

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
March 1, 1968

Immediate release

## DEVELOPMENT GROUP URGED TO PUT RESEARCH INTO ACTION

St. Paul--The Northern Great Lakes Resource Development Committee (NGLRDC) was encouraged to enlist local and state support to take available research information and put it into action programs.

William F. Hueg, Jr., University of Minnesota Agricultural Experiment Station Director, spoke to the group at its quarterly meeting earlier this week. He pointed out that Minnesota, Michigan, and Wisconsin now have 82 station research projects with implications for regional economic development.

Minnesota has 36 of these projects and the majority are purpose-oriented and concerned with finding practical solutions to both present and future problems. Hueg voiced his concern about slow progress in some research areas caused by too few dollars and too little manpower.

He pointed out, however, that there is research information readily available for use in some action programs. As an example, he pointed to the beef cattle management information available in the three states.

He commended the committee for having done an excellent job in delineating areas of concern and needed emphasis for research and action programs.

The committee is a citizen's group dedicated to the overall development of 81 counties in northern Minnesota, Michigan, and Wisconsin. It works closely with the U. S. Department of Agriculture and other federal and state agencies and state universities in the three states.

Keith Arnold, Dean of the School of Natural Resources at Michigan State University, told the committee that the central issue in recreation planning for the future is to seek compatibility between environmental quality and resource production.

add 1 - development group

The committee took note that highways are growing in importance as a factor in the development of the Northern Great Lakes region. A new transportation sub-committee was named to form specific recommendations about the highway network.

Ben Patterson, Deer River, Minnesota, was named to head the transportation committee. Other members named were: Ed Wold, Aitkin, Minnesota; Lawrence Gould, Pestigo, Wisconsin; Fred Hahne, Manistique, Michigan; Roy Howes, Keleva, Michigan; and Maurice Costello.

M. J. Brunner, Rhinelander, Wisconsin, was named to head the land use sub-committee. Other members include John Rife, Sebeka, Minnesota, and Roy Howes, Keleva, Michigan.

Harold Dettman, St. Ignace, Michigan, ended a two year term as chairman of the NGLRDC. He was succeeded by Minnesotan John Rife. New vice chairman of the committee is M. J. Brunner of Wisconsin. Edward Gould, West Branch, Michigan, was elected secretary-treasurer.

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#### DEVELOPMENT GROUP ELECTS JOHN RIFE

John Rife, Wadena farmer-businessman, was elected chairman of the Northern Great Lakes Resource Development Committee during the quarterly meeting held in St. Paul earlier this week. Rife was formerly chairman of the group.

The committee is made up of citizens dedicated to the development of 81 counties in northern Minnesota, Michigan, and Wisconsin. It works closely with the U. S. Department of Agriculture and other federal and state agencies and the state universities.

In accepting the chairmanship, Rife pointed out that the citizens' committee will be better able to stimulate development when it has full understanding of the functions and criteria established by federal and state governments.

"The challenge then," said Rife, "is to identify the real possibilities and then get to work." He mentioned agriculture and land use planning as two key elements in any successful future development efforts.

In other action, the committee chose Ben Patterson, Deer River, to head up the newly formed transportation committee. Ed Wold, Aitkin, was also named to the committee.

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March 4, 1968

To all counties  
Immediate release

GOOD SHELTERBELT  
GIVES PROTECTION,  
ADDS BEAUTY

A good shelterbelt will moderate summer and winter winds, beautify the farmstead, plus save fuel--up to 30 percent in most homes, says Marvin Smith, extension forester at the University of Minnesota.

To protect against prevailing winds, plant the shelterbelt on the north and northwest sides of the farmstead. For the typical Minnesota farmstead, the shelterbelt should run approximately 400 feet on both the north and west sides--at least 100 feet from house and barn--extend about 50-100 feet past the last main buildings on the south and west, and be at least 90 feet deep with eight rows of trees.

The biggest single factor assuring windbreak survival and growth is proper preparation of the planting area during the summer before actual spring planting. Fallowing or keeping the land in a cultivated crop, such as corn, soybeans or potatoes the year before planting assures a loose, mellow, weed-free soil, Smith says.

Seedlings for shelterbelts can be ordered during fall or early winter from nurseries operated by the Minnesota State Division of Forestry or from commercial nurseries. Order fast growing trees for quick growth, long-lived ones for permanency and evergreens for year-round protection. Smith advises ordering mixed plantings.

add 1 -- good shelterbelt

When planting hardwoods, use 2-year-old seedlings, 14 to 16 inches high. This size is easy to plant, establishes quickly and has a good root system. With evergreens, select transplants, not seedlings. Transplants compete better with grasses and weeds, and are easier to handle in planting.

Plant shelterbelt trees in spring as soon as the frost is out of the ground. Make the hole or planting trench deep and wide enough to hold the entire root system without crowding. Also, tamp the soil firmly around the roots and level or slightly depress the ground around the tree after planting.

For more information on shelterbelts, ask your county agent for Extension Bulletin 196, "Planting Trees for Farmstead Shelter." Or, write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

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To all counties  
Immediate release

CONTROL WEEDS  
IN SMALL GRAINS

Use 2,4-D or MCPA to control broad-leaved weeds in small grains. But don't use these chemicals where you've planted legume underseedings unless the weed hazard is serious, advises Gerald Miller, extension agronomist at the University of Minnesota.

Miller says sweet clover is especially sensitive to 2,4-D and MCPA and shouldn't be sprayed.

Small grains are more tolerant to MCPA than to 2,4-D. With MCPA, you can spray at the two leaf stage or later, but 2,4-D applied in this early stage will usually cause serious crop injury. If you use 2,4-D, wait until the five leaf stage for wheat and barley and the six leaf stage for oats.

If the field has only small areas of Canada thistle or field bindweed, you can use spot treatments of 2,4-D acid equivalent at one-half to two-thirds pounds per acre. But this treatment will destroy legume underseeding and probably reduce grain yields in the treated areas.

Where smartweed or wild buckwheat are problems in spring oats or wheat, use dicamba (Banvel-D) at one-eighth to one-fourth of a pound per acre dicamba equivalent when used alone, or in mixtures with one-fourth pound per acre of MCPA. The combination of dicamba and MCPA gives better control of mustard than dicamba alone, Miller says. Apply chemicals when wheat and oat plants reach the two to five leaf stage.

Bromoxynil (Brominil or Bucril) is a recently developed herbicide that controls many annual broadleaved weeds, including some that are resistant to 2,4-D in fall or spring-seeded wheat and barley.

Apply six to eight ounces of active bromoxynil per acre as an early post-emergence treatment in the spring or fall. Bromoxynil doesn't control annual grasses or perennials, Miller adds.

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To all counties  
Immediate release

USE THE RIGHT  
MINERAL SUPPLEMENT  
IN DAIRY RATION

Minerals that dairy cattle most likely need in their rations are common salt and phosphorus.

Cows may also need extra calcium when their roughage is primarily corn silage or when they receive limited roughage and a large amount of grain, says Bill Mudge, extension dairyman at the University of Minnesota. Additional calcium, however, shouldn't exceed about two times the amount of phosphorus added to the ration. Extra calcium should normally be provided with dicalcium phosphate, not with limestone.

Dairy farmers can adequately supplement most dairy rations by mixing about one percent of trace-mineralized salt and one percent of dicalcium phosphate (dical) into the grain mixture. Another mineral supplement that contains at least 15 percent phosphorus may replace the dical.

Cows should have free access to a weather-protected feeder containing salt and dical--or other suitable mineral mixes--in addition to the mineral supplements added to the grain ration.

Steamed bonemeal can substitute for dical, although bonemeal contains only about three-fourths as much phosphorus but slightly more calcium. Steamed bonemeal best fits a feeding program when cows are fed large amounts of corn silages.

Monosodium phosphate, sodium tripolyphosphate and disodium phosphate can substitute for dical when the roughage fed is primarily legume or grass-legume mixtures. These supplements contain 20 to 25 percent phosphorus and no calcium.

Mudge says mineral supplements sold under different brand names vary in phosphorus and calcium content. Dairymen should check the approximate percentage of each supplement's ingredients, listed on the feed tag, and then buy the supplement that best suits the roughage fed.

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To all counties

4-H NEWS

Immediate release

(5th in a series in  
consumer buying)

TAKE CARE  
OF YOUR NEW  
SWEATER

So, you've bought a new sweater! Now--what about taking proper care of it?

Extension clothing specialists at the University of Minnesota offer some suggestions.

Be sure to read carefully the label that came with your sweater. Does it specify dry cleaning? Or does it recommend washing by hand? Perhaps you were concerned with easy laundering and bought a sweater that can be machine washed and dried.

Many acrylics alone or in blends are machine washable and dryable at medium temperatures. Always be sure to check the label for washing instructions.

Wool sweaters mat and felt from too hot water, changes in water temperature and rough handling. Once a wool sweater is shrunk out of shape from mishandling in laundering, it is impossible to bring back the shape.

Be on the look-out for additional information on the label, such as "shrink resistant" or "shrinkage controlled." Know exactly what to expect from your sweater.

Check your label to see if a special finish such as mothproofing on a wool sweater will stand up to washings for the life of the sweater. Special attention must be given to the garment if the finish wears off after a few washings or dry cleanings.

Information on colorfastness is not always found on labels. However, wool is usually reasonably fast to both light and washing. Cotton can be dyed to be as colorfast as good cotton woven goods. With man-made fibers, look for terms that tell you to what extent they are colorfast.



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To all counties  
ATT: HOME AGENTS  
Immediate release

**MANY DIETS  
LACK RIGHT FOODS  
FOR BEST HEALTH**

How well does your family's diet rate when it comes to getting the nutrients needed to keep family members in the best of health?

In the light of findings from a recent nationwide food use survey, it might be wise to take an inventory of your own family's diets, says Home Agent

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Fewer families have good diets than 10 years ago, according to a report just released of a nationwide survey made in the spring of 1965 by the U. S. Department of Agriculture. The 7,500 families surveyed were a representative sample of U. S. households as was true when the previous study was made in 1955. Only 50 percent of the families in the last survey met or exceeded requirements for good diets, 30 percent were between good and poor and 20 percent had poor diets compared to 15 percent 10 years before.

Decreased use of milk and milk products, vegetables and fruits was chiefly responsible for the decline in the percentage of good diets over the 10-year period. These are the foods that are the most important sources of calcium, vitamin A and ascorbic acid (vitamin C), the nutrients most frequently found on the short side.

Dietary levels were rated good if the diets met recommendations for seven nutrients set by the Food and Nutrition Board of the National Academy of Sciences-National Research Council as adequate for maintaining good nutrition in healthy persons under current living conditions. The nutrients included protein; two minerals, calcium and iron; and four vitamins, vitamin A, thiamine, riboflavin and ascorbic acid.

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add 1 -- diets lack right foods

About half of the households in each region had diets that failed to meet the recommended allowances for all seven nutrients. In every region calcium, vitamin A and ascorbic acid were the nutrients most often found in insufficient amounts at all income levels.

City families used more dark green and deep yellow vegetables and citrus fruits than rural families, and consequently their diets were higher in vitamin A and vitamin C. But diets of farm families were higher in calcium, iron and thiamine because of greater use of milk, cheese and grain products.

As incomes increased, a higher percentage of families had good diets, although the survey showed that income alone does not insure a good diet. As a matter of fact, almost a tenth of the households with incomes of \$10,000 and over had poor diets. But at the under \$3,000 income level, more than a third of the diets were poor.

If diets are to improve, more families must be aware of what foods are necessary for well rounded meals and must have the desire to choose those foods which contribute to health and well being, says Grace Brill, extension nutritionist at the University of Minnesota. The responsibility for good family diets, she says, should lie particularly with the homemaker who plans and prepares family meals.

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IN BRIEF.....

Prune Fruit Trees in Early Spring. Early spring, before growth starts, is the best time to prune your fruit trees, advises Leonard Hertz, extension fruit specialist at the University of Minnesota. During this period, the pruning wounds will heal rapidly. When pruning mature and often neglected trees, the old, weak wood should be removed. This wood is thin and crooked and usually bears small and poorly colored apples. The strong new wood that remains will then produce fruit similar to that of young trees. A complete renovation process on severely neglected trees will normally require more than one year. For more information on pruning fruit trees, ask your county agent for a copy of Extension Folder 161, "Pruning Fruit Trees." Or, write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

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Insect Control on Forage Crops. A variety of insects infest forage crops and pastures, reducing yields and sometimes feed quality. But damage can often be reduced by harvesting the crop before serious loss occurs, says John Lofgren, extension entomologist at the University of Minnesota. Lofgren says early harvesting may open the way for some forage insects, but some of these can be controlled with insecticides without creating chemical residue problems. Many common forage pests are described in Entomology Fact Sheet No. 4, "Insect Control on Forage Crops." The fact sheet also includes suggestions on chemicals which have been successful in reducing forage insect damage. Ask your county agent for a copy, or write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

-more-

add 1 -- in brief

Use Fresh Seed When Starting Flowers. Be sure to use fresh seed when starting your annual flower plants indoors, says Jane McKinnon, extension horticulturist at the University of Minnesota. You may be disappointed if you use seed left over from last year, since germination is likely to be poor. It's also best not to plant seed from hybrid varieties grown last year, Mrs. McKinnon says. The seed coat may carry fungus diseases that will kill developing plants.

\* \* \* \*

Produce High Yields of Good Quality Crops. Consistent high yields of good quality farm crops don't happen by accident, says Harley Otto, extension agronomist at the University of Minnesota. Otto says careful planning and the use of scientifically proven crop production practices are needed. These include:

- \* Preparing a good seedbed.
- \* Planting high quality seed of proven varieties at the best time.
- \* Applying the kind and amount of fertilizer recommended from soil test results.
- \* Controlling weeds, insects and diseases.
- \* Harvesting at the proper time with good machinery.
- \* And, storing the crop so its high quality is preserved.

