

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0715

MSC
September 3, 1976

BADOURA WOODLAND FIELD DAY CANCELLED

The Woodland Field Day scheduled for the Badoura Nursery on Sept. 18 has been cancelled due to the severe forest fire potential.

People who planned to attend the event are encouraged to attend either of two similar events at Grand Rapids Sept. 11 or Arlington Sept. 25.

For more information check with county extension offices or the Office of Special Programs, University of Minnesota, St. Paul 55108. Phone (612) 373-0725.

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 7, 1976

Immediate release

IN BRIEF. . . .

Woodland Day Cancelled. The Woodland Field Day scheduled for the Badoura Nursery on Sept. 18 has been cancelled due to the severe forest fire potential. People who planned to attend the event are encouraged to attend either of two similar events at Grand Rapids Sept. 11 or Arlington Sept. 25. For more information check with county extension offices or the Office of Special Programs, University of Minnesota, St. Paul 55108. Phone (612) 273-0725.

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Incorporate Urea. Nitrogen from urea can be lost to the atmosphere if fertilizer urea remains on the soil surface for extended periods of time during warm dry weather. The key to most efficient use of urea is to incorporate it into the soil during a tillage operation. It may also be moved into the soil by irrigation water. As little as 0.1 inch of rainfall is sufficient to move urea into the soil to a depth where ammonia losses will not occur.

Urea has these advantages as a fertilizer:

--It can be applied to a soil as a solid, a solution, or as a foliar spray for certain crops.

--Urea results in yield increases equal to other nitrogen forms when it's applied properly.

--Urea usage involves little or no fire or explosion hazard.

--Urea's high analysis (46 percent N) helps reduce handling, storage and transportation costs.

--Urea manufacture releases few pollutants to our environment.

More information is available in the new publication "Fertilizer Urea." Copies are available at county extension offices. Or, write to the Bulletin Room, University of Minnesota, St. Paul, 55108.

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CORN PRICE
COULD BE LOWER
THAN LAST YEAR

Season average corn prices are expected to average about 15 cents a bushel less than last year, according to a report by University of Minnesota agricultural economists.

The November-June 1976-77 price for Minneapolis No. 2 corn was projected at about \$2.55 per bushel. "However, the average price could be up to \$2.70 if the 1976 U.S. corn crop drops to the six billion bushel area," said Will Anthony, University of Minnesota grain marketing specialist. He based his \$2.55 average on the August 1, USDA corn production estimate of 6.187 bushels.

Average price in Minnesota country elevators usually runs 20 to 25 cents under the Minneapolis price. But drought areas of southwestern and western Minnesota could have local elevator prices as high or higher than the Minneapolis price. "Corn must be bid up enough to attract a supply into these feed deficient areas for livestock feeding," Anthony says.

Use the season-average forecasts to furnish a base for making pricing decisions, Anthony advises farmers. "When market prices are above the season average, watch for selling opportunities. Avoid selling when market prices are below season averages."

Anthony also urges farmers to watch livestock feeding indicators and export news. Although U.S. livestock feeding will consume 60-65 percent of the crop exports are becoming more important. They jumped from 10 percent of total corn use in 1970 to 30 percent by 1975-76." Exports are expected to be down slightly in the coming year due to increased feedgrain production elsewhere in the world.

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BEEF FEEDING
OUTLOOK IMPROVING

Beef cow-calf producers are losing money for the third straight year and cattle feeders have lost money for 28 out of the last 36 months.

But things should improve next year for both groups, according to Paul Hasbargen, extension economist at the University of Minnesota.

With higher feeder prices expected next year, cow-calf operators and feeders in drought-stressed western Minnesota should consider growing out calves. This program looks promising relative to feeding heavier cattle that will go back to market in four to five months since heavy fall marketings are expected to keep cattle prices near current levels through 1977, Hasbargen said.

Drought-stressed corn that failed to pollinate and make corn grain this year will make an excellent feed for growing out calves. Feeding value of silage from poorly pollinated corn on an equal dry matter basis should be within 10 percent of regular corn silage.

"This feed has little alternative use so it probably should not be priced over \$15 per ton. And when you put it through feeders, it should return at least \$25 to \$30 per ton," said Hasbargen.

Farmers with large quantities of drought stressed corn silage this year may want to buy feeders as early as possible. August-September feeder prices will probably be the lowest of the year unless grain prices move up rather than down after harvest begins. Another alternative is to contract cows at about \$15 per month.

-more-

add 1--beef outlook

Cow-calf operators are encouraged to carry calves through the winter instead of selling this fall. Yearlings will be worth more per pound next year than calves are early this fall due to the expected seven percent drop in this year's calf crop.

Light feeders or thin yearlings from the drought area of the Dakotas should be a good buy for farmers with large supplies of drought-damaged corn silage. Good quality young cows are available at about 25¢ per pound.

More detailed information is available in the 1976-77 Agricultural Outlook publication that will be available soon in county extension office or write to the Bulletin Room, University of Minnesota, St. Paul 55108.

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1976 MINNESOTA
FARM INCOME DOWN

Farm income in 1976 will be lower in Minnesota, Wisconsin and South Dakota than last year, according to a report by University of Minnesota agricultural economists.

However, total U.S. farm income in 1976 is expected to be slightly higher than 1975. "But Minnesota farmers won't fare as well due to the drought," says University of Minnesota Extension Economist Paul Hasbargen.

Minnesota crop receipts will drop below 1975 levels and year-end feed inventories will be sharply reduced on southwestern and central Minnesota farms.

Farm earnings will vary greatly among farm types, as well as among areas of the state:

--Farm incomes will be sharply lower in drought stricken counties of southwestern and central Minnesota.

--Beef feeder calf producers will have low farm earnings for the third straight year and many will lose money. Cattle feeders will also have depressed earnings in 1976. Feedlot enterprises have been in the red for 28 out of the last 36 months. "Cattle feeders in the important cattle feeding area of southwestern Minnesota have suffered the heaviest financial setbacks. They've also been hit by drought two or three times in the last three years," said Hasbargen.

--Hog farmers will have excellent returns again in 1976. This, following the record high returns of 1975, will keep incomes of specialized hog farms among the highest of all Minnesota farm types this year.

add 1--Minnesota farm income

--Dairy farmers will have wide variations in earnings, depending on their location in the state. Those forced to buy large feed supplies due to the drought will show significant income drops. However, southeastern Minnesota dairymen should show some improvement in farm earnings due to higher milk prices in 1976.

--Specialized crop producers will "prosper or suffer according to how well they were blessed with rain." Many in southeastern, south central and northwestern Minnesota will show earnings similar to 1975. "An individual crop farmer's earnings could be well above or below last year depending on when he chose to sell the bulk of his crops in each year," said Hasbargen.

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LOWER PRICES
AHEAD FOR
HOG PRODUCERS

Hog producers can expect prices to drop to about \$40 per hundred by late fall and to range from the high to low \$30's through 1977. The major factor influencing this decline is an expected increase in pork supplies over the next 18 months.

"The sharp rebound in U.S. hog production by farmers this spring was in response to good profits in 1975 and expectations for continued profits over the first half of 1976," said Ken Egertson, extension marketing specialist at the University of Minnesota. "We expect that the increase in U.S. hog production (farrowing) has carried through this summer and will continue this fall. The increase in Minnesota will likely be some less than nationally because of the drought.

"Total profits in the complete hog enterprise have been excellent since the second quarter 1975 through the third quarter of 1976. Receipts have been at least \$10 higher than all costs so far this year," he said.

For the fall of 1976, hog profits for complete hog operations should remain above the breakeven level enough to encourage expansion in U.S. sow farrowings for at least the first half of 1977.

But for the first half of 1977, hog prices will be near or above breakeven levels with possible losses showing up in the second quarter.

-more-

add 1--lower prices

"The big question concerns the size of the 1976 spring pig crop," says Egertson. It could be high enough to force prices down into the low \$30's during the fourth quarter of 1977. If this happens, it should trigger reductions and a movement into the declining phase of the hog production cycle by early 1978.

More information is available in the 1976-77 Agricultural Outlook Publication. Write to the Bulletin Room, University of Minnesota, St. Paul, Minn. 55108

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SOYBEAN PRICES TO BE
UP FROM LAST YEAR

Soybean prices are expected to average higher in the coming year, according to a recent report by University of Minnesota agricultural economists.

The Minneapolis price is projected to average \$5.60 a bushel during October-June, 1976-77. That's 65 cents a bushel higher than average prices during the past marketing year, but under current market prices. Prices at country elevators run 20 to 25 cents per bushel less than the Minneapolis price. Soybean oil prices will not be appreciably different from 1975-76, but soybean meal will average higher.

"Soybean market prices have moved widely in response to temporary factors in the past few years," says Will Anthony, extension economist at the University of Minnesota. Use the season average forecast to avoid selling when market price is below that level, he advises farmers. Consider selling when price goes over the projected average.

Soybean supplies were at a record level in 1975-76, but price dropped early in the season and use was strongly stimulated. Supply for 1976-77 will be down from last year due to lower 1976 acreage and yields. Anthony advises soybean growers to watch these developments closely:

--Size of the 1976 crop. A crop significantly below 1,344 million bushels would be associated with a higher soybean price.

--Exports, as reflected in weekly export shipments and export commitments.

--Strength of U.S. soybean oil and meal markets in relation to soybeans, as reflected in weekly crushing margin reports.

More detailed information is available in the 1976-77 Agricultural Outlook publication from Bulletin Room, University of Minnesota, St. Paul 55108. Copies will soon be available in county extension offices.

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DAIRY MANAGEMENT
TIPS OFFERED

Dairymen in drought affected areas should keep production up by buying feed if necessary.

"If crop yields were down, don't compound your cash flow problem by feeding your cows poorly," advises University of Minnesota Extension Farm Management Specialist Ken Thomas.

"Don't let production per cow drop because you have to buy feed. Milk prices will be high enough in the year ahead so that most dairymen will more than cover feed and other cash costs and get \$3 per hour for labor."

Make an early estimate of your forage supplies and add to it by cutting more corn for silage if necessary.

"Corn silage is the cheapest feed available. Make extra piles if necessary." Thomas says you can reduce pressures on limited feed supplies by:

--Reducing the number of young animals raised. You may save as much as a ton of feed per cow by raising only the replacements needed vs. raising everything.

--Culling dry cows that will not calve for awhile. Also cull poor producers that aren't covering feed and cash costs.

--Feeding some residue feeds such as corn stover, corn cobs and straw to dry cows and heifers. Supplement this carefully.

If you're still going to be short of forages and they're more expensive than grains, you can reduce the forage intake to 1 to 1.5 pounds of dry matter per 100 pounds of body weight. Then feed more grain (one pound of grain will replace about two pounds of forage at most production levels). Make sure the ration is balanced so you have an adequate, economical ration.

More details on the dairy outlook are available in the 1976-77 Agricultural Outlook publication, soon to be available from county extension offices.

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CORN SILAGE WILL
HELP FILL HAY VOID

Livestock producers should put up all the corn silage that's available. "Drought damaged corn will be the cheapest feed source for the coming year since there's nothing else to do with it," says Paul Hasbargen, extension economist at the University of Minnesota.

"You can pay \$10 to \$12 per ton in the field for 30 percent dry matter material, and harvest it for \$5 per ton. It will still be cheaper than hay at \$60 a ton or corn grain at \$2.50 per bushel," Hasbargen says.

Under the ASCS subsidy, hay has been moving into southwestern Minnesota at a net cost to farmers of \$50 to \$75 per ton. "But we've heard reports of some poor quality hay. Check it for quality before buying," Hasbargen advises.

If you're going to be short of winter forage supplies, try to take care of the shortage early. "Prices will probably rise later on. Secondly, you may be able to purchase additional drought-damaged corn from your neighbors."

Since 1977 could be another short forage year, Hasbargen suggests that farmers may want to purchase excess corn silage for the 1977-78 year if they can get it for \$10 a ton or less.

"Livestock farmers with low soil moisture reserves should plan on extra forage supplies to carry their stock longer into next spring. This will help compensate for expected lateness of spring pastures and allow overgrazed pastures longer to recover."

More information is available in the 1976-77 Agricultural Outlook publication, soon to be available at county extension offices.

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AVERAGE WHEAT
PRICE TO BE DOWN

Minneapolis spring wheat prices will probably average about \$3.70 a bushel from harvest until spring, 1977, according to an analysis by University of Minnesota economists. Last year's price averaged \$4.17.

Although wheat use will continue high, exports are expected to be down about 10 percent.

But variations in future wheat exports could cause significant price fluctuations. "Exports are the most important factor in demand for wheat. They're also difficult to project," says Will Anthony, extension grain marketing specialist at the University of Minnesota.

"Good wheat supply and use data are difficult to get for many countries. Also, many countries make import decisions based on policies that aren't directly related to supply and use balances in a given year," he says.

"Reports indicate a good quality, high protein Spring wheat crop, so we are likely to see a reduction in protein premiums from last year's levels," he says.

Farmers storing wheat hoping to get a price rise may not cover storage costs, Anthony said. Wheat storage costs in a commercial elevator for nine months will come to 42 cents a bushel. Variable costs for farm bin storage for the same period are about 27 cents a bushel.

Long-term season price rises in the wheat market are not enough to cover these costs. But high price swings the past four years are giving farmers incentives to keep wheat locked in their bin. Anthony cautions that these price swings are generally unpredictable."

More information is available in the 1976-77 Agricultural Outlook publication.

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PROS AND CONS OF
NEW SILAGE ADDITIVE

A new silage additive called Pro-Sil requires a careful cost-benefit analysis compared to other products, according to a University of Minnesota dairy scientist.

The new product is a mixture of water, ammonia, molasses, minerals and vitamins. It's added to corn silage at ensiling time and will increase the protein content of corn silage from about eight percent to around 12 or 13 percent on a dry matter basis. "It serves the same purpose as urea and other non-protein nitrogen (NPN) supplements," says Mike Hutjens, University of Minnesota dairy specialist.

Cost of the product is from two to four times more than urea, although it also gives added feed value from the molasses, vitamins and minerals. The product comes in a stable form--a liquid solution that's ready to apply. Application equipment is available.

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4-H HORSE SHOW,
JUDGING CONTEST
SET SEPT. 20-21

About 450 Minnesota 4-H'ers will provide the action for the State 4-H Horse Show and Judging Contest at the State Fairgrounds beginning 8 a.m. Monday, Sept. 20.

The two-day event will be held concurrently with the Market Livestock Show Community Pride Conference and will be held in the Coliseum (Hippodrome).

The 4-H'ers will participate in halter showmanship, horsemanship, western and English pleasure classes, reining classes, barrel racing, egg and spoon contests, pole weaving, hunter equitation over fences and English equitation.

Preliminaries will be held Sept. 20 for egg and spoon, reining, hunter equitation over fences, barrel racing and pole weaving with the top 8-12 finalists competing in the evening show.

The show at 7 p.m. Sept. 20 open to the public starts with a grand entry parade of county 4-H Horse Junior Leaders riders. Egg and spoon, hunter equitation over fences, barrel racing and pole weaving finalists will vie for trophies.

The Dan Patch Trophy, awarded to the top 4-H Horse project member in the state, will be presented along with awards for the top judging teams from the afternoon horse judging contest, as well as other awards.

-more-

add one - 4-H horse

About 45 4-H teams will participate in a horse judging contest at 1 p.m. Sept. 20, judging five halter and one performance class and competing for the N.K. Carnes Trophy and several national judging contest trips.

Another new feature--several horse demonstrations--will be in the Coliseum concourse Sept. 20.

All 4-H members participating in the horse show are at least 11 years of age and are currently enrolled in the 4-H horse project. They represent over 6,000 horse project members from throughout the state.

The public is invited to attend all Horse and Market Livestock Show activities--especially the Monday night show (Sept. 20).

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4-H MARKET LIVESTOCK SHOW,
SEPTEMBER 20-22

Minnesota 4-H'ers are preparing their livestock and poultry for the 58th annual State 4-H Market Livestock Show Sept. 20-22 at the Minnesota State Fairgrounds.

Sponsoring the show are the University of Minnesota Agricultural Extension Service and the Minnesota Livestock Breeders Association. Besides livestock, poultry and rabbit judging, this year's show will include rate-of-gain contests for livestock exhibitors and a meats judging contest at 10 a.m. Sept. 20. (Each county may enter four members with the top three scores tabulated to determine the winning team.)

Entry day is Monday (Sept. 20), when show participants will view the State 4-H Horse Show in the evening, held in conjunction with the market livestock show.

Swine judging starts at 8:30 a.m. and sheep judging at 8:45 a.m. Sept. 21 in the Swine Barn. Grand champion lamb and barrow and sheep and swine showmanship selections will begin about 1:15 p.m. Sept. 21, when winners of the rate-of-gain contest will be announced for these animals.

Live poultry and rabbit judging for the market show will start at 3 p.m. Sept. 20 in the Beef Barn. Poultry and rabbit exhibitors will dress their birds at the University of Minnesota Meats Laboratory on the St. Paul Campus.

add one - 4-H market livestock show, Sept. 20-22

A western barbecue and street dance sponsored by the St. Paul area Chamber of Commerce, Minnesota Pork Producers, Minnesota Sheep Producers, Minnesota Rabbit Producers, Minnesota Turkey Growers' Association will highlight the Sept. 21 evening program.

Beef cattle judging starts at 8 a.m. Sept. 22 in the Coliseum. The grand champion live steer and the champion beef showman will be named about 2:30 p.m. Sept. 22, when winners of the beef rate-of-gain contest will be announced.

4-H'ers exhibiting in the State 4-H Market Livestock Show will take part in educational activities, including a livestock evaluation clinic conducted by University extension specialists and tour of the research labs starting at 3 p.m. Sept. 20 in the Meats Science Laboratory. The 4-H'ers will also tour the meat departments of major Twin Cities' supermarkets Sept. 21-22.

The animals shown at the show will be sold immediately following the event to Minnesota packing companies. Final pricing and value determinations will be based on carcass grade (quality and quantity) and carcass weight. Premiums will be given to exhibitors by combining the animal's live score with the carcass score to give an overall score. Exhibitors who qualify in the rate-of-gain contest will be awarded "bonus" premiums. Premiums will be provided by the Minnesota business community and the Minnesota Livestock Breeders Association.

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LOCAL 4-H'ers
SET FOR STATE
4-H HORSE SHOW

Among the 450 Minnesota 4-H club members participating in the State
4-H Horse Show and Judging Contest Sept. 20-21 are _____ from
(number)
_____ County.

Participating in riding competition are:

Local 4-H'ers in the judging contest include:

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ATT: Extension Home Economists

UNDERCOOKED FISH
CAN CARRY TAPEWORMS

Raw, undercooked or inadequately pickled freshwater fish-usually walleye or northern pike in the Great Lakes region-can infect the consumer with the broad-fish tapeworm, according to Dr. Michael Pullen, extension veterinarian at the University of Minnesota. The Public Health Service's Center for Disease Control recently reported a human case of the tapeworm contracted from eating inadequately cooked northern pike while the person was on a fishing expedition in Canada.

The tapeworm sufferer's only symptom was a mild, intermittent lower stomach pain which appeared two months after consuming the fish. The patient eventually passed tapeworm segments measuring two feet in length, Dr. Pullen says.

He says symptoms are often minor or absent and may appear five or six weeks after eating the infected fish. Nausea, vomiting, weakness, dizziness, diarrhea or constipation may occur.

The parasite is spread, Dr. Pullen says, when the infective eggs from the feces of humans, bears, dogs and other fish-eating mammals contaminate freshwater sources. The copepod, a freshwater crustacean, serves as an intermediate host so that when fish feed naturally on the copepod, they become infected.

Human infection can be prevented by cooking freshwater fish thoroughly before eating them. Freezing fish at 14 degrees F. for 24 hours also will destroy the parasite.

Dr. Pullen says freezing is suggested prior to pickling or smoking because inadequate treatment during either of these processes could leave the fish as a potential infection source. He also urges proper disposal of human sewage to prevent the water pollution that can lead to such tapeworms.

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4-H NEWS

Immediate release

4-H BIKE
SAFETY

Try some bicycle games and test your skills at controlling your bicycle in exciting events, says _____ County Extension Director _____.

Check your reaction time on wet and slippery pavement and be alert to hidden dangers. Discover, observe and respect "rules of the road," which were established to provide maximum safety for bike riders.

Test your own abilities by riding a perfect figure "8" and balance your bike in a narrow lane. Complete an obstacle course and recognize traffic signs and signals by their shape and not by what they say.

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ATT: Extension Home Economists

Immediate release

U. of M. RECIPE FOR
TOMATO-VEGETABLE MIX SAFE
FOR WATER BATH CANNING

With homegrown tomatoes at their peak, many home canners may be tempted to prepare mixtures of the tomatoes, celery, green pepper and onions.

But beware, say Isabel Wolf, extension foods and nutrition specialist and Edmund Zottola, extension food microbiologist, at the University of Minnesota. The addition of other vegetables could reduce the mixture's acidity to the point where water bath processing, which is adequate for pure tomatoes, won't be safe.

Researchers in the Department of Food Science and Nutrition at the University of Minnesota have developed a formula for such a tomato-vegetable mixture which, if followed carefully, may be canned safely using water bath methods and times. Mrs. Wolf cautions not to add any more pepper, onion or celery than called for in the recipe, however.

Minnesota Tomato Mixture

12 cups tomatoes, peeled and quartered
1 cup chopped celery
 $\frac{1}{2}$ cup chopped onion
 $\frac{1}{2}$ cup chopped green pepper
3 tsp salt

Simmer the vegetables for 10 minutes. Pack into clean, hot canning jars and process. Makes seven pints. For seven quarts, double the recipe.

This mixture can be either water bath processed or processed in the pressure canner using a newly-devised method tested by scientists at the Department of Food Science and Nutrition. In water bath processing, filled jars are placed in the canner and water is added until it is one inch over the top of the jars. Timing begins when the water boils. Boil 50 minutes for quarts; 40 minutes for pints.

-more-

add 1--U. of M. Recipe

The pressure canning method results in the tomatoes reaching the same temperature. The advantage, according to Mrs. Wolf, is that using a pressure canner takes less time, uses less energy and limits the amount of steam in the kitchen.

In pressure canning, the tomatoes are packed in jars as they are for water bath processing. They are placed in a pressure canner containing two or three inches of boiling water. The lid is locked, the burner turned on high and when a steady column of steam is escaping from the vent, the pressure regulator or weighted gauge is put in place. When the dial gauge or weighted gauge indicates the pressure has reached 15 pounds, the heat is turned off and the pressure is allowed to return to 0 pounds.

Mrs. Wolf says there has been some confusion about whether to remove the canner from the stove in earlier published reports on this method. If you have an electric range, remove the canner from the burner. Only with a gas range can you leave the canner where it is after the heat is turned off, Mrs. Wolf says.

More detailed instructions are available in Food Science and Nutrition fact sheet 33, "Home Canning Tomatoes." Single copies are available free from your local county extension office or by writing to the Bulletin Room, 3 Coffey Hall, University of Minnesota, St. Paul 55108.

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IN BRIEF. . . .

Starting Fires. Do not start grass fires under present dry conditions, says Robert Aherin, University of Minnesota extension safety program leader. If you must start a fire, make sure the fire cannot get away and never leave a grass fire until it is out.

* * * *

Firebreaks. If your farm or home is located in an area where the potential for a grass fire is high be sure you have ample firebreaks. Firebreaks around farm buildings are very helpful in preventing the spread of fire during this dry season. They can be made quickly with a tractor and plow and help protect both buildings and forests. Also, keep weeds and high grass cut around buildings and all farm roads where road maintenance does not perform this service.

* * * *

Cleanup. Waste material accumulation contributes to many farm fires, so good housekeeping is needed for fire prevention. Metal drums with lids make useful waste cans to help keep the premises free of waste matter and rubbish.

Oil soaked rags should be placed in waste cans and disposed of promptly after use. Turpentine rags, if left in a heap, can ignite from spontaneous combustion within a few hours. Paper, excelsior, sawdust and other packing materials should be disposed of immediately. Cardboard packing paper will ignite readily from any nearby flame and so it should be burned in an incinerator.

Spilled oil and grease not only add fuel to a fire, but also make a floor hazardous to walk on. Spilled oil should be wiped up immediately.

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add 1--in brief

Weeds. Weeds present fire hazards at this time on the farm. After the first frost, dry grass should be removed. Surplus hay and straw are always present on a farm, but keep them from becoming fire hazards. Good housekeeping on the farm is an art that could pay high dividends by reducing the chances of a fire on your farm.

* * * *

Extinguisher. Many serious farm fires occur because families do not know proper fire fighting methods.

Use the all-purpose ABC dry chemical fire extinguisher. This kind of extinguisher has proven its worth in gasoline fires, partly because the user can stand from 8 to 15 feet away from the flames and still do an effective job. Stand on the windward side and aim at the base of the fire. When the fire is seemingly out, conserve pressure in the extinguisher and stand by for a possible flash-back. Recharge or refill the extinguisher as soon as it has served its purpose, so it will again be ready for use. In a propane gas fire, first shut off the source of the gas and then put out the fire. If the building is burning, the gas cylinders should be removed if possible. If the system uses the large propane tank, this tank should be kept cool with water.

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BE FIRE CONSCIOUS
WITH FARM MACHINERY

Hot sparks from farm machinery have been the cause of several Minnesota fires and so farmers should be very cautious when using equipment during the high fire danger, says Robert Aherin, University of Minnesota extension safety program leader.

When using farm machinery:

- * Repair any cracks or leaks in exhaust systems.
- * Continually clean trash, dust and chaff from around the engine and exhaust systems.
- * Watch for fuel leaks
- * Make sure the carburetor is functioning properly.
- * Look for electrical shorts.
- * Avoid smoking around equipment and in fields as much as possible.

Under present conditions a small fire could quickly become a raging forest fire, if it is not promptly extinguished. Equip your tractors, trucks, and self-propelled machinery with all-purpose dry chemical 2½ or five pound fire extinguishers. The protection fire extinguishers offer is very inexpensive in comparison to the investment in machinery and crops most farmers have. Also, carry a shovel on your equipment to throw dirt on any small fires that you might come across.

-daz-

CA, IA

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 13, 1976

Immediate release

HOW TO BEST
MARKET EXCESS
CORN SILAGE

Tracy, Minn.--Excess corn silage is available in the drought-stricken areas of the state this year because of poor corn grain development.

Speaking at the Tracy Cattle Clinic Sept. 16, University of Minnesota Farm Management Specialist Paul R. Hasbargen suggested that cash crop farmers explore several alternative uses for corn silage.

Sell it to a neighbor with livestock who is willing to pay \$12 to \$15 per ton of 35 percent dry matter silage or \$1.75 to \$2 per hundred of dry matter for the crop before harvest. This option may best suit the farmer who has neither the facilities nor the experience to handle cattle. But in areas where there are relatively few livestock farmers interested in buying the silage this alternative may not be open.

Sell it to an alfalfa dehydrating plant. This alternative is open to farmers near plants at Bird Island, Benson, Luverne, Grafton and possibly others. These alfalfa dehydrating plants are now processing corn silage for overseas shipment. Currently the Bird Island plant is paying \$30 per processed ton of 91 percent dry matter material. This is equivalent to \$1.65 per hundred of dry matter in the field. The plant does the harvesting and hauling within a 10 mile radius. At current yields in that area this is a field value of about \$60 per acre of corn. Hasbargen ranks this as a higher return use of the crop than harvest for grain if the yield is expected to be 25 bushels per acre or less.

