of planning.*CN
- April 2 Meats Up-Dating Conference, Meat Science Lab., St. Paul Campus.
This conference is for foods educators who desire to stay
current on latest topics concerning meat.*GW
- April 2 Spring Clinic for Horsemen, B135 Animal Science, Phase II, St.
Paul Campus. Educational programs on subjects of current interest
to horsemen. For horsemen, owners, breeders, saddle club members,
4-H project members, stable owners and managers, and others.*GW
- April 3-9 Extension Homemakers "Know America" Tour. Five-day educational
tour to Washington, D.C. planned in cooperation with the
National 4-H Center for Extension Homemakers of Minnesota's
southeast district and other interested adults. Will include
study topics related to citizenship, cultural arts, international
studies and the bicentennial.*GW
- April 5 Nature Photography Workshop; Landscape Photography, North Star
Ballroom, St. Paul Campus. Photographing natural subjects, new
developments in equipment and appreciation of the world around us.*PS
- April 6-7 Pest Control Operators Conference, North Star Ballroom, St. Paul
Campus Student Center. Current information on identification,
prevention and safe control of structural pests.*PS

Page 4 - Special Short Course Schedule

- April 5 Tree Injection, Lignason Short Course, Holiday Inn Hotel, Downtown Minneapolis. For general public. General information on tree injection techniques.*RM
- April 12 Dutch Elm Disease--Oak Wilt Tree Inspectors Short Course, North Star Ballroom, Student Center, St. Paul Campus. To inform municipal tree inspectors of the latest information for controlling these diseases.*RM
- April 14 Garden Store Employees Workshop, Horticulture Science Building, St. Paul Campus. Updated horticultural information and current business trends and problems. For nurserymen, florists and store operators.*RM
- April 16 Upper Midwest Trout Symposium, North Star Ballroom, St. Paul Campus. For concerned trout anglers and resource managers. To discuss problems relating to research and management programs for trout and trout habitat in the Upper Midwest.*PS
- April 21-22 Transforming Knowledge Into Food, Spring Hill Conference Center. Involves 30-40 of the leading scholars in the world examining the role of the academic community in finding solutions to world food problems. Co-sponsored by the University of Minnesota and the American Academy of Arts and Science.*LS
- April 24-26 Minnesota FFA Convention and Leadership Conference, St. Paul Campus. To promote a learning experience for vocational agriculture students and FFA members.*CN
- May 5,6 Environmental Education for Secondary Teachers, May 5, University of Minnesota Arboretum, Chaska; May 6, Heimer Myre State Park, Albert Lea, Minnesota. An annual workshop for teachers in junior and senior high schools.*PS
- May 5-7 The American University and Title XII, Registry Hotel, Bloomington. Involving 150-200 administrators, faculty and staff from state and Land-Grant colleges and universities plus government official and selected leaders from other nations discussing possibilities for effective university involvement in international development through Title XII legislation.*LF
- May 20-22 Minnesota State Fire School, St. Paul Campus. For volunteer and paid fire department personnel, city officials and interested government and industry personnel who deal in fire safety, prevention, control and rescue and first aid work.*PS
- June 8 All Together Now in Agricultural Education, Radisson South Hotel, Bloomington, Minnesota. Summer conference of the Minnesota Council for Coordinating Education in Agriculture involving faculty, administrators and students from institutions and systems offering educational programs in agriculture in Minnesota. To discuss current trends, issues, problems and opportunities in agricultural education and the possibilities for dealing with them through the use of coordinated efforts and resources.*LF
- June 28 Crops and Soils Field Day, Southern Experiment Station, Waseca.+

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Immediate release

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 7, 1977

ANHYDROUS AMMONIA AS
HAY PRESERVATIVE?

Researchers have been experimenting with anhydrous ammonia as a hay preservative.

"Ammonia that's effectively applied can prevent mold and heating in high moisture hay," says Vic Lechtenberg, agronomist at Purdue University. "Ammonia not only prevents mold and heating, but also adds crude protein to the hay. It also increases fiber digestibility. Cattle fed ammoniated high moisture hay have eaten about 10 percent more dry matter than cattle fed similar field cured hay."

However, use of anhydrous ammonia as a hay preservative is still experimental and field application methods have not been developed. Presently the only effective application method is to cover the high moisture hay with plastic and release (under the plastic) a quantity of anhydrous ammonia equal to about one percent of the hay weight. The plastic should be left in place for at least several days--the hay can be left covered indefinitely.

"Be careful since it's dangerous to breathe ammonia vapor," Lechtenberg emphasizes. And at high concentrations, ammonia forms a flammable mixture with air. So ammonia should be used in an open area where there's no danger of sparks.

Lechtenberg spoke at a recent symposium in St. Cloud, Minn. sponsored by the Minnesota Forage and Grassland Council.

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CA, IA, D, L

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 7, 1977

Immediate release

2125

SUGGESTED RATES FOR
PROPIONIC ACID
HAY PRESERVATIVES

Effectiveness of propionic acid preservatives on high moisture hay depends mainly on application rates and moisture content of the hay.

Some researchers suggest application rates of one to 2 percent acid should be used if the hay is greater than 30 percent moisture. The acid may be mixed half and half with water to reduce the concentration of irritating vapor and to improve distribution on the hay. Scientists suggest applying acid at time of baling.

In a recent experiment, application rates of less than one percent (20 pounds of acid per ton of baled hay) did not effectively prevent heating or dry weight loss during storage when applied to 32 percent moisture alfalfa hay.

"Even when acid was applied at a more effective rate it did not increase protein content, TDN or fiber digestibility of the hay," said Vic Lechtenberg, Purdue University agronomist. Lechtenberg spoke at a recent symposium in St. Cloud, Minn. sponsored by the Minnesota Forage and Grassland Council.

Here is a table with suggested application rates of propionic acid at various moisture levels:

<u>% moisture in hay</u>	<u>Pounds of Propionic acid to apply per ton</u>
20-25	10
25-30	20
over 30	40

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Department of Information
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St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 7, 1977

ATT: Extension Home Economists

Immediate release
(second in a series of four
articles)

MSC
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PUBLIC POLICY INCREASING
IN SUPPORT OF THE ELDERLY

Their numbers are increasing and their voices are becoming louder. The nation's elderly are learning to organize and make their wishes known to legislators, says Susan Meyers, extension family life specialist at the University of Minnesota.

She says the Administration on Aging, an arm of the Department of Health, Education and Welfare, works through councils on aging in each state. In Minnesota, this is the Governor's Citizen's Council on Aging, which works closely with other public and private agencies concerned with the elderly.

Ms. Meyers predicts increasing awareness of the needs of the elderly. This will come largely because such groups as the Senior Federation, the National Council on Aging and the American Association of Retired People are organizing, lobbying and drafting legislative proposals with their needs in mind.

Housing is one area where Ms. Meyers sees increased governmental action. Much of it recently has been directed toward helping the elderly maintain their independence rather than being forced into nursing homes when they begin to have physical or mental problems.

"All trends point toward more people living longer," Ms. Meyers says. "One of the fastest growing age groups is over 85. At present, as many as 25 percent of the women in this age group live in nursing homes so I can foresee more legislation in this area and better nursing homes as a result."

As today's middle-aged persons become tomorrow's elderly, they will be an increasingly well educated group, Ms. Meyers says. This has brought about concern for cultural and educational enrichment programs for the elderly. "We truly are seeing a thirst for lifelong learning among this group. We can't talk down to this group or discount their interest in self-improvement any longer. Colleges, universities and adult education units within local school districts are providing more learning opportunities for seniors, and the response generally has been good."

Ms. Meyers is enthusiastic about a new national clearinghouse for written material and references on aging. Dubbed SCAN for Service Center for Aging Information, the organization will index and abstract materials in this area and make them available to professionals working with the elderly.

Once it's in use nationwide, Ms. Meyers predicts that SCAN will help systematize the language and information used in dealing with seniors. Out of this will come greater efficiency in meeting their needs.

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4-H NEWS
Immediate release

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March 7, 1977

ANIMAL SCIENCE
WORKSHOP SET
JUNE 13-15

A three-day workshop for young people interested in animal species and training others in this science will start June 13 at the University of Minnesota, St. Paul, and Silver Lake Camp, New Brighton.

The Animal Science Workshop for Youth is sponsored by the Agricultural Extension Service, 4-H Youth Development and the University's Department of Animal Science.

Young people attending the conference will learn about animal science production and management and will be encouraged to assume leadership roles and to acquire greater appreciation and understanding of animal science. Career opportunities in agriculture, particularly as they relate to animal science, will be presented.

For more information, contact _____ at the _____ County Extension Office.

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March 14, 1977

4-H NEWS

Immediate Release

SPECIALIST GIVES
SHOW TIPS FOR
BEEF CATTLE

Halterbreak your calf at a young age, when he weighs 350 to 500 pounds, rather than waiting until he is stronger and has a mind of his own.

Minnesota Extension Animal Scientist Charles J. Christians offers this tip to 4-H club members planning to show beef cattle at the _____ County Fair and the Minnesota State Fair.

Begin training by tying your calf in the stall with a rope halter for two to six hours, brushing him occasionally. After the calf has learned to stand tied, which may be a few days or several weeks, start leading him around the stall. Shortly before show time, lead him outside the stall with a rope halter and gradually get him accustomed to a leather halter. Always lead from the left side and walk forward with the lead strap in your right hand. Never allow the calf to break away while you are training him or he will discover he is the master and training will be difficult.

When your calf leads with ease, carry a lightweight show stick in your left hand. After your calf is accustomed to the show stick, use it to position his feet. Place the lead strap in your left hand, the show stick in your right hand. The show stick should be about 4 1/2 feet long with a blunt nail or screw protruding about an inch from the smaller end. During the training period, lead your calf a short distance every day. A month before the show, lead your calf at least a half mile every day.

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Immediate release

IN BRIEF. . . .

U.M. Film. "Reaching Out," a new film about the University of Minnesota, is available for viewing without charge. Main point of the film is that University work can happen anywhere, not just in classrooms. "Reaching Out" acquaints viewers with different places where University work occurs and with ways the U of M affects Minnesotans and other people in the world. Check with your local county extension office to get a copy of the film for viewing. (County extension offices may order the film through Visual Aids Film Library, Coffey Hall, University of Minnesota, St. Paul 55108.)

* * * * *

New Publications. Many new and revised publications are available at the county extension offices. "Fertilizer for Wheat" (Extension Folder 254) discusses nitrogen and phosphorus fertilizer applications for wheat. "Home Fruit Spray Guide" (Extension Pamphlet 184) gives the latest information on chemicals approved for spraying.

A new publication on wild rice (Extension Folder 344) lists yields by variety and harvest date. It also compares harvesting of shattering and non-shattering types of rice.

Another new publication gives capital requirements for a 100-ewe flock. It discusses expenses of barn, fencing, feed bunks, waterers and breeding stock. Single free copies of all publications are also available from the Bulletin Room, University of Minnesota, St. Paul 55108.

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PARATRANSIT MEET
SET MAY 18-20

Needs for better and more economical transportation in urban and rural areas will be examined at a three-day Paratransit Conference starting May 18 at the Leamington Hotel, Minneapolis, Minn.

Local officials are finding growing demand and costs for better transportation. Paratransit services are the various modes that fall between private vehicles and conventional public transport systems. A growing body of policies and programs--both public and private--is developing around them.

Some modes of paratransit are van pooling, shared ride taxis, dial-a-ride and services for the elderly, handicapped, young and those unable to afford autos or taxis.

Experts from universities, federal, state and local agencies and private industry will join private citizens at the conference. Better public policies and public programs, including better paratransit services, are the objectives of the conference.

Among the workshop topics are: Taxis, special needs, van pooling and car pooling, metro and urban and rural needs. Planning considerations and public policy are other topics.

For more information, contact Luther J. Pickrel, 306 Wesbrook Hall, University of Minnesota, Minneapolis, Minn. 55455, or telephone (612) 373-3758.

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Immediate release

INCREASED REED CANARYGRASS
PALATABILITY EXPECTED

Better performance by animals grazing on any lower alkaloid reed canarygrass varieties is predicted by University of Minnesota research.

"Successful breeding of low alkaloid reed canarygrass varieties very likely will mean increased agricultural income without increased cost to the farmer", says Gordon Marten, USDA agricultural research service agronomist at the University.

"Total acreage in Minnesota planted to reed canarygrass should greatly increase if an improved variety is released."

Reed canarygrass is a high yielding and very adaptable pasture, hay and silage forage. It grows under a great variety of soils and all types of moisture conditions.

Occasionally farmers report poor performance by sheep and cattle grazing on the grass. Problems appear more often with sheep.

Reed canarygrass is frequently considered unpalatable compared to other available Minnesota grasses. When a choice is available the animals usually select other species, according to Marten.

"Alkaloids appear to cause the unpalatability of the grass. All available varieties contain alkaloids."

Sheep will eat less of the high alkaloid than of the low alkaloid grasses even when no choice is available. Sheep get diarrhea far more frequently from consuming the high alkaloid plants, according to Marten.

"This combination of low intake and digestive upset led to very low performance and sometimes even substantial weight loss."

Holstein steers also had a higher incidence of diarrhea when grazing on high alkaloid reed canarygrass. Further, they gained less weight when grazing on high alkaloid compared to low alkaloid plants, states Marten.

"The alkaloid problem is most severe following drought periods. The alkaloid concentration then is at least three times greater than during non-drought cycles."