\* \* \* \*

Good Tax Managing is Year-Around Job. End-of-the-year tax decisions made in haste can be costly, says Ken Thomas, extension economist at the University of Minnesota. Thomas says good tax managers think taxes all year around. Farmers should be able to recognize tax aspects of any farm decision and know when to talk to a tax consultant for advice on complicated problems.

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March 5, 1968

Immediate release

#### STATE 4-H RADIO SPEAKING CONTEST MARCH 11

Seventeen district winners will compete for a \$100 cash award and state championship in the 26th annual 4-H radio speaking contest March 11 on the University of Minnesota's St. Paul Campus.

The state finals are part of a two-day educational citizenship event in human relations planned for both district and reserve district winners in the statewide speaking contest.

Sponsors of the contest and of the two-day educational event are the University of Minnesota's Agricultural Extension Service and the Jewish Community Relations Council of Minnesota. Trips to the Twin Cities and all awards are provided by the Council.

The competition will be held Monday morning in Luther Hall, 1407 Cleveland Ave. N., St. Paul. Contestants will give original speeches on the topic, "What Are Teenagers' Responsibilities in Today's World?"

The 34 district and reserve district winners will arrive in the Twin Cities Sunday night, March 10, for orientation and a reception at the Pick-Nicollet Hotel. Guests at the reception, which is sponsored by the hotel, will be host families at whose homes contestants will stay.

Scheduled for Monday afternoon are a seminar on human relations at the State Capitol with Lt. Gov. James Goetz and attendance at the movie, "Guess Who's Coming to Dinner?" Following dinner at the YMCA in Minneapolis, 4-H'ers will take part in recreation and a discussion of the movie with young people of different races and religions.

-more-

add 1 - state 4-H radio

On Tuesday morning the 4-H'ers will attend an assembly program at Alexander Ramsey High School and will tour Temple Israel in Minneapolis. They will be guests of the Jewish Council at a luncheon at which the awards will be presented to the champion and reserve champion by Phillip Krelitz, president of the Council. The winning speech will be broadcast over WCCO radio at 12:45 p.m. Featured speaker at the luncheon will be Larry Harris, executive director, Urban Coalition, and director of urban affairs for the Minneapolis Public Schools. He will speak on "Teenagers Look at the Present and Future."

Nearly 1,500 4-H members, 14 to 19 years of age, have taken part in this year's competition on local, county and district levels.

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## MINN. TOWN/COUNTRY ART SHOW OPENS SUNDAY

Some 280 paintings and pieces of sculpture will go on exhibit Sunday noon, March 10, in the University of Minnesota's Student Center Galleries on the St. Paul Campus.

To mark the opening, a reception will be held at 3 p.m. in the North Star Ballroom.

The show will continue through Friday, March 29. Viewing hours are 9 a.m. to 10 p.m. weekdays and 12 noon to 10 p.m. Sundays.

Included in the exhibit are 15 pieces of sculpture, 208 oils, in addition to mosaics, wood cuts, watercolors, charcoal drawings, gouaches and paintings in other mediums.

Represented in this year's show are 268 artists from 63 counties throughout the state, according to A. Russell Barton, coordinator. All of the artists live in rural Minnesota or in towns of 25,000 or less.

A four-day program for rural artists beginning March 26 will climax the Minnesota Town/Country Art Show. Gallery tours, lectures, demonstrations, a concert, a writers' seminar and an artists' luncheon are among activities scheduled for the final week.

New this year will be the concert on March 27 at which winners of the original music composition competition will be presented.

The Minnesota Town/Country Art Show is presented for the 17th year by the Department of Agricultural Short Courses with the sponsorship of the Agricultural Extension Service and the General Extension Division of the University of Minnesota.

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### SOIL EXPERT WILL DISCUSS WORLD FOOD NEEDS

World soil resources and world food needs will be discussed Wednesday (March 6) at the second winter seminar sponsored by the Office of International Programs at the University of Minnesota Institute of Agriculture.

The speaker will be Roy Simonson, director of soil classification and correlation for the U. S. Department of Agriculture Soil Conservation Service.

Simonson has wide experience in soil classification throughout the world. He has worked in the Pacific islands, Japan, India, Brazil, the Netherlands and Rome.

The seminar is the second in a series of four to be held on the St. Paul Campus this year. Focus for the entire program is on increasing the world food supply. The next seminar will be on April 10.

Tickets for all seminars may be obtained from heads of academic departments on the St. Paul Campus.

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### UM INSTITUTE OF AGRICULTURE GETS ROCKEFELLER GRANT

The University of Minnesota Institute of Agriculture has received a \$15,000 grant from the Rockefeller Foundation, according to John Blackmore, director of International Agricultural Programs at the University.

The money will be used to bring a Japanese agricultural economist to the Department of Agricultural Economics for a year's work in the field of agricultural growth in an international perspective.

According to Blackmore, the Japanese economist is Yujiro Hayami of the Tokyo Metropolitan University.

Blackmore points out that the Rockefeller Foundation grant is another building block in the creation of an international dimension for the Institute of Agriculture.

He said, "The presence of this internationally known economist on our campus will improve our knowledge, our teaching, and enable us to better understand problems and possibilities for Minnesota in the international economy."

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#### NEW PUBLICATION: LIVING WITH WOOD

The warmth, comfort and beauty of wood make it a popular material for home interiors.

To stimulate interest in wood and to help consumers see it and enjoy its beauty, the University of Minnesota's Agricultural Extension Service has published a bulletin called Living with Wood. Author of the publication is Mrs. Myra Zabel, University extension specialist in home furnishings.

Following a description of the characteristics of hardwoods and softwoods, Mrs. Zabel discusses woods for furniture, floors and paneling.

Fact charts about native and imported woods used in homes gives such information as origin, uses, color, grain and other characteristics of 28 different woods.

Of special help to a homeowner considering installation of paneling is a chart giving available sizes, characteristics, cost per square foot and care of different paneling materials.

Single copies of Living with Wood, Extension Bulletin 347, are available free of charge from Bulletin Room, University of Minnesota, St. Paul, Minn. 55101.

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Immediate release

#### REVISED FRUIT PUBLICATIONS FOR HOMEOWNERS AVAILABLE FROM UM

The University of Minnesota Agricultural Extension Service recently released two revised publications for home fruit growers.

They are the "Home Fruit Spray Guide" and "Fruit for the Home."

Detailed information on general planning, culture of tree fruits, and the culture of small fruits is given in the publication "Fruit for the Home."

This publication includes information on site selection, planting and care before planting, why trees fail to bear, the culture of tree fruits--including apples, pears, dwarf apples and stone fruits--and information on small fruits such as strawberries, raspberries, and other domestic and wild fruits.

A simplified spray program to control insect and disease problems of fruit crops is discussed in the "Home Fruit Spray Guide." This guide, designed around an all-purpose spray mixture, gives an insect and disease control spray schedule that the average home gardener can maintain without difficulty.

These publications are available from your county agent, or by writing the Bulletin Room, University of Minnesota, St. Paul, 55101. Ask for Extension Pamphlet 184, "Home Fruit Spray Guide," and Extension Bulletin 255, "Fruit for the Home."

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Immediate release

#### 4-H FLOWERS FOR KOREA

The 4-H Youth for Natural Beauty program has taken an international turn in Minnesota.

More than 100 4-H clubs from 40 counties have contributed money toward buying 18,000 packages of flower seeds which have been sent to 4-H clubs in South Korea, according to Leonard Harkness, state 4-H club leader at the University of Minnesota. Cooperating in the project is Northrup, King and Co., which provided the seeds at cost and shipped them to Korea.

The contributions for seeds came as the result of a letter from Park Hyung Duck, director of the Provincial Office of Rural Development in Chungchong Pukdo, Korea, to Governor Harold E. LeVander, who turned the letter over to Harkness.

In his letter the Korean official asked for flower seeds. "I firmly believe that the bright future of my country lies in the beautiful dreams of the rising generation," the letter read. "Now my staff and I have an idea for providing the seedbed for youngsters' dreams. It is to initiate full-scale flower-propagating campaign all over the province." Duck commented that a flower-growing project throughout the province would help rural youth look beyond the economic problems of their rural homes and contribute to greater emotional stability of the young people.

Seven cartons containing the 18,000 seed packets of some 50 different flower varieties -- ranging from alyssum to zinnias -- are now on their way to South Korea for planting by the 51,856 young people who are members of 2,371 clubs in Chungchong Pukdo Province.

Besides supplying flower seeds, the Minnesota 4-H members hope to initiate an exchange of letters and pictures with Korean 4-H'ers.

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## HOME LAUNDRY EXPO SCHEDULED FOR HOMEMAKERS

Homemakers who are beset with such laundry problems as getting grease out of wash-wear fabrics or getting their husbands' shirt collars clean will get special help at a Metro Home Laundry Expo April 29 at the Thunderbird Motel in Bloomington.

The event is an all-day program and fair planned especially for homemakers in six counties in the metropolitan area to help solve their laundry problems and show them the latest in laundry equipment, according to Mrs. Elaine Klingebiel, Dakota home agent, who is chairman of arrangements. Metro Home Laundry Expo is sponsored by the University of Minnesota Extension Services in Anoka, Dakota, Ramsey, Hennepin, Carver, Scott and Washington Counties with the cooperation of laundry-related industries.

Morning and afternoon programs will highlight discussions by experts on such subjects as laundering today's fabrics, planning a laundry area and water conditioning. A fashion revue will feature models from county extension home councils showing garments properly and improperly laundered.

Exhibits will include laundry equipment, detergents and fabrics.

Metro Home Laundry Expo will be open to the public free of charge.

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To all counties  
4-H NEWS  
(6th in a series on  
consumer spending)

"TOTAL LOOK"  
FOR TEENAGE  
BOYS' CLOTHES

Teenage boys--are you concerned about coordinating color and pattern into the "total look" for your clothing selection?

If so, you can use one of the oldest practices in grooming--the "rule of contrasts"--when selecting your clothes.

If you select a striped, checked or herringbone suit or sport coat, plain accessories are probably best. But if your suit is in a plain fabric and conservative color, your tie and handkerchief can be bold and patterned.

A general rule to follow is to coordinate topcoat and suits in the same color. Since you probably cannot afford to buy topcoats for each suit, the neutrals--medium browns and medium grays--will blend well with all suit colors, according to extension clothing specialists at the University of Minnesota.

Matching ties and handkerchiefs are very acceptable and quite popular with the teenage crowd.

Just as important as clothing selection is the proper care of your clothes. A good investment to make is in wishbone wooden hangers. These hangers are designed with strength and are shaped to maintain the line of your suit or coat.

Good storage items include belt and tie racks, shoe trees and racks and garment protectors. These will all help to prolong the life of your clothes and accessories.

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HARVESTING OATS  
AS SILAGE HELPS  
NEW SEEDING

Removing oats early as silage almost always gives you a better stand of new seeding the following year than if the oats is harvested for grain. And, oat silage harvested when the crop is in the late milk or early dough stage has about twice the feed value per acre of the mature grain, says Harley Otto, extension agronomist at the University of Minnesota.

Oat silage has the feed value of the grain, and also of the stems and leaves. But Otto says many farmers have disappointing results with oat silage because they harvest either too early or too late. The stage of maturity of the crop greatly influences the method of handling the crop and the quality of the silage.

Select late maturing varieties with good lodging resistance for best results. Seed oats alone at 2 or more bushels per acre. As a companion crop, oats should be seeded as low as 1½ to 2 bushels per acre.

You can also make silage from a mixture of oats and peas. Silage from an oats and pea mixture will be higher in protein than oats alone. Otto says these mixtures do best in northern Minnesota where temperatures are cool and moisture is high. Don't use the mixture as a companion crop, and always inoculate the peas.

If legumes are underseeded, apply enough phosphorus and potash to correct soil deficiencies. If oats are seeded alone for silage, higher nitrogen rates can be applied to increase yields since lodging isn't a major problem because the crop is removed early.

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IN BRIEF.....

Plant Small Grains Early. Plant small grains and flax as early as possible to get top yields and quality, says Harley Otto, extension agronomist at the University of Minnesota. Otto says research shows that if planting is delayed past the first part of April, yield and quality of small grains are reduced. Potential oat yields are reduced if planting is delayed past mid-April in southern Minnesota and early May in the northern part of the state. If planting is delayed past middle to late April, consider planting earlier maturing varieties of oats and flax. Early planted barley gives a higher percentage of plump kernels and lower protein, which is desirable for malting, Otto says. Have your equipment in top shape and your seed and fertilizer purchased so you're ready to go when the weather breaks.

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Tree Planting Machine Saves Time, Labor. If you're one of many woodland owners who will be purchasing seedlings from nurseries within the next month or so, you'll be interested in saving time and energy planting the trees. A tree planting machine can reduce time and energy for the woodland owner who has a large number of trees to plant on level or gently rolling ground, says William Miles, extension forester at the University of Minnesota. Planting machines can be scheduled through the county agent's office, Miles says. Some SCS offices also schedule tree planting machines. Anyone planning to schedule the use of a tree planter should do so soon.

\* \* \* \*

Imperial and Majestic Honey Locust Trees. With the Imperial and Majestic Honey Locust trees are recommended for lawn plantings in the southern part of Minnesota. The new trees are seedless and thornless, and are similar to the Skymaster and Skyline varieties, according to Jane McKinnon, extension horticulturist at the University of Minnesota.