Buy feeder cattle. Cattle fed a ration of just corn silage and a protein supplement should gain from 1.5 to 2.0 pounds per day, depending on the kind of cattle and silage quality. Hasbargen rates the profit prospects on this alternative as very good for the person who has facilities to handle feeders.

-more-

1--how to best market excess corn silage

Boarding beef animals is another option since there are feed-short farmers in South Dakota and Minnesota who are looking for a place to board their breeding animals. This can be set up as a flat monthly charge per cow, on a yardage of 10¢ to 15¢ per head per day plus feed at an agreed upon price, or some type of product share arrangements. Hasbargen expects that a flat charge of \$15 to \$18 per cow will be the most common arrangement. This is a low risk way of marketing excess forages.

Harvest as corn grain. If the potential corn grain yield more than pays for harvesting costs, some crop farmers will opt for this alternative. With corn grain rations of only one to four bushels of corn per ton of silage, this harvest alternative leaves most of the potential feed value of the crop in the field. However, this will be a common occurrence in areas where livestock numbers are low.

The last alternative use of drought stressed corn is plowing it down. Its fertility value as a green manure crop is only about \$9 per ton of dry matter or 45¢ per cwt. of dry matter. This alternative gives the lowest return except for those farmers who would lose substantial amounts of federal crop insurance if they harvest the crop as silage, Hasbargen said.

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Immediate Release

TIPS TO PREVENT
BLOSSOM END ROT
IN TOMATOES

Gardeners can take cues from the rash of blossom end rot problems in this year's tomato crop to help avoid the problem next year.

Tomatoes with blossom end rot have water soaked, mushy areas on the underside of fruit that may turn dark and hard. Extreme fluctuations in water supply were the main problem this year. Root pruning and heavy nitrogen applications may also cause blossom end rot.

University of Minnesota specialists suggest mulching tomato plants with grass clippings, clean straw, corn cobs or sawdust. The mulch will conserve moisture and provide a more uniform supply to the plant. Soak the mulched area thoroughly, then let it go for several days before rewatering.

Gardeners who watered their tomatoes every day probably encouraged the problem. The extremely hot, dry weather dried the soil surface off during the day. Roots developed near the soil surface since that's where the water was, and the plants were stressed daily due to fluctuations in water availability.

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Immediate Release

WATCH FOR BLACKBIRDS
WITH LEG STREAMERS

People citing blackbirds with white or green leg streamers are asked to report the date and location they saw the birds to University of Minnesota extension entomologists.

The researchers are involved in two projects to help determine field crop damage by blackbirds and location of the birds' wintering habitat.

One project involving red-winged blackbirds with green leg streamers was initiated by the Alberta Department of Agriculture as part of a program to alleviate blackbird damage to field corn in southern Alberta.

University of Minnesota wildlife specialists have a project in Aitkin County to help determine blackbird damage to wild rice fields. These birds are marked with white plastic streamers with red numbers. The project may also have implications for sunflower seed losses due to blackbirds.

Anyone citing marked blackbirds is asked to report the date and location to Dave Noetzel, Extension Entomologist, University of Minnesota, St. Paul, 55108.

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Immediate release

FOR SEPTEMBER:
COMPOST HEAP

Take the dead leaves, grass clippings and the healthy plant residues from your vegetable garden to make a compost heap, say University of Minnesota extension soil scientists.

In composting, waste plant materials and sometimes animal manures are converted to soil fertilizer. Use a mixture of coarse and compacted material. Shredding dry plant materials with a power lawn mower can help increase the rate of composting and maintain proper air and moisture conditions.

Avoid making compost heaps from foods attractive to rodents such as meat scraps or cereals. Garbage is acceptable, but should be limited to peelings, pods and vegetable tops. Grease or fat degrade slowly and tend to slow the rapid decay of other organic materials, so they should not be used. A solid floor or a symmetrical, straight-sided and deep compost heap contained by tile blocks or wire fencing will minimize rodent problems.

Make your compost pile five-feet square at the base for the home garden. Add compost material to a new heap in layers with coarse materials at the bottom. Shredded or fine wastes should be added in six-inch layers. Sprinkle completed compost or black top-soil with lime or rock phosphate and proper amounts of nitrogen to the top of each layer. Some phosphatic fertilizer may be desirable; about one pound of 0-45-0 per 200 pounds of dry organic residues. Each layer should be sprinkled with water so that it becomes moist but not soggy. A well-managed compost heap with shredded materials should be ready for use in six to eight weeks under warm spring or fall conditions.

-daz-

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0715
September 13, 1976

COLLEGE OF AG. FALL
ROUNDUP OCT. 9

The University of Minnesota College of Agriculture will hold its annual Fall Round-Up Saturday, Oct. 9 at McGuire's Inn in Arden Hills, Minn.

"Financing the Growth of Minnesota Agriculture" is the theme of the program. Speakers and topics will include:

--C. Edward Harshbarger, agricultural economist with the Federal Reserve Bank of Kansas City; "Future Growth of the Agricultural Industry--Implications for Financing."

--Burgee Amdahl, president of the Bank for Cooperatives, St. Paul; "Financing the Farm Supply and Marketing Sectors."

--Leslie Peterson, president of the Farmers State Bank, Trimont, and chairman of the Agricultural Division of the American Bankers Association; "Financing Production Agriculture--Where Will the Funds Come From?"

--Richard Hawkins, extension farm management specialist, University of Minnesota; "Financial Management of the Farm Firm."

Following the presentations, speakers will participate in a discussion moderated by James Tammen, new dean of the University's College of Agriculture.

The program begins with registration at 8:30 a.m. and concludes at 11:30. For more information contact the University of Minnesota College of Agriculture, St. Paul 55108. Phone (612) 373-0921.

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Immediate Release

ARRANGE FOR NEXT
YEAR'S FERTILIZER

Contact your fertilizer dealer early to arrange supplies for next year's crop, a University of Minnesota soil scientist advises farmers.

"Reach an agreement on the amount you need, pricing and delivery time. If you make your plans early you shouldn't have supply problems," says Harvey Meredith, the University of Minnesota scientist.

Despite this year's drought, the best management approach for next year is to assume it will be a good crop year and apply recommended fertilizer rates, says Meredith.

"We could have a very good production year in 1977 if we get moisture-- and we could. There's no guarantee it will be dry next year. Farmers must be eternal optimists. Assume that you'll have moisture and use your management skills to produce the best crop possible."

The soil test is very good for predicting phosphorus and potassium needs, says Meredith. "The soil test is a very good starting point and I encourage it." Information in soil testing is available from county extension offices.

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CA. IA. FC

Department of Information
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University of Minnesota
St. Paul, Minnesota 55108
Sept. 15, 1976

Contact: Jack Sperbeck (612) 373-0715

Borrowed From History:

'NEW' FARMING PRACTICE COULD PRODUCE MORE FOOD

Squanto and his cohorts taught the Pilgrims a farming lesson that could help boost world food production today.

Modern day scientists call the practice "intercropping," or growing two or more crops on the same parcel of land at the same time.

"This is an example of a 'new' farming practice that was once popular. But 'progress' left it behind," says Kent Crookston, a University of Minnesota agronomist.

American Indians taught early American settlers to plant corn in hills 3 or 4 feet apart, beans with the corn, and pumpkins and squashes between the hills.

Intercropping, along with other ancient cropping practices, may be making a comeback, says Crookston. "Data from around the world points to intercropping as a way to increase productivity per acre," he says.

The colonial planting pattern disappeared long ago as farmers across the United States planted large, uniform fields to save labor and boost profits. "But today we're seeing some interest in producing a top amount of food per acre, with dollars and labor requirements taking second place."

The crops can be in alternating rows, or even mixed together within rows. There are many successful intercropping combinations. Crookston lists these world wide examples:

-- Corn and drybean mixtures are common in Latin America where the bean plants use the growing corn stalks as bean poles.

-- Dry-land rice and corn are grown together in the Phillipines.

add one - 'new' farming practice

-- Sorghum is combined with sweet potatoes or cowpeas in Africa.

-- Farmers in India grow sorghum with lentils or chickpeas, and corn is grown with soybeans in China.

"In all cases more food is produced from these combinations than from pure stands," he says. And only 60 to 80 percent as much land is needed to equal production of single cropping systems.

Most successful two-crop systems have either corn or sorghum in them. "Corn and sorghum have certain characteristics that aren't found in most other food crops," the Minnesota scientist says.

"They have a higher temperature requirement for optimum growth, respond better to high light intensities and remove carbon dioxide from the air more efficiently. Environmental demands of these crops are different from other crops such as beans, potatoes or small grains.

"So we find that when corn shares a plot of ground with beans, first one crop then the other makes maximum use of the environment. You might say that intercropping provides for biological insurance."

Although dual cropping systems are labor intensive and hence more expensive, Crookston says they may be reappearing on American farms. Reasons include rising land costs, decreasing energy supplies and new market prices.

Soybean yields have increased an average of 14 percent when two-row strips of corn were planted for windbreaks. Not only were bean yields up, but the corn yields were extra.

South Dakota researchers have found that three crops interseeded--oats, barley and wheat--yielded 25 percent more for silage than oats alone. The silage also had greater feeding and milk production values.

add two - 'new' farming practice

Oklahoma scientists intercropped sorghum with cotton to get better cotton insect control. (Grain sorghum provides a good habitat for buildup of cotton boll worm predators.) Cotton yields from untreated sorghum-cotton intercropping plots were 24 percent higher than from cotton treated with an insecticide. Sorghum yields were an extra bonus.

Canadian scientists have planted sugar beets between corn rows. At the end of the growing season, the entire field was harvested for silage, including the beet tops. Then nearly 40 percent of the normal beet yield was recovered.

Not every combination of crops proves favorable. But intercropping studies may help farmers meet pressures of growing more food on less higher priced land under narrowing economic margins.

At Minnesota, Crookston is working to develop machine-manageable field combinations for corn and soybeans. Questions that need answering include varieties and hybrids to plant, best time to plant, population and row spacing, effectiveness of chemical weed control, and production and input costs compared to growing separate pure stands.

-jms-

II-P, 1A, FC, CAS, SSN

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Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
September 20, 1976

Immediate release

TREAT SUSCEPTIBLE
OATS FOR LOOSE SMUT

If you plant oat varieties susceptible to loose smut, seed treatment is the only safeguard against yield loss.

Loose smut in oats was more severe in 1976 than it's been for a long time, according to Herbert G. Johnson, extension plant pathologist at the University of Minnesota. Froker had the highest percent of smutted heads, although other varieties also showed increases over past years.

The percentage of smutted heads will roughly equal yield loss. With 40 percent smutted heads you would be facing a yield loss of about 40 percent. This is a much higher yield loss percentage than for various leaf spot and seedling blight diseases.

Loose smut of oats is different from loose smut of barley and wheat in that it overwinters as spores on the kernels and under the hulls.

Vitavax fungicide is quite effective for control, Johnson says. Apply it at full dosage to get complete control. Vitavax 75 percent Wettable Powder and Vitavax-200 Wettable Powder (37.5 percent carboxin and 37.5 percent thiram) are the only formulations of Vitavax that are registered for oat seed treatment at present.

"There's no good way to tell whether oat seed is infested with smut," Johnson says. Seed treatment is the only safeguard if you plant susceptible varieties.

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Immediate release

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NEW ADDITIONS
IN DHI RECORDS

Some new features have been added to Dairy Herd Improvement (DHI) records, announces Bill Mudge, extension dairy specialist at the University of Minnesota.

Added to feeding information are the following:

--Grain amounts in the dairyman's own grain mix or high moisture grain as fed instead of a standard mix.

--Amount of protein to top feed.

--A protein index, which compares protein fed to protein needed.

Regular calving is important to herd profits, and the minimum calving interval, days open and days between services have been added to the DHI records.

Added to individual cow information are the cow's last sample day milk weight, her sire, production index (a comparison on the basis of the same age, 305 day lactation and same calving season for herdmates), and times bred.

"DHI records can be a complete management tool. They're much more than just a butterfat test," Mudge says. See your DHI supervisor or county extension agent for more information.

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September 20, 1976

Immediate release

Handwritten initials: JAGP

FIRE PREVENTION
WEEK SET FOR
OCTOBER 3-9

Farm families have special fire problems, say officials of the FIRE Center at the University of Minnesota as National Fire Prevention Week, October 3-9, approaches.

Since fire departments usually are further away in rural areas, farm families should be prepared to hold the fire back until the fire department arrives. Keep a garden hose under the sink, connected to the water pipe. If you have a spigot in the barn or near the stock tank, keep the hose ready there too.

With the costs of tractors and other implements higher, have a fire extinguisher on each powered implement, one in the shop for electrical fires and one in the kitchen for grease fires. Memorize your fire number, if you have one, so you will not have to send someone to the road to check, which wastes valuable time.

Here are other tips:

- * Keep matches and other flammables out of the "strike zone" -- the reach of children.
- * Be careful and keep your "feet on the floor" when you smoke. Never smoke in bed, in a recliner or while lying on a couch where you could doze off.
- * Make sure your heating system is clean and safe.
- * Make sure your wiring isn't overloaded.

-more-

add 1--fire prevention

- * Get one or more smoke detectors. A house fire can reach fatal levels in less than four minutes and they will give you the time you need to escape.
- * Make a "bedtime patrol" of your home a regular habit.
- * Watch those catalytic converters on your cars and pick-ups -- they can start a very expensive grass fire.
- * Protect your buildings and grain bins from lightning -- or else nature's artillery may give you a rude awakening some night.

-daz-

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Immediate Release

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U. OF M. STUDY SHOWS
LOW-ACID TOMATO
IS A MYTH

Seed catalogue claims to the contrary, there is no such thing as a low-acid tomato, according to University of Minnesota researchers who have completed studies on 109 different varieties.

Even orange and yellow varieties that are advertised as low-acid and have a sweet taste are actually sufficiently acid to be canned safely in a water bath canner, according to David W. Davis and Edmund A. Zottola, leaders of the research effort done cooperatively by the University's departments of Food Science and Nutrition, and Horticulture and Landscape Architecture. The tomatoes were grown at three locations, the St. Paul Campus, Anoka County Activity Center and the Horticultural Research Center at the Landscape Arboretum at Chaska.

These research findings are significant to home canners because they refute reports about risks of botulism from low-acid tomatoes published in several magazines recently. These articles urged canning of tomatoes in the pressure canner, a procedure that this study proves is unnecessary, according to Isabel Wolf, extension foods and nutrition specialist.

The acidity of foods is ranked on a pH scale. Foods that have a pH below 4.6 are acid enough to prevent the growth of microorganisms that can cause deadly botulism poisoning. Foods that fall above 4.6 on the scale, vegetables and meat for example, must be canned under pressure to reach the high temperature needed to destroy the dangerous organism, the scientists say.

-more-

add 1--Low-acid tomatoes

Of the 109 varieties tested, not one exceeded a 4.6 pH ranking when tested while firm, ripe and fully colored. Tests on soft, mushy and overripe tomatoes, however, indicated that these may have pH values above 4.6. Because of this, scientists connected with the research project caution against home-canning overripe tomatoes.

Among the common varieties tested and found sufficiently acid are:

(Note to editors: from the attached list, select the varieties grown most frequently in your areas.)

-dmn-

CA

add 2--low-acid tomatoes

Varieties studied in the tomato canning research project:

Ace	Rushmore Hybrid	Moira
American Hybrid	Rutgers	Ottawa 78
Beefmaster Hybrid	San Marzano	Veemore
Beefsteak	Sheyenne	Nova
Better Boy Hybrid	Small Fry Hybrid	Veeset
Bigset Hybrid	Spring Giant	Veeroma
Bonanza	Spring Set	Stokesdale
Bonny Best	Gardener's Delight Sugar Lump	Vendor
Bonus VFN Hybrid	Sunray	Scotia
Big Boy Hybrid	Super Sioux	Campbell 19
Big Early Hybrid	Terrific Hybrid	Bush Beefsteak
Burpee Hybrid	Tiny Tim	Early Bird
Campbell 1327	Trip-L-Crop Climbing	Vetra Girl VFN
Cold Set	Tropic	Longred
Earliana	Tumblin' Tom Hybrid	Quebec 13
Fantastic	Yellow Cherry	September Dawn
Glamour	Yellow Pear	Traveler
Golden Boy Hybrid	Yellow Plum	Red Pals
Golden Delight	Wonder Boy VF Hybrid	Supersonic
Heinz 1350	Walter	Setmore
Heinz 1439	Stakeless	Presto
Homestead 24	Primset	Moreton Hybrid
Hush or Ground Cherry	Gardener	Jet Star
Jubilee	Cardinal Hybrid	Bonny Best
Manaluire	Faribo Springtime	Campbell 28
Marglobe	Crimson Cushion	Rampano
Marion	Stokes Early Hybrid	Campbell 17
Monte Carlo VFN Hybrid	Jetfire VF Hybrid	Valiant
New Yorker	Rocket	Petomech
Oxheart	Swift	Sunray
Patio	Starshot	Chef
Ponderosa	Manitoba	Rutgers Select
Red Cherry Large Cocktail	Orange Queen	VF 134-1-2
Red Pear	Early Summer Sunrise	White Beauty
Red Plum	Rideau	Minn. 100
Roma	Veebrite	Fireball
Royal Chico		

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MSC
3A27
ATT: Extension Home Economists

Immediate Release

KNITS MAKE THEIR MARK
IN FURNITURE INDUSTRY

Knit fabrics now are doing to the furniture market what they did to women's and men's apparel a few years ago says Linda Reece, extension interior design-furnishings specialist at the University of Minnesota. Furniture manufacturers predict that knits will comprise about one-fourth of all upholstery yardage by 1980.

Knits have some real "pluses" for the consumer, she says. They stretch and recover, unlike woven fabrics. They make deep cushions possible without the accompanying crumpled look and they cling, wrap and mold nicely, she says.

Warp-type knits have both durability and abrasion resistance, and both warp-type and raschel knits bring an added fashion touch to textures, Ms. Reece says. Manufacturers are entering a period of intense competition and experimentation with knits, and consumers can expect to see some interesting applications.

One knit fabric resembles suede. Others are brushed nylons, plushes, pliable fake furs and supple knit-lined imitation leathers. Some raschel knits made with varying thick and thin yarns resemble nubby handwoven fabrics, according to Ms. Reece.

The Knitted Textile Association predicts that tricot knits will be used widely for window treatments. Knit rugs are moving out of bathrooms to more conventional floor covering areas, and textured knits are proving themselves in the soundproofing of interior walls. Knit bedspreads and sheets already are on the market in limited quantities, Ms. Reece says.

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Immediate release

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IN BRIEF. . . .

Beef Housing. New material on manure handling, hay and silage and feeding systems is in the revised edition of "Beef Housing and Equipment Handbook," (MWPS-6). The third edition of this Midwest Plan Service Publication emphasizes the planning of modern beef production facilities from cow-calf to finishing feeders. Complete plans are also included for many of the equipment items needed for feeding, handling and fencing. The MWPS-6 handbook is available from the Bulletin Room, University of Minnesota, St. Paul 55108 or county extension offices for \$2.60 a copy including sales tax.

* * * *

Dairy Handbook. The new 104 page "Dairy Housing and Equipment Handbook" (MWPS-7) is available for \$3.12 a copy, including sales tax, from the Bulletin Room, University of Minnesota, St. Paul 55108 and county extension offices. This Midwest Plan Service Publication has sections on farmstead planning, milking herd housing, milking centers, calf and heifer housing, ventilation and manure management. Included are 48 pages of do-it-yourself plans for feed bunks, fencing and handling equipment.

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September 20, 1976

MSC
9A27P
4-H News

Immediate Release

OCTOBER 3-9:
'76 NATIONAL
4-H WEEK

About 74,000 young people and 16,000 volunteer adult leaders will observe National 4-H Week in Minnesota with activities centering on the 1976 theme, "4-H--Room to Grow."

More than five-and-a-half million 4-H'ers will be involved in the national observance.

(County directors: Include details on local observances and activities for 4-H Week).

National 4-H Week is set annually by the Cooperative Extension Service to draw attention to the values of 4-H as an informal, youth education program that stresses development of practical skills, leadership and citizenship.

The 1976 observance challenges 9 to 19-year-olds to examine their personal growth and development in 4-H and to broaden their interests and concern for others.

"4-H'ers are encouraged to set goals and respond enthusiastically to new opportunities," said Leonard L. Harkness, program director for 4-H Youth Development in Minnesota. "The 4-H program is highly flexible and is continually expanding and adapting to the changing needs and interests of young people," he added.

4-H continues to serve a large rural audience, but in recent years 4-H "learn by doing" experiences for urban youth have expanded significantly. Members enrolled in established Minnesota 4-H community clubs total 56,823 and those enrolled in shorter term 4-H special interest groups total 17,370.

-daz-

CA, youth

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Immediate Release

4-H NEWS

RECOGNITION AVAILABLE
FOR 4-H FORESTRY WORK

Some of the forestry and conservation work being done by Minnesota 4-H'ers may be eligible for the National 4-H Forestry Award and an expense paid trip to the National 4-H Congress in Chicago.

Last December six 4-H'ers from across the country won trips to the Congress and \$800 scholarships each from International Paper Co. Award winners are chosen on the basis of their record books by the Agricultural Extension Service.

By the year 2000, Americans will use about twice as much paper and wood products as they use today. The U.S. Forestry Service predicts that America's commercial timberlands will not be able to keep up with the demand. Some hope lies to a great extent in concerned young people who can show what can be accomplished. The National 4-H Forestry Awards are made to encourage people to start thinking about American forests' future and do something about it.

For more information about the National 4-H Forestry Award and the 4-H Forestry Project, Contact _____ at the _____ County Extension Office.

-daz-

CA, Youth

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 27, 1976

ATT: Extension Home Economists
Immediate release

MSC
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NO LIQUID HOME CANNING
CALLED BOTULISM RISK

A current home canning fad in which no water is added to jars of low-acid vegetables poses a real botulism food poisoning risk, according to Isabel Wolf, extension foods and nutrition specialist at the University of Minnesota. Low acid vegetables are all those except tomatoes.

The dangerous technique involves packing the raw vegetables into jars, omitting the water that is normally added at that point and processing the vegetables in the pressure canner the recommended length of time. Home canners may be attracted to this method because they think it will produce a product similar to low liquid commercially canned vegetables, Mrs. Wolf says.

Tests conducted with carrots canned by this home canning method at the University of Minnesota Department of Food Science and Nutrition indicate that the vegetables received only one-third of the minimum heat treatment considered necessary to destroy spores of the botulism-producing bacteria. The safe, commercial methods used for low-liquid canning cannot be duplicated in home kitchens, according to Mrs. Wolf.

Water is essential in home pressure canning because it makes possible faster transfer of heat within the canning jars. Without hot water bringing the vegetables to the target temperature, heat treatment is slow and inadequate for spore destruction.

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St. Paul, MN 55108
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September 27, 1976

Attention: Extension Home Economists
Immediate Release

KNOW WHAT YOU'RE GETTING
IN CARPET CLEANING

Are your rugs and carpeting grimey shadows of their former selves? If so, you face the decision of whether to clean them yourself or hire professionals to tackle the job.

Either way, you should know what you're getting, says Linda Reece, extension interior design-furnishings specialist at the University of Minnesota. If you decide to opt for professional cleaning, be wary of high pressure sales techniques, she says. Ask neighbors, friends or relatives for names of firms they have used and been pleased with. Before signing a contract, check out the company's reputation with the Better Business Bureau, she suggests.

Find out what their quoted price includes. Will the carpet cleaners move furniture? Will they give special treatment to spots and stains? Will they make repairs? If the job is on rugs rather than wall-to-wall carpeting, will the company move furniture, roll the rug and put it back in place when returned from the cleaning plant?

"If you have selected a reliable carpet and rug service with up-to-date training and equipment, you need not worry about the method they use in cleaning," Ms. Reece says. "The key is in finding a reputable firm."

You need to consider the best method for do-it-yourself carpet cleaning, however. Ms. Reece says aerosol foam sprays and solvent-saturated absorbent powders improve the appearance of lightly-soiled carpet, but shampooing and "steam" cleaning work best on badly soiled carpets.

add 1 -- know what you're getting

In shampooing, a mechanical scrubber with rotating brushes works detergent into the surface. After it dries, vacuuming removes the powdered detergent and dirt.

In "steam" cleaning, a machine injects high pressure streams of hot water--not steam--and detergent deep into the carpet. Almost immediately a powerful vacuum in the same machine sucks out the cleaning solution and loose soil.

Ms. Reece says that do-it-yourself cleaners sometimes make costly mistakes by applying too much cleaning solution or over-wetting the carpet. Mildew, streaking and shrinking could result. Carpeting should be dried as quickly as possible by opening windows and using a dehumidifier or fans.

Another frequent mistake is going over one area too many times. Too much mechanical action can damage rugs and carpets, she says.

With either do-it-yourself method, you will need a good cleaning machine and a vacuum cleaner. Lightweight cleaners often can be rented from hardware and grocery stores, but they may not be as effective as the heavy-duty ones available from professional cleaners and rental service stores.

Keep your own physical stamina in mind, too, Ms. Reece says. The heavier-duty and more effective machines may require more strength to operate than many homemakers have.

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dmn

CA

Department of Information
and Agricultural Journalism
Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 27, 1976

Immediate release

IN BRIEF. . . .

Sprayer Storage. Prepare your pesticide sprayer for storage by removing and clearing nozzle tips, screens and strainers. Replace any that are damaged and store them in a light oil. Other tips:

--Flush the sprayer with one-half cup household ammonia to two gallons of water. Be sure the solution contacts nozzles and hoses. Let it stand overnight, then empty and rinse with water.

--Refill the tank with water and light oil (one percent by volume). Empty the sprayer through the nozzle to leave a coat of oil on the internal surface.

--Remove hoses and store them coiled or straightened out on a shelf.

--Before you use the sprayer next spring, fill the tank with clean water and discharge it.

* * * *

USDA Estimates. There is "no credible evidence of manipulation or early leakage of crop and livestock data by state or federal officials," says University of Minnesota Agricultural Economist James P. Houck. A 13-year study of monthly corn and soybean production forecasts shows that over-estimates of final figures are just as likely as under-estimates. Immediately after release of crop forecast data, prices on major commodity markets are just as likely to go up as go down. "No strong pattern exists. Anyone who alleges that prices behave in a particular way just after release of the figures simply hasn't looked at the data," says Houck. More information is available in the 1977 Agricultural Outlook publication, available from your county extension office.

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Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
September 27, 1976

Immediate release

WATCH FOR PRUSSIC
ACID POISONING

Frost damaged sudangrass, sorghum-sudangrass and forage sorghums have high prussic acid levels potentially poisonous to livestock, says Neal P. Martin, extension agronomist at the University of Minnesota.

Sudangrass or sorghum-sudangrass is usually safe for grazing or green chop before frost if plant height is at least 18 inches. Plants drought stressed or less than 18 inches tall may not be safe. Forage sorghums may not be safe for grazing or green chop until they're headed.