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Immediate release

STALL DAIRY BARN
STILL PRACTICAL

The stall dairy barn is practical for housing high producing dairy cattle. It continues as the most popular structure in the upper Midwest for milking herds of up to 80 cows.

A primary advantage to the dairyman is the greater individual attention of animals it affords. You can also observe high quality breeding stock easily, says Donald Bates, extension agricultural engineer at the University of Minnesota.

"Mechanization for the stall and free-stall barn is the same, except for stooping during milking. Construction costs are comparable but expansion costs may be higher for stall barns."

Stall barns have long been in use and many outmoded ones remain. These barns cause labor inefficiency, injuries to the cows from cramped quarters and an unhealthy environment, according to Bates.

"In such cases the fault lies with the application, not the system. As with any system, the key to success is good planning of the facility and excellent management."

The first step in planning new construction is selecting the building site. Choices may be limited by topography and the position of present buildings. Sometimes extensive earth moving is required.

"Don't let the placement of an old barn or silo determine the placement of a new building. Access to the barn for milk hauling, silo filling and manure removal are primary considerations."

It is generally preferable to run the barn east and west for summer ventilation. However, this is less important than good access, according to Bates.

In planning a new barn or remodeling an old one manure handling is an important consideration. While it will not likely determine the fundamental arrangement within the barn, it has significant bearing on construction details and total cost. Further, it may influence the location.

Year-long liquid storage is a practical goal for many dairymen. This permits incorporating manure into the soil at the best time to preserve fertilizer value. It also offers flexibility in work load distribution, Bates says.

add 1--stall dairy barn

The most desirable stall arrangement is two rows of cows facing out. This requires only one service alley and allows installation of a gutter cleaner with least difficulty and cost.

"It further minimizes pipeline milker installation expense and required walking during the milking operation. Sixty percent of the time spent in a barn is behind the cows!"

Feeding may be easier from a common feed alley, when cows face in, but does not compensate for milking operation inconvenience and two service alleys. Walls behind service alleys become spattered with manure quickly, making them unsightly and difficult to keep clean.

Veterinarians recommend one maternity pen for each 20 cows. Calves should be moved to separate quarters out of the barn soon after birth.

The location of cross alleys is somewhat a matter of personal preference. For larger barns it is usually desirable to locate a cross alley at each end of the barn and one at the center. This depends upon the feeding system and the milkhouse location, according to Bates.

"Make stalls long enough for cows to lie down with their udders well up on the platform. Small stalls cause teat and udder injuries that can ruin a cow."

Gutter dimensions are not standard. Cows seem to show better when they stand slightly above the service alley. Some dairymen prefer the stall and service alley at the same elevation. However, to avoid the slight step during milking uniform depth gutters are usually designed to hold only one day's manure.

Directly beneath the new dairy barn is a practical place to provide liquid manure storage. The walls of the manure tank can act as a foundation for the barn and the floor can serve as the cover for the manure tank, according to Bates.

Gutter bottoms are built of steel grates through which manure and urine drop directly into the storage pits. This eliminates the need for a gutter cleaner or other collection system. Also, waste water from the milkhouse can be discharged directly into the manure pit.

Odor in these barns is no greater than in those with gutter cleaners. Minnesota health authorities have cooperated in the development of this housing and manure storage concept and have endorsed it.

Remodeling requires a different approach than planning new construction. The new stable must be fitted into an old building of fixed dimensions. Primary reasons for remodeling a building that is structurally sound are to provide more comfortable stalls and convenient working arrangement, thus reducing the labor requirements, Bates says.

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CAN FABRICATED FOODS
SHAPE NUTRITION?

Are you a "junk food junkie"? Will "new" fabricated foods be the death of human nutrition?

Previously, fabricated foods were oriented toward support of the "consumer-convenience-and-profit" syndrome. But not any more, if you are to believe Eugene Sander, food engineer at the University of Minnesota.

"Today, fabrication of food is emphasizing more efficient protein utilization, improved human nutrition and exploitation of new protein sources."

Optimism that the sea will provide unlimited resources for fish protein overlooks palate preference for selected species. Also, excessive waste that results from preferential fishing is placing limits upon this "most natural resource," Sander states in the trade magazine Engineered Foods.

"Preference is limited to approximately 20 percent of available fish. The remaining 80 percent are ignored as a protein source. They are returned to the sea dead or alive, or used in pet foods."

Even a seafood product as popular as shrimp can be used more efficiently. Minced shrimp flesh can be recovered during processing and re-shaped into "whole-shrimp," according to Sander.

The abundance of small crustaceans also provides a ready source of shrimp flesh which can be minced and combined with a matrix agent and shaped into larger shrimp that have greater customer appeal. Basically, this same concept has been used very successfully for fabricated onion rings, Sander says.

-more-

add 1--can fabricated foods shape nutrition?

"If unfamiliar species of fish are to replace the shrinking supply of 'desirable' fish, processing methods must change. The fish processing industry has been, and is, extremely wasteful in providing fillets to the fresh and frozen markets."

Development of deboning equipment to mechanically separate flesh from filleted fish frames, or from headless, gutted whole fish efficiently utilizes waste. The average yield of edible flesh can be doubled by using mechanical deboning equipment, according to Sander.

"Equipment that does not expose the minced product to mechanical action during extrusion helps preserve the natural texture. Different interchangeable nozzles produce different shapes."

Products are shaped at speeds up to 140 pieces per minute. Rates can be increased by multiplying the number of spouts on the machine. The products drop onto a moving belt which carries them through other process operations such as battering, breading, deep-fat frying and freezing.

Recent development of a co-extruder nozzle can help enhance accepted products like potato croquettes and meat patties by extruding them with cores of different complementary material; meat, fish, cheese. Meat patties can be extruded with a cheese core instead of including cheese in the mix.

Fabricating fish portions using minced fish flesh allows modification of the composition of the finished product leading to important advantages. Research is continuing with a shelf-stable intermediate-moisture fish cake, Sander says.

"Such a product should be of immense benefit in countries where fish is a major protein source, and refrigeration is non-existent or too expensive."

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Immediate release

Att: Extension Home Economists

OLDER PERSONS IN FAMILIES:
NEW ROLES, NEW RULES

Retirement for an older couple no longer will be determined solely by the date that Dad gets his gold watch and first pension check. Mom still may have several years left of the 9 to 5 routine before she is eligible for retirement.

With increasing numbers of women in the work force, retirement now includes new roles and expectations for many older people, says Susan Meyers, extension family life specialist at the University of Minnesota.

"Women often are married to older men so many working women have to adjust to having a retired husband around the house full-time while they still are employed," Ms. Meyers says. "This can cause some real role and territory conflicts. Whose household is it? Should the kitchen and laundry rooms still be the wife's exclusive province? Who does the grocery shopping and cleaning?"

Ms. Meyers says with a little flexibility and an eye toward which tasks each person enjoys, new roles and expectations can evolve without friction. "But it isn't always easy for couples raised in an earlier era when men's work and women's work were defined strictly and seldom shared."

She predicts a new style of grandparent in the coming years. "With smaller families and fathers sharing more of the parenting responsibilities, I expect to see these same men becoming more actively involved with their grandchildren," she says.

Single older people without family ties may need to create them, Ms. Meyers says. She predicts more and more households of several single or widowed older

add 1--older persons in families

persons. By caring for each other and functioning as a family unit, they provide an answer to the loneliness and isolation that some older, single people experience.

Young families without grandparents nearby also are beginning to "adopt" older people. By including an older person in family functions and keeping an eye out for his or her well being, young parents can expose their children to a third generation.

Three generation households never were as common as many people believe, Ms. Meyers says. The tendency always has been for young couples to strike out for something or someplace new. "But often there was less distance in miles and more potential contact between the old and the young than there is today. 'Adopted' grandparents are a way of recreating some of the best elements of three generation households."

(Third in a series of four articles)

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UM ANIMAL SCIENTIST SET FOR LIVESTOCK HALL OF FAME

A University of Minnesota extension livestock specialist and a Wells Holstein and swine breeder will be named to the Minnesota Livestock Hall of Fame on Tuesday, March 22.

Robert E. Jacobs, who has been on the University staff since 1955, and George Lorenz will be inducted into the Hall of Fame at 11:45 a.m. at a banquet at the University of Minnesota at Waseca. The banquet is during Minnesota Livestock Industry Day and the 81st annual meeting of the Minnesota Livestock Breeders' Association.

Livestock Industry Day starts at 10 a.m. with the directors' meeting. David Stroud, president of the National Livestock and Meat Board, will give the address.

Jacobs, an active Sherburne County 4-H club member from 1925 to 1932, exhibited the champion barrow at the 1925 4-H Market Livestock Show in South St. Paul and was awarded a trip to the National 4-H Congress in Chicago. He also won several other honors in 4-H livestock and leadership work.

He enrolled in the University's College of Agriculture in 1930 and before getting a bachelor of science degree in 1935 served as a 4-H club agent in Pope, Sherburne, Swift and Wright counties. Following graduation he was an assistant county agent in West Otter Tail County until 1939 when he was named McLeod County agricultural agent. He became the Freeborn County agricultural agent in 1947 and in 1955 was appointed an extension animal husbandman. He works with farmers, county agents and other extension specialists on feeding, breeding and management problems in livestock.

add 1 um animal

For the past 15 years he has been the general manager of the Minnesota 4-H Market Livestock Show and has been instrumental in introducing many improvements that have contributed significantly to improved livestock practices in Minnesota.

The other new Hall of Fame member, George Lorenz, has been president of the Faribault County Holstein Association and Minnesota Holstein Association and director of the Minnesota Purebred Cattle Association and Minnesota Livestock Breeders Association.

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Immediate release

PRICE RESPONSIVENESS
OF U. S. CORN YIELDS

"Per acre corn yields are not totally acts of God!"

Farmers make decisions on per acre yields based on fertilizer and feed grain prices. It is a rational decision, according to James Houck, agricultural economist at the University of Minnesota.

Typically, acreage is viewed as the major decision variable with respect to input and output prices. Per acre yields are generally regarded as dependent upon technological trends, weather and other more or less noneconomic influences.

"Eliminating weather and technological change, there still remains a significant component of yield variation from year to year in corn and other feed grains. This can be explained by the relationship of corn to fertilizer prices."

A 10 percent increase in the ratio of corn to fertilizer prices will lead to approximately a 7 percent increase in yields the following year apart from changes in weather and technology, says Houck.

Research data collected from 1951-72 explains 98 percent of the variation in corn yields using four factors: 1) weather, 2) technology, 3) prices and 4) disease (1970 corn blight).

"The findings imply more price responsiveness in feed grain supply from one year to the next than is usually assumed by agricultural economists," says Houck.

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Immediate release

WINTER DAMAGE TO
STRAWBERRY PLANTS

Lack of snow and early cold contributed to potential strawberry plant damage in Minnesota this winter, says David Wildung, University of Minnesota horticulturist at the North Central Experiment Station, Grand Rapids.

One grower in Minnesota is expecting to lose half of his plants to winter injury, Wildung adds.

Leave mulch on as long as possible to gain 5 to 10 degrees warmth, the horticulturist advises growers. Be sure suspected weak plants have adequate moisture and fertilizer. Growers who suspect winter injury should sample the plants now by putting a few in pots and seeing how they develop. This will give growers additional time to plan some action.

Researchers at Grand Rapids recommend Trumpeter, Redcoat, Veestar and Badger Bell strawberry varieties, but say that Cyclone lacks the winter hardiness for recommendation in Minnesota.

Wildung reported at the Commercial Small Fruit Growers Short Course March 14 at the University of Minnesota, St. Paul.

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Immediate release

NEW GRAIN MARKETING
PUBLICATION FROM UM

A new publication that gives farmers useful management tips for using the grain futures market has been published by the University of Minnesota Agricultural Experiment Station.

"Futures markets provide tools for risk management and pricing," say Reynold Dahl and Pat Henneberry, agricultural economists who wrote the publication.

The publication reports a study analyzing the relationship between cash and futures prices over three years at selected country elevators in Minnesota. Corn, soybean and wheat prices were analyzed.

"A study of basis--the relationship between cash and futures prices--is important since it's a good guide to help you decide whether to sell or store grain," the economists said.

"Changes in basis are more predictable over a marketing year than are changes in the level of cash prices alone. Changes in the basis over time can be forecast since the cash price becomes the futures price in the delivery month at the delivery point."

The basis represents a storage price. When cash prices are at wide discounts to futures prices, there's a strong storage price. "The market is calling for grain to be stored and is willing to pay a price for storage. This is the time to store cash grain and hedge it through the sale of futures to earn returns on storage. Look for these opportunities in years of a large crop," the economists advise.

When crops are small and supplies short, cash prices often rise to premiums over futures prices. "In this situation the market is calling for grain now and

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add 1--new grain marketing publication from UM

is buying it out of storage. Negative storage prices prevail and it's usually better to sell for current delivery than to store for future delivery."

Farmers can also use futures markets to price livestock feed in advance of actual purchase or in pricing grain in advance of production. "But first it's necessary to study the local basis, or the relationship between the cash price the local elevator is offering and futures prices over time. It's necessary to prepare and use basis tables and figures to successfully use futures markets.

"Farmers and country elevator operators who study and understand cash-futures price relationships will find them highly useful guides to grain marketing decision making," the economists say.