-more-



add 1 -- in briefs

Two New Publications Available for Home Fruit Growers. Good fruit can be grown in every county in Minnesota, says Leonard Hertz, extension horticulturist at the University of Minnesota. Hertz says growing fruit in your garden or home orchard can be an interesting and profitable venture. Your success in growing fruit depends on the planting site selection, choice of varieties adapted to your locality, pest control and cultural care. For detailed information on growing fruit for the home, ask your county agent for the latest copies of Extension Bulletin No. 255, "Fruit for the Home," and Extension Pamphlet 184, "Home Fruit Spray Guide." Or, write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

\* \* \* \*

National Poison Prevention Week. Minnesotans are urged to develop ways to reduce deaths and injuries from accidental poisonings during National Poison Prevention Week, March 17 to 23, announces Wayne Hanson, extension safety coordinator at the University of Minnesota. Over 100 persons die in Minnesota each year from accidental poisoning, Hanson says. Detergents, furniture polishes, waxes, drain and bowl cleaners, lighter fluids, pesticides, aspirins and other tranquilizers are common household products that are potential poison hazards.

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Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
March 11, 1968

To all counties  
Immediate release

COMBINATION OF CHEMICALS  
AND CULTIVATION GIVES  
GOOD WEED CONTROL

A combination of crop selection, chemicals and timely cultivations are necessary for good weed control. Relying on just one of these methods usually fails to do a complete job and may result in a major weed problem, according to Gerald Miller, extension agronomist at the University of Minnesota.

A combined weed control program offers many advantages, Miller says. Increased yields and a higher return over costs are possible with a combined weed control program.

You may need to adjust your cropping sequence to get the most effective control with some weeds. When selecting the best crop for a weedy field, keep in mind the chemicals available for control, crop tolerance and herbicide residues that may affect crops in later years.

For example, atrazine can practically eliminate quackgrass. But the atrazine rates required mean that corn will have to be grown for at least two years to avoid residue problems.

Postemergence chemicals in corn can control Canada thistle. But at the present time no chemicals can give good control of quackgrass or Canada thistle without harmful effects on soybeans.

Also, some annual broad-leaved weeds like cocklebur, wild sunflower and velvetleaf can be controlled safely in corn with 2,4-D, but not in soybeans. If annual grasses are a problem, several chemicals can control these in either corn or soybeans.

Miller says it's possible to practically eliminate a particular kind of weed after a few years by growing the crop that will permit maximum chemical and cultural control of the problem weed.

However, using one combination of crop, chemical and cultivation for several years may change the type of weeds in the field. And if this happens, further adjustments of crops and herbicides may be needed.

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Department of Information  
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Institute of Agriculture  
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St. Paul, Minnesota 55101  
March 11, 1968

To all counties

Immediate release

MINIMUM FORAGE  
BENEFICIAL FOR  
YEARLING STEERS

Gains were improved when small amounts of forage were added to finishing rations for beef cattle, according to results of a University of Minnesota experiment.

Animal scientists R. D. Goodrich and co-workers J. C. Meiske and J. C. Pokorney recently completed a feeding trial in which they measured the value of oyster shells and alfalfa-brome hay in finishing rations for yearling steers. The researchers conducted the experiment to evaluate oyster shells as a partial or complete replacement for alfalfa-brome hay and to compare the performance of cattle fed no roughage to that of cattle fed either 7.5 or 15 percent alfalfa-brome hay.

Five rations were used in the experiment--no roughage, 2.5 percent oyster shells, 7.5 percent ground alfalfa-brome hay, 2.5 percent oyster shells plus 7.5 percent alfalfa-brome hay, and 15 percent alfalfa-brome hay. Two pens of 20 steers were fed each ration.

"Average daily gains were significantly lower for cattle fed no roughage or 2.5 percent oyster shells (2.88 and 2.84 pounds) than for those fed 7.5 percent hay, 7.5 percent hay plus 2.5 percent oyster shells or 15 percent hay (3.17, 3.07 and 3.08 pounds)," Goodrich said.

Feed efficiency and feed cost per 100 pounds gain favored cattle fed the 7.5 percent hay ration. Cattle fed the 15 percent hay ration had higher feed costs than cattle fed no hay or 7.5 percent hay. Amounts of total ration per 100 pounds of gain were 660, 643, 680, 708 and 746 pounds for cattle fed no roughage, 2.5 percent oyster shells, 7.5 percent hay, 7.5 percent hay plus 2.5 percent oyster shells and 15 percent hay. With hay at \$26.00 per ton and corn at \$1.26 per bushel, feed costs per 100 pounds gain were \$15.80, \$15.76, \$15.62, \$16.04 and \$16.36.

There were no important differences among carcass data for cattle fed the different rations.

The researchers concluded that 1.5 to 2 pounds of hay per head daily (7.5%) is necessary to insure top performance with yearling steers.

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University of Minnesota  
St. Paul 55101-Tel. 647-3205  
March 11, 1968

Immediate release

## AWARDS GIVEN TO RURAL ARTISTS

Merit ribbon awards have been given to 23 artists exhibiting in this year's Minnesota Town/Country Art Show which opened Sunday (March 10) in the University of Minnesota's Student Center galleries on the St. Paul Campus.

The merit ribbons went to Mrs. Hazel C. Arnold, Winthrop; W. J. Breckenridge, 8840 West River Road N., Minneapolis; Mrs. Theodora Brown, Anoka; Mrs. Mildred Carlson, Arden Hills; Mrs. Jo Caron, Fridley; Mrs. Frances Christian, Longville; Mrs. Joyce Cina, 5351 Irving N., Minneapolis; Mrs. Rose Edin, Staples; Mrs. K. A. Fisher, South St. Paul; Robert Hampson, Blaine; John F. Horan, Wells; Mrs. S. Howel, Willmar.

Norman C. Johnson, Braham; Beth Kirscht, 6325 Halifax Drive N., Minneapolis; B. J. Larson, New Hope; Mrs. Philomine Miller, Roseville; Helen Potter, Coon Rapids; R. F. Poulin, Two Harbors; Mrs. Mary Pratt, Grand Marais; Mrs. W. L. Schultz, Red Lake Falls; Mrs. Sally Smally, Perham; Mrs. Beatrice Windhorn, St. Peter; and Arnold Kramer, Wabasso.

Sixteen oils, three water colors, one pastel, two acrylics and one clay sculpture were represented in the awards.

Merit award exhibits will be hung in the American Swedish Institute in Minneapolis from April 6 to May 4.

Some 280 paintings and pieces of sculpture on exhibit represent the work of 268 amateur rural artists from 63 counties throughout Minnesota.

The Minnesota Town/ Country Art Show will continue through March 29. Viewing hours are 9 a.m. to 10 p.m. week days and 12 noon to 10 p.m. Sundays. The show is open to the public, free of charge.

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84-jbn-68

Department of Information  
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March 11, 1968

Immediate release

## FILLERS FOR WOMEN'S PAGES

Fish fillets are cut lengthwise from the sides of fish, away from the backbone and are practically boneless. Fish steaks are cross-section slices from large dressed fish. Both fish steaks and fillets are ready to cook as purchased.

\* \* \*

About a third of the minerals and vitamins are lost when the liquid is drained from canned vegetables.

\* \* \*

Remove cheese from the refrigerator and let it warm to room temperature before serving, extension nutritionists at the University of Minnesota suggest. The warm-up period reactivates flavor and texture.

\* \* \*

The cut of pork called the picnic is really not a ham at all; it is the shank end of the shoulder. A true ham is the cut from the upper part of the hind leg of the hog.

\* \* \*

Minnesota, Wisconsin, Iowa and Nebraska -- in that order -- are the four leading states in butter production.

\* \* \*

If your potatoes turn dark in cooking, add 1/4 teaspoon cream of tartar about half way through the cooking period.

\* \* \*

Pie crust will shrink in baking if you stretched the dough in putting it into the pan.

\* \* \*

Fewer American families have good diets than 10 years ago, according to a report by the U. S. Department of Agriculture of a nationwide survey. Decreased use of milk and milk products, vegetables and fruits was chiefly responsible for the decline in the percentage of good diets.

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83-jbn-68

Department of Information  
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St. Paul 55101-Tel. 647-3205  
March 11, 1968

Immediate release

## UM DAIRY HERD NINTH IN NATION IN MILK PRODUCTION

The Guernsey dairy herd at the University of Minnesota's Rosemount Agricultural Experiment Station had the ninth highest Guernsey dairy herd lactation average in the nation last year for herds with 30 to 50 cows.

Charles Young, professor of animal science at the University of Minnesota, says this herd has been used in breeding experiments to compare outcrossing and linebreeding since 1961. Part of the high average milk lactation is due to these experiments.

Outcrossing involves using bulls that have little ancestry to the cows to which they are bred. Line breeding is the mating of related cows and bulls to intensify the inheritance of ancestors that are outstanding.

In the breeding experiments, the outcross group of cows was bred to the best AI (artificial insemination) sires in the nation.

Of the 46 records used to compute the herd lactation average of 12,966 pounds of milk and 644 pounds of fat, 23 were made by daughters of the first two outstanding sires used in the outcross program. These records averaged 13,680 pounds of milk and 684 pounds of fat.

The 23 records made by cows that had been linebred averaged 12,250 pounds of milk and 604 pounds of fat per average lactation.

Young says it is apparent that milk production can be improved in a short period of time through breeding practices. However, he states that an adequate comparison of outcrossing and linebreeding will require further research.

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82-wobn-68

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March 11, 1968

Immediate release

#### STATE CHAMPION NAMED IN 4-H RADIO SPEAKING CONTEST

State champion and winner of \$100 cash award in the 1968 4-H radio speaking contest is 16-year-old Janet Carlson of Angus in Polk County.

Melanie McNutt, 18, Dexter, Mower County, was named reserve champion. The two young people won state honors in the finals in which 17 district winners competed Monday (March 11) on the University of Minnesota's St. Paul Campus. This was the first year both girls had participated in the 4-H speaking contest. All contestants gave original speeches on the subject, "What Are Teenagers' Responsibilities in Today's World?"

In addition to the \$100 cash award, as state champion also Janet will receive \$50 for the purchase of books on citizenship and human relations for the local school or public library. Melanie will receive a \$50 cash prize and \$25 to buy books for the local library.

The awards were to be presented at a luncheon at Temple Israel, Minneapolis, Tuesday noon (March 12) by Philip Krelitz, president of the Jewish Community Relations Council of Minnesota. The radio speaking champion was to broadcast her speech over WCCO at 12:45 p.m. The luncheon climaxed a two-day citizenship program for 34 district and reserve district winners.

Donor of the awards for the 26th year was the Jewish Council, which also hosted the luncheon. The Council co-sponsored the radio speaking contest with the University of Minnesota's Agricultural Extension Service.

- more -

Add 1 - state champion named

Janet is a sophomore in Warren High School and has been a member of the Triangle 4-H Club in Polk County for six years. The 4-H dairy project is her favorite, and she shows her dairy calf at various events. In high school her activities include choir, band, declamation, German Club, Pep Club and the athletic association. She hopes to go to college to take training in physical therapy.

A senior in Hayfield High School, Melanie has been a member of the Sargeant Busy Bees 4-H Club for nine years. Her favorite projects are clothing and junior leadership. She has been elected to the National Honor Society, is senior class treasurer, co-editor of the school newspaper, a member of Future Teachers of America and takes part in declamation and dramatics.

Her plans are to attend Austin Junior College next year. She wants to major in special education for the deaf.

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85-jbn-68



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March 14, 1968

Immediate release

## EVENING CLASSES OFFERED AT UM ARBORETUM

A number of evening classes will be offered at the University of Minnesota landscape arboretum, announces Mervin Eisel, extension horticulturist at the University.

All classes cost \$2, but the cost is \$1 for arboretum members. The classes will be held from 7:30 to 9:30 p.m.

The schedule of evening classes is:

March 14--Basic landscape design.

March 21--Trees for landscape planting.

March 27--Culture of wildflowers for the garden.

March 28--Shrubs for landscape plantings.

April 4--Evergreens for landscape plantings.

April 10--Starting flowering annuals and vegetable seeds indoors.

April 24--Pruning and care of plants in the yard.

The classes are taught by faculty members in the University's Institute of Agriculture. The classes have no size limitations and will be geared towards discussion and exchange of ideas.

For more information, contact Mervin Eisel, Landscape Arboretum, Rt. 1, Box 132-1, Chaska, Minnesota 55318. Phone 443-2460.

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87-vak-68

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March 14, 1968

Immediate release

#### MINNESOTA 4-H ADULT LEADERS TO WASHINGTON

Forty-five adult 4-H leaders from 22 Minnesota counties will attend a week-long 4-H Leader Forum at the National 4-H Center, Washington, D. C., March 25-30.

The Leader Forum is designed to help local leaders become more effective in working with young people in 4-H. Emphasis is placed on gaining a better understanding of young people and their needs and increasing skills in working with youth. Leaders take part in a variety of educational activities -- discussions, tours, lectures and recreation. The program is directed by the National 4-H Foundation with cooperation from the Federal Extension Service of the U. S. Department of Agriculture.

Mrs. Juanita Fehlhafer, assistant state leader, 4-H and youth development at the University of Minnesota, will accompany the group to the Forum. Adult leaders who will attend the Washington event are Mrs. Eugene Boettcher, Stacy; Mrs. Phyllis Ranney, Elk River; Mrs. Walter Trebesch, Sleepy Eye; Mrs. Virgil Schmiesing, Hanska; Mrs. Howard Roeder, New Ulm; Mrs. Ingeborg Bakker, Walker; Mrs. M. L. Buchanan, Glyndon; Mrs. Thomas Walker, Jr. and Mrs. Robert Vandemeer, Moorhead; Mr. and Mrs. Palmer Goppelt, Inver Grove Heights; Mr. and Mrs. Lyman H. Jensen, Claremont; Mrs. Keith McDermott, Winnebago; Mrs. William Harris, 3519 Cleveland St. N.E., Minneapolis; Mrs. William Anderson, Braham; Mrs. Willard J. Falk, Cambridge.