Frost increases the prussic acid potential in all sorghums. Testing for prussic acid content is not practical, says Martin. He offers these management tips:

--All sorghum with adequate growth that was safe for grazing before frost will be safe for grazing three to five days after frost. This means that sudangrass or sorghum-sudangrass hybrids not drought stressed and above 18 inches tall plus headed forage sorghums can be safely grazed three to five days after frost.

--Wait two weeks after killing frost before grazing or harvesting sorghums too short or drought stressed for safe grazing before frost.

--If new shoots develop after partial frost kill, don't graze any sorghum until there's a complete, killing frost. New shoots are especially high in prussic acid potential and livestock may prefer them.

Field curing or drying has shown to release 50 to 70 percent of the plant's prussic acid potential. Field conditioning sudangrass or sorghum-sudangrass hybrids will also help get rid of prussic acid.

-more-

add 1 -- watch for prussic acid poisoning

Ensiling may provide some reduction of prussic acid, although some research shows no loss of prussic acid during ensiling. "Field conditioning for limited wilting should proceed ensiling to help reduce prussic acid levels," Martin advises.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 27, 1976

Immediate Release

PROFITABLE IRRIGATION
TAKES CAREFUL PLANNING

Don't react to the drought by rushing into irrigation without doing some sound planning.

Carefully check irrigation costs vs. expected returns, labor requirements and water availability, advises University of Minnesota Extension Agricultural Engineer Fred Bergsrud.

Good internal and surface drainage is a must with irrigation. "If rainfall follows irrigation on heavier soils you need a good drainage system to take care of excess water," says Bergsrud.

With added costs of irrigating, higher yields are a must to make the system pay off. This means maximum use of inputs, including a special fertilizer program.

For farmers contemplating irrigation, the first step is to check on water availability. Talk to nearby farmers who are irrigating and area well drillers. Also check with area towns on the quantity of water they're pumping and how deep they're pumping from.

See your regional Minnesota Department of Natural Resources (DNR) office for information on getting a pumping permit.

Help on calculating profitability of owning and leasing irrigation systems is available in a University of Minnesota publication. Although examples in the publication were developed for Minnesota's sandy soils, pumping costs will apply to other parts of the state. Yield expectations will be different on heavier soils. Write to the Department of Agricultural and Applied Economics, University of Minnesota, St. Paul, 55108. Ask for publication number FM 608.

add 1--profitable irrigation

Another U. of M. publication that gives detailed information on irrigation is entitled "The Potential for Irrigated Crop Production." This will help in estimating installation costs. Copies will soon be available from county extension offices.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
September 27, 1976

Immediate release

EXTENSION STAFF
TO ATTEND STATE
CONFERENCE

Members of the _____ County Extension Office will be attending the state extension conference Oct. 12-14 near Brainerd.

Theme of this year's annual conference is "People--Our Business." Extension personnel from throughout the state will participate in the program, which will emphasize changing lifestyles, values and conflict management.

Workshop sessions will be held on these topics: agriculture and our history, world hunger, the ecosystem and the family, youth in transient, values in a leisure age, child rearing, value development and youth, environment and values, and clarifying personal values and decisions.

University of Minnesota President C. Peter Magrath will speak at the conference.

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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
October 4, 1976

4-H NEWS

Immediate release

MISC
2A27p

4-H TREE WEEK
SET OCT. 17-23

_____ County 4-H club members will observe the Second National
4-H Tree Farm Week Oct. 17-23, _____ County Extension Director
_____ announced.

(Include details on local activities).

The American Forest Institute Staff and the Agricultural Extension
Service is sponsoring National 4-H Tree Farm Week.

The national observance will include dedication of a 1,200-acre
forested 4-H camp property in western Maryland as a tree farm. Government
and forestry industry leaders will participate in the observance. A tree
farm is an area of privately owned forest land dedicated by its owner to the
growing and harvesting of repeated forest crops.

Many Minnesota counties have properties owned through 4-H which may
qualify as tree farms.

-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
October 4, 1976

MSC
9A27p
ATT: Extension Home Economists

Immediate release

REVAMPING YOUR DIET?
GO SLOWLY, NUTRITIONIST URGES

"All Things in Moderation" might be a good slogan to paste to your refrigerator door if you are considering making major changes in the foods you eat, says University of Minnesota extension nutritionist Mary Darling.

She cites fiber in the diet as one cause that people sometimes adopt too swiftly. Excessive amounts of fiber or a sudden increase in fiber content in the diet can cause such rapid transit of food through the body that nutrients are not absorbed.

Sales of ready-to-eat bran cereals, popular sources of fiber, have increased 20 percent during the past year, Ms. Darling says. Much of this is in response to observations by Dr. Denis P. Burkitt, British surgeon and epidemiologist, that the high fiber diets of some Africans is linked to their low rates of colon cancer.

Ms. Darling says the physiological role of fiber is not understood fully, but it seems to hold water in the stool, making it soft, bulky and easier to move.

She distinguishes between dietary and crude fiber. Crude fiber is what remains after food is laboratory treated with acid and alkali, usually the cellulose or "woody" components of vegetable tissue.

Dietary fiber refers to all undigested carbohydrates in food. It includes crude fiber as well as pectins, gums and other substances not normally digested by man. Food product labels that give fiber contents refer only to crude fiber.

-more-

add 1--revamping your diet?

Some foods that might seem to contribute fiber to the diet actually do not, she says. Meat, even tough and stringy cuts, contributes no fiber and neither do eggs, cheese or milk.

If you decide to slowly increase the amount of fiber in your diet, Ms. Darling suggests the following foods:

- * bread and cereal from whole grain including wheat, corn, oatmeal, rye; brown rice; wild rice; bulgur.

- * vegetables that are raw or fork tender, skins and seeds of vegetables

- * raw fruits with skins, berries

- * beans, lentils, peas, limas

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University of Minnesota
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October 4, 1976

Immediate Release

MSC
JASJP

IN BRIEF. . . .

Storing Pesticides. If you're storing excess pesticides over winter take care to handle them right. Store pesticides in original containers that still have readable labels attached. Other tips:

- Destroy or repair leaking containers.
- Store pesticides under lock and key in a separate shed or cabinet.
- The storage area should be cool and dry. Liquid pesticides should not be stored under 40 degrees F.

* * * *

Pesticide Disposal. Small amounts of surplus pesticides--not exceeding normal household quantities--can be buried in sanitary landfills. The Minnesota Pollution Control Agency defines normal household quantities as containers of pesticides intended for use in the home, yards or on the farm. However, amount to be disposed should not exceed single, unrinsed containers per disposal. Disposal procedures specifically prohibited are water dumping, open dumping, open burning or well injection.

* * * *

Beef Hearing. A public hearing to consider a proposed research and information order for beef is scheduled for Des Moines, Iowa, Oct. 7. The session will start at 9:30 a.m. in Room 113 of the Federal Building, 210 Walnut St. The hearing was scheduled by USDA's Agricultural Marketing Service, Livestock Division. The proposal provides for a nationally coordinated research and information program to be financed by an assessment of up to one-half of the value of each animal slaughtered, with provision for a refund to producers not wishing to take part.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 4, 1976

Immediate release

MSC
2A27P

HUEG CONFIRMED TO
NATIONAL SCIENCE BOARD

Appointment of William F. Hueg, Jr. to the National Science Board has been approved by the U.S. Senate.

Hueg is deputy vice-president and dean, Institute of Agriculture, Forestry and Home Economics at the University of Minnesota.

He was nominated for the post by President Ford Sept. 13.

The National Science Board is the policy-making body of the National Science Foundation (NSF).

Appointment to the post "should help communicate the importance of agricultural, forestry and home economics research and education programs," Hueg said. "Better communication with the science community, the executive branch and Congress should result.

"If world population goes unchecked and we're unable to use the full potential of American agriculture due to various controls and regulations, our children and grandchildren could have half the standard of living that we know today.

"Reduced research efforts due to failure of Congress or state legislatures to appropriate needed funds will also be harmful.

"We need a careful assessment of our national priorities. The first line of defense at home and abroad is food," he said.

U of M President C. Peter Magrath released this statement concerning the appointment: "Bill Hueg commands the respect of his colleagues in the scientific community across the nation. He has distinguished himself both as an accomplished scientist and as a proven administrator. He brings superior credentials to this new assignment."

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 4, 1976

Immediate Release

MSC
JAZP

FIRE CAUTION
TO FARMERS

Frost-killed, dry vegetation is adding fuel to already severe grass and forest fire conditions, University of Minnesota foresters say.

"Minnesota farmers will have to be more cautious when using tractors, trucks, balers and other farm equipment," caution Frank Irving and Rod Sando. "It's farmers, not hunters or loggers who are inadvertently starting the fires. Hay baling operations started two major fires in northern Minnesota."

Sparks from farm tractor mufflers and electric fences are especially apt to start fires due to dry vegetation and hot, dry winds.

"We're approaching the worst of the fall fire season due to the frost, which killed green vegetation. These beautiful Indian summer days are bad fire days. We urge everyone to cooperate with local fire officials and the Department of Natural Resources," Irving and Sando add.

It's not enough just to be careful. Try to restrict activities to the morning hours when fire danger is less severe.

The University specialists understand the farmers' dilemma. Farmers need to operate equipment on dry peat and marshes to get much needed hay. However, hay is being burned and machinery and buildings destroyed in the process.

The Huntersville fire burned 25,000 acres. It destroyed buildings on six farms and cost over \$1 million in damage and control, state fire officials estimate.

The University specialists encourage farmers to bring in machinery and store it in a protected, central location. And remember that fires don't respect property lines. Being careful will protect your property as well as your neighbors' land.

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CA, IA, F

MSC
9/27/76

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 6, 1976

Immediate release

POSTPONING TAX
PAYMENTS IS
GOOD ECONOMICS

If you report enough income to cover your exemptions and deductions, the best tax strategy isn't necessarily one of shifting income to even out your tax liabilities between this year and next.

So says Earl Fuller, farm management economist at the University of Minnesota. Low income this year and higher next will cause you to pay more taxes on the last dollar of income than would a steady income.

But that's not the entire story. Due to inflation, dollars delayed in tax payments are cheaper dollars, says Fuller. Besides, dollars not paid in taxes can be used to pay off debts or be put to other good purposes where presumably they will earn some additional money until the taxes must be paid.

These two conditions together mean that a more meaningful target tax plan is for a next year's income of perhaps 120 percent of this year's. And besides, if income gets to be much more than 130 percent above normal in any given year, you can income average. That too will save taxes.

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CA,IA

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 11, 1976

Immediate release

4-H NEWS

NATIONAL 4-H CONGRESS
TRIP WINNERS TOLD

_____ of _____ has won an expense paid trip to
(name) (hometown)

the 55th National 4-H Congress Nov. 28 through Dec. 2 in Chicago for outstanding participation in the _____ 4-H project.

(County Director: Include background information on local winner, etc.).

This 4-H'er is a state 4-H achievement winner and was selected for the honor by the Cooperative Extension Service to attend the National 4-H Congress with about 1,600 other young people from every state and Puerto Rico.

CA

-daz-

1976 state achievement winners who will attend 4-H Congress:

Paula Radniecki	photography	Star Route, Staples
Sandy Anderson	achievement	Route 1, Foreston
Lewis Wallace	achievement	Middle River
Randy Ball	agriculture	Lengby
Paul Lambert	automotive	Route 2, Thief River Falls
Alan Wilts	beef	Route 1, Chokio
Daniel Johnson	citizenship	Route 1, Russell
Sue Peterson	citizenship	Braham
Nancy Pearson	clothing	Route 2, Paynesville
Keith Manlove	community beautification	Route 4, Park Rapids
Marcia K. Olson	conservation	Route 1, Cottonwood
Roberta Roy	consumer education	1806 Woodland Rd., St. Cloud
Marcia M. Meixner	dairy	Route 2, Owatonna
Sandra Names	dairy foods	New York Mills
Cindi Raymond	dog	9326 Golden Valley Road, Mpls.
Timothy Nystrom	electric energy	Route 1, Foreston
Dale Esser	entomology	108 E. 6th, Park Rapids
Connie Nosbush	bread	Route 1, Fairfax
Phyllis Tank	food & nutrition	10052 80th St. S., Cottage Grove

-more-

add 1--national 4-H

Amy Halverson	food preservation	Route 3, Red Wing
David Wilkowske	forestry	Route 1, Morrystown
Kathy Nuwash	garden	Silver Lake
Bonnie Band	health	Route 1, Pennock
Linda Names	home management	Route 2, New York Mills
Marie A. Larson	horse	Route 1, Preston
Rockney Atz	horticulture	Route 3, Lakefield
Denise E. Harjes	leadership	Route 1, Green Isle
Bryan Jamison	leadership	Borup
Dave Meschke	petroleum power	Welcome
Raymond Wicks	livestock	Route 4, Austin
Glen Santi	poultry	Iron
Michael Martens	safety	Route 1, Lafayette
Kathy Gablenz	sheep	Route 1, Rice
Scott Josephson	shop	Route 1, Minneota
Greg Fox	swine	15391 Emery Ave. E., Rosemount
Gwendolyn Goltz	veterinary science	Route 1, Annandale
Dale Magee	field crops science	Route 3, Austin
Terri Brown	dress revue	Hastings
Toni Sampson	home environment	Windom

ME
JAL70

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October 11, 1976

Immediate release

INTEREST RENEWED
IN HOME SLAUGHTERING

Increasing numbers of Minnesotans are slaughtering their own farm animals says Dr. Michael Pullen, extension veterinarian at the University of Minnesota. He attributes the renewed interest in home slaughtering to the shortage of slaughtering facilities in some parts of the state, increased slaughter costs and the inconvenience of adhering to custom slaughter schedules.

If you plan to slaughter, Dr. Pullen suggests selecting a healthy, vigorous animal. Do not feed it for 24 hours prior to slaughter but allow it free access to water. Try to avoid exciting the animal because this will affect meat quality, he says.

Proper chilling of the carcass is vital to safe meat handling so begin your slaughtering project on a day when evening temperatures will be between 28 and 32 degrees F. Before stunning the animal into unconsciousness, take its rectal temperature. This may be helpful in deciding what to do with the carcass if you discover abnormalities within the body cavity and viscera. Dr. Pullen says questions of animal or carcass wholesomeness should be referred to a veterinarian.

After the animal has been stunned and bled, remove the skin and open the carcass for viscera removal. The carcass should then be split and chilled. Swine may either be skinned or scalded to remove the hair. Skinning is usually the most practical method, Dr. Pullen says, because scalding requires a vat large enough to hold the animal and the skin still must be removed during final meat preparation.

-more-

add 1--interest renewed

Spoilage and off-odors in meat usually can be traced to improper chilling of the carcass, absorption of off-odors from kerosene or other things, poor sanitation during slaughter and processing or improper freezing and storage. Dr. Pullen cautions those slaughtering at home to avoid situations or conditions that could lead to undesirable meat.

-dmn-

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October 11, 1976

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Immediate release

IN BRIEF. . . .

Dairy Ration. One of those new \$2 bills can earn you an astounding return if you invest it in the Minnesota Dairy Ration Balancer Plan. This is another "oddball" year ration-wise for many Minnesota dairymen. Those short of hay may be feeding heavy corn silage rations. It's doubly important to get these rations balanced properly. Feeds should be tested for energy, protein, calcium and phosphorus so correct values can be fed into the computerized ration balancer plan. A description of the ration balancer plan is described in Extension Folder 292, available from county extension offices, or the Bulletin Room, University of Minnesota, St. Paul 55108. Many feed companies are also offering the plan.

* * * *

Feed Inventory. Dairymen caught in a feed squeeze can get some inventory help with a University of Minnesota publication. Dairy Fact Sheet 14, "Feed Inventory," will help you estimate your total grain and forage supplies and balance it against your cattle inventory. Free single copies are available from county extension offices. Or, write to the Bulletin Room, University of Minnesota, St. Paul 55108.

* * * *

Water Shrubs. Many evergreen shrubs are in danger this fall in Minnesota--unless they get a good drink of water before winter sets in. Dry weather is hurting all types of evergreens, University of Minnesota horticulturists say. They suggest watering them thoroughly now and up until the ground freezes for winter.

Evergreens, unlike other shrubs and trees, are never quite dormant. They are active most of the year--and need water to carry out this activity. Brown needles in winter may be caused by lack of water. Soak the ground thoroughly. A mulch of hay, straw, or other material around the plant will also preserve moisture.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 11, 1976

Immediate release

TEST SOILS
THIS FALL

Don't interrupt normal phosphorus, potassium and liming programs due to dry soil conditions, University of Minnesota soil scientists advise farmers.

"These are long range programs and should be based on reliable soil tests," says John Grava, University soil scientist. Lime, sulfur and zinc are applied at rates to last three or more years.

However, nitrogen is another matter since it's added each year. In drought areas where crop yields were low, some nitrogen "credit" may be available for next year. County extension agents and fertilizer dealers have more details.

In the western third of Minnesota--west of U.S. highway 71--farmers should take advantage of the nitrate test. This is an excellent tool to get the proper nitrogen recommendation. Some soils have considerable nitrate accumulation in the top two feet. This is due to little leaching due to lack of rainfall and less draw-down of nitrogen from crops suffering from drought.

"We can be sure of one thing--nitrogen availability will vary from field to field," says Grava. The only sure way to find out the nitrate level in an individual field is through the nitrate test.

However, the nitrate test is not a reliable guide to nitrogen recommendations in central and eastern Minnesota. Recommendations must be based on the previous crop, organic matter content of the soil and yield goal.

(more)

add 1--test soils

"There's still time this fall to get your soil tested," says Grava. It takes the University of Minnesota laboratory about five to seven days to process samples, and mail out the reports. Soil testing services also are provided by several private commercial laboratories in the state. County extension agents and fertilizer dealers have sampling supplies on hand and can provide information on available soil testing services.

"Basing fertilizer applications on guesswork can be costly--whether you apply too much or too little. Soil testing takes the guesswork out of arriving at fertilizer and lime needs. This was true when fertilizer was cheap and it's also true today," says Grava.

How about holding back on fertilizer due to low soil moisture conditions? "We have to be optimists. Farmers usually are optimistic about the next crop. Most farmers are inclined to assume there will be sufficient moisture next year and use management skills to produce the best crop," says Grava.

University soils specialists offer these recommendations to farmers:

- Collect soil samples this fall and get them tested.
- Take advantage of the commercial and University soil testing services.
- Follow fertilizer and lime recommendations based on reliable soil tests.

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October 11, 1976

Immediate release

PROPERTY VALUATION
SESSION SCHEDULED

A property valuation short course will be held in _____
(town)
at _____ on _____.
(location) (date)

The session begins at 9:30 a.m. Any citizen interested in property valuation is invited, including certified assessors, local board members and public officers.

Fee for the one-day session is \$8. Assessors and deputy assessors who attend this session plus another two-day workshop for certification will have their tuition fee of \$27 paid from a tuition fund authorized by the Minnesota Legislature.

More information is available from county extension offices or the Office of Special Programs, University of Minnesota, St. Paul 55108.

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Meeting Schedule

COLLEGEVILLE, St. John's University	Oct. 25
HIBBING, Hibbing Community College	Oct. 26
CROOKSTON, U of M Technical College	Oct. 27
FERGUS FALLS, Holiday Inn	Oct. 28
WILLMAR, Willmar Community College	Nov. 8
MARSHALL, Southwest State University	Nov. 9
ROCHESTER, Holiday Inn South	Nov. 10
EDEN PRAIRIE, Suburban Hennepin AVTI	Nov. 12

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Agricultural Extension Service
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St. Paul, Minnesota 55108
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October 11, 1976

Immediate release

PUBLIC AFFAIRS
TV PROGRAM SET
FOR WINTER AIRING

The Minnesota Agricultural Extension Service's public affairs and policy television program, "Perspective," will be aired on _____ starting _____ (local station)

_____ at _____.
(date) (time)

Panels of experts and public officials will discuss public policy issues on 10 half-hour programs with John S. Hoyt Jr., program producer and moderator and professor and program director, Computer Information Systems, University of Minnesota.

Topics for the 10 programs include: Public participation in governmental decisions, Minnesota's agriculture, Minnesota taxes, population, corporate farming, legislative preview, retrospect and prospects, Minnesota's future, economic growth and the energy outlook.

CA

-daz-

Thursday, 7:30 p.m., Nov. 18-Jan. 20
KTCA-TV Ch2 Twin Cities
Thursdays, 7:30 p.m., Nov. 18-Jan. 20
WDSE-TV Ch8 Duluth
Thursdays, 7:30 p.m., Nov. 18-Jan. 20
KWCM-TV Ch 10 Appleton
Thursdays, 10:30 p.m., Nov. 18-Jan. 20
KFME-TV Ch 13 Fargo-Moorhead
Thursdays, 10:30 p.m., Nov. 18-Jan.20
KGFE-TV Ch2 Grand Forks
Saturdays, 7:00 a.m., Nov. 20-Jan. 22
WTCN-TV Ch 11 Twin Cities
Saturdays, 1:00 p.m., Nov. 20-Jan. 22
KEYC-TV Ch 12 Mankato
Sundays, 11:30 p.m., Nov. 28-Jan. 30
KAAL-TV Ch6 Austin
Sundays, 7:00 a.m., Nov. 28-Jan 30
KCMT-TV Ch7 Alexandria
Sundays, 7:00 a.m., Nov. 28-Jan. 30
KNMT-TV Ch 12 Walker

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October 11, 1976

Immediate release

CONTROL PERENNIAL
WEEDS IN FALL

Now is a good time to control perennial weeds such as quackgrass, Canada thistle, leafy spurge and field bindweed.

Fall tillage will control these weeds, particularly with current dry conditions, says University of Minnesota Extension Agronomist Gerald Miller.

Chemicals are not as effective for weed control in a dry year, such as this, as compared to years with lush top growth. The most commonly used chemicals for broadleaf weed control are 2,4-D and dicamba at high rates in the fall before top growth freezes.

For quackgrass, use dalapon or glyphosate. You can control quackgrass with these chemicals if you have good top growth and not too much trash over it. They work well after harvesting wheat or soybeans.

There are some label restrictions on which crops can be grown the following year. If corn is to be grown for several years, fall and spring applications of atrazine control quackgrass, but soil residues limit the kinds of crops that can be grown.

-daz-

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Handwritten initials/signature

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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
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October 18, 1976

4-H NEWS

Immediate Release

4-H HOLIDAY SPECIAL
REGISTRATION DUE

Registration for the 4-H Holiday Special, a workshop in the arts for older teens and young adults at the National 4-H Center, Washington, D.C., starting Dec. 26, must be submitted by Nov. 1.

Persons 16 years old or older who have an interest in learning more about vocal or instrumental music, visual arts, drama or dance are encouraged to register for this week-long workshop.

Participants will meet other artists and learn about today's arts from the wealth of resources in Washington.

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

-daz-

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 18, 1976

Immediate release

MSC
GA27P

**TODAY'S TEENS
SHAPED BY AFFLUENCE**

With an average of \$25 a week to spend, today's teenager has been shaped by affluent times says Janice Hogan, associate professor in the College of Home Economics' family social science department at the University of Minnesota.

About half of what older teens spend is from their own earnings, but Ms. Hogan says much of teen spending power is linked to "share the wealth" philosophies in increasingly affluent families.

In some two-parent families, this increased discretionary income results from a working mother's financial contributions. But even then, teens aren't spending more hours on household responsibilities so they may have both more money and the time to spend it, Ms. Hogan says.

With meals, clothing and other necessities provided, teens spend their money on such things as snack food, cosmetics, gifts, records and stereo equipment and entertainment. And like some of their parents, teens often choose quantity over quality in their purchases.

"We have all formed patterns of high consumption," Ms. Hogan says. "This idea of disposable and obsolescent goods is based on the idea of an unending supply of raw materials."

She says teens may be realizing the folly of this kind of thinking. Many of them have a basic appreciation of the environment and the seriousness of energy shortages.

-more-

add 1 -- today's teens

Teens started wearing less conspicuous clothing--faded jeans, T-shirts, Army surplus jackets and sturdy, casual shoes--partially in response to their concern about shortages and energy use, according to Ms. Hogan. Now, however, she fears that some of this heightened awareness may be fading. "Some of the 'back to nature' ideals may be distorted now to include roaring through the woods on a snowmobile," she says.

She hopes Americans will become more process-oriented in their thinking. "It's strange," she says, "but even people raised on farms have gotten away from thinking of where our purchases come from and what raw products were consumed to bring them to finished form. We all need to think more about the costs of our choices and the strains that our habits are putting on the environment."

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University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
October 18, 1976

MSC
9A270
Attention: Extension Home Economists

Immediate Release

FATS, OILS, SYRUP
BEST STORED IN REFRIGERATOR

Meats, dairy products, eggs, fresh fruits and vegetables are best stored in the refrigerator, but is it necessary to refrigerate fats and oils, peanut butter, syrup and honey?

In response to that question, frequently asked by _____ County homemakers, home economist _____ (or extension nutritionists _____ at the University of Minnesota have...) has some specific suggestions.

Most fats and oils, she says, need protection from air, heat and light because these factors hasten the development of rancidity. Fats and oils in partially filled containers will keep longer if they are transferred to smaller containers where there is little or no air space.

*Butter, margarine, fat drippings. Keep tightly wrapped or covered in the refrigerator and use within two weeks if possible. Keep only as much butter or margarine in the butter compartment of the refrigerator as needed for immediate use. If they stand for long periods at room temperature, they may turn rancid. Even if butter is frozen, it is likely to take on rancid off-flavors after several months.

*Cooking and salad oils. Keep only small quantities at room temperature and use before the flavor changes. For long storage, keep oils in the refrigerator. If they become cloudy upon refrigeration, they will clear when warmed to room temperature. Some salad oils contain added anti-oxidants to prevent rancidity and off-flavors.

-more-

add l--fats, oils, syrup

*Hydrogenated shortenings and lard. Hydrogenated shortening can be held at room temperature without damage to flavor. Most solid shortenings have anti-oxidants added to prevent development of rancidity. Lard not stabilized by hydrogenation or anti-oxidants should be kept in the refrigerator. Read the label for instructions.

*Mayonnaise and other salad dressings. After the jars have been opened, refrigerate readymade mayonnaise and salad dressings. Always keep homemade salad dressing in the refrigerator.

*Honey and syrup. Once the jars or cans have been opened, honey and syrups will be protected from mold if refrigerated. If they crystallize, place the container in hot water to melt the crystals.

*Peanut butter. Refrigerate after opening the jar, but remove from the refrigerator to soften a short while before using.

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October 18, 1976

Immediate Release

IN BRIEF

Hog Expansion. Caution is the word for farmers contemplating expanding their hog facilities. Hog profits are likely to range from very low to negative during the next few years, Iowa State University economists say. So plans for new hog production facilities should be based on expected income from the economic life of the facilities, not on hog profit levels of the past two years.

* * * *

Cull Sows. Fall culling of the sow herd can reduce taxes and increase production efficiency. Income from sale of sows more than 12 months old is eligible for capital gains treatment at income tax time. And, older sows are replaced with gilts which reduces the gross income from sale of market pigs.

Culling sows can increase production efficiency of the herd by eliminating sows that are unsound or low producers. Many producers find that 30 percent of the sow herd should be replaced each year due to lack of soundness in feet, legs or underline or because of failure to conceive. Low producing sows should be replaced with gilts of potentially higher productivity. Fall is an especially good time to cull the sow herd because of increased winter costs.