Free single copies of the publication are available from the Bulletin Room, University of Minnesota, St. Paul 55108. Ask for Experiment Station Bulletin 517, "Cash-Futures Price Relationships as Guides to Grain Marketing..."

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Immediate release

WHITE AND
YELLOW OATS

Nutritionally there's no difference between oats of different colors. But when it comes to marketing there may be some difference in the price paid for white or yellow oats, according to Roy L. Thompson, extension agronomist at the University of Minnesota.

Milling, feed and race horse oats make up almost all of the sales made on the floor of the Minneapolis Grain Exchange. There is often a premium for fresh, natural colored white oats with a high test weight for race horse feed. However, this market is small, less than 5 percent of all oats sold.

The largest use for oats is for milling purposes and that market does not differentiate between oat colors. It's essential that milling oats are not moldy, have a high test weight and are not mixed with other crops such as wheat or barley. The presence of wild oats and other weeds can also result in oats being sold as feed oats with a price discount.

A typical day's market quotation of \$1.72-\$1.76 for No. 2 heavy oats would indicate realistic price expectation for oats, yellow or white, on the Minneapolis market. The quality specification for No. 2 heavy oats is: test weight 38 to 40 pounds, minimum sound cultivated oats 94 percent with not over 3 percent foreign material or wild oats.

The upper price is for better quality material within the grade limits. If there's a need for oats for race horses and the supply of white oats is limited, a slight premium may be paid over the normal quotation. Other specialty price classifications are usually given in complete market reports available at elevators or in the newspapers.

Because of the relatively small differences in price due to color, Thompson says that variety selection should be based on other characteristics of the varieties.

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immediate release

Att: Extension Home Economists

THIRST FOR LEARNING
NOT QUENCHED BY AGING

Everyone has seen the newspaper photos. The snowy-haired grandmother earns her college degree in the same class as her grandson.

An oddity? Susan Meyers, extension family life specialist at the University of Minnesota, doesn't think it will be for long. She sees a new interest in all kinds of education for the elderly.

"We now know that older people can learn better than many have thought. It just isn't true that the mind necessarily deteriorates because the body ages," Ms. Meyers says. "Recent studies show that there is little drop in a person's potential for learning throughout life."

She says the bias that learning is for the young comes from early IQ testing, which was tied closely to chronological age. "From that we came to believe that a person reached a peak in the 40's and then went down hill steadily."

Schools and teachers also valued speed and assertiveness in their students, and these tend to be characteristics of the young, according to Ms. Meyers. She says that some teachers and schools have changed their expectations slightly to allow for somewhat slower reaction times among the elderly, and this usually has proved successful in setting them at ease in the formal and informal classroom.

"Educators need to make older people comfortable in the learning situation, and they must build the older person's confidence in his or her ability to handle the work," she says. "Many of them have 'bought' the idea that learning is just for the young, too. They need assurance that learning is possible at all stages of life."

Ms. Meyers says another boon to education among the elderly will be the increasing educational levels that tomorrow's elderly will have reached. Better educated people tend to continue seeking education throughout life, she says. Further, they are more likely to have a positive image of education for life.

"We miss a great opportunity if we don't tap the expertise and backgrounds that senior citizens bring to the classroom," Ms. Meyers says. She favors informal classroom settings where older persons can share their experiences and observations and learn from each other. "Just surviving for 60,70 or 80 years is bound to teach a lot, and I think it's important that these insights be shared. And not just with fellow seniors but with young students as well," she says.

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(Fourth in a series of four articles)

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Immediate release

4-H NEWS

THEME SET
FOR JLC '77

"Arise" is the theme for the five-day 1977 4-H Junior Leader Conference starting June 20 at the 4-H Building on the Minnesota State Fairgrounds, St. Paul.

State 4-H members are urged to attend the conference to become more informative and effective, to listen, to talk, to reflect and to have fun.

The conference includes discussions, lectures, presentations, tours and workshop sessions on motivation and responsibility, youth rights and relating to others.

Pre-registration is due April 15 at the State 4-H Office.

The Minnesota 4-H Federation will meet at 7 p.m. June 20 in the Student Center at the University of Minnesota. Four federation delegates will be elected officers for 1977-78 and 16 nominees, including the elected officers, will be invited to serve as State 4-H Ambassadors for the following year.

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March 21, 1977

MANAGING LEFTOVERS
HELPS STRETCH BUDGET

Leftovers are a permanent part of most homemakers' lives, but how well they're used or abused can spell the difference between a thrifty food budget and a costly one, says Mary Darling, extension nutritionist at the University of Minnesota.

Does leftover roast or chicken serve for lunches or a casserole-type supper? Miss Darling says "planned over" meals get extra mileage from leftovers. If the same food is left to be devoured by snackers or if it grows old in the refrigerator, the food budget suffers.

If you don't enjoy leftover cooked meat or have trouble using it creatively, Miss Darling suggests cooking only the portion of a roast, fowl or other meat that you know will be eaten in one meal. Immediately freeze the remainder for a later meal. That way, no part of the meat purchase will bear the stigma of being a leftover.

You can overcome your family's reluctance about leftovers by combining extra meat with favorite foods in a tempting casserole, she suggests. Leftover beef and noodles bake in a tasty sauce based on tomato soup sharpened with catsup, cheese, green pepper and onion. Cubed pork combines well with corn, kidney beans, tomato soup and spices. Top with homemade or refrigerated biscuits for a hearty main dish, she suggests.

Leftover roast turkey holds new appeal when combined with packaged herb-seasoned stuffing mix, peas and a favorite type of canned cream soup. Ham and potatoes left from Sunday dinner will win points as a mid-week hot dish when blended with cheese sauce or cheese soup.

Absence sometimes can make the heart grow fonder of certain foods, Miss Darling says. Slice or cube the remains of a roast and freeze immediately in meal-size portions for use in sandwiches or casseroles in a week or so. This helps avoid the groans that sometimes greet a too-soon repeat appearance.

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Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
March 21, 1977

Immediate release

ATT: Extension Home Economists

OVEN CLEANERS
INJURE THOUSANDS

They have to be highly caustic to clean grime from ovens, but oven cleaning products injure several thousand people every year, according to the U.S. Consumer Product Safety Commission.

Chemical burns and inhalation of fumes are among the hazards from oven cleaners. The dangers are most evident among the products that require the addition of boiling water to a chemical. The resulting ammonia gas can cause discomfort and the hot liquid can burn the skin.

Either adults or children can misdirect the spray from an aerosol can of oven cleaner, and this can cause burns to the skin or eyes.

The Consumer Product Safety Commission cautions consumers to know the different types of oven cleaners. Some use boiling water plus ammonium chloride to produce ammonia gas which cleans the oven. Others contain sodium or potassium hydroxide and are applied directly to oven surfaces. Consumers should select the type that they find easiest to handle and safest.

When beginning an oven cleaning project, wear protective gloves and goggles. Open kitchen windows and be sure that children and other family members are out of the room. If you are using an oven cleaner which requires boiling water, place the can in the oven before adding boiling water. That way, it won't spill or cause you to be overcome by fumes while transferring it from countertop to oven.

If the fumes begin to irritate you, close the oven door, leave the room and get fresh air, the commission advises.

Read the label for antidote information. Most oven cleaners recommend drinking diluted vinegar, lemon juice or grapefruit followed by milk or egg white beaten with water.

Store oven cleaners away from heat sources in places that are inaccessible to children.

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Tel. (612) 373-0710
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Immediate release

NOTE TO AGENTS:

Status of Avitrol on Sunflowers. "The Sunflower Crop in Minnesota,"
Extension Bulletin 299, was recently reprinted (not revised). In it
(page 23) the statement appears that "no (bird repellent) chemical is
approved for use on sunflowers in Minnesota." That statement was correct
in 1973 as Avitrol was not then labeled. However now (1977) Avitrol
has label approval for use on all types of sunflowers.

Avitrol can be applied by certified aerial or ground applicators
in 99F corn chops. The exact rates and methods of application can be
obtained either from the label or the applicator.

--Dave Noetzel, extension entomologist,
University of Minnesota

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Immediate release

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
March 21, 1977

PLANT BREEDING
CAN IMPROVE
REED CANARYGRASS

Breeding reed canarygrass varieties for improved voluntary intake and higher digestibility without adversely affecting forage yield is feasible, according to University of Minnesota research.

To increase livestock production from forages used for pasture and hay, the forage must have sufficient available energy, be digestible, be palatable and have high intake potential, says A.W. Hovin, agronomist at the University.

By selecting for lower concentration of cell wall constituents and maintaining the forage yield potential, the completely digestible portion of forage dry matter should increase.

"This increases the digestibility and voluntary intake potential when animals graze reed canarygrass pasture or are fed reed canarygrass hay."

Plants with lower fiber content but otherwise equal in digestibility have a higher rate of digestion, according to Hovin. They will therefore be consumed at a faster rate than plants with a higher fiber content.

The fibers in the plants are in the cell walls and are composed of cellulose, hemicellulose, lignin and other indigestible residues.

"The rate at which the feed is consumed plays an important role in animal gains."

Plant breeding procedures to improve voluntary intake of the highly productive reed canarygrass are part of a cooperative research effort by Hovin and G.C. Marten, ARS-USDA researcher.

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Immediate release

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 21, 1977

TREE INJECTION
COURSE SET
FOR HOMEOWNERS

Homeowners and other interested persons will be given an introduction to the Dutch elm disease problem at the Tree Injection Short Course at 8:35 a.m. and 12:30 p.m. April 5 at the downtown Minneapolis Holiday Inn.

University Plant Pathology Department Head Al Wood will give the presentation on the disease problem. Other topics for the program include Minnesota and Wisconsin tree injection results and practices.

With Dutch elm disease reaching epidemic proportions in parts of Minnesota, interest grows among individuals and neighborhood groups in injecting trees with chemicals to prevent and cure the disease.

For more information on the Tree Injection Short Course, contact the Office of Special Programs, University of Minnesota, St. Paul 55108 or call (612) 373-0725.

-daz-

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Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 28, 1977

Immediate release

MS
p. 27

CASH RENTAL,
CROP SHARE
ARRANGEMENTS

Cash rent and crop share are the two most common types of farm rental arrangements used in Minnesota, according to a recent survey by University of Minnesota extension farm management specialists.

Two types of leases that are much less common are livestock share and flexible cash rents.

About half the arrangements are cash rental, where the renter takes most of the risk. Last year renters who took these risks suffered large losses in the state's drought areas. But in 1973, with the crop price bulge, those paying cash rents enjoyed bonanzas, says Paul Hasbargen, extension farm management specialist.

Cash rental leases reduce the risk and also require less involvement for landlords in the farm operation. This type of rent fits well for the absentee landlord, especially those who do not want to, or cannot, be involved in any farm management decisions. So there is some shift away from cash rent in 1977 in the west central and southwest areas of Minnesota, hardest hit by drought.

To determine a fair cash rent, learn what the market is paying for similar land in your area. County Extension Offices can provide results of the recent survey taken by Extension Farm Management on what is typically being paid. Hasbargen suggests that another way to arrive at a fair cash rent is to charge about six percent of the market value of the land as rent. This allows a return of five percent on investment after allowing one percent to pay property taxes and other landlord expenses.

add 1--cash rental

Rents average from \$50 to \$70 an acre in the southwest, \$40 to \$50 an acre in west central, \$60 to \$70 an acre in southeast and \$80 or more an acre in south central Minnesota. In each of these areas the better quality land will command rental rates about 20 percent above these average and the poorer quality land will be less. For example, the most productive land in south central Minnesota rents for more than \$100 an acre, while the less productive land there brings less than \$60 an acre.

Cash rents are low in the northern two-thirds of the state averaging only \$15 to \$30 in north central and northeast Minnesota and \$40 to \$50 in the Red River Valley.

The type of crop share arrangement that prevails in an area depends on land value. On low value land, where the cash rent is \$20 to \$40 an acre, generally the crop share arrangement is that the tenant gets two-thirds of the crop and the landlord gets only one-third. On high value land, where cash rent is more than \$70 an acre, the 50-50 arrangement is most common with the landlord and tenant sharing the crop equally. Extension Economist Ken Thomas reports that under the 50-50 arrangement, the landlord pays half the seed, fertilizer, chemical and drying costs. The higher the land value, the less the landlord contributes to the harvest cost.

On the band of medium value land from southwestern Minnesota to the Twin Cities, the typical crop share lease is 60-40 with the landlord getting 40 percent of the crop.

Under the modified share-flexible cash arrangement, the amount of crop shared is adjusted depending on crop price and yield. It ranges from 25 to 35 percent of the crop for the landlord depending on the land value. The higher the land value, the greater the percent of crop the landlord gets.

For more information, get a copy of the bulletin, "Is Your Lease Fair?," and a farm lease form from your County Extension Office or Farm Management Extension, 249 Classroom Office Building, University of Minnesota, St. Paul, 55108.
CA, IA
-daz-

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Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
March 28, 1977

Immediate release

STATE FFA
MEET SET
APRIL 24-27

More than 2,600 Minnesota high school students are expected to attend the three-day 1977 Future Farmers of America (FFA) State Convention and Leadership-Citizen Training Program starting April 24 for the 48th year on the University of Minnesota's St. Paul Campus.

This year's convention theme is "FFA, Agriculture's New Generation!" students interested in vocations in agribusiness, natural resources and the horticulture will attend.

A two-day leadership conference starts the convention and a talent show and vesper service will be held on the evening of the first day. The chapter representatives in the safety-health workshop will make plans for distribution and installation of smoke detectors and conducting of home fire drills.