Mrs. Hirran Newman, Kandiyohi; Mrs. Robert Williams, Blomkest; Mrs. Earl Bahr, Humboldt; Mrs. Dale Starnes, Lake Bronson; Mr. and Mrs. Roland Ruths, Kilkenny; Mrs. Robert Green, Lynd; Mr. and Mrs. Duane Pagel, Marshall; Mrs. Norman Larson, Minneota; Mr. and Mrs. Glyndon Mayo, Sherburn; Mrs. Alfred Pherigo, Mrs. Kenneth Pearson and Mrs. Ellen Dixon, Litchfield; Mrs. Winfred Nayquonabe and Mrs. Ole Weyaus, Onamia; Mr. and Mrs. Willie Elsing, Rushmore; Mr. and Mrs. Eilert Mueller, Rochester; Jerry Nord and Mrs. Amil Anderson, Northfield; Mrs. William Blank, Janesville; Mrs. Harlan Minges, Waseca; Mr. and Mrs. Henry Heublein, Lewiston; Mrs. Clarence Urtel, Warroad.

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88-jbn-68

Department of Information  
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Institute of Agriculture  
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St. Paul 55101-Tel. 647-3205  
March 14, 1968

Immediate release

## MEAT INDUSTRY HEAD TO SPEAK AT LIVESTOCK DAY

Harrell DeGraff, president of the American Meat Institute, will be featured speaker at Minnesota Livestock Industry Day and the 72nd annual meeting of the Minnesota Livestock Breeders' Association March 21 at the University of Minnesota's St. Paul Campus.

He will speak at a noon luncheon on "Livestock as a Food Source for Humans." DeGraff is a former economic consultant to the U. S. Secretary of Agriculture and was the first holder of the Babcock Memorial Chair at Cornell University. He was elected president of the Institute in 1963, after 25 years on the Cornell faculty.

The program will begin with registration at 9:30 a.m. in the Student Center.

During the morning session, Clarence Cole, Head of the Department of Animal Science, will review animal science research at the University.

Other speakers include Samuel Coulter, head of the University's Department of Food Science and Industries, who will speak on the challenge of imitation milk; Jerome Hammond, University agricultural economist, who will discuss the economic policy implications of imitation milk; and Simpi Kuramoto, technical program coordinator in General Mills' isolated protein program, who will talk on Bon Trae--a new protein food.

The afternoon session will include questions and discussion of the papers presented during the morning, and the business meeting of the Minnesota Livestock Breeders' Association.

Livestock Industry Day is sponsored by the University's Agricultural Extension Service, the Department of Animal Science, and the Department of Agricultural Short Courses.

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March 14, 1968

Immediate release

## TRADITION, CHANGE CHARACTERIZE MAPLE SYRUP INDUSTRY

Since the American Indian discovered maple syrup, many technological changes have transformed the maple syrup industry into a highly efficient operation.

One version of the discovery of maple syrup says an Indian squaw placed her cooking pot under a maple tree as a subtle hint to her brave that she needed water from the spring to cook a meal of venison.

The warrior, in a fit of anger, plunged his tomahawk deep into the tree to remind his squaw that he was above such a womanly chore of fetching water. Next morning, the story continues, the squaw found the pot nearly full, proceeded to cook the meat and probably became the first gourmet chef in American history.

Another version credits this same Indian squaw with placing the cooking pot on a maple limb. A curious woodland creature, snooping about, broke the limb a few inches from the trunk. The flowing sap filled the pot and its faint, sweet taste prompted the squaw to boil it over an open fire.

The maple syrup industry is confined to North America; specifically to the areas from New England to Minnesota and Canada bordering on the north.

The potential income from maple sap yield in Minnesota could hit over 6 million dollars a year, according to Marvin Smith, extension forester at the University of Minnesota. Smith says the maple syrup industry is changing rapidly in Minnesota. Ingenuity, plus help from research and industry, has introduced these changes.

Metal and plastics are now used in the forests, instead of the wooden spile and bucket. Tapping methods are changing rapidly too. The old brace and bit was used for many years and is still used in many smaller operations, but the portable powered drill speeds up the operation and is less fatiguing.

-more-

Add 1 - change in maple syrup industry

Plastic bags, instead of metal buckets, are now used by some producers to collect the sap. The plastic bags maintain high quality sap by admitting ultraviolet rays of sunlight. Plastic tubing is also used to carry the sap directly from the taphole to the storage tanks.

Cleanliness and freedom from bacteria in the sap is important in producing high quality sap. Newly gathered sap is filtered and kept cool. Covered storage tanks are used, which maintain low temperature and keep sap fresh. Some producers use ultraviolet lamps inside storage tanks to maintain quality sap.

These modern production methods would amaze Squanto and the Pilgrims.

# # # #

89-jms-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
March 18, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

**A SPENDING PLAN  
HELPS MEET FAMILY  
NEEDS AND WANTS**

Bills piling up? You can't make your money stretch to buy what you need?  
You don't know where all the money has gone?

Try a spending plan to help get what you want and need, suggests Mrs. Edna Jordahl, extension home management specialist at the University of Minnesota. Whether you have a lot of money or only a little, a spending plan will help you get the most out of what you have.

Here are some steps Mrs. Jordahl recommends in making a financial plan for the family:

- . Know how much money you have to spend.
- . Know what you want your money to do -- in other words, establish some goals and know what it will cost to achieve them. The family must agree as to priority of expenditures.
- . Make a plan which balances the needs and wants with the money available.
- . Try out the plan.
- . After a trial period, criticize the plan and make changes to fit your family better.

The first step in making a plan is to write down the total amount of money you have to spend each week, pay period or year. Discuss with your family what you need and want most. Are there debts you must pay off first? Can you start saving for something you want? Some families like to begin with savings when making a spending plan.

add 1 - spending plan

The order of allocating money is often by urgency of need. Expenditures may be viewed as necessities, comforts or luxuries, and allowances made in that order.

Next, keep track of where your money goes during a week, a pay period or a whole year. Use such categories as food and meals eaten out; clothing purchases, repair and cleaning; transportation; medical expenses; charities; education; recreation; savings and investments; and other classifications that may be unique for your family. When you see where the money goes, you can tell if there is a better way to spend it.

Many homemakers ask what proportion of the family budget should go for food, for clothing and all other categories. Situations will differ in every family, but here are some patterns of expenditure from the U. S. Department of Agriculture statistics: food, 18 percent; clothing, 10 percent; housing, 25-30 percent; transportation (which will differ greatly from family to family), 12-15 percent; medical, 7 percent; recreation, 4 percent. As income increases, the percentage spent for food often goes down; however, add another 5 percent if you eat out often.

The percentage spent for each category is not so important, Mrs. Jordahl says; what is more important is that the percentage spent brings the greatest amount of satisfaction to the family. Families differ in their values.

No plan is successful unless it is flexible so you can adapt it to your family needs and wants. Remember that emergencies often arise which can upset the best laid plans. It is very helpful then to have some available cash to take care of such emergencies. This amount may be a month's income but an amount equal to three or even six months' income would give much more assurance of well being.

-jbn-

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
March 18, 1968

FOR RELEASE: March 20

## UM-NDSU APPOINT SUGARBEET, POTATO SPECIALISTS

Officials at the University of Minnesota and North Dakota State University announced the appointment today (Wed., March 20) of two specialists, who will work with farmers, county agents and industry personnel in the Red River Valley on problems of potato and sugarbeet production.

Edwin S. Plissey is the new extension area potato agent, and Gerald H. Smith is the area sugarbeet specialist.

Announcement of the two appointments was made by Roland H. Abraham, acting director of the Minnesota Agricultural Extension Service, and Arthur H. Schulz, dean and director of the Cooperative Extension Service at NDSU.

Both appointments are financed jointly by the two universities, with support from the Red River Valley Potato Growers Association and the Red River Valley Sugarbeet Growers Association, respectfully.

In making the announcement, the directors pointed out that this is the first time that Extension Services in two states have jointly appointed a specialist to serve a particular crop production area not restricted to a single state.

"Potatoes and sugarbeets are grown extensively on both sides of the Red River," Abraham explained. "And growers in both states face essentially the same production problems and require the same services of specialists trained in potato and sugarbeet production and processing."

Primary responsibility for both specialists will be to work with growers on their farms on production problems. In addition, they will work on other current problems and opportunities affecting the potato and sugarbeet industries, including problems of handling, processing, storage and marketing.



Their duties will include the preparation and release of information on improved practices, the development of specialized educational programs, the identification of research needs, and the interpretation of research results to the potato and sugarbeet industries.

Plissey will be stationed at the U. S. Department of Agriculture's Potato Research Center at East Grand Forks, Minn. Smith will be located at the NDSU College of Agriculture in Fargo, North Dakota.

While both men primarily will serve growers in the Red River Valley, they will also be available to producers in other parts of the two states where potatoes or sugarbeets are grown.

The Red River Valley is generally thought to include Kittson, Roseau, Marshall, Polk, Pennington, Red Lake, Norman, Clay and Wilkin counties in Minnesota, and Pembina, Walsh, Grand Forks, Traill, Cass and Richland counties in North Dakota.

Plissey grew up on a potato farm in Maine, and has been area potato specialist with the University of Maine since 1963. Before that he was a county agricultural agent and a vocational agriculture instructor in his home state.

He received his B. S. degree in agronomy and agricultural education in 1956, and his M. S. in botany and plant pathology in 1958, both from the University of Maine. He is married and has four children.

Smith is a native of North Dakota, having grown up in Sherwood. He received his B. S. degree in agronomy and animal husbandry in 1960, and his M. S. in plant pathology and biochemistry in 1962, both degrees from NDSU.

Following graduation, he was assistant county agent in Barnes County for six months. He worked for a while as a sales trainee for one chemical company, and has served the past four years as territory manager and technical representative for another. He is married and has two children.

Department of Information  
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St. Paul 55101-Tel. 647-3205  
March 18, 1968

Immediate release

#### ORIGINAL MUSIC COMPOSITIONS TO BE PRESENTED

Original music compositions will be presented at a special concert in the North Star Ballroom on the University of Minnesota's St. Paul Campus at 8 p.m. Wednesday, March 27.

The program will consist of works entered in the original composition contest instituted this year as part of the annual Minnesota Town/Country Art Show project.

Announcement will be made at the event of the contest winner of the \$200 award. The competition was open to students registered in a college or university in the Twin Cities metropolitan area.

The contest and concert are sponsored by the University of Minnesota's Department of Agricultural Short Courses and the Department of Music.

Judges were Vincent Carpenter, Macalester College; Russell Harris, Hamline University; and Paul Fetler, University of Minnesota.

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91-jbn-68

Department of Information  
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March 18, 1968

Immediate release

#### FORMER UM AGRICULTURE DEAN DIES

Clyde H. Bailey, internationally-known cereal chemist and former dean and director of the University of Minnesota's Institute of Agriculture, died Monday (March 18) at Midway Hospital in St. Paul. He was 81-years-old.

Memorial services will be held at 4 p.m. Friday in the St. Paul Campus Student Center. Memorials are preferred to the University of Minnesota Memorial Fund for The Dean Clyde H. Bailey Fellowship in Cereal Technology.

Bailey's professional life was devoted to agricultural chemistry, educational administration and teaching. As a cereal chemist, he was known throughout the world for his discoveries in the grain and milling fields, and for his contributions to the flour enrichment program, and grain handling and baking processes.

He had served as president of the American Association of Cereal Chemists, and participated in world meetings in Europe on bread production. In 1932 he became the second man to receive the coveted Thomas Burr Osborne gold medal for distinguished contributions in cereal chemistry.

A native of Minnesota, Bailey graduated from the University of Minnesota's School of Agriculture in 1905. He received a bachelor of science degree from North Dakota State College in 1913, his master of science degree from the University of Minnesota in 1916, and his Ph. D. from the University of Maryland in 1920.

Prior to receiving his master of science degree, Bailey was instructor of chemistry and cereal technologist at the University of Minnesota. In 1921 he was appointed professor of agricultural biochemistry and director of the Minnesota State Experimental Flour Mills.

While on leave during his long tenure at the University, he served several outside institutions. He has been chief chemist for the Minneapolis Grain Inspection Service, and he served as part-time director of the General Mills Research Laboratories. He also was consultant to many industries.

-more-

add 1 - UM agriculture dean dies

Bailey established and became the first editor of "Cereal Chemistry" magazine, and later served as president of the American Association of Cereal Chemists. He also served as president of the American Chemical Society.

Early in his career, Bailey was elected to membership in the Royal German Academy of Natural Sciences in recognition of his outstanding work in the field of optimum conditions for bread production and in the various fields of sciences that are related. He was invited to deliver an address to the International Congress on Bread Production in Leipzig, Germany, in 1937.

In 1941 Bailey succeeded W. C. Coffey as dean and director of the University of Minnesota's Department of Agriculture, after serving three years as associate director of the University's Agricultural Experiment Station.

After assuming duties as dean, Bailey continued to receive honors for outstanding work in cereal chemistry and food technology. Among the many awards, he was elected Nicholas Appert Medalist for "outstanding achievement in food technology" in 1946. In 1948 he was chosen one of the nation's ten ablest agricultural and food chemists, in 1951 he received the honorary Doctor of Science degree from North Dakota State Agricultural College, and in 1962 he received the Outstanding Achievement Award from the University of Minnesota.

The American Institute of Baking named Bailey an honorary life member for his instrumental work in the development of enriched bread and his development of several devices now widely used in baking research.

He served as agricultural research consultant with the Mission for Aid to Greece in 1948. In 1949 he was named one of the Minnesota's 100 Living Great.

Bailey retired as dean and professor of the Institute of Agriculture in 1953. After retirement as dean he served as professor on the Seoul National University of Korea Cooperative Project from September 1955 to September 1961.

Bailey is survived by his widow, Anne, a daughter, Mrs. Barbara Miller, and a granddaughter, Mrs. Mary Emery, St. Paul; and a step-brother, Stanley D. Wilkins, Albany, California.