* * * *

Hog Profits Tight. Hog producers can look for tighter profit margins from now until the end of 1977 with prices dipping into the low \$30 range. Economists do not see 1977 as a good year for hog producers. However, a cyclical downtrend in farrowings may be under way by late next year, setting the stage for better profits in 1978 and 1979.

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 18, 1976

MINNESOTA'S ECONOMIC
GROWTH NOT LAGGING

Projected growth rates to 1980 or 1990 are higher for Minnesota than for the United States in every major economic category except population, according to the U. S. Department of Commerce.

Minnesota's projected growth rate to 1980 is also higher than any other midwestern state for total personal income, per capita income, total earnings and earnings in government. Its growth rates in other variables were among the highest in the Midwest. The comparison of projections to 1990 between Minnesota and the other Midwest states is similar to the comparison to 1980.

"Many people believe that Minnesota's economy is lagging relative to neighboring states and the U. S. as a whole," says Agricultural and Applied Economics Professor John D. Helmberger of the University of Minnesota. Helmberger says this belief is based on two facts:

1--Minnesota's per capita income is and has been lower than the national average, and

2--Minnesota's population growth has been slower than for the nation as a whole. (Its birth and death rates were similar but there has been net-out-migration.)

However, these facts do not mean that Minnesota's economy is lagging, Helmberger cautions.

-more-

add 2--Minnesota's economic growth

Expansion in growth industries such as electronics that requires highly skilled and professional labor suggest that Minnesota's prospects for above average growth are good. This goes for growth in total personal income, farm income, nonfarm income and per capita personal income, according to Helmberger.

"Whether we measure growth by total personal income, per capita personal income, manufacturing payrolls, employment in manufacturing, nonfarm income or farm income, Minnesota's rate of growth has been faster than the national average," says Helmberger.

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Immediate release

RETAIL DEALER
SESSIONS SET

The University of Minnesota Agricultural Extension Service is again sponsoring informational meetings for retail dealers of seed, fertilizer and agricultural pesticide materials.

Program topics will include the 1976 growing season and the latest available pesticide news.

The January, 1977 meetings are scheduled as follows:

- Jan. 3, Slayton (Club Royal), and Hutchinson, (Velvet Coach)
- Jan. 4, Ormsby (Townhouse), and Cambridge (Imperial Restaurant)
- Jan. 5, New Ulm (Fireside Inn), and Willmar (Freda's Bord)
- Jan. 6, Mankato (Happy Chef-North), and Montevideo (Hunt Hotel)
- Jan.10, Alexandria (Viking Motel)
- Jan.11, Rochester (Holiday Inn-South), and Moorhead (Holiday Inn)
- Jan.12, Owatonna (VFW Club), and Thief River Falls (Legion Club)
- Jan.13, Park Rapids (Courthouse)

Contact county extension agents for more information.

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(Agents--you may wish to use the following format: The meeting(s) for this area is (are) scheduled for _____ at _____.
(date, location) (time)

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

SPECIAL SHORT COURSE SCHEDULE (November 1976 - April 1977)

- Oct. 31- Extension Homemakers "Know America" Tour. Two five-day educational tours
Nov. 6 to Washington, D.C. planned in cooperation with the National 4-H Center
April 3-9, 1977 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
- Nov. 3,4 Annual Fall Conference for Veterinarians, Thunderbird Motel, Bloomington, Minnesota. Small and large animal seminars for practicing veterinarians (Minn. and surrounding states), College of Veterinary Medicine faculty and senior veterinary students.*GW
- Nov. 8,9, 10,12 1976 Property Valuation Short Course and Continuing Education Workshop, Willmar, Nov. 8; Marshall, Nov. 9; Rochester, Nov. 10; Chaska, Nov. 12. For certified assessors, local board members, public officers, and citizens interested in the impact of new laws relating to the assessment of property. To advise local boards of their responsibility in the assessment process and their duties as the local board of review. Two additional days for the assessors workshop will follow at 25 selected locations.*GW
- Nov. 22-24 Farm and Individual Income Tax Short Course, Radisson Downtown Hotel, Minneapolis. For tax practitioners and consultants, accountants, lawyers, bankers, insurance agents, real estate agents, educators and others involved in preparing income tax returns.*CN
- Nov. 29, 30, Dec. 1,2,7 Forest Owners and Users Conference, Nov. 29, St. Paul; Nov. 30, Bemidji; Dec. 1, Grand Rapids; Dec. 2, Duluth; Dec. 7, Rochester. For forest landowners and others interested in management of forest lands.*PS
- Dec. 1 Sheep Day, NW Exp. Station, Crookston.+
- Dec. 8 SW Minn. Swine Health Clinic, Worthington, Minnesota, The meeting is designed to bring veterinary practitioners and pork producers together to discuss efficient, profitable management of the swine breeding herd. For agri-business men associated with the swine industry, pork producers, veterinarians, and animal technicians.*GW
- Dec. 8 Cattle Feeders Day, Crookston.+
- Dec. 8 Meats Up-Dating Conference, Meat Science Lab., St. Paul Campus. This
April 2 conference is for food educators who desire to stay current on latest topics concerning meat.*GW

Page 2 - Special Short Course Schedule

- Dec. 8 Food Service Motivation Workshop, McNeal Hall, St. Paul Campus. To increase knowledge and understanding of the role, process and content of motivation. This one-day course is intended for institutional and commercial food service managers, dietitians, supervisors and other interested personnel.*GW
- Dec. 14 Beef Day, Southern Experiment Station, Waseca.+
- Dec. 14-15 Combined Soils, Fertilizer and Agricultural Pesticides Short Course, Minneapolis Auditorium. To present information on soils, fertilizers, and pesticides used in the production and marketing of food and fiber. For professional and technical personnel and those engaged in production agriculture.*PS
- Jan. 11 Swine Day, Southern Experiment Station, Waseca.+
- Jan. 11-13 Home Sewage Treatment Workshops, Jan. 11-13, Anoka area; Jan. 25-27, Jan. 25-27 Rochester; Feb. 8-10, Marshall; Feb. 22-24, Bloomington; March 1-3, Feb. 8-10 Alexandria; March 15-17, St. Paul; March 29-31, Bemidji; April 12-14, Feb. 22-24 Eveleth. For county sanitarians, zoning officers, contractors, Mar. 1-3 county planners, public health inspectors and building inspectors.*PS
Mar. 15-17
Mar. 29-31
Apr. 12-14
- Jan. 7-20 Better Process Control, Curtiss Hotel. To provide training, examination and certification so that canners in Minnesota and the upper-midwest can comply with federal regulations Pat. 128b--Thermally processed Low-Acid Foods Packaged in Hermetically Sealed Containers--of the Food and Drug Law.*GW
- Jan. 24-26 Food Plant Pesticide Applicator's Conference, Downtown Radisson Hotel, Minneapolis. For food plant and warehouse managers, pest control operators, and persons responsible for sanitation and pest control in food plants and warehouses. To provide current information on new regulations and prescribed methods of conducting sanitation and pest control programs in food plants and warehouses.*PS
- Jan. 31-
Feb. 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
- Feb. 1 Winter Crops Day, Southern Experiment Station, Waseca.+
- Feb. 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. 18-27 Red River Valley Winter Shows, NW Exp. Station, Crookston.+
- Feb. 19 Green Holiday Short Course, North Star Ballroom, St. Paul Campus. For anyone interested in gardening and presenting the vegetables they grow. Topics covered will include latest vegetable varieties (where they can be obtained), proper fertilizers, and pest control and proper storage of vegetables.*RM

Page 3 - 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 Commercial Applicators Pesticide Workshops, Rochester, March 1-2; Marshall, March 3-4; Minneapolis, March 8-9; Crookston, March 15-16; St. Cloud, March 17-18. 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 9, 11,16,17 Fair Management Short Course, Elks Club, Owatonna, March 9; Donovan's Conference Center, Redwood Falls, March 11; 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, 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.*PS
- March 13-14 Commercial Small Fruit Growers, North Star Ballroom, St. Paul Campus. For commercial small fruit growers.*RM
- March 14 Dairy Day, Southern Experiment Station, Waseca.+
- March 17 Sugar Beet Growers, NW Exp. Station, Crookston.+
- 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, 22,23,24, 25,31 April 1, 4,5,6 Township Officers Short Course, March 21, Waseca; March 22, Rochester; March 23, Willmar; March 24, Marshall; March 25, St. John's University, Collegeville; March 31, Brainerd; April 1, Fergus Falls; April 4, Detroit Lakes; April 5, Thief River Falls; April 6, 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.*CW
- March 21, 22,23,24, 30 March 25-26 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
- Beekeeper's Short Course, North Star Ballroom, St. Paul. For hobby beekeepers and all others interested in beginning beekeeping.*PS
- 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

Page 4 - Special Short Course Schedule

- 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 24- Minnesota FFA Convention and Leadership Conference, St. Paul Campus.
26 To promote a learning experience for vocational agriculture students and FFA members.*CN
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*For further information call Office of Special Programs
CN--Curt Norenberg 612-373-0725
RM--Richard Meronuck "
GW--Gerald Wagner "
PS--Paul Stegmeir "

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

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 25, 1976

MSC
3A27D
Immediate release

4-H NEWS

MINNESOTA 4-H'ers
HELPED WITH NOV. 2
VOTING RESULTS

About 200 Minnesota 4-H'ers from about 40 counties helped in the massive vote reporting effort Tuesday night, Nov. 2.

Reporters from 4-H groups and other organizations were at most of the state's 3,924 voting precincts, telephoning results of the election to a regional center as soon as the ballots were counted.

As a result of their efforts, the outcome of major races in the general election was known promptly.

The News Election Service (NES) computer tabulated the results and then fed them over teletype circuits to the major news gathering organizations.

This is the third election in which Minnesota 4-H'ers participated in reporting voting results. They were joined by reporters from other community and civic groups. County auditors and election judges throughout the state cooperated in the effort, as did news reporters in county seats who phoned complete county tabulations to NES.

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CA

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
October 25, 1976

Att: Extension Home Economists
Immediate release

NONPHOSPHATE DETERGENTS
TO BECOME LAW IN MINNESOTA

Their names and faces on the grocery store shelves may be familiar, but by Jan. 1 their formulas will have changed to exclude phosphates from all laundry detergents, soaps, bleaches, presoaks and detergent boosters.

Wanda Olson, extension household equipment specialist, says some nonphosphate products have been on the market for several years so homemakers may already be familiar with some changes involved in nonphosphate machine laundry. Changes in laundering techniques are particularly important if your water is hard or if you wash flame retardant garments such as children's sleepwear.

If your water is harder than 15 grains per gallon of dissolved minerals, you may want to consider a water softener appliance or the regular use of phosphate-based softening products, which will still be sold after the end of this year.

A softener appliance will cut the amount of laundry product needed for each load of clothes, but will cost about three to five cents per load. Softener products, which keep hardness minerals in solution, cost 10 to 15 cents per laundry load.

Unless you use one of these softening methods, Mrs. Olson says you may experience granular buildup on fabrics from powdered detergents containing carbonate. Liquid detergent will not cause buildup problems, but soap will unless phosphate-based softener is added before the soap and to the first rinse.

-more-

add 1--nonphosphate detergents

She advises consumers to study the contents listing of detergents and also the care labels on garments. Some flame retardant fabrics require no special laundry consideration, but some specify "Do not use granular nonphosphate detergent." Soap also can destroy the flame retardant qualities of some fabrics, but liquid detergent usually is suitable.

If you live in one of the 145 Minnesota communities with iron in the municipal water supply, or iron in your own water supply you may notice discoloration when nonphosphate detergents become the standard. If it is severe, some type of iron removal system may be required, but otherwise citrate-built detergents, which are only available in liquid form, will hold small amounts of iron in solution. Phosphate-based softener products also control the iron problem, and special rust removers will remove iron stains.

-dmm-

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October 25, 1976

MSC
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ATT: Extension Home Economists
Immediate release

GOOD LAUNDRY HABITS NEEDED
WITH NONPHOSPHATE DETERGENTS

With phosphates banned from laundry detergents beginning January 1, good laundry practices will become even more important predicts Wanda Olson, extension household equipment specialist at the University of Minnesota.

She advises consumers to wash items before they get too dirty. Or they can soak or rinse clothing with detergent or a presoak product before adding to the wash.

She also suggests:

- * Sorting carefully to avoid washing white and colored items together, or very dirty with less dirty clothes.

- * Using water that is at least 120 degrees F. Clothes stained with perspiration, blood or protein food (eggs, meat drippings, etc. should be soaked first in cool water).

- * Dissolving detergent in wash water before adding clothes and, if you choose to use it, adding water softener products before adding detergent.

- * Using more detergent than recommended if water is hard, if doing cold water washing or if washing polyester or durable press cotton on a "gentle" cycle.

- * Taking care not to overload the washer.

Keeping white clothes white is most dependent on the amount of detergent you use, Mrs. Olson says. For extreme greyness problems, however, she recommends this technique:

- * Fill washer full of hot water.

-more-

add 1--good laundry habits

* Add $\frac{1}{2}$ cup of phosphate-based water softener (more if water is very hard), one cup of oxygen bleach and about two cups of soap or detergent.

* Agitate. Add clothes and allow them to soak overnight. Drain and spin.

* Put clothes through a regular wash cycle using hot water, $\frac{1}{2}$ cup or more of the water softener and $\frac{1}{2}$ cup diluted liquid chlorine bleach.

For oily stains, Mrs. Olson suggests grease solvents such as the many spray-on prewash products, household cleaners or spot removal products. Full strength liquid detergents also remove oily stains.

Chlorine bleach can be used for all fibers except spandex, silk and woolens, but they may affect some fabric finishes and dyes. Chlorine bleach deactivates the enzyme action of some presoak products so they shouldn't be used in combination. Nonchlorine (oxygen) bleaches aren't as effective as chlorine bleach but they can be used on all fibers and colors, according to Mrs. Olson.

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Immediate release

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IN BRIEF

Buy Beef Now! Consumers will never again see retail beef prices as low as they are right now, says Paul R. Hasbargen, University of Minnesota agricultural economist. The October 1 Cattle on Feed report indicates that cattle slaughter will remain high through 1976.

Beef consumption per person in 1976 will set a new record at over 128 pounds of carcass weight per person. This will be seven percent more than 1975, and more beef per person than will be available for at least the next five years.

Hasbargen explains that cattle numbers are being cut back because of large losses to cattle producers and feed shortages due to the drought. This results in excess beef supplies now, but a smaller cattle herd to produce beef during the next several years.

His recommendations to consumers is to buy extra beef now because the odds are 10 to 1 that retail prices will never again be this low.

* * * *

Corn Stalks. Dairymen facing a forage shortage this winter should consider corn stalk residue (stover) to stretch their limited supplies, advises Mike Hutjens, extension dairyman at the University of Minnesota. Nutrient value will vary averaging six percent crude protein (two percent digestible protein), 50 percent TDN (.47 M-calories of energy), .49 percent calcium, and .09 percent phosphorus on a dry matter basis. Dry cows, older heifers, and low milk producers could meet all or part of their forage needs from this source, Hutjens says. Be sure all rations are balanced. Avoid feeding stover to high producing cows since the nutrient content of corn stover is relatively low, requirements are high, and total feed intake could be limited.

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October 25, 1976

MSC
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Immediate release

FERTILIZERS SPROUT
TREE GROWTH, UM
FORESTER SAYS

"Trees are plants and plants need nutrients to grow," a University of Minnesota forester says.

Recent developments indicate that fertilizer is fast becoming an accepted forest management tool in many parts of the world, according to Edwin White, who's stationed at the University of Minnesota Cloquet Forestry Center.

For several decades evidence has been accumulating that forest tree species suffer nutrient deficiencies and do not always sustain their full growth rate. Not every site is equally supplied with all the requirements for tree growth, says White.

"Little work has been done in Minnesota with forest fertilization, although trees native to the state have responded dramatically to applied fertilizers in other regions of the country. Nitrogen is the key element involved in these growth responses."

Full-tree harvesting may result in removal of substantial quantities of the available soil nutrient pool from sites and thereby lead to reduced site productivity within relatively short time periods, White states.

Complete tree removal deprives the site of the branches and leaves that formerly were left to decompose and recycle the nutrients accumulated by the trees.

-more-

add 1--fertilizers sprout tree growth

A cooperative research program has been launched between several forest industries, the U.S. Forest Service and the University of Minnesota's College of Forestry to test fertilizers' use in increasing forest growth in northern Minnesota.

"These trials are also designed to help develop prescriptions to alleviate possible adverse effects of nutrient removal from full-tree harvesting sites," White says.

"Forest fertilization as a forest management tool has great potential to help supply future world wood demands."

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October 25, 1976

MSC
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Immediate release

USING WOOD TO
FUEL POWER PLANTS

Is the oldest fuel source the newest energy alternative?

The fuel forest concept is technically feasible today in Minnesota, according to forestry Professor Dietmar Rose of the University of Minnesota.

"The fuel forest idea could be implemented immediately, which is an advantage over other proposed energy alternatives such as nuclear fusion or energy collection by solar cells.

"The fiber produced in such a system could be utilized in the pulp and paper process when other alternatives become more promising. This lends to the flexibility of this production alternative," says Rose.

Minnesota power plants could be fueled with wood fiber from the vast existing surplus produced by natural stands until intensely managed fuel plantations can be harvested in 15 to 20 years, Rose states.

The actual removal of aspen is only 32 percent of the annually desirable cut. Over one million additional cords could be harvested on a sustained yield basis, according to Rose.

"This surplus might be potentially twice as large if full tree harvesting techniques were utilized.

"Before accepting any fuel production alternatives we must access the economic feasibility and potential environmental and socio-economic consequences," states Rose.

Currently large power plants have no incentive to utilize the timber resource, but with current price trends continuing this situation could change fairly soon. Certain communities and counties in the state, however, have a real opportunity for utilizing such an energy production system, according to Rose.

-more-

add 1--using wood

"To meet the capital requirements of the proposed system--estimated at less than \$10 million, including land--state subsidies might be required."

To supply a 160 megawatt power plant on a continuous basis, less than 60,000 acres would be required. Approximately 4,000 acres would be harvested annually, Rose says. This is a much smaller area than is presently being managed for large pulp and paper mills.

According to Rose, the advantages of wood fired plants are:

- reduced dependence on nonrenewable fossil fuels
- very small environmental hazards compared to nuclear power plants
- creation of jobs in the energy production industry (approximately 200 permanent jobs generated by a 160 megawatt operation), and
- increased growth and yield of forest resource and creation of favorable conditions for wildlife.

Possible disadvantages:

- environmental impact of intensive management on soils in the form of nutrient removals and soil compaction have not been answered satisfactorily, and
- increased competition for the forest resource would increase the cost of the fiber for the pulp and paper industry.

"Energy plantations should be located in areas where they would not compete with existing fiber users, where cost of imported coal is noncompetitive and in areas of high unemployment," states Rose.

"Energy probably would be supplied to centrally located, relatively small power plants."

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Tel. (612) 373-0710
November 1, 1976

4-H NEWS

Immediate release

ENROLLMENT UNDERWAY
FOR HABITAT PHEASANT
CHICK PROGRAM

_____ County 4-H clubs are urged to enroll now for the 1977
Habitat Pheasant Chick Program of the Minnesota Department of Natural
Resources.

Registration for the Pheasant Clinic, to be held between Jan. 23 and
Feb. 22 by area wildlife managers, ends Jan. 7. Each 4-H club submitting a
registration form will receive a confirmation within seven days.

Wildlife habitat is the key to wildlife abundance, according to research.
As part of the plan to make the raising and releasing of pheasants more
meaningful and productive, groups who wish to receive day-old chicks next
year must attend or have club representatives attend a clinic. Groups completing
planned wetland habitat projects this year and attending 1977 pheasant clinics
will be eligible for chicks in 1977 without added habitat work.

From Feb. 23 through March 22, groups will plan habitat projects, obtain
areas wildlife managers' approval and send appropriate forms to the DNR Wildlife
Section by March 22. Groups will be notified of the number of birds they are
eligible for and the pick-up locations between March 23 and April 7.

For more information, contact the _____ County Extension Office.

-daz-

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Tel. (612) 373-0710
November 1, 1976

Immediate release

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DESPITE THANKSGIVING LEGENDS,
FOOD IN COLONIAL AMERICA
NOT AS GREAT AS REPUTED

In spite of the celebrated Thanksgiving feasts of colonial New England and the bountiful tables set by many plantation owners, the food supply of early America was more often beset by problems.

"Inadequate yields, seasonal availability of produce, nutrition-robbing preservation techniques, constant labor and danger of contamination" were constant concerns for the colonial homemaker according to a new booklet, "Food of Our Fathers", produced by the Institute of Food Technologists.

The Pilgrims found many foods they had never seen before including corn, sweet potatoes, pumpkins, squash, peanuts, sunflower seeds and cranberries. They also discovered new ways of cooking such as roasting meat on a spit and baking beans and clams in rock-heated pits.

As settlers pushed back the frontier, new foods such as tomatoes, peppers, okra, crayfish, catfish and salmon were discovered. Creole recipes adapted tomatoes to French cooking, for example, and corn was used in hundreds of main dishes, breads and desserts.

The early settlers weren't accustomed to eating much meat in their homelands, according to the booklet, yet it formed a large part of the colonial diet when game was abundant. Many frontiersmen lived almost exclusively on meat they could kill as they went, or they carried along dried meat in the form of pemmican or jerky. Frontier wives processed calves foot jelly into an early version of bouillon cubes called "portable soup."

-more-

add 1--Thanksgiving legends...

Nutrition was an unknown science and many of the processes virtually destroyed nutrients and led to deficiency diseases. Typical winter diets of cornbread, molasses, beans and salt "fat back" often led to pellagra. Preserved fruits and vegetables had little vitamin content to relieve the diseases.

Copies of "Food of Our Fathers" are available by writing to the Institute of Food Technologists, 221 N. LaSalle Street, Chicago, Il 60601.

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November 1, 1976

ATT: Extension Home Economists

Immediate release

GROWING CACTI, SUCCULENTS
GIVES MAXIMUM RETURN
ON MINIMUM EFFORT

If you're a beginning houseplant hobbyist, cacti and succulents may offer you several plusses says Harold Wilkins, extension horticulturist at the University of Minnesota. There are many exotic species available and nearly all will do well without much effort on the owner's part.

The term succulent refers to a broad category of plants which includes cacti. Besides cacti, succulents include such common plants as jade plants, snake plants, medicine plants and century plants, and all are well adapted to living in houses where the humidity is low (10-30 percent).

Wilkins says cacti and succulents require only modest amounts of water and fertilizer, but they do need abundant light. Bright, sunny windows are ideal locations for the plants, but if natural light is in short supply, Wilkins says artificial lighting will suffice.

During the low-light winter months, cacti and succulents should be watered only enough to prevent shrinking and withering. The soil should always dry out completely between waterings, but thorough waterings will prevent the distorted growth that can result from repeated, shallow sprinklings.

If you can approximate their native winter conditions, you may be able to bring some cacti and succulents into bloom indoors. Good light, dry soil and cool nights are essential, Wilkins says. He also cautions beginners not to be fooled by brightly colored straw flowers sometimes stuck into the tissue of small cacti sold commercially.

-more-

add 1--growing cacti

If you decide to group cacti and succulents in shallow dish gardens, choose those with compatible growth rates and water requirements. If the shallow dish used has no drain hole, broken clay pot shards or coarse gravel at the bottom will provide essential drainage, he says.

Cacti and succulents can be propagated easily by stem cuttings. Many succulents will form new plants from leaves that have broken off. Wilkins advises allowing the cutting wound to air dry before sticking the cutting into slightly moistened, sterile sand. Water sparingly and transplant into a regular sand and potting soil mixture once roots have formed.

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BEEF BREEDERS'
SEMINAR SCHEDULED
FOR PRESTON

A Beef Breeders' Seminar is scheduled for the Branding Iron, Preston, Minnesota, Thursday, Dec. 2.

The seminar brings together Minnesota's purebred beef breeders and top commercial producers. The purpose is to discuss current issues relevant to the beef breeding industry.

Plans are to conduct an on-the-farm session at 2 p.m. at Phillip Abrahamson's farm, Lanesboro. Use of superior sires to improve beef production, practical farm equipment and breeding systems, and efficient cow wintering are topics that will be discussed.

A dinner social is scheduled at the Branding Iron Restaurant at Preston. Speakers include Robert DeBaca, Huxley, Iowa, Beef Improvement Federation national secretary, who's also a commercial cattleman, and beef consultant. He will talk on "Practical beef production--selection tools, superior sire use and role of cross-breeding."

John Kinneberg, Rushford, Minnesota's 1976 outstanding Young Beef Producer, will outline his beef breeding program for production of a practical purebred herd.

For further information, contact C.J. Christians, 101 Peters Hall, University of Minnesota, St. Paul or Dawson Grabau, Fillmore County Extension Agent, Masonic Building, Preston, Minnesota 55965.

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IN BRIEF

Pet Safety. Pets sometimes inflict injuries--usually minor--on youngsters who mistreat or annoy them. However, children and intruders have been seriously hurt and even killed by dogs. Proper care and handling of pets can minimize the number and severity of pet-induced injuries. Teach small children how to handle pets and to be kind to them.

If you have a guard dog or one with a cross or unreliable temper, keep it tied or confined to certain areas. Warn visitors to your place about any animal hazards.

* * * *

Pork Trading. Increases in U.S. pork exports to Japan have helped move U.S. pork exports and imports closer to balance, say Iowa State University economists. U.S. pork imports in recent years have been about 430 million pounds per year, about 2½ pounds per capita, and on a carcass basis, about 4 percent of U.S. production. Most imported pork products come from Denmark, Poland and the Netherlands in the form of canned hams.

Specialists estimate that in 1976, the U.S. will export the equivalent of some 3 percent of U.S. production, or only 1 percent short of U.S. pork imports.

Traditionally, Canada has been the best customer for U.S. pork, but it has been replaced recently by Japan as our No. 1 pork buyer. The recent gains in U.S. pork exports to Japan may be more permanent than in the past, since the Japanese people are upgrading their diets and Japan cannot meet its domestic demand from its own production.

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BE PREPARED FOR
WINTER STORMS

The January, 1975 "blizzard of the century" immobilized much of Minnesota. Now is the time to "winterize" your family against impending storms which could leave you snowbound for two or three days without electricity.

Most important is to keep in touch with the weather forecasts. University of Minnesota Extension Conservationist Clifton Halsey advises knowing what weather conditions are expected and what changes might occur.

"This is especially important if any of the family is going to be away from home or if you have livestock out-of-doors."

Anticipate possible effects of a winter storm on electric power. Every family should have a good battery-powered radio and flashlights with extra fresh batteries and bulbs in case of a power failure. Kerosene and gas lanterns and stoves with extra fuel should be considered.

While most rural people usually have at least a week's food supply, families should have food that can be eaten without much cooking if fuel is short or electricity is off. People on special diets or who must take special medicines should always have a week's advance supply.

"People can take precautions to avoid many emergency rescue situations by having a complete supply of first aid materials at home. Another is to be sure the entire family is immunized for preventable diseases like polio, diphtheria, tetanus and flu," Halsey says.