One of the highlights on April 25 is the 41st annual convention banquet in the St. Paul Civic Center Auditorium Arena with national FFA Vice President Julie Smiley and Gov. Rudy Perpich as speakers. State and regional Star Farmer-Agribusiness winners will be announced at the banquet.

Also at 8:45 a.m. April 26, the 22nd hand-milking contest between the State Star FFA Dairy Farmer Richard Haler, St. James, and Minnesota's Princess Kay of the Milky Way, Kathy Zeman, Owatonna, will be in front of Coffey Hall on the University's St. Paul Campus. FFA'ers have won 14 of the previous 21 contests.

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add 1--State FFA meet

The 48th annual public speaking contest, 54th judging contest, 22nd annual cow-clipping contest at 1:30 p.m. in the dairy barn, and a horse clinic are set for the April 26 program.

FFA chapter climatologists, who report monthly state precipitation to the state climatologist, will discuss expansion of the project to include recorders in all townships in Minnesota, Monday afternoon, April 25. Outstanding individuals and chapters will be awarded the Joseph Strub trophies named after the late national weather service meteorologist.

State FFA president, Kim Beck, Willmar, will preside over convention business sessions. She will be assisted by student state officers: Paul Liebl, Dawson; Paul Schley, LeCenter; Tom Palmer, Fairfax; Roger Peterson, Forest Lake; James Hartke, Pipestone; Roger Green, Greenbush; Myron Czech, Little Falls; Colin Berg, Chokio; Arden Johnson, Forest Lake; Mark Hanke, Hutchinson; Kevin Finsted, New Ulm; Dale Hoffman, Pemberton; and Bob Schell, Lewiston.

Two official delegates from each of the 280 Minnesota high school FFA chapters will represent the membership in voting on key issues of business. According to state president Kim Beck, the workshop groups will discuss energy conservation projects, wildlife habitat programs and Don't Smoke Day (D-Day).

Plans for expanding alumni FFA chapters in Minnesota will be discussed at a workshop on Monday afternoon, April 25, in the Soils Science Building, St. Paul Campus. A meeting of Minnesota FFA chapters that have counter-parts in Korea will meet on Tuesday morning, April 26, in the Classroom Office Building, St. Paul Campus. Sung Soo Kim, an adviser of the Future Farmers of Korea (FFK), will show slides depicting Korean Future Farmers in action.

-daz-

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 28, 1977

MSC
9A270
ATT: Extension Home Economists

Immediate release

CHICORY CAN BE GROWN LOCALLY
FOR COFFEE SUBSTITUTE, EXTENDER

Skyrocketing coffee prices have stimulated interest in chicory as a substitute brew or as an extender for ground coffee, according to Orrin Turnquist, extension horticulturist.

It is a perennial herb that is closely related to the dandelion, he says. It grows wild along roadsides, fence rows, grasslands and waste ground, but it seldom survives in cultivated land unless grown as a crop from seed.

The chicory plant forms a rosette of large basal leaves resembling the dandelion. The stems are erect and grow one to five feet tall with smaller leaves and bright blue flower heads about one inch across.

Turnquist says that by late summer a large, fleshy taproot develops, reaching 12 to 14 inches long. These roots can be dug carefully, washed, dried and roasted in an oven until they are dark brown and brittle.

The gardener can then break the roasted roots into small pieces or crush them into a coarse powder. Although similar to coffee, chicory has a distinctive flavor and is much stronger, Turnquist says. Some users brew a straight chicory beverage, while others recommend adding it to a reduced quantity of ground coffee and then brewing the coffee-chicory blend.

Chicory seeds can be planted early in the spring about 1/4 inch deep in rows 18 to 24 inches apart. Germination usually occurs in 5 to 12 days, and then the plants should be thinned to 4 to 8 inches apart, Turnquist says.

The young chicory leaves can be eaten as greens in about 65 to 70 days, but the roots take about 120 days to mature.

Turnquist says the variety Large Rooted Madgeburg is preferred for beverage use, but seed also is sold as French Endive, Belgium Endive, Witloof, Witloof Chicory, Succory and Blue Soilers. The botanical name is *Cichorium intybus*.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 28, 1977

4-H NEWS

Immediate release

ARBOR DAY-MONTH
OPPORTUNITIES
FOR 4-H GROUPS

_____ County 4-H'ers have opportunities to beautify
their communities and replace trees lost to disease by participating in Arbor
Day-Arbor Month activities.

Minnesota State Jaycees will provide trees to groups. 4-H'ers and other
local groups should contact local Jaycees to secure trees for planting during
May--Arbor Month--and on April 29, Arbor Day.

At noon April 29, civic ceremonies will officially begin Arbor Month.

(Add details on local observances.)

For more information, contact _____ at the _____
County Extension Office.

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Agricultural Extension Service
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St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 28, 1977

Immediate release

DIATOMACEOUS EARTH
AND INSECT CONTROL

Questions are again being asked about the value of diatomaceous earth for insect control, says David M. Noetzel, University of Minnesota extension entomologist.

Diatomaceous earth consists of finely ground fossil shells of primitive plants called diatoms. Some of the plants developed silica (sand-like) shells within which the plant organisms lived. These silica shells were deposited in huge quantities and are now mined as diatomaceous earth.

When finely ground, the edges of the silica shells are quite abrasive to insect cuticle. In principle this abrasion of the insect cuticle leads to dehydration, or water loss, on the part of the insect and varying mortality depending on the kind of insect. Recent suggestions that diatomaceous earth might have some value for control of elm bark beetles and/or various agricultural pests has little, if any, supporting research information.

Extremely variable efficacy, comparatively high costs and bulk densities which preclude easy shipping and use are distinct disadvantages for this product. Also, all products are subject to the same labeling requirements as other insecticides.

There is a considerable body of well-controlled studies with diatomaceous earth. The lack of efficacy, or control, in most cases is so great that the information is not even published. So we would recommend against its consideration, Noetzel says.

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CA, IA

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 28, 1977

Immediate release

HIGHER GRAIN PRODUCTION
TO CHALLENGE STATE'S
MARKETING SYSTEM

Minnesota's grain marketing system will be challenged to accommodate larger volumes of grain in the future, according to a University of Minnesota study.

Total grain output will expand, but so will the surpluses entering the marketing channels, say agricultural economists Michael Martin and Reynold Dahl.

More corn probably will be available for marketing and export since livestock production in the state is estimated to grow at a slower rate than corn production.

The economists estimate marketable corn surpluses will reach 236 million bushels in 1980 and 273 million by 1985. The average figure for the period 1971-74 was 153 million bushels.

The south central and southwestern areas of the state are expected to show the largest production growth rates. Compared to the 1971-74 period, the growth rate could reach 33 percent by 1980 and 49 percent by 1985 for nine southwestern counties.

The study was published by the University's Agricultural Experiment Station. It's entitled "Grain Production Projections by Minnesota County and District, 1980 and 1985." Copies are available from county extension offices or the Bulletin Room, University of Minnesota, St. Paul, 55108. Ask for Experiment Station Bulletin 518.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
March 28, 1977

MSC
8/27
Immediate release

ATTRACTANT LIGHTS
TO KILL INSECTS
OF LITTLE VALUE

Attractant lights using electric grids to kill insects have again been advertised in Minnesota. These will be of little value for outdoor insect--night flying only--control, says David M. Noetzel, University of Minnesota extension entomologist.

They may have some value in a closed and/or screened room where insect access is kept near zero.

If you do purchase one of these for outdoor insect control, Noetzel suggests you give it to your neighbor. Most research finds higher insect numbers in the vicinity of the trap.

-daz-

CA, IA

Department of Information and
Agricultural Journalism
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University of Minnesota
St. Paul, MN 55108
March 30, 1977

MSC
3A27P

Programs are available to all
persons regardless of race,
creed, color, sex, age, or
national origin.

SPECIAL SHORT COURSE SCHEDULE (April - September 1977)

- March 30 - Minnesota Planning Association Annual Conference, "Who Says Planning is for Pros?", Sheraton Inn Northwest, Brooklyn Park, Minnesota. Objectives of the conference are: a. To identify issues in state and regional planning; b. Identify means of coordinating planning with other governmental agencies; c. Determine economics and environmental impacts of planning.*CN
- April 1, 4,5,6 1977 Township Officers' Short Course,, April 1, Holiday Inn, Fergus Falls; April 4, A.V.T.I., Detroit Lakes; April 5, Auditorium, Thief River Falls; April 6, Rainbow Inn, Grand Rapids. To help officers understand their roles and responsibilities and provide them with technical knowledge and updated reference materials for the township officers' handbook.*GW
- April 2 Spring Clinic for Horsemen, Bl35, Animal Science, Phase II, St. Paul Campus. Educational programs on subjects of current interest to horsemen. For horsemen, owners, breeders, saddle club members, 4-H project members, stable owners and managers, and others.*GW
- April 3-9 Extension Homemakers "Know America" Tour. Five-day educational tour to Washington, D.C. planned in cooperation with the National 4-H Center for Extension Homemakers of Minnesota's southeast district and other interested adults. Will include study topics related to citizenship, cultural arts, international studies and the bicentennial.*GW
- April 5 Nature Photography Workshop, Landscape Photography, North Star Ballroom, St. Paul Campus. Photographing natural subjects, new developments in equipment and appreciation of the world around us.*PS
- April 6-7 Pest Control Operators Conference, North Star Ballroom, St. Paul Campus Student Center. Current information on identification, prevention and safe control of structural pests.*PS

*For further information call Office of Special Programs
LF--LaVern Freeh 612-373-0725
CN--Curt Norenberg "
RM--Richard Meronuck "
PS--Paul Stegmeir "
GW--Gerald Wagner "

+For further information call the Research or Experiment Station designated.

Page 2 - Special Short Course Schedule

- April 5 Tree Injection, Lignason Short Course, Holiday Inn Hotel, Downtown Minneapolis. For general public. General information on tree injection techniques.*RM
- April 12 Dutch Elm Disease--Oak Wilt Tree Inspectors Short Course, North Star Ballroom, Student Center, St. Paul Campus. To inform municipal tree inspectors of the latest information for controlling these diseases.*RM
- April 12-14 Home Sewage Treatment Workshop, April 12-14, Holiday Inn, Eveleth. For county sanitarians, zoning officers, contractors, county planners, public health inspectors and building inspectors.*GW
- April 14 Garden Store Employees Workshop, Horticulture Science Building, St. Paul Campus. Updated horticultural information and current business trends and problems. For nurseryman, florists and store operators.*RM
- April 14-15 Commercial Applicators Pesticide Workshop, Marshall, April 14-15. Designed for pesticide dealers, custom applicators, educators and regulatory personnel. To provide information on plant and animal pest problems and pesticides and accreditation for retention of the pesticide applicator's license.*PS
- April 16 Upper Midwest Trout Symposium, North Star Ballroom, St. Paul Campus. For concerned trout anglers and resource managers. To discuss problems relating to research and management programs for trout and trout habitat in the Upper Midwest.*PS
- April 24-26 Minnesota FFA Convention and Leadership Conference, St. Paul Campus. To promote a learning experience for vocational agriculture students and FFA members.*CN
- April 27 Public Health Conference of Veterinarians, Rm. 135, Animal Science-Veterinary Medicine Bldg. This conference is presented to continue the education of veterinarians in the field of public health.*GW
- April 30 Return of the Woodland Caribou to Minnesota, B45, Classroom Office Building. A symposium on the feasibility and desirability of reintroduction.*PS
- May 5,6 Environmental Education for Secondary Teachers, May 5, University of Minnesota Arboretum, Chaska; May 6, Heimer Myre State Park, Albert Lea, Minnesota. An annual workshop for teachers in junior and senior high schools.*PS
- May 5-7 The American University and Title XII, Registry Hotel, Bloomington. Involving 150-200 administrators, faculty and staff from state and Land-Grant colleges and universities plus government officials and selected leaders from other nations. Discussions on possibilities for effective university involvement in international development through Title XII legislation.*LF
- May 20-22 Minnesota State Fire School, St. Paul Campus. For volunteer and paid fire department personnel, city officials and interested government and industry personnel who deal in fire safety, prevention, control and rescue and first aid work.*PS

Page 3 - Special Short Course Schedule

- June 8 All Together Now in Agricultural Education, Radisson South Hotel, Bloomington, Minnesota. Summer conference of the Minnesota Council for Coordinating Education in Agriculture involving faculty, administrators and students from institutions and systems offering educational programs in agriculture in Minnesota. To discuss current trends, issues, problems and opportunities in agricultural education and the possibilities for dealing with them through the use of coordinated efforts and resources.*LF
- June 28,29 Crops and Soils Day, June 28, Waseca; June 29, Lamberton; July 14, Morris; July 20, Crookston; July 21, Grand Rapids.+

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University of Minnesota
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MSC
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QUICKIE FROM MINNESOTA

Type a short PUBLIC SERVICE ANNOUNCEMENT on a penalty mail postcard, double-spaced, and send it to all radio and television stations in your area.

Why postcards? They are easier for stations to handle since they generally type their PSA's on 3 x 5 cards. So send them a card rather than a news release to save them the trouble of having to retype your announcement. You'll find your message on more stations.

Send them out a week before the event.

Be sure to include a name and phone number where listeners can call for more information. It is difficult to keep track of the persons handling PSA's at the 30 stations in the metro area, so cards go without a specific contact name on the front.