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
March 18, 1968

To all counties

4-H NEWS

(7th in a series on  
consumer spending)

VARIETY OF DRESS  
SHIRTS AVAILABLE  
TO TEENAGE BOYS

With the many styles of dress shirts now being made, teenage boys have a larger selection from which to choose than ever before.

Three collar styles are currently the most popular with teenage boys-- regular points with regular spread; the button down; and the snap-tab.

The cuff styles come in French, for use with cuff links; barrel, a buttoned cuff; or convertible, which can be buttoned or used with cuff links.

The demand for more short-sleeved dress shirts for warm weather wear has increased the popularity of this type of shirt, according to extension clothing specialists at the University of Minnesota. Short-sleeved shirts are now of the vented or plain hemmed styles.

Popular with teenage boys today is the slim look in dress shirts. This tapered style eliminates excess material in the shirt and makes a neat, slim appearance.

The most popular fabrics for dress shirts are broadcloth and oxford cloth with a durable press finish. This is usually a blend of polyester and cotton.

Blends may be 65 percent polyester and 35 percent cotton or 50 percent of each. Polyester provides the strength and the cotton gives comfort and absorbency.

-mkb-

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
March 18, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

### HOW GOOD ARE YOUR RECORDS?

How good are the records you keep?

Keeping financial records of some kind is basic to good homemaking, according to Mrs. Edna Jordahl, extension home management specialist at the University of Minnesota.

Such records can be simple so they are easy to keep. If they're complicated, it's easy to neglect them. Keep only those records which will have meaning for you.

Make a list of the categories for which you should keep a record of expenditures: savings and investments; mortgage or other debt payments; food and meals eaten out; clothing purchases, repair and cleaning; housing expense, including furnishings and equipment; utilities and fuel (operating expenses); transportation; medical and dental; charities; education; recreation; taxes; miscellaneous. These categories can be changed to fit the family's particular spending pattern.

For a simple system, you might choose one of these five ways of keeping records:

1. The single or folded sheet. This can be tacked somewhere for easy recording. It can be planned in whatever detail is needed.
2. The envelope. If you handle a small amount for living expenses, you can divide the cash into various envelopes -- one for each category such as food, clothing, transportation. Or use each envelope for recording expenses in a particular category. A large envelope may be useful for storing bills, returned checks and notations for later recording in a ledger.

add 1 -- how good are your records

3. Notebook. Record specific expenses by month or by categories to fit the family's needs. The Minnesota Farm and Home Account Book, available from the county extension office for \$1.50 (or from University of Minnesota Bookstore, Institute of Agriculture, St. Paul, Minnesota 55101), is designed for detailed records for various enterprises.

4. The card-file system. Many adults find a card file the most workable method.

5. Check book. If this method is to be successful, all money must be deposited in the bank and checks written for the expenses. Then notations of the nature of the expense must be made either on the stub or in the lower left-hand corner of the check, or better yet on both.

Whichever plan you use, it's best to have one adult in charge of the record keeping, but all members of a family must cooperate in making expenditures known. If it's difficult to collect all the expenditures, suggest that each member of the family put bills on a spindle or in a particular drawer or file.

Make a family project of keeping records, and at intervals sit down and analyze the figures; then it can be a learning experience for children as well as adults.

-jbn-

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March 18, 1968

To all counties

ATT: HOME AGENTS

Use if and when suitable

**ADULTS TO GET HELP  
WITH ROLE AS PARENTS**

How good a parent are you? How well do you understand your young children?

To help adults with their roles as parents of children of elementary school age and younger, a series of television programs called "Your Child's World" will be presented (each Sunday from 4 to 4:30 p.m. on KAUS-TV, channel 6, Austin, beginning March 17; each Saturday from 9 to 9:30 a.m. on WTCN-TV, channel 11, beginning April 6; each Monday from 4:30-5 p.m. on KEYC-TV, Mankato, channel 12, beginning April 15; and each Saturday from 12:30 to 1 p.m. on KSOO-TV, Sioux Falls, channel 13, beginning May 18.)

Instructor for the telecourse is Ronald Pitzer, extension specialist in family life education at the University of Minnesota and president of the Minnesota Council on Family Relations.

Subjects of programs in the series by weeks are: Parents and the Child's World, stimulating parents to examine their job as parents; Your Child's Conscience dealing with aspects of parental behavior in conscience formation, with John Wright, associate professor in the Institute of Child Development as a guest; Between Father and Child, examining the father's role in child rearing; Growing Up with Brothers and Sisters, dealing with effects of the child's place in the family; Your Child and His Friends, the influence of the peer group; and Televisor and Your Child.

-more-



add 1 -- adults to get help

"Unlike most important jobs, no special qualifications or evidence of ability must be demonstrated before embarking on the career of parent," Pitzer says. "Yet the testimony of judges, educators, psychiatrists and social scientists points consistently and directly to parents as the strongest single influence in the development of children." Objectives of the telecourse are to stimulate adults to examine their job as parents and to encourage recognition of the parent's place in the child's world. The series will bring parents and other interested persons recent research findings and pertinent observations concerning some of the important influences in a child's development.

To increase the educational value of the telecourse, Pitzer recommends two activities in addition to viewing the programs: individual reading and study and participation through formation of viewing groups of parents and others interested.

A packet of materials with suggestions for reading and study and a manual for leaders of viewing groups is available free of charge. Write Ronald Pitzer, Institute of Agriculture, University of Minnesota, St. Paul, Minn. 55101 for "Your Child's World" Viewers' Guide. Anyone interested in forming a viewing group should contact the county home agent.

-jbn-

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March 18, 1968

To all counties  
Immediate release

IN BRIEF.....

Pest Control Guide for Commercial Vegetable Growers Available. Commercial vegetable growers will be interested in a recently revised guide by the University of Minnesota which outlines weed, insect and disease control measures. The guide contains 1968 recommendations for herbicides, insecticides and fungicides on commercial vegetable crops. There's also information on application rates, chemical residues, farm sprayer calibration and herbicide mixtures. The publication is intended for commercial vegetable growers, not home gardeners. Ask your county agent for a copy of Special Report 5 for 1968, "Weed, Insect, and Disease Control Guide for Commercial Vegetable Growers." You can also write for a copy to the Bulletin Room, University of Minnesota, St. Paul, Minn. 55101.

\* \* \* \*

Use Animal Identification to Improve Hog Breeding Program. Farmers should consider using animal identification to help improve hog breeding programs, says Charles Christians, extension livestock specialist at the University of Minnesota. Hog producers can use ear tatoos which are permanent and easy to read with white swine breeds. Ear notching is also permanent, inexpensive and easy to read. You can use either method to identify pigs by litter or individually. Since ear tags fall out easily, they aren't recommended for permanent identification.

\* \* \* \*

Turn Plants to Balance Light Exposure. Houseplants sometimes lose their symmetrical shape because they tend to lean toward the light. Turning your houseplants around once a week, from back to front, will balance the light exposure and result in a more symmetrical plant, says Jane McKinnon, extension horticulturist at the University of Minnesota. Plants kept on the window sill seem to get out of shape more quickly than those given less direct light. But at the same time, plants become spindly if they don't get enough light, Mrs. McKinnon says.

-more-

add 1 -- in briefs

Control Soybean Diseases. Soybean losses from disease in Minnesota can be kept low, says Herbert Johnson, extension plant pathologist at the University of Minnesota. Johnson offers these suggestions:

- \* Rotate crops, planting a field with soybeans only every third to fifth year.

- \* Use disease resistant varieties such as Chippewa 64 and Merit if Phytophthora root rot is present in a field.

- \* Use fungicide seed treatment, especially with low quality seed or low seeding rates.

- \* Use sound, clean seed.

- \* Avoid low, wet fields.

- \* Control weeds so insects can't spread disease viruses.

- \* Grow a vigorous crop to reduce potential disease effects.

\* \* \* \*

Haylage Offers Many Advantages. Haylage offers many advantages when compared to either hay or higher moisture grass silage, says Jesse Pomroy, agricultural engineer at the University of Minnesota. Maximum feed per acre can be harvested with haylage, since less feed value is lost in harvesting. There are also large savings in time and labor. Haylage offers a good chance to beat the weather, Pomroy says. From two to three days are needed to harvest hay, but haylage can be harvested in cloudy weather or even a light rain. Haylage also fits well into silage feeding programs, and can be easily stored and fed mechanically. Freezing problems aren't as great as with higher moisture grass silage, and there's less weight to handle. Seepage from silos and odors are also reduced when haylage is harvested instead of grass silage.

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St. Paul, Minnesota 55101  
March 18, 1968

To all counties  
Immediate release

LIVESTOCK INDUSTRY  
MUST IMPROVE ITS  
MARKETING PRACTICES

Research shows that all segments of the northern beef industry need to improve their marketing practices in order to better compete with large commercial feedlots in the south, says Paul Hasbargen, extension economist at the University of Minnesota.

To meet this challenge, Hasbargen says each group involved in marketing can make improvements.

Retailers can benefit by purchasing beef on the basis of carcass cutability as well as grade.

Packers should consider beef carcass cutability differences in both buying and selling.

Commission firms must develop better methods of selling and buying cattle on the basis of descriptions which accurately reflect their economic value, rather than requiring excessive handling and visual inspection of animals by prospective buyers.

Terminal stockyards may have to redefine their major role to that of a center for market information, rather than a center for livestock accumulation and dispersal, Hasbargen says.

Cattle feeders must better learn the arts of buying and selling. Feeders must follow carcass markets as well as live markets and they must find out how much their cattle will dress out and cut out under different feeding and selling conditions. Hasbargen says feeders must also encourage market agencies to accurately reflect the retail value of beef carcasses back to producers. This is especially important for dairy beef, the economist says.

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St. Paul, Minnesota 55101  
March 18, 1968

To all counties  
Immediate release

MATURITY IMPORTANT  
WHEN SELECTING  
YOUR CORN HYBRIDS

It's important to select corn hybrids with the right maturity for your area. Mature corn means safer and less expensive drying and storage, higher quality, earlier harvesting during favorable weather and better picker performance, according to Harley Otto, extension agronomist at the University of Minnesota.

Otto says at maturity, the corn reaches full yield and kernels accumulate no more dry matter. Ear moisture is directly related to maturity and is the basis for determining satisfactory maturity of hybrid corn in performance trials.

Hybrids which utilize the full growing season usually yield more than earlier ones. But in cool seasons, late hybrids are more likely to produce soft corn or have yields cut by early frosts.

For help in selecting suitable hybrids, check Miscellaneous Report 28, "1967 Minnesota Hybrid Corn Performance Trials." This report compares the performance of a large number of commercially available hybrids tested by University researchers in a number of locations throughout the state.

Ask your county agent for a copy, or write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

A good way to compare hybrids is to check the report's tables for a familiar hybrid. Then use this hybrid as a standard against which to compare other hybrids with similar ear moisture content.

Besides yield, study lodging and ear dropping. And, decide how much weight to give each characteristic other than yield. It's seldom that one hybrid is distinctly superior in all characteristics.

Otto says it's usually wise to choose several hybrids and try them on a limited scale before planting a large acreage to any one new hybrid.

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St. Paul, Minnesota 55101  
March 18, 1968

To selected counties

Immediate release

PRODUCTION OF  
MAPLE SYRUP IS  
PROFITABLE BUSINESS

Production of maple syrup can be one of the farmer's most profitable business ventures, according to Marvin Smith, extension forester at the University of Minnesota.

Smith says surveys have shown that labor returns can run as high as \$3 to \$5 per hour, including time spent cleaning the equipment and collecting and boiling the sap.

Figuring an average of two taps per tree, there's a potential of 20 million tapholes in the state, according to the most recent forest survey.

"The potential income from the maple sap yield in Minnesota could hit 6½ million dollars annually," Smith says. This would be based on an average gross return of 50 to 75 cents per taphole for the sap yield, with just half of the state's sugar maple trees being tapped.

Farmers who have sugar maple timber can figure their prospective returns on a per acre basis. For example, where the trees on one acre would provide 60 to 80 tapholes with a yield of one quart of syrup per taphole, the production per acre would be 15 to 20 gallons of syrup. At \$6 per gallon, this syrup gives an annual gross income of \$90 to \$120 per acre.

Maple syrup is probably the only agricultural product for which there's no problem of a production surplus, Smith says. More than half of the total U. S. consumption is met by maple syrup imports from Canada.

A person who has maple trees to tap has several marketing alternatives open to him, according to Smith.

With a minimum investment of time and money for sap collecting equipment, he can gather sap and sell it to a syrup-maker who has enlarged his evaporation capacity to accommodate an extra volume of sap.

add 1 -- maple syrup

Depending on the volume of syrup produced, maple syrup producers can also concentrate on retail selling of table syrups and maple confections, such as candies, spreads and creams.

Or, producers can rely heavily on the wholesaler or jobber to take the bulk of the production, especially the darker grades of syrup, which are used extensively in the manufacture of blended table syrups.

Usually the sap flow season in Minnesota comes in the last part of March and first few weeks in April. The exact reason for sap flow in the maple is still somewhat of a mystery, but it's well known that sap flow is triggered by thawing days followed by freezing temperatures at night.

Smith says use of a taphole germicidal pellet makes it possible to tap maple trees several weeks before sap flow starts without getting contamination in the hole. But no more than one pellet should be used per season, since more than one may cause the syrup to have a measurable amount of formaldehyde, which isn't permitted by the Food and Drug Administration.

# # # #

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St. Paul 55101-Tel. 647-3205  
March 20, 1968

Immediate release

## SPECIAL PROGRAM AT TOWN/COUNTRY ART SHOW

A gallery tour of the University of Minnesota's Town/Country Art Show, Tuesday, March 26, will open a four-day program of special events in the St. Paul Campus Student Center Galleries.