-more-

add 1--be prepared for

Sleet and ice storms create additional problems. That's when an auxillary generator proves necessary to run the milking machines, well pump and automatic choring equipment.

The family can be kept warm with the fireplace, a space heater and warm bedding and clothing. To be safe check your heating equipments' working order.

To make sure you have thought of everything a detailed check list of emergency supplies is available from the Bulletin Room, University of Minnesota, St. Paul, MN 55108. Ask for HO-72, Part 2.

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MINNESOTA'S ECONOMIC
GROWTH NOT LAGGING

Projected growth rates to 1980 or 1990 are higher for Minnesota than for the United States in every major economic category except population, according to the U. S. Department of Commerce.

Minnesota's projected growth rate to 1980 is also higher than any other midwestern state for total personal income, per capita income, total earnings and earnings in government. Its growth rates in other variables were among the highest in the Midwest. The comparison of projections to 1990 between Minnesota and the other Midwest states is similar to the comparison to 1980.

"Many people believe that Minnesota's economy is lagging relative to neighboring states and the U. S. as a whole," says Agricultural and Applied Economics Professor John D. Helmberger of the University of Minnesota. Helmberger says this belief is based on two facts:

- 1--Minnesota's per capita income is and has been lower than the national average, and
- 2--Minnesota's population growth has been slower than for the nation as a whole. (Its birth and death rates were similar but there has been net-out-migration.)

However, these facts do not mean that Minnesota's economy is lagging, Helmberger cautions.

-more-

add 2--Minnesota's economic growth

Expansion in growth industries such as electronics that requires highly skilled and professional labor suggest that Minnesota's prospects for above average growth are good. This goes for growth in total personal income, farm income, nonfarm income and per capita personal income, according to Helmberger.

"Whether we measure growth by total personal income, per capita personal income, manufacturing payrolls, employment in manufacturing, nonfarm income or farm income, Minnesota's rate of growth has been faster than the national average," says Helmberger.

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4-H NEWS

HONORS, SPEECHES
SET FOR CONGRESS

Prominent leaders in government, education and business will meet with 4-H club members during the 55th National 4-H Congress Nov. 28 through Dec. 2 in Chicago.

Special emphasis will be given in discussion groups and assemblies to developing a better understanding of the American economic system. The 1976 Congress theme, "4-H--Room to Grow," will emphasize how 4-H provides opportunities for young people to grow as they set goals and respond to new challenges.

The keynote speaker on Nov. 28 will be Russell G. Mawby, president, W.K. Kellogg Foundation, who is a former 4-H member, volunteer leader and state 4-H leader.

Throughout the week delegates will be honored at special recognition events hosted by 4-H donors and other friends of 4-H. Scholarships, ranging in value from \$500 to \$1,000 each, will be awarded to 276 delegates.

About 1,600 of the nation's top 4-H members, including 39 from Minnesota, will arrive in Chicago the weekend after Thanksgiving for the 55th National 4-H Congress.

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Att: Extension Home Economists

TEENS SCORE WELL
IN DIET STUDY

If we are what we eat, does that mean that today's teenagers are the embodiments of fast food hamburgers, french fries and soda pop?

Margaret Doyle, food science and nutrition professor at the University of Minnesota doesn't think so. Her two-year study of the eating habits of St. Paul junior high school students shows that the students are eating better than many people think.

She and Susan Barker, nutrition specialist for the St. Paul public school system, analyzed the seven-day diet histories of 150 eighth graders. They then exposed some of the teenagers to nutrition education units and retested them afterwards.

While they found little difference in eating habits before and after the classroom work, they did discover some interesting things about teens' eating habits.

Most of the students were within the normal range of height, weight and calorie intake. Very few of the teens were below the recommended daily allowance (RDA) for protein, much of it supplied by milk.

Iron, however, was another matter. No one in the sample had 100 percent of the iron RDA and most of the students were below 67 percent of the recommended levels. Doyle says this is a problem for most people because the iron RDA is high and typical diets contain few foods rich in this mineral.

Vitamin A intake also was low, and Doyle attributes this to low vegetable and fruit consumption among the students. Another factor could be the timing of the test, Doyle suggested. It was conducted in the spring when supplies of vitamin A-rich vegetables are low. Also, because the body stores vitamin A, eating no foods containing it for the week of the test wouldn't necessarily cause a deficiency.

-more-

add 1--teens score well

She is concerned about the low vitamin A intake, however. When the eighth graders listed their least favorite foods, apricots, squash, broccoli and liver--all rich vitamin A foods--topped the list.

Vitamin C consumption was adequate despite a few students who were getting almost none of the vitamin. Potatoes were a major vitamin C source for many of the students, based on the foods' computer-calculated values. Doyle cautions, however, that these values could be higher than the food actually possesses if nutrients have been destroyed through cooking or holding for long periods on a cafeteria steam table.

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NOV. 20 CONFERENCE
TO FOCUS ON
FAMILY HERITAGE, DIVERSITY

"A Celebration of Families: Heritage and Diversity" is the theme of a Nov. 20 conference scheduled for the St. Paul campus of the University of Minnesota.

Topics for lectures and small group sessions include family life in American history, women in Minnesota, the immigrant experience, historical perspectives on human sexuality and parent-child relationships, Native American family life patterns, how to trace family histories, ethnicity and food on the frontier.

Sessions are designed to appeal to all age groups and social activities during the day will include field trips, films, informal "rap" groups and sports. The evening session will include a theatrical presentation about women in Minnesota put on by the Circle of the Witch Theatre Company.

For further information and to obtain registration materials, contact Ronald Pitzer, extension family life specialist, 64 Classroom Office Building, University of Minnesota, St. Paul, MN 55108.

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IN BRIEF. . . .

Nonprotein Nitrogen. A recently revised bulletin on urea and other nonprotein nitrogen compounds for cattle and sheep is available from Minnesota county extension offices. High energy rations favor urea utilization--urea has limited use in rations high in forage. Other tips from the publication:

--Additional minerals should be supplied when a protein supplement containing plant proteins is replaced with one containing urea.

--Toxicity should not be a problem if urea is fed according to recommendations. Feedlot rations should not contain more than 0.075 pound urea plus 0.011 pound of urea per pound of grain consumed. Vinegar is a helpful emergency treatment for urea poisoning if the animal is treated before tetany develops.

--Protein supplements containing high urea levels should be mixed thoroughly with the complete ration to prevent palatability and toxicity problems.

--On-the-farm mixing of undiluted urea preparations with other feeds should be done with caution because of the importance of accurate and uniform mixing.

* * * *

DHI Records. Dairy Herd Improvement (DHI) records can help you in at least eight important ways, according to a new University of Minnesota extension folder. They'll help you produce more milk from feed, select the right animals for breeding a better herd, make more precise management decisions and cull unprofitable cows. They can also help to develop herd health programs, evaluate production cost and profits, sell dairy animals for more money and achieve good reproductive performance.

More details are available from Minnesota county extension offices or your DHI supervisor.

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HUNTING SEASON CALLS FOR
RABBIT FEVER PRECAUTIONS

At least one Minnesotan probably will contract tularemia, "rabbit fever" this year according to Dr. Michael Pullen, extension veterinarian at the University of Minnesota. The disease is transmitted to humans by skinning infected cottontail rabbits or by eating inadequately cooked meat from infected rabbits.

The disease is caused by bacteria. It also can be transmitted by contaminated drinking water or insect bites, particularly those from ticks.

Dr. Pullen says that with early treatment, the rabbit fever death rate is low. Normally it is not transmitted from human to human.

He advises hunters to follow a few precautions:

*Wear rubber gloves and know how to decontaminate them after dressing or skinning rabbits. At the very least, Dr. Pullen suggests hunters who don't wear gloves should disinfect their hands after handling the animals.

*Cook rabbit meat thoroughly. The agent causing rabbit fever is destroyed within 10 minutes by a 140 degree F temperature.

*Use insect repellent to guard against transmission by tick, fly and mosquito bites.

*Avoid drinking untreated water.

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DON'T BE CAUGHT DEAD PUMPING A LIQUID MANURE TANK

Instances of animal and human sickness or even death from inhaling manure gas are a serious problem in Minnesota.

Liquid manure storage facilities produce several hazardous gases which are quickly released during agitation of the manure. Hydrogen sulfide can cause instant breathing paralysis and death. Ammonia, carbon dioxide and methane are not poisonous gases but they're irritating. Recovery may be complete if the animal or person is taken into fresh air.

"Since all the problems caused by noxious gases from livestock waste depend upon concentration, ventilation can help you avoid problems with liquid manure," says Philip Goodrich, extension agricultural engineer at the University of Minnesota.

Agitate manure tanks when buildings can be opened wide and well ventilated. Stay away from buildings when you are agitating and move animals out if possible. Do not wait until real cold weather and then hesitate to move out animals.

Ventilate underfloor pits using fans turned up to optimum capacity. Pull air from confinement buildings down through the tank and exhaust it to the outside. A plastic curtain placed over the slotted floor will duct the noxious gases out of the building. However, a recently emptied manure tank still contains high concentrations of heavier than air gases.

"Never enter a manure tank unless it is absolutely necessary. Then only enter with an auxiliary air supply and a rope tied around your body managed by two strong persons capable of pulling you out if you need assistance," Goodrich cautions.

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FEEDLOT OPERATORS
SHOULD PREPARE
NOW FOR WINTER

Feedlot operators are encouraged to have feedlots in shape for the long winter months.

"The basic principle for winter preparation is to keep a minimum quantity of manure and wastewater on hand," says Philip Goodrich, extension agricultural engineer at the University of Minnesota.

Feeders who enter the winter with an inventory of surface manure and stored runoff will find cattle belly deep in mud and their runoff holding ponds overflowing by spring. When warm weather returns all the ingredients are present for maximum odor production and a delayed spring manure "harvest."

Goodrich lists these maintenance tips, which should be done while conditions are favorable.

-- Collect surface manure frequently, including that from fencelines and cattle alleys to promote drainage and reduce sediment transport.

-- Backfill potholes and surface depressions gouged by cattle and machines.

-- If using mounds, construct low, long, broad mounds for cattle resting, preferably between the water trough and the feed bunk aprons. Place these mounds so they do not block drainage.

-- Remove sediment from drainage channels, settling basins, and runoff holding ponds. Access ramps for loaders and trucks can be built to the bottom of retention ponds to help in clean out.

-- Empty runoff holding ponds by land disposal of the stored effluent.

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BE CAREFUL WHEN
APPLYING ANHYDROUS

Minnesota extension soils specialists caution farmers when applying anhydrous ammonia to dry soils.

If no ammonia vapor can be seen during the actual application and if the odor of ammonia is not unduly strong, it is generally assumed that the anhydrous is being properly applied. Minimal losses can be expected.

Anhydrous ammonia is a gas at atmospheric pressure and some may be lost to the atmosphere during and after application. If the soil is hard or full of clods during application, the slit behind the applicator blade will not close or fill and some of the ammonia will escape.

In the field tests on clay or silt loam textured soils, ammonia losses were insignificant when the depth of application was nine inches, even on air dried soils. But ammonia losses on sandy soils can be relatively high when the soil is air dry. Sandy soils can retain and hold considerable anhydrous ammonia if they are moist.

It takes very little water to convert ammonia gas to a non-gaseous form.

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DAIRY RECORD
MEETING SET

How to get the most from new Dairy Herd Improvement (DHI) records will be the theme of 52 "record rap" meetings throughout Minnesota in November and December.

The meeting for _____ is scheduled for _____
(name of county) (date)

(place, time)

"The new DHI record system is geared to help you make more money from the dairy operation," says Joe Conlin, dairy specialist at the University of Minnesota.

New information in the DHI record system that will be covered at the meetings includes feed information (including a protein index), reproduction information, peak milk production, mastitis evaluation programs and a verified identification program.

"The new record system is an excellent tool for culling cows," says Conlin. It also involves conception and heat detection information, when cows are bred and conceive, time lost to reproductive performance, herd turnover rate and a production index.

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DEC. DAIRY DAY
PROGRAM SET

Five dairy day programs featuring forage production and feeding are scheduled throughout the state in early December. The programs are scheduled as follows:

- Dec. 6, Middle School Auditorium, Braham, 12:30 p.m.
- Dec. 7, New Hutchinson Armory, Hutchinson, 10:30 a.m.
- Dec. 8, Paramount Theatre, St. Cloud, 10:30 a.m.
- Dec. 9, Dakota County Extension Office (Fairgrounds), Farmington, 10 a.m.
- Dec. 10, St. Mary's Center & College, Winona, 10:30 a.m.

University of Minnesota specialists will present their latest research reports. 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

At the Winona meeting Robert Leuneing, extension economist from the University of Wisconsin, will replace Benson. William F. Hueg, Jr., deputy vice-president for agriculture at the University, will speak at the Winona and St. Cloud meetings. His topic will be "Food for All."

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4-H NEWS

Immediate release

MINNESOTA BANKERS
ASKED TO SUPPORT
4-H BANK CAMPAIGN

Minnesota bankers are being asked to join bankers across the nation to support the 4-H program in the 1976 Nationwide 4-H Bank Campaign.

A national goal of \$100,000 has been set for the campaign, which netted \$97,000 in 1975. Funds generated will be used to support the educational efforts of 4-H to give young people skills and motivation for citizenship, personal development and community service.

The nationwide campaign, conducted in cooperation with the American Bankers Association for 24 years, has helped 4-H enrich programs for thousands of young people in areas of citizenship and leadership training. For more information, contact _____ at the _____ County Extension Office.

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ATT: Extension Home Economists

Immediate release

LOOKING AT GOALS
SETTING PRIORITIES
GIVES DIRECTION TO LIFE

What do you stand for? What do you want in life? What choices must you make in the near future?

Edna Jordahl extension home management specialist at the University of Minnesota, suggests asking yourself some questions to determine what is most important in your life.

1. What are my goals in life? There are long-and short-term goals. As the short-term goals are reached they often lead the long-term ones. Examine these often because they do not remain static.
2. Are you using your vital resources to accomplish priorities? Some achievements always are more important than others, but often the order for placing our time, money and energies is not in perspective with what we are trying to accomplish. This balance also is fluid.
3. Is your sense of responsibility in proper balance? Efforts may be directed toward problems because of a command and not because we give a personal commitment. Stand up for what you want in life.
4. Do you have sufficient courage to face possible disappointments and losses? We experience many losses (family, friends, jobs, money, position and finally life itself), but there are gains in life too. Emphasis on the gains makes life more bearable.
5. How consistent are you in relating well to others? Is there a sense of mutual gain that is sincere or is it a superficial "Hello, there. How are you?" "I am fine." To be meaningful, a relationship must be encouraged by all parties involved.

add 1--looking at goals

6. Where do you reach for emotional support? Is there a sharing of emotions or activities? Can others give you joy by mere reactions?
7. What is the role of love in your life? It's a capacity to care for someone else. It's a respectable feeling. But first one needs to learn a love and respect for oneself, which is the first step toward feeling good about others.

Each of us should ask ourselves these questions from time to time to keep our activities in line with what is important to us, Mrs. Jordahl suggests.

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COPING WITH STRESS
CONTRIBUTES TO HEALTH

Is your job stressful? If so, health complications may be the result, says Edna Jordahl, extension home management specialist at the University of Minnesota.

Occupational stress is caused by general dissatisfactions about work, competition, tight deadlines and unsatisfactory relationships. Prolonged stress can cause heart disease, rheumatism, arthritis, ulcers and other diseases. More attention is being given to the job-health relationship, according to Mrs. Jordahl.

Tension-producing situations also can lower resistance to infectious diseases. Persons living with the least amount of stress or those who deal with it often live the longest, she says.

What is demanding on a job to some is just a pleasant challenge to others. The results to the individual depend on his or her reaction to the situations.

A person with ample training, abilities and a sense of value for the work may experience great satisfactions while others may feel pushed or tense in relating to the job.

How can one lessen the tension of work? Mrs. Jordahl suggests three steps:

1. Reorganize schedules to ease the time pressures and speed up work.
2. Develop new skills so that the job can be accomplished easier.
3. Call on others for assistance to ease work load on one.

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IN BRIEF. . . .

Ag. Exports. Minnesota ranked eighth among states in value of agricultural exports in fiscal year 1976, according to Martin Abel, University of Minnesota agricultural economist. Total value of all Minnesota agricultural exports was \$915 million. Top commodities were feedgrains, \$298 million; soybeans, \$245 million and wheat, \$168 million. The top state was Illinois followed by Iowa, Texas, California, Kansas, Nebraska, Indiana and Minnesota.

* * * *

Feeding Urea. If you feed 13.5 pounds of urea along with 86.5 pounds of corn it's equal to 100 pounds of 44-percent protein soybean meal in protein and energy value. Normally the urea-corn mix will reduce protein supplement costs. High grain rations result in good urea utilization by ruminants, but high forage rations result in lowered utilization of urea. Adding grain or molasses to a high forage ration will improve urea utilization. However, molasses won't improve urea utilization when high grain rations are fed. More information is available in the bulletin "Urea and Other NonProtein Compounds for Cattle and Sheep," available from Minnesota county extension offices.

* * * *

Protein Index. The protein index is a new addition to Minnesota Dairy Herd Improvement (DHI) records that can help you make money. It helps insure that top producing cows get enough protein so that production isn't limited. It also helps avoid overfeeding of expensive protein supplement. See your DHI supervisor or county extension agent for more information.

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SURVIVING A
SNOWSTORM IN
YOUR CAR

Every severe Minnesota winter storm sees people marooned on the road; occasionally they freeze to death or suffer severe frostbite.

There are ways to survive such situations in good condition, according to Clifton Halsey, extension conservationist at the University of Minnesota.

"The golden rule of survival is to stay with the car just as you stay with the boat if you are swamped in the lake. Don't risk losing your way in blinding snow and bone-chilling cold. Many people who get lost panic and lose their ability to think clearly. You are much more likely to be found alive if you are with your car."

According to Halsey, the next important concern is staying warm. As long as there is gas in the tank, the engine runs and the heater works, you can probably keep warm.

Staying warm can be quite a problem, however. Fine, wind-driven snow can stop the engine by getting it wet or by plugging the radiator. A running engine produces the killer gas, carbon monoxide. The tail pipe should be free of snow so that the wind will blow the exhaust gases away from the car. Wet driven snow can seal the car; a window should be open a little on the side away from the wind.

"It is wise to be prepared to keep warm in the event your car won't run," says Halsey. "If you are planning to travel any distance carry a heavy overcoat, woolen mittens and cap, overshoes and blankets or sleeping bags to bundle up in. It is important to clap your hands and move your arms and legs to keep the blood circulating."

-more-

add 1--surviving a snowstorm

If you become snowbound for a day or two in your car you will get hungry and thirsty and need toilet facilities. Keep a couple of coffee cans in the trunk stocked with candy bars, raisins, graham crackers, and candles and matches. Melt snow in one of the cans for drinking water and use the other with its tight cover as a temporary toilet. Have some facial tissue, also.

"To mark your car so it will be spotted by rescue crews, tie a brightly colored cloth to the antenna or wedge it in the top of a car window," Halsey advises.

Other equipment you should have in your car for winter weather emergencies:

--first aid kit

--sharp pocket knife

--flashlight with fresh batteries

--small sack or three pound coffee can of sand

--20-foot tow chain or cable

--battery booster cable

--short-handled shovel

--miscellaneous small tools-pliers, screwdriver and adjustable wrench.

A folder called "Winter Survival," which tells what to do when you are marooned in your car, is available from the county extension office or the Bulletin Room, University of Minnesota, St. Paul, MN 55108.

dcc

CA.IA.

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
November 15, 1976

Immediate release

MECHANIZED TIMBER
IMPROVES RUFFED
GROUSE HABITAT

Mechanized logging improves habitats for ruffed grouse and other forest wildlife, University of Minnesota research shows.

"This experiment combines a four-year research project on ruffed grouse with applied modern forestry practices to demonstrate mechanical logging can be favorable to the game bird," says William Marshall, wildlife specialist at the University. "The study documents these game birds' dependence on diverse habitats created by forest disturbance, such as logging.

"Optimum benefits occur when clearcutting to favor aspen regeneration is limited to dispersed blocks not exceeding about 10 acres," says Marshall. "Not cutting Minnesota forests where aspen is a substantial component will result in the ultimate loss of both aspen and ruffed grouse."

The heavily disturbed soil at landings and on skid trails should not be considered a loss, but rather an asset. The skid trails will usually fill in with herbaceous plants, especially clovers, strawberries and other plants that grouse and other wildlife eat. In addition, skid trails provide hunter access, according to Marshall.

In this cutting scheme, the same landings will be used for later logging operations; they can be maintained as permanent openings without additional attention.

"This operation demonstrates that a private landowner, with an adequately stocked timber stand, can realize income from his timber resource while he is developing or restoring high-quality wildlife habitat," Marshall states.

Some 40 percent of Minnesota's 17 million acres of commercial forest land is in small private ownerships; often, wildlife maintenance is a prominent owner objective.

The \$12.35 per cord harvesting cost is comparable to logging costs on areas requiring no special provisions for wildlife habitat improvement, Marshall says.

dcc

CA, IA, F, OS

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University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
November 15, 1976

Immediate release

DRY CONDITIONS
PROMPT HERBICIDE
CARRYOVER CONCERN

Herbicide carryover may be a greater problem than usual because of the extremely dry conditions of last year.

"Herbicides break down more slowly under dry or cool conditions and the soils are too cool for much additional decomposition this fall even if rains occur," according to Gerald Miller, extension agronomist at the University of Minnesota. "But if we have a wet, warm spring there'll be some breakdown of herbicide residues prior to planting."

Atrazine is one of the more persistent herbicides which may carry over enough to damage susceptible crops such as small grains, flax, forage legumes and grasses, soybeans, sunflowers, sugarbeets and vegetable crops. Corn, sorghum and millet are tolerant. Cyprazine has about the same persistence as atrazine, if applied at the same rate, and simazine is more persistent than atrazine.

"Chemicals used on soybeans do not normally carry over enough to affect crops the following year. But following dry conditions and with reduced tillage, trifluralin (Treflan), profluralin (Tolban), and fluchloralin (Basalin) may persist enough to affect corn, grain sorghum, small grains and sugarbeets the following year. Wheat is more tolerant and less likely to be injured from residues of these chemicals than the other small grains," says Miller.

Moldboard plowing will reduce the risk of injury from residues of herbicides in the soil compared to reduced tillage. Corn injury has been observed in previous years where corn has followed soybeans treated with trifluralin and the fields were chisel-plowed, disked, or field-cultivated without moldboard plowing.

Soybeans, sunflowers, or dry beans can be planted in 1977 without risk of injury from trifluralin, fluchloralin or profluralin residues, Miller states. Alfalfa also has good tolerance to these herbicides.

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Tel. (612) 373-0710
November 15, 1976

Immediate release

MSC
9A27
J

FUNGICIDES PREVENT
SERIOUS CEREAL
SMUT LOSSES

Loose smut of oats and semi-loose and covered smuts of barley have built up in recent years to the point that fungicide seed treatments should be used in order to avoid serious crop losses.

Vitavax is one of the fungicides that provides control of these smuts as a seed treatment. It may be the best available for loose smut of oats since its systemic action controls infection that occurs under the hulls, says Herbert G. Johnson, plant pathologist at the University of Minnesota.

"Loose smuts of barley and wheat overwinter as infections in the embryos of these crops. We have the embryo test for barley to tell us the percentage infection of a seed lot. The test does not work very well for wheat."

Loose smut of oats is different. The fungus overwinters as spores on the surface and under the hulls of oat kernels.

Semi-loose smut of barley looks like loose smut, but acts like covered smut. It overwinters as spores on the surface of barley kernels.

Fungicides, other than Vitavax, that control smuts that overwinter as spores on the surface of kernels are: thiram, maneb, Terra-Coat, Polyram, Busan (TCMTB) and HCB.

"Registrations for crops, formulations and dosages vary with these fungicides. Be sure to read the label for this information. Dosages lower than those specified on the labels often give reduced smut control," Johnson cautions.

dcc

CA. IA. FC

Department of Information
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November 16, 1976

MISC
AS 70
Programs are available to all
persons regardless of race,
creed, color, sex, age, or
national origin.