For more involved announcements, obviously you will need a longer release, but then followup with a card.

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS
U.S. DEPARTMENT OF AGRICULTURE AND UNIVERSITY OF MINNESOTA COOPERATING

PLEASE ANNOUNCE

The State 4-H Horse Show at 7 p-m Monday (9-15) is open to the public at no charge. About 300 4-H'ers will participate in the Coliseum at the State Fairgrounds in St. Paul.

David A. Zarkin

David A. Zarkin
Extension Information Specialist
(612) 373-1780

It is the policy of the Agricultural Extension Service of the University of Minnesota that all persons shall have equal opportunity and access to its programs and facilities without regard to race, creed, color, sex, or national origin.

[1977]

Department of Information
and Agricultural Journalism
University of Minnesota
Agricultural Extension Service
St. Paul, MN 55108
Tel. (612) 373-0710
April 4, 1977

4-H NEWS

Immediate release

PEDAL POWER
WORKSHOP SET

Pedal Power Workshop, the four-day bicycle safety camp for teen leaders from 4-H and other youth groups, starts June 13 at Camp Lincoln near Brainerd.

The camp is co-sponsored by the University of Minnesota Agricultural Extension Service, State Public Safety Department and State Patrol.

Pedal Power's objective is to train teen leaders to organize and conduct bicycle safety programs in their communities. It provides opportunities to learn to conduct local bicycle safety and skill events, learn how to organize a bicycle rodeo, meet teens from all over the state and have fun swimming, horseback riding, canoeing and playing tennis.

Register by April 25 at the _____ County Extension Office. Extension Service programs are offered to all people without regard to race, creed, color, sex or national origin.

-daz-

CA

MSC
GAZTP

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
April 4, 1977

ATT: Extension Home Economists
Immediate release

PITY THE POOR,
MISUNDERSTOOD TOMATO

Have you ever muttered oaths at the pale, mushy tomato wedges in an off-season tossed salad? Your own handling of the once-proud fruit probably contributed to its squishiness, according to the Florida Tomato Exchange.

Refrigeration is the retail tomato's nemesis. The Tomato Exchange says nearly all the tomatoes grown in this country for shipment are picked at the mature-green stage. They must be ripened at temperatures between 50° and 86° F. for several days once the consumer brings the tomatoes home. Refrigerator temperatures halt the ripening and benefit only fully ripe tomatoes.

Wayne Hawkins of the Florida Tomato Exchange says, "It's (a retail tomato) never going to be as good as the one you pick in your own backyard." Like your own grandchildren, Hawkins says, "They're always the prettiest."

He worries, however, that tomatoes are chilled below the best ripening temperatures all the way from wholesaler's holding rooms to the supermarket and finally to the consumer's refrigerator.

To get the best quality from the tomatoes you purchase, the Tomato Exchange suggests:

- * Selecting the ripest-appearing fruits in the store. They probably were the most mature at harvest.
- * Holding unripened tomatoes at room temperatures in indirect light. Tomatoes placed on a window sill to ripen may overheat.
- * Allowing good ventilation for stored tomatoes. Do not store them in a tightly closed container.
- * Storing only fully ripe tomatoes in the refrigerator. They will keep for two to three weeks.

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University of Minnesota
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Tel. (612) 373-0710
April 4, 1977

Immediate release

IN BRIEF

NEW PUBLICATIONS

Tree-Buying. A fine tree is a long-term investment of time, space, maintenance and money. Choosing the best size and transplanting method is important. With loss of many Minnesota trees to disease and development, homeowners this season will be in the market for trees. For consumer know-how, get a copy of "How to Buy a Tree," Minnesota Tree Line No. 1, from the _____ County Extension Office or the Bulletin Room, University of Minnesota, St. Paul 55108.

* * * *

Specialty Crops. A new marketing publication for specialty crops producers, irrigators, processors and lenders has been published by the University of Minnesota's Agricultural Experiment Station. Entitled "The Marketing of Fresh and Processed Specialty Crops," the 66-page publication gives detailed information for anyone interested in production for both fresh product marketing and commercial processing.

The publication covers consumption and production trends, potential for expanded production in Minnesota, crop cost analyses and crop budget and machinery cost tables. There are also sections on new processing technology, pea and sweet corn potential in Minnesota, and feasibility of new vegetable processing plants.

Free single copies are available from the _____ County Extension Office or the Bulletin Room, University of Minnesota, St. Paul 55108. Ask for Miscellaneous Report 145--1977.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
April 4, 1977

Immediate release

WINDBREAKS CAN
BE ESTABLISHED
DURING DROUGHT

Farmers should plant windbreaks now to prevent future wind erosion regardless of whether drought conditions remain in 1977-78.

"If dry weather continues dust storms could become more severe than those of the 1930's," say Marvin Smith and Harold Scholten, University of Minnesota foresters. Since the 1930 dust bowl period many fence rows, trees and other wind barriers have been removed as individual farm size has increased. "If dry weather continues, the frequency and severity of wind-blown soil losses will probably increase.

"Many trees were planted during the dry 1930's and became established," says Smith. A Prairie States Shelterbelt Project was initiated in 1934. The project continued through 1940. During this period over 200 million trees and shrubs were planted in windbreaks on over 30,000 farms--a total of over 18,000 miles.

These trees were planted during severe drought conditions and after much of the fertile topsoil had blown away. But the trees grew and helped hold the topsoil in place and conserve soil moisture derived from winter snowfalls.

"We learned from this 1930's experience that trees can be established during droughty periods. Farmers don't need to wait for a year of normal rainfall to plant a windbreak," say Smith and Scholten.

They offer these tips to help conserve soil moisture and increase chances of success when starting a windbreak:

-more-

add 1--windbreaks can

1. Plow the intended planting site and maintain it in black fallow for 6-12 months before planting.

2. Place a snow fence on the north or west (depending on windbreak orientation) side of the planting site. This will result in snow accumulation on the site prior to planting and on young trees after planting, thereby increasing soil moisture. Another option is to plant several rows of corn or sunflowers and leave them unharvested over winter. This will also benefit wildlife, especially pheasants. Once the trees are established, this practice can be eliminated.

3. Plant trees as early in spring as possible to get maximum benefit from spring moisture.

4. Eliminate weeds and grass with timely cultivation, herbicides, or both.

5. Another way to conserve moisture is to mulch the trees immediately after planting, provided mulch material is available. Good mulch materials include ground cobs, a mixture of sawdust and shavings, or wood chips.

Two University of Minnesota publications give more details. Free single copies are available at county extension offices or the Bulletin Room, University of Minnesota, St. Paul 55108. Ask for Extension Bulletin 196, "Planting Trees for Farmstead Shelter," and Extension Bulletin 350, "Planting Trees in Minnesota."

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Tel. (612) 373-0710
April 4, 1977

Immediate release

PLAN FOR HIGHER
SOYBEAN YIELDS

Some "fine tuning" can help Minnesota farmers get higher soybean yields, a University of Minnesota extension agronomist says.

"Choosing the right varieties is very important if you want to get top yields of high quality soybeans," says Lee Hardman. Superior varieties are constantly being developed for specific growing areas through cooperative breeding research of the Minnesota Agricultural Experiment Station, other state experiment stations, USDA and private industry.

These varieties have improved performance in one or more of these characteristics: yield, standing ability, disease resistance, chlorosis tolerance, seed quality, maturity, plant height and oil and protein content.

The publication, "Varietal Trials of Farm Crops," Miscellaneous Report 24, gives details of soybean variety performance in Minnesota. Single free copies are available from Minnesota county extension offices or the Bulletin Room, University of Minnesota, St. Paul 55108.

High quality seed is also essential for production of a successful crop. Good seed is pure for variety, high in germination, free of seed borne diseases, free of cracked and damaged seed, free of other crop and weed seed and capable of producing vigorous seedlings.

You get assurance of varietal purity with certified seed. In addition, Minnesota certified seed has met high standards for germination, weed seed content and other quality factors. State law requires that seed be labelled to show germination percentage, percent weed seed, percent of other crop seed and total purity.

"This label contains important information so read it carefully," Hardman emphasizes.

A large proportion of the soybean acreage is planted with home-grown seed. This may limit yields unless the crop to be used for seed is handled carefully.

-more-

add 1--higher soybean yields

Seed quality begins to deteriorate immediately after the seed is mature. You can minimize deterioration by adjusting the combine, taking care during each handling and providing proper storage conditions.

"Select sound seed. Damaged seed will not germinate properly and you'll lose yield potential. If you plant seed you've grown, test the germination. This is especially important if you're using seed grown in 1976.

"A high germination test does not necessarily identify a superior seed lot. But low germinating seed lots should be discarded because of lower seedling vigor and yield potential."

Seed may be submitted to the Seed Testing Lab, Agronomy Service Division, Minnesota Department of Agriculture, 644 State Office Bldg., St. Paul, 55155. During the period from March 15-June 30 a fee is charged. Six samples are tested without charge for the rest of the year.

Seeding rates can vary widely without affecting yield, according to Hardman. For Minnesota, he recommends a soybean stand of 140,000 plants per acre regardless of variety, row spacing or planting date. Planting 6, 9 and 12 seeds per foot of row in 20, 30 and 40 inch spacings, respectively, will give an initial stand of 140,000 plants per acre if seed with 90 percent or better germination is used.

The seeding rate in pounds per acre that you need to get the desired population will vary depending on variety due to seed size differences between varieties. To determine seeding rates in pounds per acre for each lot, first determine the number of seeds per pound by counting the seed in a representative one-quarter pound sample and multiply by four. Multiply the number of seeds per pound by germination percentage and divide this into 140,000 to arrive at the seeding rate in pounds per acre.

For example, if the seed lot has 3,000 seeds per pound and germinates 86 percent, the seeding rate would be 140,000 divided by $(3,000 \times .86) = 54$ pounds per acre.

High seeding rates cause smaller stem sizes and usually more lodging. Low seeding rates can cause poor seedling emergence, less competition to weeds within the row, low podding and excessive branching.

The soybean seed should be placed in moist soil to germinate. Under most conditions, planting at 1-1½ inches is satisfactory if the seed can be covered. Seeds should never be planted more than 2½-3 inches deep since a poor emergence percentage may result in stands with uneven plant distribution.

On fine textured soils, a surface crust may form following a hard, beating rain. Use a rotary hoe, harrow or similar equipment to break the crust so soybean seedlings can emerge.

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Immediate release

SOIL TESTING FOR
YARD, GARDEN, FARM

Homeowners soon may want to send soil samples to the Soil Testing Laboratory at the University's St. Paul Campus.

University of Minnesota Soil Scientist Janis Grava says a soil test is the best guide to lawn and garden fertilizer needs. A computer program is designed to accommodate plant needs for nutrients while attempting to avoid waste and pollution through excessive fertilizer use.

Soil samples can be mailed by parcel post or delivered in person to the Soil Testing Laboratory, Soil Science Building, University of Minnesota, St. Paul, 55108. There is a minimal charge.

Sampling instructions and sample boxes can be obtained from the laboratory by telephoning (612) 373-1060 or from county extension offices.

Although many farmers tested their soils last fall, there usually is a good run of samples during April and early May. More than 30 days remain to get soil samples collected. Laboratories are equipped to process samples quickly and results are returned to customers in seven or less days.

For the regular test and special zinc and sulfur tests, sample cultivated land to plow depth. Permanent pastures and sod crops should be sampled only zero to three inches. Take 15 cores from a 20-acre area and mix the soil into one soil sample. For the nitrate test, used only in western Minnesota, sample to a depth of zero to 24 inches. Spring test results are quite reliable, Grava says, but sampling instructions on the sample information form must be followed very closely.

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April 11, 1977

4-H NEWS

Immediate release

VOLUNTEER WEEK
HONORS LOCALS

In observing Minnesota Volunteer Recognition Week April 24-30,

_____ County Extension Office recognizes the outstanding efforts
of _____ volunteers.
(number)

(Include details about 4-H volunteer activities, etc.)

These outstanding citizens have given many hours of their valuable time
during the past year.

The week of April 24th has been proclaimed Minnesota Volunteer Recognition
Week by Gov. Rudy Perpich to make special recognition of the valuable contributions
of Minnesota's volunteers. "Their active involvement makes our communities a
better place to live," Perpich says.

(County Directors: You may want to include details on other Extension
volunteer activities).

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ATT: Extension Home Economics

Immediate release

BOTULISM OUTBREAKS
FOCUS CONCERN ON
CHILI PEPPER CANNING

Improperly home-canned chili peppers are blamed for several botulism food poisoning incidents recently in other states.

Low-acid foods such as chili peppers must be canned in a pressure canner, according to Edmund Zottola, extension food microbiologist, and Isabel Wolf, extension food and nutrition specialist, both at the University of Minnesota.

Most canning booklets omit directions for canning chili peppers, and, as a result, home canners may try to substitute other methods. Research conducted at the University of Minnesota by Zottola and Mrs. Wolf in cooperation with Mae Martha Johnson, extension foods specialist from New Mexico State University, shows that many other techniques may be unsafe for chili peppers.

Their research showed that chili peppers canned without added water at 10 pounds pressure may be unsafe. Such chili peppers could be a potential botulism source, Zottola says.

The proper chili pepper canning method involves washing and draining the peppers and removing their stems and seeds. Skins may be removed, but this isn't necessary.

The peppers should then be packed into hot jars, leaving one inch head space. If desired, the home canner may add one tablespoon vinegar and one-half teaspoon salt to each pint before adding boiling water up to the one inch head space level.