All events are open to the public free of charge. Conducted by Huldah Curl, state extension arts coordinator, the gallery tour of the 276 paintings and pieces of sculpture on exhibit will begin at 2 p.m.

Two different lectures on film in art and art in film and showings of art films are scheduled for 2 p.m. Wednesday, March 27, and 2 p.m. Thursday, March 28, by Joseph Ordos, assistant professor of related art at the University.

A concert at 8 p.m. Wednesday, March 27, in the North Star Ballroom on the St. Paul Campus will feature winners of the original music competition held for the first time this year.

The annual writers' seminar at 2 p.m. Thursday, March 28, will be conducted by William Marchand, Starling Price and Edward Savage of the University Department of Rhetoric.

Concluding event of the week will be the artists' luncheon at 12 noon March 29 in the North Star Ballroom. Frank E. Williams, professor of psychology and education at Macalester College, will give an illustrated lecture on "Creativity."

Reservations for the Friday luncheon should be accompanied by a check or money order for \$2.35 and sent to Town/Country Art Show, Institute of Agriculture, University of Minnesota, St. Paul, Minn. 55101. Reservations must be in by Wednesday, March 27.

The Town/Country Art Show will close at 5 p.m. March 29. This year marks the 17th year it has been sponsored by the University's Agricultural Extension Service and General Extension Division and presented by the Department of Agricultural Short Courses.

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March 20, 1968

Immediate release

## WORKSHOPS, CONCENTRATED COURSES OFFERED IN HOME ECONOMICS

Two workshops and five concentrated three-weeks courses will be offered by the University of Minnesota's School of Home Economics this summer.

A four-credit workshop in Methods of Teaching Foods is scheduled for June 10-26. Since it will give special attention to occupational education, it is geared for high school teachers expecting to introduce an occupational program in foods into the curriculum. In charge of the workshop is Mrs. Rose Anderson, formerly with the Minnesota State Department of Education. Hours will be arranged during the American Home Economics Association convention in Minneapolis so students may attend meetings, according to Roxana Ford, associate director of the School of Home Economics.

Experimental Methods in Clothing Construction, with emphasis on fitting, will be offered as a three-credit workshop July 1-17, primarily for home extension agents. Enrollment is limited. Mary Pat Ryan, Minneapolis Public Schools, will direct the workshop.

Concentrated three-week, three-credit courses are scheduled for July 1-20 and will include housing, color, food preparation, home management and home economics education:

Homes of the World is a study of the influence of housing on families and the influence of cultures on housing. Gertrude Esteros, professor of related art at the University of Minnesota, will teach the course.

Color II is intended for extension specialists, teachers, at college level or at senior high school level where there is specialization in interior design, interior decorators, other professionals and homemakers with a background in color.

-more-

add 1 - workshops, concentrated courses

Students will work in the unique interior design space laboratory in the School of Home Economics to study light, color and space relationships in home furnishings. Instructor is Mrs. Virginia Nagle, assistant professor of related art.

Modern Food Preparation will stress food principles and practices and what is new in foods, food packaging and preparation. Taught by Mrs. Esther Trammell, assistant professor of foods, it can serve as a refresher course for teachers.

Home Management Principles is primarily for undergraduates and home economists needing re-tooling. Kathleen Jeary, assistant professor of family social science, will direct the course.

Methods of Teaching Home Economics will emphasize modular scheduling, programmed learning and other teaching techniques. A visiting lecturer will be in charge.

Other regularly scheduled courses will be offered during the first and second University summer sessions.

Further information on workshops and concentrated courses is available from Associate Director, School of Home Economics, University of Minnesota, St. Paul, Minn. 55101.

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March 20, 1968

FOR RELEASE: Thursday, March 21

## TWO PORTRAITS PLACED IN UM LIVESTOCK HALL OF FAME

ST. PAUL--Two former University of Minnesota extension specialists were honored here today (Thursday, March 21) during the annual meeting of the Minnesota Livestock Breeders Association.

Portraits of Harold R. Searles and the late Henry G. Zavoral were presented by the Association to the University during the group's annual meeting on the St. Paul Campus. They were placed in the University's Livestock Hall of Fame in Peters Hall.

Searles, who served for 38 years as extension dairyman for the University, was honored for his pioneering efforts in educational programs for the state's dairy industry.

A native of Olmstead County in southeastern Minnesota, Searles graduated from the University in 1917 with a major in dairy husbandry. He joined the University staff in 1922 as extension dairyman and held that position until retirement in 1960.

He worked with the Minnesota Dairy Industry Committee, organized in 1938, on signing up creamery boards in the new dairy program. He helped organize the Cooperative Creameries into a federation now known as Land O' Lakes Creameries, Inc. Until 1956, Searles carried on most of the extension work in improved milk quality, and in 1948 he developed a traveling exhibit emphasizing milk and egg quality.

He developed a point system of scoring the 4-H dairy exhibit, helped organize the Minnesota Purebred Dairy Cattle Association, served for 25 years as superintendent of the cattle department at the Dairy Cattle Congress, spent many years as an official judge for Holsteins, Guernseys, and Brown Swiss, and is an official classifier for the Brown Swiss breed.

He was dairy editor of the Farmer Magazine for 35 years and was active in the American Dairy Science Association for nearly 50 years. In 1957 members of the

add 1 - hall of fame

American Dairy Science Association presented him with the DeLaval Dairy Extension Award for his outstanding service and achievement as an extension dairyman.

The late Henry Zavoral was cited by the Livestock Breeders Association for having devoted nearly 40 years of his life to improving livestock and livestock production practices in Minnesota.

A native of Hutchinson, he graduated from the University in 1915 and took a position as vocational agriculture teacher in Laporte, Minn. Following army service, he became the second county agent in Nobles County. Two years later he was appointed assistant professor and extension animal husbandman, a position he held until retirement in 1959.

Much of his early work was with horses. He organized foal and stallion clubs, and held many demonstrations on hitching large numbers of horses to a single load. Another early project involved hog butchering and carcass cutting demonstrations.

In 1930, he spent a year in the Soviet Union as American advisor on livestock production for the Soviet's first five-year plan. When he returned to the University, he initiated a "swine honor roll," sponsored by the University and the Minnesota Swine Producers' Association, featuring farmers who show top efficiency in hog production.

He managed the Junior Livestock Show from 1924-30 and was moderator for the National Barrow Show at Austin for 14 years.

Zavoral was superintendent of the state fair swine show, organized the first Spring Barrow Show at Albert Lea in 1945, and helped set up many district barrow shows. He was secretary-treasurer of the Minnesota Swine Producers' Association from 1951-57.

He was an honorary state farmer in the Future Farmers of America, belonged to Alpha Gamma Rho, Alpha Zeta, Epsilon Sigma Phi and was twice chairman of the extension section of the American Society of Animal Production.

Searles and Zavoral are the 51st and 52nd persons to be recognized with a portrait in the Livestock Hall of Fame.

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
March 25, 1968

To all counties  
Immediate release

DRY SPRING  
PRESENTS A  
FIRE HAZARD

Our fields and forests are critically dry this spring. Unless we get more snow or rain, we could have a very hazardous fire season, says Bill Miles, extension forester at the University of Minnesota.

The dried leaves and grass from last year, in combination with high winds and an unattended trash burner, a discarded lighted cigarette, or a burning pile of debris can create a fire hazard. The safety of people, buildings, forests and wildlife can be threatened.

Already this year, wildfires have resulted in the death of two people, the destruction of at least one home and several buildings, and the burning over of several thousand acres of swamp and forest in northern Minnesota. Of special concern to fire fighting personnel are the hazards from fires on peat lands. These are extremely difficult and expensive to control and are a continuous hazard through the summer if not put out.

Miles recommends that these basic rules be followed for fire prevention:

- \* Never leave a fire unattended.
- \* Don't burn debris on a windy day, and always burn in a container that can be covered.
- \* Have adequate tools or water handy to fight a fire if it gets out of control.
- \* Check with your local fire station or warden on burning regulations.
- \* And, remember to call your fire department immediately if you see a fire.

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St. Paul, Minnesota 55101  
March 25, 1968

To all counties  
Immediate release

HIGH QUALITY  
SEED CAN BE  
BIG BARGAIN

Seed cost is only a small fraction of the total crop production cost, so you can't afford to take a chance by planting poor seed. Your best bet is to plant certified seed purchased from a reliable seedsman, says Harley Otto, extension agronomist at the University of Minnesota.

Otto says planting high quality seed of recommended varieties helps keep overall costs and risks at a minimum. You also get higher yields, cleaner grain, and better disease resistance and standing ability.

Certified seed is your best guarantee that the seed is pure for variety. The seed must meet strict standards of the Minnesota Crop Improvement Association for genetic purity, weed seed content, mechanical purity and germination. The Association's standard for weed seed content are higher than state law requires.

Buying non-certified seed increases the risks of getting seed partly or entirely of a different variety than it's claimed to be, Otto says. He advises planting seed that has been properly tested and labelled to comply with state and federal laws. To know the quality of the seed you buy, check the label closely for information on germination, purity and weed seed content.

Home grown seed can be used if it's been cleaned by a reputable seed processor and tested by a competent laboratory for germination and weed seed content. However, it may result in variety mixture and processing may cost more than selling your grain at market value and buying high quality seed from a seedsman.

Purchase your seed early to get a good choice from a reputable local seedsman. For a list of certified seed sources, ask your county agent for the 1968 directory or write for a copy from the Minnesota Crop Improvement Association, St. Paul, Minnesota 55101.

But remember, certification doesn't mean that a variety is recommended. For University recommendations on performance-tested and adapted varieties, ask your county agent for a copy of Miscellaneous Report 24, "Varietal Trials of Farm Crops." Or, write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

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March 25, 1968

To all counties  
Immediate release

HERBICIDES CAN  
HELP CONTROL WEEDS  
IN SMALL GRAINS

Weeds continue to be a major factor limiting profit for small grain and other crop producers in Minnesota, says Gerald Miller, extension agronomist at the University of Minnesota.

For example, he says research trials show light mustard infestations have cut small grain yields 10-15 percent, while heavy infestations have reduced yields 50-70 percent.

When compared to one oat plant, a mustard plant takes twice as much nitrogen and phosphorus and four times as much potassium. Miller says two Canada thistles per square yard decreased wheat yields by four bushels per acre, while 25 thistles per square yard cut the yield by 16 bushels per acre.

Miller reviews some postemergence herbicides that can improve control of broad-leaved weeds in small grains.

2,4-D: During the growing season, wheat and barley are less sensitive than oats to 2,4-D applications. All three crops are sensitive as seedlings. Wheat and barley are relatively tolerant from the five-leaf to early boot stage.

During this time, 1/6 to 1/2 pound of 2,4-D ester or 1/4 to 2/3 pound of 2,4-D amine control broad-leaved weeds without serious crop injury. Expect some injury to oats. But improved weed control usually more than offsets losses from chemical injury. Avoid spraying wheat, barley or oats in the boot stage.

-more-

add 1 -- small grains

MCPA: Small grains are more tolerant to MCPA than to 2,4-D. With MCPA, small grains can be sprayed during the two- to five-leaf stage and up to boot stage. MCPA applied at 1/4 pound per acre of amine or 1/6 pound per acre of ester will control small mustard plants. Other broad-leaved weeds or larger mustard may require up to 2/3 pound amine or 1/2 pound ester.

Bromoxynil: A recently developed herbicide, bromoxynil controls most annual broad-leaved weeds, including those resistant to 2,4-D, in wheat and barley when applied at 3/8 to 1/2 pound per acre as an early postemergence treatment. Bromoxynil won't control annual grasses or perennials, and being relatively new, is still quite expensive, says Miller.

Dicamba: At 1/8 pound per acre, dicamba controls hard-to-kill broadleaved weeds such as wild buckwheat, smartweed and Canada thistle in oats and wheat when used alone or in mixtures with 1/4 pound per acre of MCPA. Combining MCPA and dicamba gives better control of mustard than dicamba alone.

Miller notes that oats are most tolerant to dicamba, followed by wheat, while barley is least tolerant. Best time for application is from the two to five-leaf stage.

Dicamba has been cleared for use on wheat and oats, but not for spring barley. Don't let livestock graze or feed on forage or threshings from small grains treated with dicamba.

2,4-DB: Applied at 1/2 to 1 and 1/2 pounds per acre when small grains are six to eight inches tall, this herbicide will control many broad-leaved weeds with little injury to legumes, except sweetclover. Mustard is usually not controlled by 2,4-DB and other weeds may require higher rates than used for MCPA or 2,4-D. Don't harvest grain for 30 days after treatment with 2,4-DB.

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To all counties  
Immediate release

IN BRIEF.....

Nutrient Needs for Lactating Beef Cows. Most beef cows in Minnesota will be calving before pasture is available. The amount of nutrients supplied should be increased slightly during the last three weeks of pregnancy and nearly doubled during lactation, according to R. D. Goodrich and J. C. Meiske, animal scientists at the University of Minnesota.

The researchers say that 1000 pound wintering pregnant mature cows require 1.4 pounds total protein, 9.0 pounds TDN, 13 grams calcium and 12 grams phosphorus. Needs for similar cows during lactation are 2.3 pounds total protein, 16.8 pounds TDN, 30 grams calcium and 23 grams phosphorus. Expressed in terms of average quality alfalfa-brome hay, a 1000 pound cow will have her requirements met by 18 to 20 pounds of hay during pregnancy. During lactation it takes about 35 pounds of alfalfa-brome hay per cow daily to meet her requirements.

Trace mineralized salt and a mixture of salt and dicalcium phosphate should be available at all times. Vitamin A supplementation may also be required until the pasture season starts if the hay or silage lack green color.