SPECIAL SHORT COURSE SCHEDULE (December 1976 - May 1977)

- Nov. 29, Forest Owners and Users Conference, Nov. 29, St. Paul; Nov. 30, Bemidji;
30, Dec. Dec. 1, Grand Rapids; Dec. 2, Duluth; Dec. 7, Rochester. For forest
1,2,7 landowners and others interested in management of forest lands.*PS
- Dec. 1 Sheep Day, NW Exp. Station, Crookston.+
- Dec. 8 SW Minn. Swine Health Clinic, Worthington, Minnesota. The meeting is
designed to bring veterinary practitioners and pork producers together
to discuss efficient, profitable management of the swine breeding herd.
For agri-business men associated with the swine industry, pork pro-
ducers, veterinarians, and animal technicians.*GW
- Dec. 8 Cattle Feeders Day, Crookston.+
- Dec. 8 Meats Up-Dating Conference, Meat Science Lab., St. Paul Campus. This
April 2 conference is for foods educators who desire to stay current on latest
topics concerning meat.*GW
- Dec. 8 Food Service Motivation Workshop, McNeal Hall, St. Paul Campus. To in-
crease knowledge and understanding of the role, process and content
of motivation. This one-day course is intended for institutional and
commercial food service managers, dietitians, supervisors and other
interested personnel.*GW
- Dec. 11 Grain Judging Workshop, Agronomy Building, St. Paul Campus. The work-
shop is for vocational agriculture instructors. Workshop topics will
include: 1. Introduction to the official rules of the grain grading
section of the FFA contest and U.S. grain grading handbook. 2. Practice
with written grain grading problems. 3. Practice with grain samples as
used in contests.*CN
- Dec. 14 Beef Day, Southern Experiment Station, Waseca.+
- Dec. 13- Combined Soils, Fertilizer and Agricultural Pesticides Short Course,
15 Minneapolis Auditorium. To present information on soils, fertilizers,
and pesticides used in the production and marketing of food and fiber.
For professional and technical personnel and those engaged in production
agriculture.*PS
- Dec. 13- Dairy Herd Improvement Assn. Supervisor Training Short Course, St. Paul
17 Campus. To train prospective DHIA supervisors. For individuals or mar-
ried couples interested in doing this kind of work.+
- Jan. 11 Swine Day, Southern Experiment Station, Waseca.+
- Jan. 11-13 Home Sewage Treatment Workshops, Jan. 11-13, Anoka area; Jan. 25-27,
Jan. 25-27 Rochester; Feb. 8-10, Marshall; Feb. 22-24, Bloomington; March 1-3,
Feb. 8-10 Alexandria; March 15-17, St. Paul; March 29-31, Bemidji; April 12-14,
Feb. 22-24 Eveleth. For county sanitarians, zoning officers, contractors, county
March 1-3 planners, public health inspectors and building inspectors. *PS
March 15-17
March 29-31
April 12-14

Page 2 - Special Short Course Schedule

- Jan. 15 Milk Judging & Dairy Foods School, Food Science & Nutrition Building, St. Paul Campus. The school is for vocational agriculture instructors only. With inclusion of cottage cheese sample preparation, the instruction is designed for vo-ag instructor teaching and preparation techniques.*CN
- Jan. 17-20 Better Process Control, Curtiss Hotel, To provide training, examination and certification so that canners in Minnesota and the upper-midwest can comply with federal regulations Pat. 128b--Thermally processed Low-Acid Foods Packaged in Hermetically Sealed Containers -- of the Food and Drug Law.*GW
- Jan. 24-26 Food Plant Pesticide Applicator's Conference, Downtown Radisson Hotel, Minneapolis. For food plant and warehouse managers, pest control operators, and persons responsible for sanitation and pest control in food plants and warehouses. To provide current information on new regulations and prescribed methods of conducting sanitation and pest control programs in food plants and warehouses.*PS
- Jan. 31-
Feb. 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
- Feb. 1 Winter Crops Day, Southern Experiment Station, Waseca.+
- Feb. 3 Maple Syrup Short Course, North Star Ballroom, St. Paul Student Center. Programs is for people interested in learning about the art and science of working the sugar bush.*PS
- Feb. 18-27 Red River Valley Winter Shows, NW Exp. Station, Crookston.+
- Feb. 12 Green Holiday Short Course, North Star Ballroom, St. Paul Campus. For anyone interested in gardening and presenting the vegetables they grow. Topics will include latest vegetable varieties (where they can be obtained), proper fertilizers, and pest control and proper storage of vegetables.*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 1, 2,3,4,8, 9,15,16, 17,18 Commercial Applicators Pesticide Workshops, Rochester, March 1-2; Marshall, March 3-4; Minneapolis, March 8-9; Crookston, March 15-16; St. Cloud, March 17-18. 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 9, 11,16,17 Fair Management Short Course, Elks Club, Owatonna, March 9; Donovan's Conference Center, Redwood Falls, March 11; 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

Page 3 - Special Short Course Schedule

- March 10 Minnesota Commercial Aerial Applicators Workshop, 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.*PS
- March 13-14 Commerical Small Fruit Growers, North Star Ballroom, St. Paul Campus. For commercial small fruit growers.*RM
- March 14 Dairy Day, Southern Experiment Station, Waseca.+
- March 17 Sugar Beet Growers, NW Exp. Station, Crookston.+
- 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, 22,23,24, 25,31, April 1, 4,5,6 Township Officers Short Course, March 21, Waseca; March 22, Rochester; March 23, Willmar; March 24, Marshall; March 25, St. John's University, Collegeville; March 31, Brainerd; April 1, Fergus Falls; April 4, Detroit Lakes; April 5, Thief River Falls; April 6, 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 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 land management. Topic is alternative methods of increasing recreational, aesthetic wild-life and timber values of forest land. *PS
- March 25-26 Beekeeper's Short Course, North Star Ballroom, St. Paul Campus. For hobby beekeepers and all others interested in beginning beekeeping.*PS
- 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 24- Minnesota FFA Convention and Leadership Conference, St. Paul Campus.
26 To promote a learning experience for vocational agriculture students and FFA members.*CN
- May 20- Minnesota State Fire School, St. Paul Campus. For volunteer and paid fire
22 department personnel, city officials, and interested government and industry personnel who deal in fire safety, prevention, control and rescue and first aid work.*PS
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* For further information call Office of Special Programs
CN--Curt Norenberg 612-373-0725
RM--Richard Meronuck "
GW--Gerald Wagner "
PS--Paul Stegmeir "

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

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, Minnesota 55108
Tel. (612) 373-0710
November 22, 1976

4-H NEWS

Immediate release

WINTER CAMPING
EXPERIENCES FOR
LOCAL 4-H'ERS

Some winter camping experiences are available to _____ County
4-H members, says _____.

The North Woods Resource Center, 17 miles northwest of Ely, offers
programs for grades 6 through 12 at two sites in February and March. The
420-acres provide access to Burntside State Forest.

The Wolf Lake Refuge, near McGregor, is surrounded by Svanna Portage
State Park and has programs in winter camping, dog sledding and cross country
skiing.

(Include information on other winter camping opportunities in your area).

Young people interested in winter camping experiences should contact
_____ at the county extension office.

-daz-

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
November 22, 1976

ATT: Extension Home Economics

Immediate release

MSC
9A27p

VALUES DOESN'T MEAN
MOST MEAT FOR LEAST MONEY

Looking for value at the meat counter? Don't seek just the largest piece of meat for the least money advises Richard Epley, extension meats specialist at the University of Minnesota.

Meat value is determined not only by maximum nutrients per dollar but also by the eating satisfaction it gives. Epley says. "A highly nutritious piece of meat with all lean and no fat will usually leave a lot to be desired for flavor, juiciness and tenderness. And especially juicy, tender cuts of meat deliver much less nutrition per dollar spent."

He advises consumers to keep purpose in mind when buying meat. If maximum nutritional value is the goal, select meat with no fat and avoid sausages and bacon. If maximum eating satisfaction is important, select meat with abundant marbling and/or fat.

Most shoppers, however, want the best compromise between the two factors, according to Epley. To reach that balance between nutritional value and eating satisfaction, Epley offers four shopping tips:

- * Select for a modest amount of marbling.
- * Select for a bright, appealing color and firm, smooth texture in the lean.
- * Buy cuts that are moderately well trimmed of external and seam fat.
- * Look for ample lean. Avoid cuts that are either totally lean or heavily laced with fat.

Convenience also is a consideration in meat shopping, Epley says. Sausage and wieners that are 30 percent fat, for example, have a high cost per unit of protein compared to other meats. They win points for ease of preparation and flavor, however.

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November 22, 1976

MSC
3A27
ATT: Extension Home Economists

Immediate release

EATING ALONE
PART OF TEENS'
FOOD HABITS

Picture a cozy family setting--father, mother and several children elbow-to-elbow around a bountiful dinner table.

In fact, a more realistic dinner scene is a teenager sitting alone over a plate of warmed-over casserole, according to Margaret Doyle, professor of food science and nutrition at the University of Minnesota. Her two-year study of the eating habits of St. Paul junior high school students shows that meals eaten alone may be more common for many teens.

Although the diets of students studied stacked up well against recommended daily allowances (RDA) for calories and most nutrients, Doyle says the pattern of eating alone could pose problems. Research indicates that the more meals eaten in a group--whether family dinners or school lunches in a cafeteria--the more likely the students are to meet RDA standards.

Breakfast skipping, once thought to be common, was infrequent. "But the standard breakfast seemed to be cold cereal and a glass of milk," Doyle commented. Students often listed oranges among their favorite foods, but their breakfasts seldom included juice or fresh fruit.

The students averaged four "eating events" each day, usually three meals plus an after-school snack. Despite this snack habit, most didn't consume a large amount of snack foods. They drank, on the average, only 1/3 to 1/2 cup of soda pop a day, and they don't flock to fast food restaurants.

-more-

add 1--eating alone

"They still eat most of their meals at home," Doyle reported. This finding, plus the number of meals eaten alone, convinced her that educating parents to keep nutritious foods available at home may be a key to upgrading teens' diets.

She is encouraged by students' reactions to individualized nutrition education using portable computer terminals to analyze diet histories and give speedy feedback on deficiencies and excesses. Unlike traditional nutrition education that says, "Eat this and this to be healthy," the computer gives more personalized information and a chance for students to interact with an electronic expert on nutrition.

-dmm-

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Immediate release

FORAGE ANALYSIS
RECOMMENDED FOR
THIS YEAR'S HAY

Producers should get a moisture test, crude protein and crude fiber tests for all forages including drought stressed corn silage.

University of Minnesota Extension Agronomist Neal Martin says a crude fiber test estimates the fiber content of forages and is used to estimate forages' energy content.

Forage testing can be more useful to farmers this year than in the past. With this year's drought, one-quarter less hay was produced compared to a year ago and producers had extremely poor to non-existent pasture production. With increased hay demand, prices are higher which always favors forage testing.

Testing can influence hay pricing by enabling buyers and sellers to know the protein and energy value of hay. A protein test can save money for the buyer and can benefit the seller with high quality hay.

For more information, get Extension Folder 297, Revised 1975, "Interpreting Forage Test Results," from your county extension office.*

-daz-

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*Depending on county supply situation. Bulletin Room supply is limited.

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For Release Dec. 1

QUACK GRASS
IS PRODUCTIVE

Houston, Texas--The noxious quack grass weed growing on organic soils is not wasted space.

"Northern Minnesota quack grass infested peat soil areas formerly considered unproductive can now be highly productive forage areas," says Research Soil Scientist Gary Malzer of the University of Minnesota.

It has been recognized for some time that grass plants properly fertilized and harvested can furnish feed with high protein content. It would appear that the production of grass on the state's 7½ million acres of peat soil could prove profitable to many Minnesota farmers, says Malzer.

The Netherlands, northern Germany, Denmark, and several other European countries are currently using grass plants harvested at an early age as high protein livestock feed.

"Good fertility and management programs can increase quack grass production up to 100 percent with substantial gains in protein content," says Malzer. "Quack grass has competed successfully in yield and quality with other forage grass species."

In the paper to be presented at the American Society of Agronomy meeting Dec. 1 in Houston, Malzer states that quack grass yields responded most favorably to nitrogen and phosphorus fertilizers. Management and fertilization of quack grass pastures is as economically advantageous as production of any other forage grasses.

"It can be cheaper to manage existing quack grass than to eradicate it for other agricultural land use. Mechanical and chemical means of killing quack grass on peat soils are presently ineffective."

Grassland farming on Minnesota's organic soil needs only minimal drainage for good growth. Quack grass is well adapted to the short, cool growing season and does not require tillage like many other crops.

-dcc-

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November 22, 1976

IN BRIEF. . . .

Implant Carefully. Cattle feeders using implants are encouraged to read directions carefully and use the proper equipment. Animals may have adverse reactions to the implants if you do a poor job. Adverse reactions usually involve animal behavior disturbances such as riding. Implants give a growth and feed utilization improvement of about 10 percent so they're worthwhile. Usual causes of improper implanting include:

- Improper location of the implant within the ear, placing it near or in a blood vessel or too close to the head where it's absorbed too rapidly.
- Storing the implant where it takes up moisture or where it becomes wet during implanting and thus is absorbed very rapidly.
- Cracking or chipping the implant during administration.

* * * *

Ag. Short Course. The annual Soils, Fertilizer and Agricultural Pesticides short course will be held at the Minneapolis Auditorium Dec. 13-15, 1976. Exhibits will open at noon, Dec. 13. The afternoon program, geared for retail dealers, is entitled, "Staying in Business--Concerns for Dealers." During the next two days there will be sections on fungicides, herbicides, and insecticides, soils and fertilizers, and drought and weather forecasting.

More information is available from the Office of Special Programs, University of Minnesota, St. Paul 55108. Phone (612) 373-0725.

* * * *

Solar Drying. A solar grain drying conference open to the public will be held Jan. 11-12, 1977 at the Ramada Inn in Champaign, Illinois.

Conference topics will include potential use of solar energy for grain drying, adapting solar collectors to grain drying, multiple use of solar collectors, and research and farmer experiences with solar drying.

More information is available from Brandt Pryor, conference coordinator, 116 Illini Hall, Champaign, Illinois 61820.

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For Release Nov. 29

CORN SEEDS
DEVELOP IN
TEST TUBES

Houston, Texas--Corn seeds can now develop apart from the plant, beginning at pollination time.

"'Test tube' corn seeds of normal size and composition are obtained after 40 days growth on artificial nutrient media," according to plant geneticist Burl Gengenbach of the University of Minnesota.

"An immediate use of this capability is to define nutritional requirements for corn seed development," he said at the American Society of Agronomy's annual meeting in Houston, Nov. 29.

This procedure also could determine whether beneficial genetic changes in the embryo can be identified by altering the developmental conditions. Identifiable mutant embryos could be incorporated into conventional corn genetics and breeding research.

"Following removal of the ovaries from the plant, up to 85 percent have been fertilized upon pollination. The extent of subsequent seed development is variable with about 15 percent developing to mature seeds capable of producing normal corn plants," Gengenbach states.

Development is initiated by pollinating the corn silk attached to each ovary. Three or four days after pollination the fertilized ovaries begin to enlarge, indicating seed development.

-dcc-

CA. IA. FC

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November 22, 1976

Immediate release

WAIT, SEE ON
LEAF SPRAYING

"Wait and see" is the advice on foliar fertilization of soybeans that University of Minnesota Soil Scientist George Ham gives.

Experiments are being conducted in almost all states that grow soybeans and the results of these trials should help refine the technique of foliar fertilization, he adds.

"Those of us involved in foliar fertilization research know that we have more to learn before we can make the practice work every time. However, if you feel you must try foliar fertilization on your soybeans, use the right materials, the right amounts, apply at the right time and try it on a small acreage. In 1976 it cost some Midwest farmers \$50 or more per acre in application costs and yield reduction to try foliar fertilization. Such results can be rather expensive on a large acreage," the soil scientist says.

Yield increases of 22 and 23 bushels obtained at Iowa State University with foliar fertilization on Corsoy soybeans, are not always possible. No yield increases were reported in studies at the University of Minnesota Waseca's test fields, but the yields were greatly reduced by dry weather. At the Rosemount fields with irrigation no yield increases were obtained in one experiment and a nine-bushel increase was reported in another test.

Omitting one of the four elements--nitrogen, phosphorous, potassium or sulfur--from the spray solution greatly reduces yield response, Ham says. The ratio of the four elements--10:1:3:0.5 on an elemental basis--also is critical.

-more-

add 1--wait, see

The amount of nitrogen the plant will tolerate without burning the leaves (usually about 20 to 25 pounds per acre) generally limits the amount of nutrients that can be applied.

Soybeans should be sprayed every 10 to 14 days when the beans begin to develop, which can be determined when the pod is squeezed at one of four uppermost nodes, until the time when the pods are yellowing and half the leaves are yellow. Three to four applications are required to get maximum benefits.

-daz-

CA.IA. FC

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Tel. (612) 373-0710
November 29, 1976

Immediate release

4-H NEWS

155
JAN 7 1977

4-H NATIONAL
ACHIEVEMENT
PROGRAM

The National 4-H Achievement Program can help young people plan their future and build on their past, says _____.

Young people "reach for the top" in this program to gain a broader knowledge of agriculture, home economics and other 4-H project areas. They study, adapt and apply the latest practices and research findings to improve everyday living for themselves, their families and their communities. Also, they develop the practical skills that lead to more efficient, profitable 4-H project work.

Here's what some recent national 4-H achievement program winners say:

"I will always be willing to help young people interested in 4-H because I believe there is no other organization that can do more for a person.

"My richest experiences in 4-H have been with people. Many of my projects have been the vehicles to help me meet and work with people as I integrated my 4-H projects into the needs of the community."

-daz-

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Tel. (612) 373-0710
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ATT: Extension Home Economists

Immediate release

MECHANICALLY DEBONED MEAT
COULD BOOST FOOD SUPPLY

Mechanical meat deboning, a process under study by the U.S. Department of Agriculture, could recover an additional 13 to 16 pounds of beef or three to four pounds of pork per carcass.

Richard Epley, extension meats specialist at the University of Minnesota, estimates that about a billion additional pounds of meat per year could be added to the nation's food supply by using the mechanical deboning process.

The poultry industry has used mechanical deboning for 10 years, but it isn't allowed in red meat products. The process involves grinding up bones and the meat remaining on them after a knife separates as much meat from the bone as possible. Mechanical deboning machines then separate out the lean tissue from the bone.

If the U.S. Department of Agriculture proposal is accepted, certain meat products will be allowed to include 15 or 20 percent mechanically deboned meat. These include beef patties, several kinds of sausage, frankfurters, bologna, luncheon meat, meatloaf, scrapple and bratwurst. It would not be allowed in hamburger or ground beef, Epley says.

Critics of the proposal claim it would allow processors to sell bone at meat prices. Epley points out, however, that the percentage of bone in mechanically deboned meat will be very small and it will be ground extremely fine.

-more-

add 1--mechanically deboned meat

The USDA proposal calls for such small particle sizes that bone would not be detectable in the mouth at the levels permitted. Although the possible effects on the gastrointestinal tract lining are still being investigated, the USDA thinks the mechanical deboning process may be safer than hand deboning. Sharp knives cutting around bones can incorporate slivers and chips of bone into the meat, according to USDA experts.

Because fluorine and heavy metals can concentrate in bone, the USDA is sampling and analyzing mechanically deboned meat for such trace substances. Epley predicts that bone size safety in the digestive system and the presence of trace elements are the chief issues to be resolved before mechanically deboned meat is allowed.

He thinks labeling meat products as containing mechanically deboned meat would be a useful part of USDA regulation, but that issue is also still being considered by the USDA.

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7-10-76

Immediate release

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St. Paul, Minnesota 55108
Tel. (612) 373-0710
November 29, 1976

IN BRIEF. . . .

Ag. Policy. Whether next year will be a banner year for new agricultural legislation in Washington is a matter of some speculation, according to reports from the National Agricultural Outlook Conference. Several agricultural acts expire this year and there are many more "players" in the food policy game representing consumer groups, foreign trade and foreign policy. Integration of these newer economic forces into agriculture could help precipitate a watershed of agricultural policy acts from Congress, some observers believe.

On the other hand, says the counsel to the House Agriculture Committee, Hyde Murray, agricultural legislation is complicated and Congress will be facing many deadlines. For that reason many current agricultural acts on the books may simply expire. In addition, House Agriculture Committee members are apt to feel little pressure for change. All were reelected--all but one with at least 55 percent of the popular vote.

* * * *

Food Prices. Retail food prices have held "amazingly stable" for the past year, according to the U.S. Department of Agriculture. Quarterly averages of the retail price index for food used at home ranged from 179 to 181 (1967=100) during the Oct.-Sept. farm marketing year. This was a year of big supplies of food crops and expanding output of livestock products. This stability in retail prices for food used at home is expected to continue into the early months of next year. However, retail prices for food used at home probably will begin to increase next spring as farm prices of livestock products increase.

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November 29, 1976

Immediate release

SAFE CARE
FOR CHRISTMAS
TREES

Buy or use only freshly cut trees in your home this holiday season, says Robert Aherin, University of Minnesota extension safety specialist.

Fresh trees are green and their needles are hard to pull from branches. When the needles are bent between fingers, they will not break. If you get a shower of falling needles when you bounce the tree on the ground, then it is too dry.

Keep the tree in a cool place with the base in water if you store it before using it. Saw off the butt end at an angle about one to two inches above the original cut to help water absorption. Place the tree in a non-tip stand in water while it is inside your home. Check the water level at least once a day for absorption and evaporation to keep it green and greatly reduce flammability. A seven-foot tree properly set up and cared for will consume about seven quarts of water in 14 days.

Place the tree away from fireplaces, radiators or other heat sources. If the tree is not near where people sit, it lessens the chance of ignition from people smoking. Also make sure your Christmas tree does not block traffic and doorways.

Natural trees should not be displayed for more than 14 days indoors. When the needles start to fall, remove it from your home and destroy it safely. A dry tree, if ignited, can produce more than 1,000 degrees (Fahrenheit) in a few seconds, Aherin says.

-daz-

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Immediate release

NEW SEEDS
OFFER HOPE TO
HUNGRY NATIONS

Improved crop varieties offer encouragement to the world's lesser developed countries despite critics of the "Green Revolution" who say otherwise, says a University of Minnesota official.

Lesser developed countries (LDC's) can use "new seeds" developed by scientists to advantage, said William F. Hueg Jr., deputy vice president and dean for agriculture, forestry and home economics at the University of Minnesota.

Hueg spoke at the American Society of Agronomy meeting Monday, Nov. 29, in Houston, Texas.

"Critics of the 'Green Revolution' pointed to failure of the new seeds since they needed the expensive technology of fertilizer, irrigation and pesticides. But with hard red spring wheat we know that 26 to 29 percent of the yield increase comes directly from breeding for yield. Another 25 to 27 percent comes from breeding from disease resistance. So plant breeding research accounts for over half of the yield improvement.

"Improved cultural practices--fertilizer, pesticides and irrigation--account for another 19 to 26 percent in yield improvement. Mechanization contributes 26 to 32 percent. Yet, mechanization is often the first thing thought necessary for improved food supplies in LDC's."

On the national scene, said Hueg, we've seen reports calling for more research in agriculture, the Title XII amendment to the Foreign Assistance Act focusing on world food production, and organization of the new Board of International Food and Agricultural Development.

-more-

add 1--new seeds

"All of these events would suggest that American agriculture is on the move, both domestically and in meeting responsibilities to the hungry world. But those of us close to the scene know that this is not necessarily the case.

"The great challenge to Congress and American agriculture is whether we can develop a national food policy in the next year that will make it possible to meet the challenges for food at home and throughout the world. It's my concern that we'll only concentrate on a new agricultural bill. This may not be sufficient to develop food and fiber policies so necessary for the remainder of this century."

Our long term continuing research programs in yield improvement offer encouragement for a hungry world, he said. Scientific research and development has made it possible for 800,000 U.S. farms to provide 88 percent of U.S. food and fiber supplies and 25 percent of world supplies.

"This progress offers challenge, opportunity and hope to developing nations of the world."

Over 3,000 scientists attended the meeting, being held from Nov. 28-Dec. 3.

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UM CROPS TEAM
CONTINUES ITS
WINNING WAYS

For the eighth straight year the University of Minnesota intercollegiate crops team has won the Chicago Intercollegiate Crops Contest.

The team was nearly perfect capturing first in seed analysis and crop identification and second in grain grading. They scored 5,243.6 of a possible 5,400 points to best Washington State University and the University of Wisconsin, Platteville.

Cheryl Gebhart, an agronomy junior and mother of three, was the high individual scorer in the contest, and also placed first in seed analysis. She and her husband, William, live in southeast Minneapolis. Her parents are Mr. and Mrs. David Brever of Morreton, N.D.

John Peeters, son of Mr. and Mrs. Peter Peeters of Menahga, was second high individual and took first in crop identification. Francis Marier was fifth high individual and first in grain grading. He and his wife, Jackie, live in Hugo as do his parents Mr. and Mrs. T.J. Marier. Jack Storkamp, son of Mr. and Mrs. Norbert Storkamp of Rosemount, was the alternate in this contest. He and his wife, Meg, live in St. Paul.

For the first time in four years, the team was upset in the American Royal Intercollegiate Crops Contest finishing third to winner Washington State and runner-up University of Wisconsin, Platteville.

In Kansas City, Peeters placed first in seed analysis and grain grading and was high individual in the contest. Mrs. Gebhart gained second in seed analysis and crop identification and was third high individual. Storkamp was the third member of the team.

The contestants were coached by Agronomy Professor Laddie J. Elling.

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ATT: Extension Home Economists

Immediate release

BAKING NOW AND FREEZING
SAVES HOLIDAY HASSLE

Planning to go on a pre-holiday baking binge soon? Shirley Munson, food scientist at the University's department of horticulture and landscape architecture, says many baked foods freeze well to save you time in the kitchen later.

Freeze Christmas cookies either baked or unbaked. Shape dough for refrigerator-type cookies in a roll of desired diameter, wrap in heavy-duty foil or freezer paper and freeze. When ready to use, remove from freezer, slice with a sharp knife and bake the usual way.

Drop-cookie dough can be frozen in airtight frozen food containers. Thaw dough until soft enough to drop with a spoon onto a greased cookie sheet.

If you freeze baked cookies, cool them first. Package in frozen food containers, cookie jars or canisters with tight fitting lids. Place a sheet of foil or freezer wrap between layers. Frosted cookies do not store as well as unfrosted kinds. Cookies and cookie dough may be kept frozen 9 to 12 months.

Yeast breads and rolls may be frozen either baked or unbaked but unbaked roll dough may lose some rising capacity after being frozen and thawed. Like cookies, baked rolls and bread should cool to room temperature before being wrapped in moisture-proof material for freezing. Baked bread products may be stored as long as 9 to 12 months, but because they are bulky Mrs. Munson suggests a fairly rapid freezer turnover. Baked quick breads should be used within 3 months.

It takes little extra work to make five or six pies instead of one or two. A frozen pie crust is not quite as flaky as that of a fresh pie, but it runs a close second, according to Mrs. Munson.

-more-

add 1--baking now

Fresh fruit pies, vegetable pies (pumpkin, sweet potato), mince pies and chiffon pies freeze successfully. Chiffon pies should include egg whites or whipping cream to prevent "weeping" during thawing and they should be used within a month. Other baked pies store well for 4 to 6 months. Use unbaked pies within 2 to 3 months.

For a clear, bright pie filling in either a baked or unbaked frozen pie, thicken with tapioca or cornstarch rather than flour, Mrs. Munson suggests. Custard pies do not freeze successfully. Meringue toppings toughen, shrink and stick to wrappers.

Most cakes and cupcakes freeze satisfactorily but they should be cooled completely before packaging. Because cakes do not freeze solid, place them in rigid containers to protect them from crushing.

For best results, do not frost or fill cakes before freezing. Unfrosted cakes remain in top condition about 4 to 6 months. Fruit cake may be stored considerably longer, Mrs. Munson says. Thaw cakes in their original wrapping to prevent moisture formation on the surface.

-dmn-

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4-H NEWS

MSC
JAP

ADULTS NEEDED
FOR 4-H
VET SCI PROGRAM

Do you like kids and enjoy helping them explore the world around them?
If your answer is "yes" and you also like animals, you can add interest to
your life by leading or working with a _____ County 4-H Veterinary
Science group.

You do not need to be an expert on animal health. You'll not be alone as
you lead a club. Many resource people are available and willing to help.
Also there are manuals for members, a leaders' guide for yourself and a series
of slides made available from the Upjohn Co., program awards donor.

Being a 4-H Veterinary Science leader is rewarding and gratifying. And
for 4-H club members it can mean recognition including four Medals of Honor
to county winners, a \$50 savings bond to the state winner, 24 expense-paid
trips to National 4-H Congress for sectional winners and six educational
scholarships for \$800 each for national winners.

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

-daz-

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CONSIDER LEASING
FARM EQUIPMENT
TO YOUR SON

If you are about to retire and still have farm machinery on a depreciation schedule, consider leasing it instead of selling it. This is especially important if you are selling to your son and he is going to be taking over the business, says Earl Fuller, farm management economist at the University of Minnesota.

In the first place, your son can't take investment credit on it because he is buying it from you. In the second place, you will probably have some settling-up to do with Uncle Sam in terms of investment credit recapture and, possibly, some ordinary income from the gain on the sale. So it is best to continue the depreciation schedule and lease the machine. This may also help your son to get the credit he needs to put the whole business together.

Set the lease up so that the son is totally responsible for all repairs, maintenance, insurance--for all lease payments until the end of the lease. Then the lease should be sufficient evidence to indicate that you are not a self-employed lessor for social security purposes as well.

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NEW QUACKGRASS CONTROLS IN
SOYBEANS DISCUSSED

Preplant applications of glyphosate (Roundup) can control quackgrass in soybeans for two or three years with no residual carryover, University of Minnesota research shows.

"To control quackgrass prior to this recent discovery, the combination of a plow-down atrazine application followed by a pre- or early postemergence atrazine application in corn was the most effective treatment for quackgrass control," says Donald Wyse, weed specialist at the University. "This treatment, however, does not allow for soybeans to be planted for two or three years due to herbicide residual problems for sensitive succeeding crops such as soybeans."