-more-

add 1--botulism outbreaks

Chili peppers require processing at 10 pounds pressure for 30 minutes for half-pints or 35 minutes for pints. This will bring the peppers to the temperature necessary to destroy all Clostridium botulinum spores. Unless destroyed in processing, these spores could germinate within the sealed jars and produce the toxin causing botulism food poisoning.

Because of the many variables in home canning--equipment accuracy, pressure and temperature fluctuations and others--Zottola and Mrs. Wolf say the chili peppers should be boiled for at least 10 minutes before serving. Any deadly toxins that might be present in the peppers will be destroyed at the 212 degree boiling point.

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TIPS GIVEN FOR
CONTROL OF
PSEUDORABIES

Spread of pseudorabies disease in swine from seriously affected neighboring states into Minnesota can best be controlled by testing, early diagnosis and monitoring pig movements.

A new vaccine that may be available in six months to a year will help reduce death losses. But it will not prevent the disease from spreading, says Dr. Al Leman, extension veterinarian at the University of Minnesota.

Minnesota hog producers are probably lucky that the disease hasn't hit harder. Neighboring Iowa has reported about 300 cases so far this year compared to about 10 for Minnesota. Hog farmers in Nebraska, Illinois and Indiana also have been hard hit by the disease.

Leman offers these control recommendations:

1. Any breeding animals that come from another farm should be tested. If they're from a "suspect" farm or area keep them in quarantine on the farm for three weeks, then have them retested. "If animals are exposed just before you move them they might not show a positive test for two to three weeks," Leman says.
2. Keep feeder pigs of unknown origin away from farrow to finish operations. Young pigs are most susceptible to the disease.
3. Report any death losses of young pigs to your veterinarian immediately. Have your veterinarian get a laboratory confirmation of cause of death. The sooner you detect the disease, the more options you have to help control it.

-more-

add 1--tips given for control

4. Pigs that die from the disease should be incinerated, given to a licensed renderer or buried deeply.

5. The disease can be spread by dogs and cats. Many times dead dogs and cats are the first sign of the disease.

"Many people are optimistic that the new vaccine will help control pseudorabies when it's available. It's looked good in field tests and many people are pushing to get it approved for farm use."

A federal pseudorabies testing program will probably be started for producers who sell breeding animals that cross state lines. However, 16 states already require the test. Minnesota is expected to adopt such a program shortly, says Leman.

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WAIT TILL
LATE MAY
FOR TOMATOES

Wait until frost danger has passed, usually after May 30, before planting tomatoes, eggplant, peppers and similar vegetables, says Orrin C. Turnquist, University of Minnesota extension horticulturist.

Head lettuce, cabbage, cauliflower, broccoli, Brussels sprouts and onions can be set in the garden as soon as the soil is prepared. Stretch a string tightly across the area to mark rows to furrow. Chalk lines similar to those used by bricklayers and stonemasons may be used to mark the soil's surface.

Make the furrow the right depth, using the end of a hoe handle. You can generally sow a little deeper on sandy or dry soils than on clay or moist soils.

Before sowing, treat all seeds with a dust, such as Arasan or Spergon, which will prevent seedling diseases such as damping off and will give more uniform plant stands.

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READY GARDEN
WHEN SOIL
IS RIGHT

Prepare your soil for garden planting when soil moisture conditions are right, says Orrin C. Turnquist, University of Minnesota extension horticulturist.

Soils should not be prepared for planting when they are too wet or too dry. If the soil sticks to your shoes or spading fork, it is too wet. If it breaks into big hard clods, it is too dry.

A good test is to compress a small amount of soil in your hand. When the moisture is right, the soil will crumble and break into fine particles. If it is too wet, it will stay molded in a ball.

Immediately after plowing or spading, the area should be raked or harrowed. A firm, fine seedbed is best, particularly for small-seeded crops, but guard against packing the soil too much, he adds.

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POTATO FERTILIZATION ON IRRIGATED LANDS

With Minnesota potato production in some areas shifting to irrigated soils, questions University of Minnesota soil scientists get from growers are quite different from those of a decade ago.

Four years of field trials on loamy sands and sandy loam soils under intensive irrigation show when soil test potassium has been built to more than 600 pounds per acre of exchangeable potassium, broadcast potassium can be omitted at least for two or three years. Extension Soil Scientist Curtis J. Overdahl tells growers that if both row and broadcast potassium are omitted, potassium soil tests drop rapidly.

It takes very high potassium applications to bring a soil up to the 600-plus pounds per acre potassium test when soils test low or medium in potassium. Annual treatments of 500 pounds per acre of potash needed four years to increase tests from 130 to 400 pounds per acre of exchangeable potassium, according to University research. Potato yields increased as potash treatments increased up to 500 pounds per acre of potash on these soils.

High potassium application rates result in reduced magnesium content. Experiments using broadcast dolomitic limestone--containing magnesium and calcium--can improve the potato's magnesium content, but will also induce potato scab problems, if the soil pH is raised much above 6.0, Overdahl says.

-more-

add one--potato fertilization....

Mixed fertilizers placed in the row with the potato planter should contain small magnesium amounts when tests show more than 600 pounds of exchangeable potassium and/or below 12-hundredths of a percent part per million magnesium in the petiole.

Annual rates of 100 to 150 pounds per acre of phosphorus in the row are reasonable applications in most cases on coarse textured soils, which generally test high in phosphorus.

Sandy loams or coarser soils generally are always deficient in nitrogen, Overdahl says. Early maturing varieties require less nitrogen than long season crops. Rates of 150 pounds per acre on longer season varieties are recommended for most situations. Lesser rates may be recommended depending on manure treatments or if legumes were grown immediately before the potatoes.

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SMALL SAWMILL
OPERATOR'S
CLINICS START

A Duluth manufacturer and wholesaler will discuss "the market situation" at the Small Sawmill Operator's Clinics April 26 at Bemidji, April 27 at Detroit Lakes and April 28 at Brainerd.

Robert Owens, president, Owens Forest Products, will speak at 1 p.m., followed by Minnesota Forest Products Extension Specialist Lew Hendricks, who will discuss market aids for small sawmill operations.

The program starts at 9 a.m. with presentations by State Forester Steve Wilhelm and Hendricks on basic hardwood and softwood lumber grading and the relation of log grades to lumber grades.

The clinics are in the Bemidji State University Student Union, New Crucible Room; Detroit Lakes Area Technical School, multi-purpose room; and the County Service Building at Brainerd.

The clinics are a cooperative effort of the University of Minnesota Agricultural Extension Service and the Minnesota Department of Natural Resources.

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BULL SALE SET
FOR APRIL 23

A tested bull sale will be held April 23 at the Delaney Hereford Ranch, Lake Benton, Minn., starting at 1 p.m.

On sale will be 79 bulls from the Minnesota Central Bull Testing Station. Angus, Hereford, Polled Hereford, Polled Shorthorn, Charolais, Simmental, Limousin, Brahman and Beefalo bulls will be on display for breeder evaluation.

Complete data on growth rate, feed conversion and reproductive soundness is available before the sale. Contact C. J. Christians, Extension Animal Science, 101 Peters Hall, University of Minnesota, St. Paul 55108. Tel. (612) 373-1166.

"There's an air of anticipation and excitement about test stations that peaks when animals come off test and records are published," says Christians. "The purpose of testing stations is livestock improvement and that's what this bull sale is all about.

"Central test stations supplement, rather than replace, on-the-farm performance records," he adds. They provide important information for use in beef cattle improvement.

Test stations can provide estimates of genetic differences between individual bulls and sire progenies in gaining ability and feed conversion. Individual performance of prospective herd sires is measured under relatively standard conditions so that reasonably valid comparisons can be made between bulls.

"Central test stations are also educational because they make breeders more aware of performance records and the various components of selection and breeding programs," Christians adds.

The sale is sponsored by the Minnesota Beef Cattle Improvement Association in cooperation with the University of Minnesota's Agricultural Extension Service.

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4-H NEWS

Immediate release

4-H GARDEN
WATER SYSTEM

Develop gardening skills and share them with others through the 4-H Gardening Program in _____ County.

It is for nine to 19-year-olds living in towns, cities or on farms. 4-H gardening is fun and you will know the personal satisfaction of doing things right--preparing the seedbed, using the best seed, planting not too shallow and using enough fertilizer but not too much.

Share your newfound skills with family and friends as you work together and enjoy the fruits of your labor. Your participation in the 4-H gardening program can be the beginning of your family's canning, freezing and food processing efforts.

Perhaps you will have vegetables and fruits to sell in front of your home or at nearby farmers' markets. Extra produce can provide cash for your labor and may open the door to a selling career or other garden-related opportunities.

Incentives and recognition in the national 4-H Gardening Program are provided by the Ortho Division of Chevron Chemical Co. For more information, contact _____ at the _____ County Extension Office.

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Immediate release

Att: Extension Home Economists

TRIS FABRIC TREATMENT BANNED,
UNWASHED GARMENTS RETURNABLE

Children's sleepwear treated with the flame-retardant chemical Tris has been banned by the U.S. Consumer Product Safety Commission, according to Sherri Gahring, extension textiles and clothing specialist at the University of Minnesota.

Consumers who have purchased but not washed any Tris-treated children's sleepwear or uncut fabric are entitled to a full refund of the purchase price. Since washing Tris-treated garments three or more times removes most of the chemical, previously washed Tris-treated garments are not included in the ban.

Ms. Gahring says action against Tris came after a two-year study by the National Cancer Institute linked Tris to cancer in test animals. The institute also found that the chemical can be absorbed through the wearer's skin or through the mouth.

Current flammability standards require children's sleepwear in sizes 0-14 to be flame-resistant. Some fabrics are inherently flame-resistant, but others require the addition of chemicals such as Tris to meet the standards, Ms. Gahring says. Not all children's sleepwear is Tris-treated, and children's garments other than sleepwear are seldom treated with Tris.

She advises consumers to contact the manufacturer or the store where the sleepwear was purchased to determine if Tris was used in the fabric finishing. As a general guideline, she says sleepwear of acetate and triacetate and blends of these fibers are treated with Tris.

-more-

add 1--Tris fabric

Nylon and 100 percent cotton sleepwear is treated with a chemical other than Tris. Polyester often is treated with Tris, but some of it is left untreated or is treated with another flame-retardant chemical. Fabrics and blends such as modacrylics (brand names: Verel, SEF, Kanecaron), matrix (brand name: Cordelan) and vinyon (brand name: Leavil) are inherently flame resistant and do not require chemical treatment to meet flammability standards.

Ms. Gahring says consumers with any doubts about the fiber in their children's sleepwear can eliminate any Tris in the garments by washing them three or more times. The Consumer Product Safety Commission estimates that there may be as many as 120 million Tris-treated garments currently in consumers' hands.

Consumers seeking information on Tris and fabric flammability can call the Consumer Product Safety Commission's toll-free hotline at 800-638-2666.

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Immediate release

MAKE YOUR FAMILY
TORNADO PROOF

You can practically "tornado proof" your family by following some simple precautions.

"Know what your community's warning system is," advises Clifton Halsey, extension conservationist at the University of Minnesota. Some communities use siren systems to warn of impending tornado danger.

It's a good idea to listen to a radio station that keeps you informed during possible tornado weather. And the tornado season is almost here. Most tornadoes in Minnesota occur in May, June and July.

"An average of 17 tornadoes a year are reported in Minnesota. The southern half has four times as many as the northern half of the state," Halsey says.

Tornadoes may occur at any time of the day or night, but weather conditions are most favorable between 4 and 8 p.m. during daylight hours. Tornado weather is characterized by hot, humid days with southerly winds and threatening cloud formations.

Tornadoes usually move in an easterly direction at speeds from 25 to 40 miles an hour. The average tornado path is about a quarter-mile wide, rarely longer than 16 miles.

"People located where tornadoes first form get very little, if any, warning. This means you need to keep a sharp eye on the weather. One clue to an approaching tornado is its sound--like thousands of planes flying overhead. If you hear this sound during a storm, go to shelter immediately."

-more-

add 1--make your family tornado proof

Where should you go for the best tornado protection?

--In large office buildings, sit on the floor of an inside hallway on the lowest floor, preferably in the basement. Cover your head with your arms.

--In factories, the section of the plant offering the greatest protection in accordance with advance plans of the management.

--In homes, the basement usually offers the greatest safety. Crawl under a sturdy workbench or heavy table if you can. In a home with no basement, take cover under heavy furniture in the center part of the house. Keep some windows partially open, but stay away from them!

--Mobile homes are particularly vulnerable to overturning during strong winds, so don't stay in the trailer; go to better shelter. Trailer parks should have a community shelter.

--In schools, use the interior hallway on the lowest floor (as you have practiced in tornado drills).

--In open country, move away from the tornado's path at a right angle. If there is not time to escape, lie flat in the nearest depression, such as a ditch, or ravine. Or crawl into a dry culvert. Don't stay in your car if you can't get out of the path of the tornado.

What about farmers and their livestock?

--Most farm buildings are poor protection. If possible, farmers should put stock outside and stay in the basement of the house until the danger has passed.

Here are other advance preparations families should make:

Be prepared for an electrical outage by having a good battery-operated radio and flashlights handy to take to the shelter. A saw and pry-bar may also come in handy. Teach the whole family and the babysitters what to do.

County extension offices have an orange card that lists these tornado safety rules. Ask for number RCD-4.