\* \* \* \*

Follow Label Directions on Products. About a quarter of a million products available to consumers in the United States are harmful if they're accidentally eaten. But if these products are used as directed, they can lighten household chores and improve your standard of living, says Wayne Hanson, extension safety coordinator at the University of Minnesota. Follow label directions carefully and store potential poison hazards in a safe place away from children. Manufacturers are legally required to print on labels the toxic elements of their products, first aid measures and warnings of potential hazards if the product is misused.

\* \* \* \*

Control Fire Blight. Help control fire blight in fruit trees by pruning all diseased branches and cankers, says Leonard Hertz, extension horticulturist at the University of Minnesota. Disinfect cut surfaces and pruning tools between cuts with formaldehyde, denatured alcohol, or liquid household chlorine bleach mixed half and half with water. Fire blight is a bacterial disease which appears during the spring and early summer months and is most serious on vigorous, succulent growth.

\* \* \* \*

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
March 25, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

ROMANTIC MOOD  
PUTS FEMININITY  
BACK INTO FASHION

The romantic mood is "in" and is going to be reflected in what we wear this spring, says Thelma Baierl, extension clothing specialist at the University of Minnesota.

Because femininity is a part of this romantic movement, fashion is again emphasizing the waist, and belts are taking over the spotlight. Suits, which are more popular than they have been for several years, stress the waist with a short jacket that ends at the belted waist-line. Accompanying the short jacket, a dirndl skirt is gathered or softly pleated under the wide belt that cinches the waist-line. Who could doubt that femininity is back?

The newest look in dresses for spring is the two-piece. The blouse is romantic all the way. The white sheer organdy is tucked, embroidered and ruffled in such a way that it couldn't help but turn a head. Ruffles and lace at the neck, wrists and even at the hem add softness to any outfit. Sleeves provide movement and flutter. A two-piece dress suddenly soars because of sleeves with stand-up rows of cotton eyelet lace or organdy ruffles.

The colors of these delicate fashions are fragile, as you would expect. Pretty pales appear in pinks, melons, apricots, corals and limes. Neutrals such as cream, vanilla and porcelain are more important than they ever have been. These neutrals are held dramatically in place with deep colors such as black, rich brown and navy.

No matter if it's style, fabric or color, romance is the watch word for fashions in '68. Watch for it.

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St. Paul, Minnesota 55101  
March 25, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

GIRLS FROM COUNTY  
TO H.E. DAY AT U

Two high school girls from \_\_\_\_\_ County have been selected to attend the annual Home Economics Day sponsored by the University of Minnesota School of Home Economics in cooperation with the Agricultural Extension Service on April 20 on the St. Paul Campus.

They are \_\_\_\_\_ from \_\_\_\_\_ and \_\_\_\_\_ from \_\_\_\_\_.

After finishing high school, both girls plan to major in home economics at the University and go into home economics careers.

Purpose of Home Economics Day is to acquaint prospective students with the home economics program and college life on the University's St. Paul Campus. Number of participating high school girls this year will be limited to 250.

At the morning program information will be given on admission requirements, college costs and the home economics core curriculum. The girls will tour McNeal Hall, the home economics building, and hear about typical experiences from freshmen registered in home economics.

Members of the administration will greet the girls at the noon luncheon.

Workshops in the afternoon will give the girls an opportunity to find out about courses and careers in specialized areas of home economics in which they are interested. Tours of St. Paul Campus sororities and fraternities will conclude the afternoon program.

Parents, home economics teachers and University of Minnesota alumnae are welcome to accompany the \_\_\_\_\_ County delegates.

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Department of Information  
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St. Paul, Minnesota 55101  
March 25, 1968

To all counties

4-H NEWS

(8th in a series in  
consumer spending)

LABELS, HANGTAGS  
IMPORTANT GUIDES  
IN BUYING CLOTHES

Fashion and fit are important when buying clothes, but valuable information found on labels and hangtags can tell you what "extras" to expect from a garment.

Labels and hangtags give the fiber content, fabric finishes, name of manufacturer and instructions for caring for the garment. Knowing what the information means can help you to care for your garment better and to get added wear out of it, according to extension clothing specialists at the University of Minnesota.

The label will tell you, for example, the names and percentages of fiber in the garment. It's important to remember that the fiber in the highest percentage will give its characteristics to the garment and will determine how it should be cared for.

Fabric finishes listed on the label will also tell you much about care of the garment. Such finishes may include durable press, water repellent, soil and oil repellent or soil releaser. These finishes may make the upkeep of your garment much easier.

If you become familiar with a certain manufacturer's line of clothes, you may wish to check the label or hangtag for a satisfactory repeat purchase in that line.

Care instructions will usually be included on hangtags or near the label. These instructions will specify hand or machine washing or drycleaning, and may recommend methods of drying, and temperature settings for ironing.

Learn what the various names of fibers and terms used on labels and hangtags mean, and you'll be on your way to being a wiser and more efficient shopper.

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St. Paul 55101-Tel. 647-3205  
March 26, 1968

Immediate release

## INSTITUTE OF AGRICULTURE CALENDAR OF EVENTS

### APRIL

- 1 MILK JUDGING SHORT COURSE, St. Paul Campus
- 4, 10 and 24 EVENING CLASSES, UNIVERSITY OF MINNESOTA  
LANDSCAPE ARBORETUM, 7:30 - 9:30 p.m., Chaska
- 4 - Evergreens for landscape plantings
- 10 - Starting flowering annuals and vegetable seeds indoors
- 24 - Pruning and care of plants in the yard
- 20 HOME ECONOMICS DAY, St. Paul Campus
- 21 - 26 NATIONAL 4-H CONFERENCE, Washington, D. C.
- 26 MINNESOTA ASSOCIATION FOR CONSERVATION EDUCATION  
WORKSHOP, Spring Meadow Farm, Chaska
- 29 METRO HOME LAUNDRY EXPO, Thunderbird Motel,  
Bloomington
- 29 - May 2 MINNESOTA STATE FIRE SCHOOL, St. Paul Campus

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100-vak-68

Department of Information  
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St. Paul 55101-Tel. 647-3205  
March 26, 1968

Immediate release

## CAPITAL-LABOR RATIO IMPORTANT FOR FARMER'S FUTURE

Farmers planning for the future should decide if they're going to be capital-oriented or labor-oriented, according to Paul Hasbargen, extension economist at the University of Minnesota.

But before deciding, farmers should understand that--given equal skills--the capital-oriented farmer has opportunities for much higher earnings. Returns in farming stem from both capital and labor. So the more capital a man has to work with, the larger are his potential returns. But with the higher earning potential that comes with a higher capital-labor ratio, there's also a need for increased financial management ability.

The capital-oriented operator is primarily a manager of capital, so major emphasis should be on the farming enterprise in which capital is most heavily invested. Hasbargen says the large farm operator should plan his crop production first, since crop enterprises usually have a higher capital-to-labor ratio. Then the livestock program can be fit in.

When choosing a livestock enterprise for expansion, farmers should analyze the long-run demand expectation for livestock production and their ability to supply the product at competitive prices.

Hog production appears to be a desirable livestock enterprise for corn belt farmers, Hasbargen says. Building costs make up a smaller portion of total production costs for hogs than beef and dairy, while feed costs make up relatively more of total hog costs. And, southern Minnesota has as low a price on feed grains as anywhere in the nation.

Farmers who want to keep a very high capital-labor ratio will probably have to limit their enterprise choice to beef or to buying and feeding feeder pigs. With a medium capital-labor ratio, the complete hog program is probably the most

- more -

add 1 - farm organization choice

profitable livestock alternative if a farmer has average or better skills in hog production. But competition in the hog business will be getting more severe in the future, so hogmen will have to strive even harder to keep their management skills above average, Hasbargen says.

Capital-oriented operators must invest in high capital-low labor system. Total production costs may be no different in these systems, but income can be increased by producing more with the same amount of labor. An example is slatted floor systems for hog production. About twice as much capital is needed for slatted floor systems, but only two-thirds as much labor is required. So when comparing housing systems, farmers should analyze what would happen to total operator earnings under each system.

Farmers with limited capital resources--labor-oriented operators--can make a satisfactory living if they organize and operate their business very efficiently, Hasbargen says. The small farm must be organized around labor intense enterprises. This means livestock production, unless vegetable crops are grown instead of field crops.

The livestock enterprises with the lowest capital-labor ratio are dairy and feeder pig production. So farmers who don't wish to get involved with a large amount of capital--or who can't get control of a large amount of capital--must concentrate on becoming proficient herdsmen who get top production performance. Labor-oriented operators should be cautious about adding new buildings and equipment on small acreages, Hasbargen says. Most of this investment will be lost when the farm is sold.

Older labor-oriented operators must be on the lookout for low cost labor saving devices. Cone-shaped silage feeders and switch milking systems that utilize old stanchion barns to milk two or more groups of cows are examples of practices that allow temporary expansion without large outlays for new buildings.

Young labor-oriented farmers who wish to stay in farming should expect to increase their capital-labor ratio in the years ahead. They should study new ideas in buildings and equipment that have low labor requirements. Volume must be increased enough to more than offset increased capital costs when labor saving devices are purchased.

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March 26, 1968

Immediate release

### MILK JUDGING SHORT COURSE SET FOR APRIL 1

The control and detection of milk flavor problems will be the subject of a one-day Milk Judging Short Course April 1 at the University of Minnesota St. Paul Campus.

The course, which is limited to 30 participants, is designed for dairy industry personnel in production, quality control and sales. The registration fee is \$5.

Topics to be discussed in the morning session include the causes of off-flavors in milk, fundamentals in milk judging, and laboratory identification of off-flavors in milk.

During the afternoon session a practical in-plant flavor control program will be discussed and a laboratory session will be conducted.

The course is sponsored by the University's Department of Food Science and Industries, Agricultural Extension Service and Department of Agricultural Short Courses.

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98-jbg-68



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March 26, 1968

Immediate release

#### HOME ECONOMICS DAY IN APRIL

Date for the University of Minnesota's annual Home Economics Day for junior and senior high school girls has been set for Saturday, April 20 on the St. Paul Campus.

The event is held each year to acquaint interested high school girls throughout the state with opportunities for various careers in home economics through courses at the University. The H. E. Day program will highlight information on a variety of careers in home economics as well as the required training for each.

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97-jbn-68

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March 28, 1968

Immediate release

### TV SHOWS WILL FEATURE FLOWER GARDENING

A weekly television series on flower gardening will begin in April on stations in the Twin Cities, Duluth, Appleton, Fargo-Moorhead and Sioux Falls, S. D. areas.

The programs will feature Robert Phillips, horticulturist with the University of Minnesota. They are scheduled as follows:

Thursdays, April 4, 11, 18, and 25 at 9 p.m. on KTCA, Channel 2 in the Twin Cities; WDSE, Channel 8 in Duluth, KWCM, Channel 10 in Appleton, and KFME, Channel 13 in Fargo-Moorhead.

Saturdays, April 14, 21 and 28 at 7:30 a.m. on KSOO, Channel 13 in Sioux Falls, S. D.

The programs deal with starting flower seeds and bulbs, early lawn care, and lawn and home yard maintenance. The series will be continued into May and June.

Persons interested in the flower gardening series should order two publications from the University which will be discussed on the program. These are Horticulture Fact Sheet No. 5, "Tuberous Begonias," and "Annual Flower Seeds." Write for these publications to Flower Gardening, University of Minnesota, St. Paul, Minn., 55101.

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101-jms-68

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St. Paul 55101-Tel. 647-3205  
March 28, 1968

Immediate release

### SATURDAY MORNING TOURS OFFERED AT ARBORETUM

A series of Saturday morning tours are scheduled at the University of Minnesota landscape arboretum.

The tours are conducted by faculty members from the University's Department of Horticultural Science and are scheduled as follows:

April 6, 10:30 a.m.--Demonstration of maple syrup operation.

May 4 and May 11, 10:30 a.m.--Wildlife tour.

May 18, 6:30 a.m.--Bird Watching hike, and 10:30 a.m.--Flowering Crabapple Tour.

May 25-- Lilac tour (time to be announced).

June 1--6:30 a.m.--Bird Watching hike, and 10:30 a.m.- Azalea tour.

June 8--Tour of bog area (time to be announced).

Most tours will last until noon, so people interested are encouraged to bring a lunch and enjoy a picnic at the arboretum.

For more information, contact Mervin Eisel, Landscape Arboretum, Rt. 1, Box 132-1, Chaska, Minnesota, 55318. Phone 443-2460.

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March 28, 1968

Immediate release

#### FIVE UM FORESTRY STUDENTS AWARDED CAROLIND SCHOLARSHIPS

Five students in the School of Forestry at the University of Minnesota have been awarded Carolind Scholarships, it was announced recently by Frank H. Kaufert, director of the School of Forestry.

The scholarship winners are Eugene B. Singaas, Robbinsdale; Robert Ullrich, New Milford, N. J.; Gene R. Olson, Lake City; Thomas F. Baruth, St. Louis Park; and Kenneth R. Sloan, 2701 1st Ave. S., Minneapolis.

The Carolind Scholarships, which vary from \$250 to \$500, are awarded annually to students in forestry and forest pathology on the basis of academic aptitude, leadership potential, vocational promise, personal attributes and need for financial assistance.

The scholarships were established by Ralph M. Lindgren, an alumnus of the University, as a memorial to his parents, Mr. and Mrs. Charles Lindgren.

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102-jbg-68

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March 28, 1968

Immediate release

#### 4-H'ERS TO NATIONAL CONFERENCE

Outstanding leadership and achievement have won trips for four young people to the 38th National 4-H Conference at the National 4-H Center in Washington, D. C. April 21-26.

They are Janet Nesseth, 19, Windom (Jackson County); Patricia Swanson, 18, Hastings; Charles Schwartau, 18, Goodhue; and Daryl Augustine, 18, Thief River Falls. They will represent Minnesota's 55,000 4-H members.