Glyphosate, however, can be used as a preplant treatment to quackgrass either in the fall or spring when the quackgrass is actively growing and soybeans can be planted immediately after tillage.

Quackgrass plots treated with 1.5 lb/A of glyphosate in the spring prior to plowing yielded 33.2 bushels of soybeans per acre in University tests, while the plots with no quackgrass control yielded 15.8 bushels of soybeans per acre.

In more recent developments, an experimental herbicide HOE29152 was evaluated at the University's Rosemount Experimental Station as an early post-emergence treatment in soybeans. This treatment gave excellent season-long quackgrass control and caused no soybean injury, according to Wyse.

"In the future this herbicide may give us the capability of controlling quackgrass postemergence in soybeans and eliminating the need for preplow applications that have been a prime drawback to grower acceptance of herbicides for quackgrass control."

Wyse gave a paper on quackgrass control in soybeans with postemergence herbicides at the North Central Weed Control conference held in Omaha, Neb., December 7-9.

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Immediate release

FARMERS: CUT INCOME
TAXES BY PAYING
FAMILY MEMBERS

Farm business managers can usually increase total family disposable income by maintaining a true employee-employer relationship with one's family members. But compensation must be reasonable for the work performed, says Earl Fuller, farm management extension specialist at the University of Minnesota.

See page 25 of the IRS Farmer's Tax Guide. There is no social security withholding or tax on wages paid one's spouse or children under 21.

In the case of children, they can earn up to nearly \$2,700 from their parent-employer. While they must file, no taxes are likely to be due, save possibly a few dollars of state income tax. If you maintain over half of their support while they are still in school, you can claim them as an exemption and they're able to pick up another exemption by filing separately. This same idea carries over into the Minnesota state tax credit and standard deduction.

In the case of wages to one's spouse, wages reported as a farm expense must be reported on the regular 1040 along with farm income. There is no saving there, but there's no social security tax either. (See column 2, page 55, of the Farmer's Tax Guide). There can be some tax savings on the Minnesota state form since this can help even out income between the spouse and principal taxpayer columns.

For instance, in the case of the example farm in the IRS Tax Guide, the savings for paying \$3,600 to three children and \$4,000 to the spouse will cut federal, state, and social security self-employment taxes by \$1,900. That's half of the gross income tax liability if that family lived in Minnesota. That money, except perhaps for an increased insurance fee to make up for a possible lessening in social security coverage, is available for use as the family sees fit.

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ATT: Extension Home Economists

Immediate release

SUGGESTIONS GIVEN FOR
HOLIDAY GREENERY CARE

The season for holiday greenery is upon us, and Harold Wilkins, extension horticulturist at the University of Minnesota, offers tips for beauty and safety.

To keep cut evergreens and Christmas trees fresh longer, supply them with a mixture of:

- 1 gallon hot water
- 2 cups corn syrup
- 1 oz. iron chelate (available at drug stores)
- 4 tablespoons liquid bleach

Boughs that will be used around candles or electric lights can be made more fire retardant by soaking for an hour in a mixture of:

- 1 gallon hot water
- 3 oz. sodium borate
- 3 oz. boric acid

Allow greenery treated for fire resistance to dry thoroughly before using, Wilkins suggests.

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IN BRIEF

Tax Tips. Don't forget to include "often overlooked" business expenditures such as business trips, organization dues and farm business office costs on your tax return. Remember, you can now only depreciate that part of your home used entirely as a farm business office.

Pollution control investments offer a five-year fast writeoff tax option. But talk these options over with your tax adviser. Electing this route will cause some loss of possible investment credits. Besides, if five years is acceptable, then slightly longer life options should be too.

You don't need to report capital gains income from breeding livestock sold due to drought this year. However, you must either replace the livestock with like animals within two years of the end of the tax year or ask for an extension or report the gain.

* * * *

Estimated Tax. This may be a good year for farmers to consider filing an estimated income tax report. There are both some disadvantages and advantages. The primary disadvantages are that there will be another form (1040-ES) to fill out and the bulk of your estimated tax liability will be due at the time of preliminary filing. This must be done by January 17 to qualify you for late filing.

Advantages include less pressure on the preparer and more time to do it right. For instance, if you have someone else help you this allows more time to figure out the best depreciation procedures to fit your tax circumstances. Forms may not be available as soon as you would like and this will give you more time to get the correct forms. The final tax payment will be due April 15 if you file an estimate. This may help your cash flows and could cut your interest payments.

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Immediate release

WEEVILS TESTED FOR
BIOLOGICAL CONTROL
OF MUSK THISTLE

Musk thistle--a noxious weed that grows taller than many Christmas trees-- is fast becoming a problem in Midwest pastures and hay fields.

Musk thistle is commonly found in southern and western Minnesota pastures and perennial forage crops. "It's spread rapidly in Minnesota and throughout the Midwest in recent years," says Oliver Strand, extension agronomist at the University of Minnesota.

Strand gave a paper on control of musk thistle at the North Central Weed Control Conference in Omaha, Neb., Dec. 8.

Early European settlers inadvertently brought seeds of the weed to the U.S. in the early 1900's. "Since it was introduced to this country without any natural enemies, musk thistle had a competitive advantage over many other pasture weeds. It's now on the noxious weed list in Minnesota and many other states," Strand said.

Chemicals such as 2,4-D and dicamba control the musk thistle--if you apply them early in the growing season, preferably when the plant is still in the rosette stage.

"The problem is that most farmers with a musk thistle problem spray in late June or early July. This is when the more common Canada thistle is in the bud to early bloom stage. But by this time the musk thistle is nearing maturity, has produced seeds and the plants will not be controlled by herbicides."

-more-

add 1--Weevils tested

Herbicides should also be applied each year for several years to control new seedlings that may germinate each year from seeds in the soil. "You can also mow musk thistles during the bud stage. But many pastures and non-cropland areas are too rough--even too rough for spraying with ground driven herbicide sprayers."

Biological control would be a good alternative in these cases--if it works. Strand, Extension Entomologist John Lofgren and Fillmore County Extension Director Milt Hoberg are doing an experiment using weevils to reduce musk thistle populations in a pasture near Chatfield, Minn.

The particular weevil they used had been observed doing "significant damage" to biennial thistles in central Europe in the mid 1800's. Recently, researchers have established populations of the weevil in Virginia, Montana and Nebraska. "The weevil has reduced musk thistle seed production in areas where it's become established," says Strand.

In the Minnesota study, weevils were introduced in July, 1975. They survived the winter and produced another generation last spring. During the summer of 1976 the weevils spread over a larger area. "The weevils destroyed only one to two percent of the thistle heads in August, 1976. But by later in fall a larger area of the pasture showed weevil damaged heads," Strand said.

"Biological control won't give satisfactory control of musk thistle in this pasture--at least for several years until weevil populations build up. But it could reduce dependence on herbicides and mowing and give some control of musk thistle in some Minnesota areas where no other control is feasible," Strand concluded.

The musk thistle normally grows three to six feet tall, has many branches and large, solitary heads (up to three inches in diameter). The heads are purple to rose-purple or lavender and are located at ends of long, nearly "naked" stems. The heads often "nod" or bend slightly. "Nodding thistle" is another common name the plant goes by.

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NO TAXES DUE ON
LIVESTOCK SALES
IN DROUGHT AREAS

Income from livestock sales in drought areas need not be subject to income taxes this year. This holds for both breeding stock and livestock fed for market.

The new 1976 tax law permits farmers to defer ordinary income on livestock sold due to the drought, says Earl Fuller, extension specialist in farm management at the University of Minnesota. The income from sales of steers, hogs or even feeder pigs made this year can be deferred for reporting until next year if you're in a declared drought area.

If you didn't keep feeder animals because you didn't grow enough corn to feed them, it's sufficient reason for delaying the income until 1977 if the animals ordinarily would not have been sold in 1976. The same general idea holds for sales of young cattle not yet held long enough to qualify for capital gains treatment. Even though you delay the reporting of the income from these sales until next year, they still do not qualify for capital gains treatment.

Extension Economist Paul Hasbargen points out that any sales excess of qualified capital gains livestock over normal can also be deferred. This has been a long standing option in the Federal income tax law. It holds even in circumstances where the farmer is not in an officially specified drought area-- providing he can show evidence of the drought conditions in his area.

-more-

add 1--no taxes due on livestock

These sales require a statement attached to this year's Schedule D stating how much above normal such sales were, that it was dry, that there would have been a taxable gain if you had reported, and how much normal sales of this kind are. Such a statement might be obtained from your local county extension director, ASCS manager or other county official.

"But even if you qualify you shouldn't necessarily select either of these options," the economists caution. If this is a low income year for you, be sure that you report enough income to cover your exemptions and deductions. It may take these sales to make up that much income. Beyond that, some sales can be reported and others deferred, depending on how large you expect next year's income to be.

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FARM FAMILIES
NEEDED FOR STUDENT
WORK-STUDY PROGRAM

Farm families in Minnesota, Wisconsin and the Dakotas are needed to host agricultural work-study exchange students for eight months of practical work experience from March 25 through Nov. 31, 1977.

About 75 students from Africa, Australia, New Zealand, the United Kingdom and nine central and northern European countries participate in the program each year.

The program, in continuous operation since 1949, is sponsored by the University of Minnesota's Office of Special Programs. The program has provided practical and academic training for over 900 agriculture students. Upon completion of the eight-month farm work program the students are enrolled for the winter quarter study period at the University of Minnesota.

Students participating in the program have completed high school or its equivalent. The agricultural students average 22 years of age with two years of agricultural schooling and two years of farm work experience after age 18. The students wish to live with an American farm family and learn about the culture of the rural farm community. They desire agricultural training and work experience on specific kinds of farms related to their career interests and goals. The students are expected to work the same hours on the farm as their host family.

The majority of students are from farms or agricultural backgrounds and plan, upon returning to their homes, to farm or develop careers in agriculture. The students all have basic communication abilities in the English language and wish to develop full proficiency before returning to their home countries.

-more-

add 1--farm families needed for student work-study program

Host farm families wishing to host a student must meet these requirements:

*Be willing to accept the student in so far as possible as a member of their family.

*Be interested in the student as a person and a representative from another culture.

*Be willing to aid the student with his or her practical training and agricultural cultural education.

*Be able and willing to pay the student \$300 - 325 per month plus room, board and laundry.

If you are interested in hosting a student, write or call now or before January 15, 1977 for a booklet that explains the program and an application form. Apply early as student applications begin arriving Dec. 1. Write or call: Fred D. Hoefer, Office of Special Programs, University of Minnesota, St. Paul, MN 55108. Tel. (612) 373-0725

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OUR HERITAGE SPROUTS FROM GREEN PLANTS

Two hundred years ago when early Americans were laying the cornerstone of our democracy, the face of the land was dramatically different than today.

"The main difference was not in the topography of the land itself but in the composition of the green mantle of plants that makes up the landscape," according to Oliver Strand, agronomist at the University of Minnesota. "There were no broad open fields of waving grain, no miles of freeway whose center medians were covered with grass or weeds."

Forests originally covered about half of the land area of the United States. Two-fifths of the land was in native grasses and herbaceous plants. The rest, about a tenth, was mostly arid and barren. Today the forest area is only 50 to 60 percent of what it once was.

More than half of the forest land in the East has been cleared and is used for cropland, pasture, urban areas, highways and other uses. The commercial forests of the West have been reduced by more than 25 percent. Most of the original tall grass prairie area has been converted to cropland and improved pasture. The more productive of the short grass prairie areas are now used for irrigated or dryland crops and the rest is used for grazing, Strand says.

"This Centennial year, most Americans have become aware of the historical and political aspects of our country and its early development. However, few Americans and other world citizens are really aware of how important the discovery and development of America was to the food production potential of the world."

It is true today, states Strand, that 80 percent of our present food and crop plants were unknown to Europeans before the discovery of America. Early Spanish

add 1--sprouts from green plants

explorers carried home much more than gold and silver. They brought plants, seeds and roots of corn, potatoes, beans, squash, cacao, tapioca and many fruits back from Spain. Many of these foods developed in importance in Europe and were brought back to America by early colonists.

The North American Indian and our early pioneers depended heavily upon wild or native plants for their food and medicine. These early Americans spent much of their time in gathering and processing these wild plants. Some of the plants they used as food we now call weeds, according to Strand. Among these were cattail, dock, Jerusalem artichoke, common lambquarters and dandelion.

"Today there is much less dependence on wild plants for food and well being with a more mobile public, a wealth of synthetic drugs and medicines and an efficient food distribution system."

The shift from major dependence on wild edible plants to cultivated crops was begun by the American Indian even before the coming of the first white settlers. However, the Indians continued to make wide use of the native plants as well.

Early white settlers lacked the experience with and knowledge of using the native plants. As early as the winter of 1609-10 two-thirds of the settlers of Jamestown, Va. either starved to death or became violently ill from eating poisonous native plants. The survivors experimented with Indian corn and farming and were able to produce food with relative success.

The Pilgrim settlers in Massachusetts, under the guidance of the friendly Squanto, experimented with Indian corn with great success. In the spring of 1621 they planted five acres of English grain and 20 acres of corn, fertilizing the corn by burying fish with the seed. The corn succeeded while the English grain failed.

Continued experimentation with English wheat, barley and other crops, however, eventually led to their successful cultivation under the soil and climatic conditions of America. This development of early adapted varieties was done mainly by farmers and early plant breeders who persistently saved and replanted seeds from the few early plants which produced grain.

add 2--sprouts from green plants

Other crops raised by the American Indians that were also adopted by white settlers were kidney and lima beans, squashes, pumpkins, avocados, tobacco and probably tomatoes. Early settlers in Central and South America found the native Americans growing these crops and sweet potatoes, white potatoes, peanuts and cotton.

"As the population of the New World grew and the colonies became more firmly established, the shift from a gathering society to an agricultural one became more pronounced and dependence on wild plants as food greatly decreased."

According to Strand, early tillers of the soil had few weeds to compete with their crops. They had only the weed seeds they brought with them and the encroaching forest. However, as land was cleared and planted to an ever increasing number of crops brought from the Old World, the number and extent of alien weed population increased dramatically to rapidly change the face of the land by replacing many acres of trees and native plants with extensive areas of crops and weeds.

"Weed and pest control has become a necessity if crops are to be grown successfully and this is perhaps the main reason why we have lost so much of the knowledge and usage of wild plants. However, we should appreciate and preserve the native plants and weeds that were a part of our early heritage as well as the crops that feed us today."

dcc

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Tel. (612) 373-0710
December 8, 1976

Immediate release

MISC
JARP

SENIOR CITIZENS:
DELAY HOUSE SALES
UNTIL 1977

If you are over 65 and have your house for sale, delay the closing of the sale until 1977. This can save you substantial capital gain taxes, according to Paul R. Hasbargen, extension economist, University of Minnesota.

The potential savings stems from the recent change in the tax law which increases the amount of tax-free income from the sales of a home after January 1, 1977. Currently there is no Federal tax due on profits from the sale of a home by a senior citizen if the house is sold for \$20,000 or less. The new tax law increased the cut-off point to \$35,000 as of Jan. 1, 1977.

To qualify for this once-in-a-lifetime exemption you must have resided in the home for five of the last eight years prior to the sale date and be over 65 years of age. For a married couple jointly owning the home, only one needs to be 65 or over.

Hasbargen also suggests that those who are contemplating selling their home but don't quite qualify for the age test may wish to delay the sale until after that 65th birthday has been reached.

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Part 2 - P, B

Department of Information
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Agricultural Extension Service
University of Minnesota
St. Paul, MN 55108
Tel. (612) 373-0710
December 13, 1976

Immediate release

4-H NEWS

1977 4-H IFYE
CARAVAN TRIPS

International 4-H Youth Exchange (IFYE) Caravan trips are to Denmark, France, Jamaica, Switzerland, Italy, Finland, Norway, Trinidad and Tobago for 1977, _____ at the _____ County Extension Office announced.

IFYE caravans provide host family and cultural experiences to foreign countries. All programs are six to eight weeks long and provide time for group travel at the end of the country experience. Also, caravaners may observe 4-H and similar youth programs in these countries. Costs for the programs in Europe are about \$1,300 per person and \$1,200 for the Caribbean.

Special interest caravans for 1977 are: Horse caravan to Scotland, arts and crafts to Italy, canal cruising to The Netherlands and gourmet foods to France. Participants live with a host family part of the time and are involved in practical training and classroom work the rest of the time. These special interest programs cost about \$1,425 per person and last six to eight weeks.

Group leaders are needed for all IFYE Caravan programs. Applications for IFYE Caravan and special interest Caravans are available at the _____ County Extension Office. Apply as soon as possible to assure assignment to the country you prefer. Applications should arrive at the State 4-H Office in January.

-daz-

CA

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St. Paul, MN 55108
Tel. (612) 373-0710
December 13, 1976

ATT: Extension Home Economists
Immediate release

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SPACE, PRIVACY
ESSENTIAL TO TEENS

"We shape our buildings and then they shape us," Winston Churchill once said.

Linda Reece, extension interior design-furnishings specialist at the University of Minnesota, says Churchill's statement is as true today as when he said it. Teenagers particularly respond to space and privacy, arrangement of furnishings, colors, noise levels and other environmental elements within the home, she says.

They need a place to daydream, to think about life and to talk privately with friends, she says. This place may be a room of their own, a corner of another room or simply a time in the day when no one interrupts them. For storage of personal treasures, teenagers need a drawer, closet or locked box where belongings are respected by parents, brothers and sisters.

"Privacy is so important that many researchers feel that a lack of it in the home can be more devastating on one's psychological well-being than the physical condition of even the oldest building," Ms. Reece says.

She suggests planning the home environment to accommodate family conversation, activities and private areas. Placement of furniture and such entertainment centers as the television, stereo or game tables help divide a room into private and group space.

Traditions, heirlooms and other ties to past generations help give teenagers a feeling of security and permanence. Ms. Reece says such heritage items in the home are especially important in our mobile society. The average person moves at least 14 times in a lifetime but selected furnishings and "carry along" decorative items provide a link with the past.

When families plan their living environments, rigid rules about color combinations and furniture arrangements no longer apply. Instead, Ms. Reece says, "The challenge is to create an environment that can help each individual grow and develop to full potential. To do this, living space must reflect the personalities, interests and activities of those who use it." (end)

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ATT: Extension Home Economics

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GET CAMERA READY
FOR HOLIDAY SHOOTING

Holiday gatherings call for photographs. You can save yourself frustration and disappointment by checking out your equipment and supplies now says Donald Breneman, extension information specialist at the University of Minnesota.

Batteries are a likely trouble spot. Since they last about a year, it's a good idea to give your camera a new set of batteries for a Christmas present, Breneman suggests. By doing it at Christmas time, you will always know when the batteries have been changed.

Check your camera inside and out to be sure it's clean. Look at the lens and film chamber and check the battery terminals for corrosion. If they are corroded, take a pencil eraser and rub off the corrosion.

"If you haven't used your camera for a couple of months, shoot a test roll and have it processed immediately," Breneman says. "Then you'll know for sure that the camera works. You may save a lot of disappointments later."

Be sure you have plenty of film and flashbulbs on hand, he advises. It's hard to buy these supplies on Christmas eve or Christmas day. If you are giving a camera as a gift, you may want to buy and wrap extra film and bulbs in a separate package so they'll be on hand.

Once you're confident your camera is in working order, keep it handy and use it often during the holidays, Breneman suggests. Snapshots of the gift opening around your tree will make welcome enclosures in thank you notes. Or include a photo of the recipient wearing or using the gift in a letter to the giver. Keep next Christmas in mind and try for a picture to put on your greeting cards, he also suggests.

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IN BRIEF. . . .

Farm Policy Survey. About 1500 Minnesota farmers will receive questionnaires on farm policy the week of Dec. 19, 1976. Results of the survey will be used by University of Minnesota extension specialists who conduct educational farm policy programs in the state.

The survey is also aimed at making farmers' attitudes on agricultural policy known to the Minnesota Congressional delegation and other interested parties. "Results of the study will be available to the news media and the public," says Martin Christianson, University of Minnesota agricultural economist who is conducting the study. Questions on the survey will deal with things such as target prices, acreage set-aside programs and food aid and distribution programs.

* * * *

Dairy Profits. Nearly all dairy herds can achieve higher production. The genetic potential of all cows in the herd is seldom challenged, say University of Minnesota dairy scientists. Amount and quality of feed provided, poor reproductive performance, too much mastitis and poor growth of heifers are specific areas where improved management often results in more milk and higher profits.

Once you're enrolled in the Dairy Herd Improvement (DHI) program, use your records to help improve management performance. See your county extension agent or DHI supervisor for more information.

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50TH SHEEP AND LAMB
FEEDERS' DAY FEB. 3

Minnesota's oldest livestock program, the annual Sheep and Lamb Feeders' Day, will mark its 50th anniversary at the West Central Experiment Station, Morris, on Feb. 3.

"A half century ago the Midwest had literally thousands of farmer-feeders who fed out a carload or two of western feeder lambs," says Bob Jordan, animal scientist at the University of Minnesota. At that time, the science and art of lamb feeding was little known. "Those were the days of prairie hay, 60 pound Merino feeders, water belly, five percent death loss, and .2 pound daily gain," says Jordan.

To solve many of the problems, experimental feeding was initiated. Every year since 1927 the Minnesota Agricultural Experiment Station has experimented with feeding lambs. Much of today's proven lamb feeding technology originates from the research conducted at Morris.

The 50th program will include the latest research findings involving the ewe flock and lamb feeding. It will focus on the sheep industry--its problems and solutions to its problems along with a projection or prophecy of things to come.

Speaking on the sheep industry of today and tomorrow as viewed from a meat processor and purveyor's point of view will be Dr. Burdette Breidenstein, vice-president in charge of research for Wilson Foods, Oklahoma City, Oklahoma. Breidenstein was formerly in meat research at the University of Illinois and in charge of Wilson's beef and lamb division.

-more-

add 1--50th sheep and lamb feeder's day

The sheep industry of today and tomorrow as viewed by a lamb producer and finisher will be ably handled by Laird Noh of Kimberly, Idaho. Noh is past president of the National Lamb Feeders' Association and a successful sheep producer.

In conjunction with this Golden Anniversary will be the recognition of Minnesota's Master Shepherd Award as selected from nominees made by county extension directors throughout the state.

"There's a place for sheep. Come and gain an insight into the sheep industry and some new ideas with sheep," Jordan urges.

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CONNOISSEURS' DELIGHT IS
SHEEP RANCHERS' FLIGHT

Lamb in the United States is recognized as a connoisseurs' meat, much like crab or lobster.

Lamb consumption in this country averages two pounds per person compared to 10 for seafood, 45 for chicken and 120 pounds for beef, according to William Boylan, animal scientist at the University of Minnesota.

"While average lamb consumption nationally is drastically low, consumption in some metropolitan areas, especially on the East and West coasts, is as high as 15 pounds per capita."

A steady decline in sheep numbers since World War II culminating in a 45 percent reduction in the last decade has reduced the availability of domestic lamb. This decline contradicts the outlook in many countries such as France where sheep numbers have increased by 17 percent in the last 10 years. Scarcity of lamb has contributed to its less competitive market status and public unawareness of it as a meat alternative, Boylan says.

Sheep breeders have reduced their flocks primarily for more favorable economic enterprises. While the reasons for this decrease are not well defined, suggestions often given are that sheep raising is less glamorous than cattle producing, limited availability of skilled labor and industry adversity to technological development. Intensive managerial skill is required and the often publicized coyote predator dilemma is another factor.

-more-

add l--connoisseurs' delight

A concerted effort by the sheep industry is currently underway to educate producers to the economic feasibility of adopting new procedures of technology. A goal is to increase sheep numbers and make lamb more readily available to consumers.

"Sheep raising is considered an effective way to use natural resources in an energy conscious society. Lamb meat can be produced solely from grass or grass with feed grains."

One area of research is to assess breeds and crossbreeding systems for increased production. While crossbreeding is well accepted by the industry much of it is haphazardly conducted, according to Boylan.

"To maximize productivity breeders need to recognize that breed differences exist and that the way breeds are combined in a crossbreeding system is important."

At the University's Crookston Experiment Station, Columbia, Suffolk and Targhee are evaluated as pure breeds, single crosses and three-breed cross combinations. Results from the experiment demonstrated that breed differences existed for important economic traits.

Heterosis observed for some traits in single crosses was 3-5 percent, but total productivity could be increased 10-20 percent by employing a specific three-breed cross. In the latter case, a crossbred female was employed to utilize heterosis for maternal traits.

"Sheep breeders could increase their net profit by proper choice of breeds to fit their management system. Additionally, total productivity can be increased by judicious combination of breeds in crossbreeding systems."

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DRY WEATHER INCREASES
STALK ROT FUNGUS

From 60-100 percent of the corn stalks were infected with the stalk rot fungus *fusarium moniliforme* in 11 south central Minnesota counties this year.

"Our most damaging stalk rot fungus in recent years was due to extremely dry weather in this part of the state where rainfall was 8-10 inches below normal," says Thor Kommedahl, plant pathologist at the University of Minnesota.

Bi-weekly sampling of corn stalks revealed *fusarium* did not infect stalks until silking when it increased steadily until harvest. In several years of study more than half the stalks became infected by harvest.

This same fungus causes kernel infection and ear rot. The incidence of infected kernels can vary from 5-100 percent depending on season and location, according to Carol Windels, assistant scientist at the University. "Contrary to expectations, planting of these infected kernels does not lead to stalk rot."

Infection of ears and stalks is a result of wind-blown spores to ears or leaves. Rain splashing can further disperse the spores or wash them into sheathes where stalks can become infected, Windels explains.

"Infections of ear and stalk appears also to be associated with insects such as the picnic beetle. This insect can carry the spores from fallen ears of the previous season to developing ears of the new crop."

The extensive hail damage last August in western Minnesota further increased the incidence of ear and stalk infection, Kommedahl adds. Airborne spores colonize injured portions of plants and excentuate damage."

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US LAGS IN
SHEEP RESEARCH

Many countries are ahead of the U.S. in research on sheep breeding and production, says a University of Minnesota animal scientist who's just returned from an international sheep breeding conference in Australia.

"In France there's considerable support for sheep breeding and production research. Sheep and other livestock are considered more of a national resource than in the U.S.," says Bill Boylan, who reported on University of Minnesota sheep research at the meeting.

"In France they're using more prolific breeds and intensified production practices. Lamb meat is in good demand in France--so good that only 45 percent of the consumption can be produced there."

Advanced technology in genetics, nutrition, physiology, management and environment control is being adapted by French sheep producers.

The number of breeding ewes has increased 17 percent in France during the past 10 years, whereas the U.S. has seen a decline of 45 percent.

In Australia, wool production dominates sheep husbandry activities, says Boylan. Australia produces 30 percent of the world supply--twice as much as Russia, which is the second largest producer. Japan is the largest buyer of Australian wool. Merinos are the predominant breed for wool production in Australia, but in areas of high rainfall and reliable pastures there's an increase of non-Merino sheep for lamb production for meat.

The Australians are also working to develop a fast, mechanized way to "harvest" wool. "This has great potential and would have a revolutionary effect on wool production. The major obstacle to mechanized wool harvesting equipment is restraining the animal."

add 1--US lags

However, researchers are working on a technique to immobilize the animal by controlling the central nervous system with electrical energy.