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Immediate release

GET FACTS ON
WATER SYSTEM

Two very important considerations in deciding about a rural water system are the amount of water you will use and the water's cost, says Roger Machmeier, University of Minnesota extension agricultural engineer.

Water use in a home may range from 45 to 100 gallons per day per person depending on water use habits. Water consumption by livestock will depend upon the feeding program together with the type of animal and the time of year. For example, a dairy cow in full production will require far more water than a beef animal of about the same weight. Both animals will require more water in the summertime than in the winter. There are many estimates on water use by animals and you will have to select the one which seems most realistic to your situation.

Rural water system proponents usually make an estimate of expected water use and water charges when the district is under consideration. Experience has shown that these estimates tend to be low. You will have to estimate the amount of water that you think you will use and determine the cost of that water. Also, talk to a local, reputable well driller to determine the cost of a new well and pump and estimate the cost of that water. Only when you have all the facts should you make a final decision on whether or not a rural water district is for you.

-more-

add 1--get facts on water system

In some situations, rural water systems use the trickle flow technique to reduce system costs. Rather than to provide a "demand" flow of five to ten gallons per minute at the home or farm, a continuous flow of one pint to one gallon per minute is stored in a large tank or cistern. The homeowner then must purchase a cistern and a pump to deliver the stored water as needed.

There are some but relatively few areas in Minnesota where well water cannot be obtained. Unless the homes or farms are closely spaced, it will usually be more economical to construct individual wells than to run a water line between water users which are a great distance apart.

An undesirable side effect of rural water systems has been the "strip" development of rural non-farm homes along those roads where water lines are located. Unless zoning laws are adequate to prevent such development, rural non-farm voters soon outnumber farm voters. This condition has resulted in collector sewer lines being constructed where soils were unsuitable for housing developments with onsite systems, a decrease in water flow to initial subscribers, a change in farm operations because of odors objectionable to non-farm residents and similar situations.

So carefully consider all the factors about a rural water system before making your decision. The factors should include social and political considerations as well as economic considerations. Be sure that all interested parties are invited and have an equal opportunity to present their case at "informational" meetings on the rural water system. Be sure that not just those people in favor of the rural water system preside and speak at the meeting, Machmeier says.

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Immediate release

FOLLOW TREE PLANTING
TIPS TO IMPROVE
SURVIVAL ODDS

On the eve of 1977 spring tree planting season, forest landowners and Christmas tree growers are in a dilemma. It's possible that last year's dry weather will continue, resulting in major losses in this spring's reforestation efforts.

"By now it is painfully obvious that the 1976 drought inflicted severe losses in last year's tree planting efforts," says Marvin Smith, extension forester at the University of Minnesota. Reports of serious tree losses ranging up to 100 percent have been widespread in the central and northern regions of Minnesota where most soil types are coarse-textured and rock strata is close to the surface.

Water-holding capacity in these soils is poor at best. Soil moisture in some areas was so deficient that moderate to heavy drought losses occurred in young tree plantations made before 1976 which were considered successfully established.

Crop farmers can make last minute adjustments in planting decisions for the current season. "But the forest tree planter often doesn't have the luxury to change his mind in the spring and not plant or plant something else. His moment of decision occurred several months ago when he had to order and pay for his trees before nursery inventories were depleted," Smith says.

The situation for the tree farmer is further clouded by the uncertainty in long-range weather forecasting. According to a National Weather Service spokesman,

-more-

add 1--follow tree planting

there's some reason to predict that rainfall patterns in 1977 will be close to normal. An analysis of Twin City weather data over the past century did not reveal periods when two dry years occurred back-to-back.

The axiom "Hope Springs Eternal" is especially true for those who plant trees. Currently, there is room for optimism. Soil moisture is more than adequate for seedlings and transplants to become established. Smith offers these planting tips to help improve the odds:

1. Plant as early as possible in the spring, when the trees are dormant.
2. Remember that the dormant tree is a living plant. Keep the roots moist at all times before and during the planting operation.
3. Be alert for freezing temperatures during planting. Store tree bundles to prevent freeze damage to roots.
4. Make sure that soil is tamped firmly over roots.
5. Remember, haste may lower job quality. Take your time and do it right.

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FEEED PROTEIN
PRICES JUMP

Recent increases in soybean prices have pushed the price of soybean meal to over \$300 a ton (\$15/cwt) in some areas.

Cost per pound of the protein in soybean meal is near 34¢ a pound. This means dairymen face another price squeeze, says Mike Hutjens, extension dairyman at the University of Minnesota. Here are some strategies and alternatives that may lower the amount of purchased protein you need:

--Double check your dairy rations. Be sure soybean meal is being used as protein, not energy. The Minnesota Dairy Ration Computer Balancer is available to all dairymen as a tool. See your county extension agent for more information.

--Do not short change high milk producers. Some vegetable protein will be needed in most herds.

--Use higher protein grains in the mixture (wheat and barley 13-14 percent protein; oats 12 percent protein). Shelled corn will contain 9 percent protein (air dry basis).

--Topdressing vegetable protein will allow the flexibility of providing extra protein only to cows that need protein.

--Alternate protein sources may be cheaper (linseed meal or brewers grain, for example). Check with your feed dealer.

--Increase higher protein forage sources (less corn silage and more alfalfa) if available.

--Substitute non-protein nitrogen (such as urea) for some vegetable protein. The cost of a liquid urea-molasses mixture can be 17¢/lb of protein (\$135/ton) compared to soybean meal at 34¢/lb. The maximum urea recommended is .4/lb/cow/day for satisfactory utilization.

--Harvest alfalfa and grass forage at the correct stage of maturity to insure high protein digestible feed.

--Early lush pasture and green chop is usually high in protein requiring only grain as an energy source.

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CA. IA. D.

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Tel. (612) 373-0710
April 18, 1977

Immediate release

DISTRIBUTE
SUNFLOWER
PLANTS WELL

Proper planting rates, uniform plant distribution and good weed control are necessary for good sunflower yields. Minnesota Extension Agronomist Roy Thompson says excessive plant populations and poor plant distribution may result in lodging problems under adverse weather conditions.

Plan on 15,000 plants per acre for confectionary-type sunflowers; for oilseed markets, 15-20,000 on sand or soils with sandy subsoils. On heavier soils, populations of 20-25,000 plants per acre will give higher yields.

With considerable sunflower production expected in Minnesota this year, growers may not be able to get their harvest to elevators immediately. Thompson says if you store them, keep in mind that sunflower seeds are susceptible to mold and fungi at low moisture content. Oilseed sunflower seeds at 12.8 percent moisture and non-oilseed at 13.3 percent have about equal resistance to storage fungi as corn or wheat at 18.5 percent moisture.

The chemical avitrol is available to reduce bird damage to oilseed sunflowers, but you also need good weed control for this to be effective. (The grain bait will fall to the ground and be hidden in weedy fields). North Dakota Extension Wildlife Specialist Irving Mork says sunflower seed growers can lessen blackbird damage by planting their crop outside the birds' flight lines. Also, try planting early and using early maturing varieties to decrease exposure to peak concentrations of birds. Chemicals are available to dry the plant after maturity, which may also permit earlier harvesting.

For information on sunflower varieties, see Miscellaneous Report 24, "Varietal Trials of Farm Crops," at your county extension office.

-daz-

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RURAL ISSUES
IN PARATRANSIT
SET FOR MAY 18

A federal rural transportation official will discuss critical issues in paratransit from a rural perspective on May 18 at the Leamington Hotel in Minneapolis.

Robert Bruton, acting director, Office of Rural Transportation, Department of Transportation, will be one of the afternoon speakers during the first day of the three-day Paratransit Conference.

Paratransit services are the various modes of transportation that fall between private vehicles and conventional public transport systems. Some modes of paratransit are van pooling, shared ride taxis, dial-a-ride and services for the elderly, handicapped, young and those unable to afford autos or taxis.

The conference is sponsored by the University of Minnesota Agricultural Extension Service and Continuing Education and Extension in cooperation with several state agencies and associations.

The conference format includes general sessions and concurrent workshop sessions. Major issues, such as present policies and successful paratransit practices, will be presented in the general sessions. Workshops will deal with taxis, special paratransit needs, van pooling, car pooling and metro-rural implications.

Registration is due by May 6. For more information, contact Department of Conferences, Nolte Center for Continuing Education, 315 Pillsbury Drive Southeast, University of Minnesota, Minneapolis 55455.

The program is open to everyone regardless of race, creed, color, age, sex or national origin.

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SPRING MEDICATION
FOR HONEY BEE DISEASE

People obtaining package bees should have them arrive in Minnesota between April 10 and May 1. After May 10, a new package in a new hive will have great difficulty in gaining enough strength and enough honey stores to winter well.

Minnesota Extension Entomologist David Noetzel says try to obtain packages from someone locally as bees in nearly half of all packages mailed are killed in transit. Local sources are also usually more reliable as to package arrival dates.

Package bees should be fed with a light sugar syrup containing sodium sulfathiazole and Fumidil-B. Light sugar syrup is made from one part sugar and one part water. A quarter teaspoon of sulfa and a level teaspoon of Fumidil is stirred into the warm water before adding the sugar.

Sodium sulfathiazole protects the larvae in the new colony against American foulbrood. Fumidil-B prevents Nosema infections in adult bees. Both diseases are so common that planned preventive feeding of the antibiotics is recommended.

Wintered colonies should be unpacked now and fed light syrup containing sulfa. Controlling Nosema in wintered colonies must be done in the fall when Nosema infection takes place. Spring feeding of Fumidil on wintered colonies is of very little value.

-daz-

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Immediate release

FOREST RESEARCH
PLANNING MEETING
SET IN MINNEAPOLIS

One of four regional forest research planning conferences will be held June 7-8 in the Radisson Hotel, downtown Minneapolis.

Critical forest and associated rangeland problems needing research during the next 20 years will be identified at the conference, sponsored by the U.S. Department of Agriculture and the National Association of State Universities and Land Grant Colleges.

Results of this meeting and similar ones this summer at Philadelphia, San Francisco and New Orleans will provide the basis for a national conference in early 1978. At the later meeting, national research priorities will be discussed and development of a national program will be facilitated. A comprehensive national plan of research will be the final product of the effort.

A wide variety of interests affected by research results on forests and associated arrangements will be represented by the delegates and invited participants.

-daz-

CA.F.

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April 20, 1977

MSC
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Programs are available to all
persons regardless of race,
creed, color, sex, age, or
national origin.

SPECIAL SHORT COURSE SCHEDULE (May - October 1977)

- May 5,6 Environmental Education for Secondary Teachers, May 5, University of Minnesota Arboretum, Chaska; May 6, Heimer Myre State Park, Albert Lea, Minnesota. An annual workshop for teachers in junior and senior high schools.*PS
- May 5-7 The American University and Title XII, Registry Hotel, Bloomington. Involving 150-200 administrators, faculty and staff from state and Land-Grant colleges and universities plus government officials and selected leaders from other nations. Discussions on possibilities for effective university involvement in international development through Title XII legislation.*LF
- May 17-20 Professional Improvement Workshop for the Community Development Society, Thunderbird Motel, Bloomington. The objective of this workshop is to help participants achieve understanding of the art and service of community development and the contribution of both to the development of professional judgement.*RM
- May 20-22 Minnesota State Fire School, St. Paul Campus. For volunteer and paid fire department personnel, city officials and interested government and industry personnel who deal in fire safety, prevention, control and rescue and first aid work.*PS
- June 8 All Together Now in Agricultural Education, Radisson South Hotel, Bloomington, Minnesota. Summer conference of the Minnesota Council for Coordinating Education in Agriculture involving faculty, administrators and students from institutions and systems offering educational programs in agriculture in Minnesota. To discuss current trends, issues, problems and opportunities in agricultural education and the possibilities for dealing with them through the use of coordinated efforts and resources.*LF
- June 24 A Seminar on Ultra High Temperature Processing of Dairy Products, Rm. 15, Food Science & Nutrition Bldg. The purpose is to update on the technology of UHT processing of dairy products. Discussion and presentation of current uses and future developments. Audience are personnel in the dairy processing industry.*GW

*For further information call Office of Special Programs
LF--LaVern Freeh 612-373-0725
CN--Curt Norenberg "
RM--Richard Meronuck "
PS--Paul Stegmeir "
GW--Gerald Wagner "

+For further information call the REsearch or Experiment Station designated.

Page 2 - Special Short Course Schedule

- June 28,29 Crops and Soils Day, June 28, Waseca; June 29, Lamberton;
July 14,20,21 July 14, Morris; July 20, Crookston; July 21, Grand Rapids;
Sept. 13,14,15 Sept. 13, Morris; Sept. 14, Lamberton; Sept. 15, Waseca.+
- July 12,13,14 Professional Improvement Seminars for Vocational Agriculture
July 26,27,28 Educators in Minnesota. July 12,13,14, Diesel Tractor
August 8-12 Service & Maintenance, Mankato AVTI; Carpentry Construction,
July 26,27,28, U of M, Crookston; Oxyacetylene Welding, August 8,
9,10,11,12, Staples AVTI. These seminars are designed to meet
specific technical needs of vocational agricultural instructors
in Minnesota and to provide them with specialized information
in the area of agricultural engineering.*CN
- July 18-22 Minnesota Dairy Tour to Batavia, New York Area. For dairy farm
operators and their wives and others interested in learning about
feeding, breeding, management and equipment systems in western
New York area. *GW
- September 19-20 Minnesota Nutrition Conference, Marriott Inn. A North Central
area regional conference for animal nutritionists representing
producers, industry, and universities *GW

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SPRING GRAIN
STORAGE
RECOMMENDATIONS

A University of Minnesota extension agricultural engineer says grain and grain bins warming up now can cause problems unless they are managed properly.

Harold Cloud advises farmers to check grain temperatures, particularly at the top and center of bins and check grain moisture particularly at the bin's top and sidewalls.

It may not be necessary to warm grain in the spring by aerating if it was cooled to 35 to 40 degrees for winter and will be moved out of the bin in a month or two. If it was cooled lower or will be held longer, then it should be warmed.

It is best to warm grain gradually to avoid condensation and check it with a thermometer. If the fans are run when the outside temperature is quite a bit higher than the grain temperature, be sure to keep the fans running until the bin is warmed. You can hold the grain without much mold and insect problems when outside temperatures remain cool. Warm the grain to 60 to 75 degrees through the summer.

-daz-

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April 25, 1977

CORRECTED FROM APRIL 18

FOREST RESEARCH
PLANNING MEETING
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-daz-

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Immediate release

ANHYDROUS AMMONIA
CAUTIONS TOLD

Minnesota Extension Safety Program Specialist Robert Aherin says anhydrous ammonia can be an extremely dangerous chemical if not handled properly.

This chemical is normally stored under pressure in liquid form and when it is released to the atmosphere it vaporizes quite quickly. Because ammonia boils at -28 degrees F. it has a drastic cooling effect when it vaporizes. Ammonia striking the skin can freeze the flesh almost instantly. Also anhydrous ammonia has a very strong attraction for water, which helps keep it in the ground by dissolving the soil moisture. Because the tissues of the respiratory tract, eyes and skin contain a high percentage of water they are very susceptible to caustic burns from contact with ammonia. If ammonia comes in contact with any part of the body it seeks out the moisture and destroys the tissues in a very short time.

The following precautions should be followed when handling anhydrous ammonia:

1. Basic protection for a person transferring ammonia or operating an applicator includes rubber gloves and chemical goggles and/or a full face shield. The most important time to wear this protection is when transferring the ammonia or when working on the equipment. If you store bulk quantities of ammonia on the farm a rubber suit and a gas mask with ammonia canister should be on hand to permit emergency work.
2. Check all relief valves, hitch pins and applicator tubes to make sure they are in good operating condition.
3. Check all hoses and couplings for breaks and cracks before using.

-more-

add 1--anhydrous ammonia

4. A minimum of five gallons of water should be available for flushing in case of accidental contact with anhydrous ammonia. Water is the only first aid for anyone who comes in contact with this fertilizer.

Ideally a five gallon water supply should be available on the nurse tank, applicator, and tractor. Also anyone applying anhydrous ammonia should carry a small squeeze bottle of water in their shirt pocket to use in an emergency. The water should be changed daily and remember any injury must be flushed with water for at least 15 minutes before going for emergency help. Never use salves or ointments on any anhydrous injury.

5. Work up wind when possible.

6. Ammonia fittings on filling and transfer lines are designed to be hand tightened. Do not use wrenches.

7. Carry filler hose only by the valve body or coupling, but never by the valve handle.

8. Make sure that hose and fittings are free of dirt and loose rust.

9. Check that all bleedvalves are closed before opening valves for filling.

10. Stay in attendance during transfer or filling to prevent overfilling.

11. Open bleedvalve and wait for bleeding to cease before disconnecting couplings, make sure the bleed hole is away from you.

12. Check anhydrous equipment for wear and damage before accepting it from your dealer. Also do not accept equipment that does not have a five gallon water supply on it. If your dealer does not supply personal protective equipment ask him where you can obtain it.

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DHI RECORDS PAY
DAIRY HERD DIVIDENDS

Dairy Herd Improvement (DHI) records pay off for Minnesota dairymen, according to Bill Mudge, extension specialist at the University of Minnesota.

Minnesota dairymen are handling large amounts of money managing their herds. They invest an average of \$600 in feed, \$300 in additional overhead and 75 hours' labor on each cow, says Mudge.

"It is important to keep records in managing this large investment." DHI herds yield approximately one-third more milk per cow than the Minnesota average. This one-third additional milk production translates into about a \$150 greater labor return, Mudge states.

High level herds, over 17,000 pounds of milk, have better sire identification. Eighty-four percent of the first calf heifers in these herds were identified by sire compared to only one-third in the low level herds, less than 12,000 pounds of milk.

"The high level herds also had more first calf heifers--30 percent compared to only 22 percent in the low level herds." The high level herds also cull more heifers than low level herds, nine percent against six percent, Mudge states.

There were fewer long dry periods for high level herds. Their average 56 dry days bettered the 66 days in the low level herds, Mudge says.

"Each low level cow was fed an extra 12 days without milk production to defray costs."

Seventeen percent of the high level cows were dry over 70 days compared to 36 percent in low level herds, Mudge states.

"We feel this is a result of the DHI dairyman's management consciousness. He keeps a closer check on his herd; for example, watching for calving dates and getting cows dried off at the right time."

Herd size has very little influence on average milk production per cow. The manager still determines production differences, according to Mudge.

"The good dairymen are those using DHI records to help make managerial decisions."

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Immediate release

IN BRIEF. . . .

Garden Insects. The time for preplant soil insect control in the home vegetable garden is fast approaching, says Mark Ascerno, extension entomologist at the University of Minnesota.

Cutworms, white grubs and wireworms can be a problem if your garden is in an area of newly worked sod. A broadcast application of diazinon (Spectracide) worked into the upper 6-8 inches of soil will provide this control.

Early root crops like radishes and onions can be protected from root maggot attack with a furrow treatment of diazinon at planting time. Refer to Entomology Fact Sheet 11, "Controlling Insects in the Home Vegetable Garden," for concentrations and further information. It's available from the county extension office.

* * * *

Frost Injury. We may have some frost injury on woody ornamentals this spring season. Frost damage results when temperature drops below freezing and plants are not dormant. Plants vary in their ability to withstand freezing and some of the more susceptible ones are introduced species: fruit trees, Siberian elm, Lombardy and Bolleana poplars.

For Metro Minnesota, the average number of years in 50 when 32°F. or lower is likely to occur is 41 on April 20 and 25 on April 30. The chances for spring frost damage appear to be good. The cold winter of '76 - '77 may also have damaged the roots, which are often more susceptible to freezing than tree tops.

"I expect we will see and hear of many plant problems related to the record cold winter season. These cold-related problems are not always clear cut and may be hard to define," says Ward C. Stienstra, extension plant pathologist at the University of Minnesota.

* * * *

-more-

add 1--in brief

Dry Weather, Diseases: In 1976 at least two crop diseases may have been increased due to dry weather. Dry soil at planting time has increased the percentage of smutted heads of loose smut of oats in some experiments. And research over a nine-year period in Colorado showed that corn smut incidence was highest in years when May and June were dry. If this spring is dry, we can expect more of these diseases in 1977. If you treated your oats seed with the right fungicides, dry soil should not cause loose smut. However, chemical treatments have not controlled corn smut, says Herbert G. Johnson, extension plant pathologist at the University of Minnesota.

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Immediate release

Extension Home Economists

UNDISSOLVED DETERGENTS
BRING CONSUMER COMPLAINTS

Clothes that emerge from the final automatic wash cycle with undissolved granular detergent still clinging to them are causing many consumer complaints, according to Wanda Olson, extension household equipment specialist.

Don't blame your washing machine, she says. The problem more likely lies with poor laundry procedures, cooler water washing and shorter wash cycles.

Granular detergent should always be dissolved in the wash water before adding the clothes, Mrs. Olson says. If a water softening agent is used, it also should be added to the water ahead of the detergent.

Mrs. Olson says the problems with undissolved detergents are aggravated by the cooler water and shorter wash cycles that many homemakers use. In an automatic washing machine, the warm water setting delivers half hot and half cold water. In the winter the cold water temperature is very low, and as a result, the warm water may be only 90°F.

Homemakers might have gotten by with the bad habit of adding detergent after the clothes were in the machine until they switched to warm and cold water washing, according to Mrs. Olson. Now the combination of factors is leaving undissolved detergent on clothes.

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Immediate release

Att: Extension Home Economists

MICROWAVE OVENS,
SMOKE DETECTORS,
COFFEEMAKERS POST GAINS

Nearly 1½ million microwave ovens were sold in 1976--nearly double the previous high sales year 1975. Although only about five percent of homes have the ovens, this is a significant increase over four years ago when only ½ percent had them.

Wanda Olson, University of Minnesota extension household equipment specialist, says that smoke detectors increased in sales by 25 percent to a high of some three million units. Automatic drip coffeemakers spurred sales in that appliance category. Nearly twice as many were sold in 1976 as previously, but standard percolators dropped off in sales.

Citing figures from Merchandising magazine, which tabulates sales data for the appliance industry, Mrs. Olson says toasters are having to prove their versatility. About a third of the toasters sold in 1976 were the toaster oven style.

Energy-conserving features such as air drying cycles in dishwashers and clothes dryers, pilotless ignition in gas ranges and dryers and more efficient refrigerators and air conditioners also played important roles in 1976 products, Mrs. Olson reports.

Self-cleaning ovens took an increasing share of both the electric and gas range market. They jumped nearly 30 percent among electric range sales and about 45 percent in gas models. Continuous cleaning ranges also increased their sales, but only 2.5 percent among electric models and about 13 percent in gas.

add 1--microwave ovens...

After several years of impressive sales gains, freezers sales dropped by nearly one-third over 1975. Some of this may be caused by increased sales of large capacity refrigerators and side-by-side models which include more freezer space, according to Mrs. Olson.

Slow cooking appliances and irons also gained in sales as did electronic calculators and digital watches. About 83 percent of households now own an electronic calculator, and the strongest sales gains were in the less-than-\$15 price range.

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Immediate release

4-H NEWS

4-H CLUBS TO PLAN
FOR COMMUNITY PRIDE

4-H groups interested in planning a project to enhance the quality of living and meet the critical needs for their local communities should join 4-H Community Pride '77.

Register with the _____ County Extension Office by May 31.

Plan to take photographs before, during and after your project. Your club may win a new camera. The 1977 Community Pride Program provides a challenge to develop new projects. The program is sponsored by Northrup King and Company of Minneapolis and the University of Minnesota Agricultural Extension Service.

The program helps stimulate 4-H groups to work toward improvement of their community and environment.

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April 28, 1977

DOG HEARTWORMS IN MINNESOTA

Now is the most important time for your veterinarian to examine your dog for heartworms, according to Michael Pullen, extension veterinarian at the University of Minnesota.

Warmer weather brings increased mosquito activity. Besides an irritant to man, the mosquito transmits a deadly heartworm infection to dogs.

"Your veterinarian will collect a blood sample from your pet and examine it for the presence of the typical small worm. Because 5-20 percent of infected dogs may not have circulating small worms or microfilaria, other diagnostic aids such as x-ray may be used."

In Minnesota, heartworms have infected native dogs since the mid-1950s. Currently, the principal areas of canine heartworm infection is the five-county metropolitan area which includes the Twin Cities. However, other localities in the state report scattered infections.

Heartworms are primarily found in dogs and occasionally in domestic cats and wild red foxes in Minnesota. Once considered an endemic infection of the South, heartworms have spread to many other states. Man is rarely infected by this parasite.

"The most frequent early signs of heartworm are rapid tiring, exhaustion and soft coughing. The presence of many adult heartworms in both the right heart chamber and the pulmonary artery impairs blood circulation," says Pullen.

add one--dog heartworms

As the disease progresses, more serious signs are apparent such as dry, rough hair coat, loss of weight, anemia and ascites ("water belly"). The liver and kidneys may also become infected. Death occurs in a high percentage of the untreated cases, according to Pullen.

"Sometimes a dog does not show signs of heartworm infection. However, after strenuous exercise of running, hunting, playing he may suddenly collapse and die."

The most important method of canine heartworm control is prevention. A preventative oral medication is available but must be administered throughout the mosquito season. This medication will destroy the infective larvae before it reaches the heart, says Pullen.

"Both heartworm treatment and prevention require the close supervision of your veterinarian. The health of your dog depends on early detection of canine heartworm infection."

Treatment and prevention of heartworms are dependent on the presence or absence of microfilariae in your dog's blood circulatory system. If the microfilariae are present, the most common treatment used by veterinarians is intravenous injection to kill the adult parasites, Pullen states.

"Killing the adult worms is not without risk because there is no way for the dead worms to escape from the dog's body. With time they should be dissolved by the dog's natural defensive mechanisms."

Heartworms are transmitted exclusively by mosquitoes. The female mosquito ingests microfilariae when she obtains her blood meal from an infected dog, Pullen says.

Once inside the mosquito, the microfilariae progresses through various stages of development becoming an infective larvae in approximately three weeks. The infective larvae is then transmitted to a susceptible

add two--dog heartworms

dog when the mosquito obtains its next meal, according to Pullen.

"Once the infective larvae penetrates the skin it travels via the circulatory system to the heart and the pulmonary artery where it develops into a mature adult measuring from 10-12 inches long."

The time required from injection into the dog's skin and the adult reaching sexual maturity is about six months. The males and females reproduce and microfilaria are released into the dog's blood stream. The infective cycle is ready to begin again, Pullen concludes.

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