In recent years Australia has started shipping live sheep to the Middle East. About 1.75 million will be exported from Western Australia in 1976. "We saw a converted ocean liner leave from Perth, Australia carrying 32,000 head of sheep per trip," says Boylan.

New Zealand looks like an "ideal" sheep producing country, according to Boylan. Land size is about 25 percent larger than Minnesota, about equal to Colorado. There are 60 million head, with about 45 to 50 million breeding ewes.

The United States, by contrast, has about 12 million stock sheep of which 10 million are breeding ewes.

The United Kingdom also has an active sheep research and production program. There are at least 50 breeds of sheep and stratified crossbreeding systems are used. A national recording scheme is available through the Meat and Livestock Commission.

In the Soviet Union about 75 percent of the ewes are bred artificially. Flock size ranges up to 60,000 per farm unit.

The University of Minnesota made the first importation of the Finnsheep breed to the U.S. a few years ago. The breed is recognized internationally for its high lambing rate. Ewes give birth to multiples of lambs.

Research at Minnesota, says Boylan, has shown that U.S. sheep production can be substantially improved by effective use of this breed to increase lamb numbers. Some Minnesota sheep producers now market more than a 225% lamb crop by using genes from the Finnsheep in their breeding programs. The breed is also being used in crossbreeding in flocks of 1000 to 1500 ewes in some Western states this past year.

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Immediate release

NEW PROGRAM
HELPS STUDENTS
LEARN BY DOING

Driving a tractor probably isn't a big deal for someone who grew up on a Minnesota farm.

And a veteran marketing specialist who travels through 11 states to meet with managers of local agricultural cooperatives is apt to view it as just part of the job.

But these experiences take on special importance for University of Minnesota College of Agriculture students enrolled in a new program designed to provide on-the-job experience while in school.

Called the Professional Experience Program (PEP), it attracted 96 junior and senior students and 45 cooperating employers during the 1975-76 school year.

"It's more practical than many classes," is the standard answer you get from students who have been in the program. Students who volunteer for the PEP program pay tuition and get up to six credits for completing a three-month work assignment.

Employers who work with faculty members on the St. Paul Campus help develop a training program, then interview and select students for the job.

"We're trying to make education relevant for students," says Deane Turner, UM College of Agriculture official. "Students get a chance to test the science and theory learned in the classroom in a work setting."

Through on-the-job demands, students decide whether their future classroom work needs to be altered for improved performance. "We've found that the support and advice of employers and College Faculty advisers helps the students gain confidence," says Turner.

add 1--new program helps students

Students who have participated in the program also say it helps them learn about the "real" work world.

Elizabeth Schendel, an animal science major who graduated in the fall quarter of 1976, worked on the University's Experimental Station at Rosemount. From St. Louis Park, MN, Ms. Schendel helped with field work and farm chores. She hopes the experience will help her land a farm-related job in the animal health field. About 60 percent of the College of Agriculture students are like Ms. Schendel in that they come from non-farm backgrounds. Good job placement prospects and the chance to work in the real world of ecology--with plants and animals--are main reasons attracting urban students to the College.

Paul DeBriyn, originally from Thief River Falls, worked for the marketing division of CENEX. He called on local cooperatives in 11 states, helping with marketing and promotional activities. "This must have been one of the best PEP programs offered. The practical experience was tremendous," said DeBriyn, an agricultural business senior at the 'U'.

Rosemount, MN native Jack Storkamp was a summer fieldman for Quaker Oats. He visited local high schools to help promote the company's oat improvement program. The experience was "for real," he said. "In terms of practical experience there's no way classroom experiences can compete," he added. Storkamp is an agronomy major who plans to graduate winter quarter, 1977.

Prospective employers and students interested in more information on the PEP program may contact the College of Agriculture, University of Minnesota, St. Paul, MN 55108. Phone (612) 373-0923.

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4-H NEWS

Immediate release

REGISTRATION DUE
FOR NATIONAL 4-H
LEADER TRAINING

_____ County volunteer adult 4-H leaders can get new ideas for 4-H programs and broaden their understanding of youth programs at the National Leader Training Forum March 26 through April 2 at the National 4-H Center, Washington, D.C.

In addition to the forum, leaders will tour Gettysburg, Pa., and visit Mt. Vernon and Alexandria, Va.

The opportunity to attend the National Leader Forum is open to 50 adult 4-H leaders from Minnesota. Spouses of leaders may attend and should plan to take an active part in the program.

Reservations are due in the State 4-H Youth Development office by Feb. 1. For more information, contact _____ at the _____ County Extension Office.

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ATT: Extension Home Economists
Immediate release

INJUNCTION ON PHOSPHATE BAN
UNLIKELY TO AFFECT CONSUMERS

A temporary court injunction on the regulation banning phosphate detergents sales in Minnesota probably won't cause many changes on supermarket shelves, according to Wanda Olson, extension household equipment specialist at the University of Minnesota.

Mrs. Olson says the phosphate ban, which would have gone into effect Jan. 1, 1977, has caused most retailers to switch to nonphosphate detergents already. Retail inventories statewide are almost completely comprised of nonphosphate products which would have been required had the phosphate ban gone into effect as scheduled. She does not expect to see changes in retail inventories while the injunction is in effect.

Phosphate products still may be available in some specialty stores or through personal sales distributors, Mrs. Olson says. She advises consumers to study the contents listing on detergents and the care labels on garments. If your water is hard or if you wash flame retardant garments such as children's sleepwear, laundry directions may differ for nonphosphate and phosphate detergents.

Detailed laundry procedures are discussed in Home Economics-Family Living Fact Sheet 38, "Using Nonphosphate Detergents in Machine Laundry." It is available at the _____ County Extension Office or by writing to the Bulletin Room, 3 Coffey Hall, University of Minnesota, St. Paul, MN 55108.

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MEAT CAN BE
REFROZEN
EXPERT SAYS

It's a myth that refrozen meat poses a danger to the consumer, according to Richard Epley, extension meats specialist at the University of Minnesota.

It is true, he says, that each time meat is frozen and thawed, some juices are lost.

"But freezing stops or greatly inhibits bacterial growth," Epley says.

"So if you have thawed a product at refrigerator temperatures and aren't going to use it soon, it is better to refreeze it and lose some juice than to throw it out and lose expensive meat."

Epley advises thawing all meat in the refrigerator set at 32 degrees F. Left at room temperature to thaw, micro-organisms present on all meat will grow and multiply. This causes discoloration and spoilage.

If meat is held at room temperature for several hours or is off-color, don't refreeze. Cook this meat well immediately and eat it.

Rather than leaving meat at room temperature to thaw, Epley says meat can be cooked from the frozen state. Allow about 30 percent more cooking time for frozen meat. Frozen steaks and chops should not be broiled, however, because they will burn on the outside before they are cooked properly internally.

Epley suggests that if you must thaw meat at room temperature, leave the wrapper on to minimize moisture loss. Cook meat within three hours after placing it at room temperature.

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Immediate release

IN BRIEF. . . .

Farm Exports. Longer-run export prospects for American grain and soybeans are "basically good," says Richard E. Bell, assistant U. S. secretary of agriculture. The U.S. has great agricultural resources and potential for further growth in agricultural production. "This is in contrast to the inability of agriculture in most developing countries to keep pace with population growth and worldwide insistence on raising living standards. Apart from periods of economic recession, future world demand is likely to strain existing U.S. agricultural resources rather than idle them," he says.

* * * *

Price Supports. There's been a big decline in dependence on government payments to supplement farm incomes since the late 1960's. Government payments were equivalent to nearly 30 percent of U.S. realized net farm income in 1968-70. This had fallen to less than 5 percent in 1973-75, according to Richard E. Bell, assistant U.S. secretary of agriculture. It was below two percent in 1974, and nearly all government payments in 1974 and 1975 were for disaster relief rather than price support.

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add 1--in brief

Wheat Supplies. The expected buildup in world stocks is pushing wheat prices down. The U.S., Canada, Argentina and India all produced record wheat crops in 1976. The Soviet Union produced a large crop and the wheat harvest in Europe was "not bad considering last summer's drought," says Richard E. Bell, assistant U.S. secretary of agriculture. Wheat stocks in the U.S. next summer are expected to be around 26 million metric tons, 8 million tons or 43 percent more than this past summer. Bell says the answer to the over-supply problem is to grow alternative crops for 1977 and use more wheat for feed. "It won't help to raise loan rates. This would only aggravate the situation by hampering export sales and discouraging greater use of wheat for feed."

* * * *

Swine Days. Swine Feeders' Days will be held at four Minnesota locations in January. The meeting for this area is set for _____ at _____.
(date) (location)

Registration begins at 9:30 a.m. Program topics will include:

- Economic comparisons and the outlook for different swine producing systems, Duty Greene, research marketing specialist at the University of Minnesota.
- Nutrition research reports on various topics.
- Potential mycotoxins in swine feeds, Dick Meronuck, extension plant pathologist at the University.
- Making use of breed differences in swine production, Bill Rempel, U of M animal scientist.
- Procedures to evaluate market hogs, Jerry Hawton, extension swine nutritionist.

* * * *

Jan. 10, Rushford, Bertwood Golfview Supper Club
Jan. 11, Waseca, Southern Experiment Station
Jan. 12, Marshall, Central Academic Bldg, S.W. State Univ.
Jan. 13, Morris, West Central Experiment Station

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FARMING METHODS
IN CHINA DESCRIBED

Labor is a scarce and expensive commodity on Minnesota farms, while it is the People's Republic of China's cheapest and most readily available resource.

In Minnesota farms are family operated, specialized production units averaging 280 acres, whereas in China relatively self-sufficient communes consist of 20-50,000 people on approximately 4000 acres, according to Plant Pathologist Alan Roelfs. He was one of two University of Minnesota representatives on the 12 member National Academy of Science wheat studies team which recently visited the People's Republic of China.

"In China agriculture is efficient. This is made mandatory by the need to feed 850 million people from an agricultural area slightly smaller than cultivated in the United States."

Two crops are grown per season in most areas and three annual plantings are not unknown. In northeast China, climatically similar to Minnesota, they grow a crop of spring wheat followed by short season millet or vegetables. After early spring irrigation, the ditches are normally planted to corn to utilize every inch of land, Roelfs says.

Most of the cultivation is performed by animal power--horses, oxen, water buffalo and even camels. In recent years some communes have begun constructing walking tractors, states Roelfs. While they are used for cultivation, they are more frequently utilized as a mode of transportation.

"While planting is performed both by hand and machine, one of the greatest contrasts with Minnesota farming is their intercropping methods. Whereas in Minnesota and many other parts of the world vegetables are transplanted; in China wheat and corn may even be transplanted."

add 1--farming methods

Fertilization consists of animal, human and plant wastes. Currently, little commercial fertilizer is used as a supplement to these wastes. According to Roelfs, China is presently completing construction of 11 nitrogen fertilizer plants emphasizing their growing reliance on and the future prominence of chemical fertilizers.

"Insect control consists of spraying plants with a knapsack sprayer. Often insects and plant diseases are removed by hand and destroyed."

The whole planting process through harvesting and thrashing is performed almost exclusively by hand. Thrashing consists of stone rollers or vehicles pulled across the straw or the infrequent utilization of a mechanical beater. The chaff is separated from the grain by the wind. The grain is often stored in burlap bags and carried around the commune on bicycle drawn carts, and carried to near-by areas on animal pulled carts or walking tractors, states Roelfs.

"Milling is performed in the commune and normally more than 80 percent flour is extracted, compared to United States methods which yield approximately 60 percent. The flour is used in making steamed bread, noodles and several kinds of pastries. Most of the baking is done in the home."

Each commune is assessed a fixed amount of grain, Roelfs says. Thus, as production increases taxation remains constant. Additional grain after taxes is used for communal consumption and to meet the nationally assigned quota. Any surplus grain is normally sold to the government for cash income.

Roelfs is a research plant pathologist with the U.S. Department of Agriculture's Cereal Rust Laboratory in St. Paul and holds an appointment on the University of Minnesota staff.

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EUROPEAN FARM TOUR
SET FOR JULY-AUG.

Farmers and farm managers in the Upper Midwest are invited to participate in "Airlift to Understanding," an educational trip to Europe July 13-Aug. 4, 1977.

Participants can attend the International Farm Management Congress in Hamburg, Germany for five days. There will also be tours of Germany and other European farms and agribusiness firms.

Minnesota farm families who have hosted students in the University's International Agricultural Student Work/Study Exchange program will attend a host family-student reunion.

Many activities will be held at the internationally recognized Congress Centre in Hamburg, Germany. Hamburg also has close ties with agriculture. The port of Hamburg is one of the world's largest for agricultural commodities.

Total price of the travel package, including plane, train and bus is \$398 per person. A preliminary reservation form and a \$25 deposit are due Jan. 15, 1977.

For more information contact the Office of Special Programs, University of Minnesota, St. Paul, MN 55108. Phone (612) 373-0725.

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ADDITIVE-FREE DIET HAS LITTLE EFFECT ON HYPERACTIVE CHILDREN

Claims that hyperactive children will improve when put on additive-free diets are misleading and are based on poorly conducted research backed by meager clinical evidence, according to two University of Minnesota foods experts.

Theodore Labuza, food science and nutrition professor, and Isabel Wolf, extension foods and nutrition specialist, say there is no firm scientific evidence that the so-called Feingold diet improves behavior in hyperactive children. "Following this diet for a prolonged period of time could, in fact, lead to malnutrition," Labuza says.

Dr. Benjamin Feingold of the Kaiser Foundation Research Institute has written a popular book claiming marked improvement in hyperactive children placed on a diet without salicylate-like compounds and "low molecular weight compounds." These include many substances that occur naturally in foods, the University scientists point out.

Mrs. Wolf says that the Nutrition Foundation's National Advisory Committee on Hyperkinesis and Food Additives has found many faults with the Feingold results. The committee criticizes the lack of control subjects, the small sample size, the subjective ratings that parents and teachers gave on children's behavior and the possibility that prolonged use of the diet could result in shortages of some important nutrients.

Add 1 - Additive-free diet

The Committee on Nutrition of the American Academy of Pediatrics also has criticized Feingold's theories. After reviewing the data, the committee stated that there is no evidence that dietary modification plays a role in the treatment of hyperactive children.

"Just because someone publishes a popular book containing a diet for this or that condition does not mean that the diet has been scientifically evaluated for effectiveness," Mrs. Wolf says. "Publishing dietary treatments in popular form results in self-diagnosis and can lead to situations where necessary medical supervision is not sought."

Carefully designed tests at the University of Wisconsin have attempted unsuccessfully to duplicate Feingold's results. Researchers there reported that although a few children improved, some got worse. They concluded that the diet had no significant effect on hyperactive children either as measured by classroom behavior or parents' evaluations.

Mrs. Wolf says problems arise in defining which children are hyperactive. Publicity given to Feingold's theories could cause parents to class their normal, active children as hyperactive and put them on the diet. Because Feingold recommends that parents and children spend time together making additive-free foods for the diet, Mrs. Wolf says some of the children may improve their behavior because of increased parental attention rather than the diet itself.

Education researchers have called for a moratorium on advocacy of the Feingold diet until further controlled research is undertaken. Drs. Carl Spring and Jonathan Sandoval of the Department of Education of the University of California/Davis say the Feingold theory merits further study, but that they "know of only five clinical cases that have been reported in enough detail to allow even the most superficial evaluation."

They suggest that there "may be a small subgroup of hyperactive children who might respond favorably to the diet." They say, however, that further spread of the diet should be curbed until its effectiveness is firmly established.

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Tel. (612) 373-0710
December 28, 1976

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Picture available:
contact Dave Hansen
(612) 373-1558

FIRST FARMHOUSE
CHEESE PRESENTED
TO GOV. ANDERSON

The first cheese ready for market from the Minnesota Farmhouse Cheese project has been presented to Gov. Wendell Anderson by Mr. & Mrs. Carroll Broadbent Jr., Wyoming, MN.

The Broadbents made a wheel of Minnesota Farmstead Gouda cheese for the governor. Last March the governor's Council on Rural Development granted the University of Minnesota \$50,000 to promote the idea of farm made cheese. Objectives were to increase rural industry and employment and help dairymen expand their operations without purchasing more land.

University faculty members in the Food Science Department and the Agriculture Extension Service have been helping dairymen like the Broadbents explore the feasibility of establishing small cheese plants on their farms. They're also conducting cheese schools to give these farmers the technical background necessary to make quality cheese.

In addition to the Broadbents, two other farm families are producing cheese. They are Gerald Flitter, Madelia and Joe Eichten, Center City. Two others, Ray Baune, Milaca and David Pierson, Lake City are constructing plants at this time. Many more dairymen are considering this venture to maintain the future of the family farm.

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GET ON RECORD PROGRAM
SAYS U M DAIRYMAN

Now is the time to get on the DHI (Dairy Herd Improvement) record program, says University of Minnesota Extension Dairyman Bill Mudge.

The shortage of feed, high cash inputs, and increased use of pipeline milking systems all make records a necessity. "DHI records provide individual information on the entire herd. They help you get more milk from that high priced feed," he adds.

Two new programs provide all the management information at a reduced investment by the dairyman. The "Alternate A.M.-P.M." rates are about 20 percent less than other supervised programs because only one milking is sampled instead of two. For the least investment dairymen can use MOR "Milk Only Record" Owner-sampler. The dairyman provides his own milk weights--no milk samples are taken. All of the management information is provided; but neither or those records are used for advertising or for sire summaries.

Another handy management tool is the Action list, a pocket-size printed list of cow to dry, calve, breed and pregnancy check listed in date order. Improved management and reproductive performance yield high returns for the two-cent-per cow per month invested in these lists.

For more information on these and other record programs, contact your county extension office of your Dairy Herd Improvement director and supervisor.

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TILLAGE EFFECT
ON CROP DISEASE

A University of Minnesota plant pathologist says minimum tillage need not result in severe crop diseases if certain guide lines are followed.

Herbert Johnson says a crop rotation system should be used to prevent specific crops from being repeated in successive years or even a few years. Dry and snap beans should never be grown in sequence or follow themselves since several diseases can build up and become severe.

The risk of corn stalk-rot fungi causing wheat scab is probably greater with wheat following minimum tilled corn than wheat following minimum tilled wheat.

Leaf diseases common to both wheat and barley are likely to start earlier in the season and become more severe on minimum tillage of the previous year's wheat or barley crop.

A few fairly severe cases of the corn leaf spot disease eyespot have been found in Minnesota where corn followed corn with minimum tillage. The same situation was found with yellow leaf blight, but that is now controlled with N-cytoplasm seed.

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IN BRIEF.....

Claim Tax Benefits. Farmers are encouraged to claim tax benefits for animal pollution control costs. You can claim a 10 percent income tax credit for pollution equipment and facilities on your 1976 Minnesota tax return.

"This may be the last year this credit is available for liquid manure spreaders, manure tanks, runoff control structures and pumps," says Phil Goodrich, agricultural engineer at the University of Minnesota. The law expires Dec. 31, 1976.

Income tax credit is also available for equipment purchased in 1976. More information is available in Agricultural Engineering Fact Sheet 20, "Tax Benefits for Animal Pollution Control." Copies are available from county extension offices or the Bulletin Room, University of Minnesota, St. Paul, MN 55108.

* * * *

Tax Guides. Remember to pick up your 1977 Farmers' Tax Guide from the county extension office. And when you're there, also remember to get a copy of the publication, "Income Tax Management for Farmers." By thinking taxes all year long you can increase your after tax income.

* * * *

Feeding Program. Dairymen can get a good idea of how efficient their feeding program is through Dairy Herd Improvement (DHI) records. Income over feed costs and feed costs per 100 pounds of milk values for the average cow in your herd are available from DHI records.

Feed costs typically account for 50 to 55 percent of the gross value of milk. Non-cash feed expenditures such as drugs, sanitizers, semen, and milk hauling account for another \$125 to \$175 annually. See your county extension agent or DHI supervisor for more information.

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ECONOMISTS ANALYZE
EAST EUROPE NEED
FOR U-S GRAINS

Continued growth in importance of eastern Europe as a market for United States' feed grains is expected by University of Minnesota agricultural economists Mary E. Ryan and James P. Houck.

Eastern European countries will need to import substantial amounts of grain to meet national livestock production goals. "These nations are looking increasingly to the West for their grain imports. Their chief post World War II supplier, the Soviet Union, no longer has exportable surpluses available on a regular basis. Meanwhile, East-West trade barriers generally have been lowered," Ryan and Houck add.

Recent U.S. Department of Agriculture reports conclude that continued emphasis is likely for more livestock output in Eastern Europe to meet rising consumer demand for meat and other livestock products.

Economic systems in Eastern Europe generally are more flexible, more decentralized and more market-oriented than before 1960. Although prices in these countries generally reflect supply and demand forces, they still are determined by government administrators and do not change without government action.

For more information, get "Eastern Europe: A Growing Market for U.S. Feed Grains" from the Department of Agricultural and Applied Economics, University of Minnesota, St. Paul 55108.

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MSC
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ATT: Extension Home Economist

DRAINING YOUR POCKETBOOK
TO FILL THE COFFEE CUP?

Coffee is becoming a big expense on most families' grocery lists. With a pound of ground coffee selling for at least \$2.50 and still climbing, Isabel Wolf, extension foods and nutrition specialist at the University of Minnesota, says consumers may want to begin conserving and stretching their coffee supplies.

According to the American Home Economics Association Handbook of Food Preparation, a pound of ground coffee makes 40 to 50 cups of the brew. This figures to between 5 and 6 cents a cup with stronger coffee even more expensive to brew.

A two-ounce jar of instant coffee makes about 30 cups of medium strength coffee at a cost of 3 cents a cup.

Mrs. Wolf says some coffee drinkers may want to switch to tea, which contains one-third to one-half as much caffeine per cup as coffee. The caffeine is what gives "a lift" from either beverage. Tea breaks might offer a nice change from the traditional coffee breaks, she says.

The Handbook of Food Preparation says that a pound of bulk tea, selling for about \$2.50, will produce 300 cups of the drink at a cost of less than one cent per cup. Tea is more expensive when brewed from tea bags or from premium quality English teas.

If you can't be swayed from coffee, Mrs. Wolf suggests making only as much as you need for a meal and then saving any leftovers. If you like very strong coffee, you might try adjusting your palate to a weaker brew. Watch for supermarket specials and sales to stock up on coffee, she advises.

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ATT: Extension Home Economists

EMBROIDERY TRANSFERS
CAUSE REMOVAL PROBLEMS

If your current sewing projects include embroidery trim done from iron-on transfers, take some precautions before applying the transfer to the fabric.

Lois Ingels, extension textiles and clothing specialist at the University of Minnesota, says many people have encountered problems in removing the transfers if they're applied in the wrong place or if they show after the embroidery is done.

She suggests checking a test motif on a scrap of fabric before ironing the transfer onto the garment. If the fabric is washable, hand or machine washing may remove the embroidery transfer but be sure of what works before stamping your garment. If hand and machine washing fail to remove the transfer, try cleaning fluid, Ms. Ingels suggests.

She cautions those sewing at home to take manufacturers seriously when they warn, "We cannot guarantee the stamping or removal of transfers."

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4-H NEWS

Immediate release

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SCHOLARSHIP FORMS
FOR 4-H MEMBERS
AVAILABLE NOW

Applications are available at the _____ County Extension Office for 4-H members interested in a McKerrow or Minnesota Livestock Breeders Association (MLBA) scholarship.

McKerrow and Minnesota Livestock Breeders Association scholarships of \$450 each are awarded every year to two 4-H'ers with long records in 4-H Livestock projects.

To qualify for the MLBA scholarship, applicants must:

--Be entering or attending the University of Minnesota, St. Paul, Crookston or Waseca, with a major in agriculture or home economics.

--Or be a former 4-H member.

--Or show interest in pursuing a career in agriculture or home economics.

The McKerrow Scholarship will be awarded to a former 4-H member who is a junior enrolled at the University of Minnesota, St. Paul, majoring in animal science with plans to pursue a career in animal science.

Applications must be submitted to the State 4-H Office by March 1. For more information, contact _____ at the _____ County Extension Office.

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December 29, 1976

MS
A 270
Programs are available to all
persons regardless of race,
creed, color, sex, age, or
national origin.

SPECIAL SHORT COURSE SCHEDULE (January - June 1977)

- January 11 Swine Day, Southern Experiment Station, Waseca.+
- Jan. 11-13 Home Sewage Treatment Workshops, Jan. 11-13, Sheraton Inn NW,
Jan. 25-27 Brooklyn Park; Jan. 25-27, Holiday Inn South, Rochester; Feb.
Feb. 8-10 8-10, SW State University, Marshall; Feb. 22-24, Howard Johnsons,
Feb. 22-24 Bloomington; March 1-3, Holiday Inn, Alexandria; March 15-17,
March 1-3 McGuires Inn, Arden Hills; March 29-31, Holiday Inn, Bemidji;
March 15-17 April 12-14, Holiday Inn, Eveleth. For county sanitarians, zoning
March 29-31 officers, contractors, county planners, public health inspectors
April 12-14 and building inspectors.*PS
- January 15 Milk Judging & Dairy Foods School, Food Science & Nutrition
Building, St. Paul Campus. The school is for vocational agri-
culture instructors only. With inclusion of cottage cheese sample
preparation, the instruction is designed for vo-ag instructor
teaching and preparation techniques.*CN
- January 17-20 Better Process Control, Curtis Hotel. To provide training,
examination and certification so that canners in Minnesota and
the upper-midwest can comply with federal regulations Pat.128b--
Thermally processed Low-Acid Foods Packaged in Hermetically Sealed
Containers -- of the Food and Drug Law.*GW
- January 24-26 Food Plant Pesticide Applicator's Conference, Downtown Radisson
Hotel, Minneapolis. For food plant and warehouse managers,
pest control operators, and persons responsible for sanitation
and pest control in food plants and warehouses. To provide current
information on new regulations and prescribed methods of conducting
sanitation and pest control programs in food plants and warehouses.*PS
- 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

* 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 Stegmeier "

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

Page 2 - Special Short Course Schedule

- 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
- 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 latest 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.+
- February 19-March 5 Quality Assurance Workshops; Food Service Sanitation, (exact locations and dates to be announced). 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 1, 2,3,4,8, 9,15,16, 17,18 Commercial Applicators Pesticide Workshops, Rochester, March 1-2; Marshall, March 3-4; Minneapolis, March 8-9; Crookston, March 15-16; St. Cloud, March 17-18. 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 applicators 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 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, 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.*PS

Page 3 - Special Short Course Schedule

- 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
- 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 25-26 Beekeeper's Short Course, North Star Ballroom, St. Paul Campus. For hobby beekeepers and all others interested in beginning beekeeping.*PS
- 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 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
- 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.

Page 4 - Special Short Course Schedule

- 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 13-24 Administrators Institute for Recently Appointed Administrators, Northwestern College, Arden Hills. For recently appointed administrators in colleges of agriculture, forestry, and home economics around the nation. To expand their understanding and skills relating to the responsibilities, concepts, principles and techniques involved in academic administration in agriculture, forestry, and home economics.*LF
- June 28 Crops and Soils Field Day, Southern Experiment Station, Waseca.+