Delegates to the conference were selected because of their service to local 4-H club and county organizations as officers and junior leaders and on their achievement in project work.

The Minnesota Bankers' Association sponsors the trips each year.

Purposes of the conference are to give delegates an opportunity to learn about new dimensions in 4-H, recommend new directions for 4-H, gain greater knowledge and appreciation of the nation's capital and gain perspective on our changing world as it affects young people, according to Leonard L. Harkness, state leader, 4-H and youth development at the University of Minnesota.

Miss Nesseth is enrolled as a freshman at the University of Minnesota, majoring in home economics. During nine years as a 4-H'er in Jackson County, she canned more than 200 quarts of food and prepared more than 200 meals in the foods project and won five trips to the State Fair with food demonstrations. Other projects have ranged from saddle horse and beef to safety and fire prevention. She has been a junior leader in the foods, clothing and horse projects.

Miss Swanson's activities have ranged from the radio speaking contest to a trip to the State Health Camp. She is president of the Dakota County 4-H Federation and has given leadership to committees for National 4-H Week. She has been a junior

add 1 - 4-H'ers to National

project leader and a junior club leader. The Dakota County Miss has also taken an active part in Youthpower and attended the National Youthpower Conference in Chicago. She has won a variety of awards for her project work in food and nutrition, beef, poultry and dress revue.

Schwartau is a freshman at St. Olaf College, Northfield. He is presently serving as Minnesota's State 4-H Federation president. He represented Minnesota at the American Institute of Cooperation in 1967 and has made numerous appearances around the state on behalf of 4-H.

In the nine years he has been a 4-H'er in Goodhue County he has been enrolled in the dairy project. He has been a dairy project leader for four years, helping younger members.

Although he has won many blue ribbons in the dairy exhibits and demonstrations and showmanship, he has also carried projects in swine, sheep, health and safety, shop and tractor maintenance and has been a member of the Goodhue County livestock judging team.

Augustine was treasurer of the Minnesota State 4-H Federation in 1966-67. For his work as a junior leader he was named a delegate to the State Junior Leadership Conference in 1966 from Pennington County and has received the Minnesota Key Award for leadership and achievement. He has taken a variety of projects including dairy, shop, safety and fire prevention and photography. One of his contributions as a junior leader was to help organize a new 4-H club at Oslo, Minnesota. He is a freshman at Northland State Junior College, Thief River Falls.

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96-jbn-68

Department of Information  
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St. Paul, Minnesota 55101  
April 1, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

TURKEY, PORK  
ARE PLENTIFUL  
THIS MONTH

Turkey, ham, pork roast -- these are all good choices for your Easter dinner and for other meals during April, since they'll be plentiful during the month.

Also in good supply are halibut steaks, potatoes, milk and dairy products and peanuts and peanut products.

Because of the large supplies, turkey heads the U. S. Department of Agriculture's list of plentiful foods for the month. Turkeys from 4 to 24 pounds are available to satisfy whatever number you need to serve. Remember that the cost per serving is usually less from a large bird. A time and energy saver is the frozen turkey roast or roll, ready to slip into the oven in its own foil pan.

Pork production is generally higher in spring and this year is no exception. Watch for specials on different cuts of pork.

Hams in different styles will be plentiful for the shopper who traditionally serves ham for Easter dinner. Especially convenient for the family who attends Easter services, yet expects company for dinner, are the fully cooked, boneless hams, trimmed of excess fat. These delicious hams can be heated in a very short time and are easy to carve. For an attractive appearance and extra flavor, score the ham half an hour before the end of the roasting period, stud it with cloves, spread a glaze over the top and return the ham to the oven. Make a golden glaze for Easter by mixing 1 cup of light brown sugar with 1 tablespoon vinegar, 1 tablespoon yellow salad mustard and 2 tablespoons of honey.

Storage stocks of North Pacific halibut steaks are up about a third from last year. A reduction in price of halibut should make this fish a good buy.

Potatoes -- on the plentiful list for the fourth consecutive month -- continue to be the best vegetable buy. Storage stocks are record high, and new crop supplies are coming to market from Florida and Texas.

April milk production will be approaching its seasonal peak, and supplies of milk and dairy products will probably continue in excess of demand.

Since this year's peanut crop topples the 1966 record, you can look for economical prices on all peanuts and peanut products.

Department of Information  
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St. Paul, Minnesota 55101  
April 1, 1968

To all counties  
4-H NEWS  
Immediate release

CHARGE ACCOUNTS CAN  
BE CONVENIENT FOR  
TODAY'S BUSY TEENS

Advantages of charge accounts are appealing to teens, but charge accounts must be used wisely to get the most out of them, according to Mrs. Edna K. Jordahl, extension home management specialist at the University of Minnesota.

To charge means "I'll pay in 30-60 or 90 days." If the account is paid within 30 days there is usually no extra payment required. Thus there is no cost except if it is already figured in the cost of the item purchased.

If the item is paid for after 30 days the cost is generally  $1\frac{1}{2}$  percent on the unpaid balance, which figures out to 18 percent simple interest per year.

Some Twin Cities department stores offer charge accounts to teenagers, college students and young working people if they have a part-time job and the consent of their parents. Stores usually allow teenagers to charge up to \$50.

Charge accounts make exchanges easier, establish credit, lump bills and sometimes provide sales notices in advance. Charge accounts can be very convenient because they make possible shopping by telephone. This can save time and steps for the busy teen.

However, charge accounts may increase the danger of overspending and may also raise the cost of items purchased.

If a teen can easily pay for all his purchases within 30 days, the regular 30-day account is best. If a teen needs more time to pay, a revolving account will give the additional needed time, but will generally cost more. It is wise to investigate the interest or service fees on this type of account before opening one.



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April 1, 1968

To all counties  
Immediate release

IN BRIEF.....

Don't Prune Oak Trees. Oak trees growing where oak wilt is present shouldn't be pruned after late March, advises Herbert Johnson, extension plant pathologist at the University of Minnesota. The oak wilt area in Minnesota is generally the southeast quarter of the state--west to Mankato and north to Brainerd and Taylors Falls. The disease is spread by spores produced during the spring and summer and spread by the wind or insects, or through root grafts. If these spores land on fresh cuts, they can cause infection. If a cut must be made in oak during the spring, cover the cut immediately with a heavy layer of an asphalt-type tree wound dressing. This treatment should be given only as an emergency treatment following damage to trees--avoid pruning during the growing season.

\* \* \* \*

Fertilizing Soybeans in Spring. It's best to build general soil fertility over time by fertilizing other crops prior to soybean planting, says Curtis Overdahl, extension soils specialist at the University of Minnesota. But fertilize soybeans in the spring if soil tests show potassium or phosphorus in the low or medium fertility range. If more than 125 pounds per acre is needed, broadcast the fertilizer and plow down or disk into land already plowed. Apply ~~the~~ fertilizer close to the row with a planter attachment if fairly small amounts are needed.

\* \* \* \*

Easter Lily Needs Light, Moisture. The blooms on your Easter lily will last longer if you keep the plant in sunlight or in bright light during the day and in a cool room at night, says Harold Wilkins, extension horticulturist at the University of Minnesota. Keep the soil moist by watering the plant only when dry. If you're buying an Easter lily this week, select one that has some buds so it will bloom over a longer period of time.

-more-

add 1 -- in brief

Reduce Atrazine Carryover. Corn producers can reduce residue or potential carryover to their crops from weed sprays by combining lower rates of atrazine with other chemicals, according to Gerald Miller, extension agronomist at the University of Minnesota. Mixtures of atrazine and prometryne are now cleared for use on corn. Miller says a mixture of atrazine and linuron (Lorox) can be used as a pre-emergence treatment. But this combination can't be used for post-emergence treatments since linuron will kill the corn. Atrazine and propachlor (Ramrod) can be used for pre-emergence treatment of corn grown for grain or seed, but not for silage. It's important to select the best herbicide mixture for your particular soil in order to insure adequate weed control and avoid crop injury, Miller adds.

\* \* \* \*

Management Suggestions for Beef Cattle Producers. Some management suggestions for beef cattle producers are offered by Paul Hasbargen, extension economist at the University of Minnesota.

\* Hold quality cattle to low choice grade during the next few months.

\* Consider hedging cattle headed for fall market as futures move up in months ahead.

\* Experiment with different marketing methods. Learn how much shrink you get under different marketing conditions and how your cattle dress out, grade and cut out. This information is essential when comparing price offers that involve different marketing conditions, Hasbargen says.

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April 1, 1968

To all counties  
Immediate release

GOOD MANAGEMENT  
NEEDED FOR SUCCESS  
WITH SOYBEANS

Good management practices are needed to produce high soybean yields. This means selecting the right varieties, preparing a good seedbed, and using the right planting, fertilization and weed control, according to Harley Otto, extension agronomist at the University of Minnesota.

Otto says the first step is selecting the right variety. It should be of the proper maturity for your area, yield well and resist lodging. University recommendations include Portage, Flambeau, Merit, Traverse, Grant, Chippewa 64, Hark, Corsoy and A-100 (in order from earliest to latest maturity). See Miscellaneous Report 24, "Varietal Trials of Farm Crops," for details on maturity zones and variety descriptions.

Your best bet is to select certified seed which is pure for the variety chosen, Otto says. Certified seed is also high in germination and mechanical purity and low in weed seed content. Only sound seed with a high germination percentage should be planted.

Inoculating soybean seed with nitrogen-fixing bacteria can increase yields on fields that haven't grown soybeans for several years. If well-nodulated soybeans have been grown on the field in recent years, plants will be inoculated by bacteria in the soil.

Seed treatment with Thiram, Chlorinil or Captan usually doesn't increase yields, but can improve stands. Treatment can pay if low seeding rates are used, or if weather at planting is cool, wet and unfavorable for germination. But seed treatment won't substitute for good quality seed, Otto says.

-more-

add 1 -- soybean management

Follow manufacturer's directions closely for both inoculation and seed treatment. If you do both, make the seed treatment almost any time before planting time, but delay inoculation until as close as possible before planting.

Otto says plantings during mid to late May are best in most of Minnesota. This allows good seedbed preparation for weed control and use of full-season varieties.

Soybeans in narrow rows--from 20 to 30 inches--have yielded more than those in conventional 40-inch rows. Early and midseason varieties respond especially well in narrow rows.

So far, 24 inches is about as narrow as the rows can be and still allow for adequate cultivation. Improved selective herbicides may make drill planting in 6-to 12-inch rows more successful in the future, but herbicides now available aren't reliable enough to make this method practical.

Planting about 12 seeds of 90 percent germination or better per foot of row usually gives adequate stands in 40-inch rows. In 30-inch rows, plant 11 seeds per foot of row and 10 seeds per foot of row in 20-inch rows. With medium sized seed, these planting rates will require 60 pounds per acre in 40-inch rows, 75 pounds in 30-inch and 90 pounds in 20-inch rows. Otto says you should always adjust actual pounds per acre to size and germination percentage of the seed.

Very heavy seeding tends to cause more lodging, while very light rates often cause poor emergence, more weeds and low podding and branching.

Plant soybean seed in fairly firm, moist soil at about one-inch depth under most conditions, and don't plant deeper than two to three inches.

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April 1, 1968

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WEED CONTROL  
IMPORTANT IN  
TREE PLANTINGS

Broad-leaved weeds and grasses are a major threat to successful shelterbelts and forest plantations, according to Marvin Smith, extension forester at the University of Minnesota.

In some seasons and in certain regions, rainfall barely supports tree growth. So without effective weed control, many trees can die in the first few years and the survivors may be stunted and deformed because weeds and grasses compete for soil moisture, nutrients and growing room.

Smith says probably as many tree planting projects fail from inadequate weed control as from improper planting techniques, poor site preparation or the planting of unadapted species.

You can control weeds with mechanical methods, but they have certain disadvantages, Smith says. Mechanical methods can injure the trees' root systems and are sometimes delayed by wet weather or neglected because of lack of time.

Several of the pre-emergent and post-emergent forms of chemical herbicides can give effective weed control in tree plantings. At this time, Smith advises anyone planting trees to use one of the pre-emergent weed killers for season long weed control. If weeds among the trees are a problem at mid-season, the post-emergent chemical is the type to use.

For more information on herbicide rates and how to apply weed killers, ask your county agent for Forestry Fact Sheet No. 6, "Weed Control in Shelterbelts and Forest Plantations." Copies are also available from the Bulletin Room, University of Minnesota, St. Paul, Minn. 55101.

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St. Paul, Minnesota 55101  
April 1, 1968

To all counties  
Immediate release

ARBOR DAY TO  
BE OBSERVED  
ON APRIL 26

Minnesota will celebrate Arbor Day on April 26. Arbor Day is the highlight of the state's 42nd Annual Conservation Week, which will be observed from April 21 through April 27.

"The celebration of Arbor Day is one of our oldest state and national conservation traditions," says William Miles, extension forester at the University of Minnesota.

Miles says individuals and organizations will observe Arbor Day, 1968, by planting trees for the benefit of future Minnesotans. Trees provide wood and fiber crops and add beauty for towns, parks, and highways. They're also valuable in recreation areas and provide habitat for wildlife, Miles adds.

Schools and organizations can get literature and trees for the observance of Arbor Day from the Minnesota Conservation Department. Contact the Bureau of Information, Conservation Department, Centennial Building, St. Paul, Minn. 55101.

In northern Minnesota, the forest industries are sponsoring a tree planting program for fourth grade school children in observance of Arbor Day. A bundle of 35 spruce or Norway pine trees will be sent to the school district if an application is received by April 15. For more information, contact the Forest Industries Information Committee, 203 Beal Building, Duluth, Minn. 55802.

# # # #

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 1, 1968

Immediate release

## WHY OFF-COLORS IN COOKED MEATS?

Have you been concerned because the poultry and pork you cooked thoroughly still looked pink? Or because sliced ham or beef roast sometimes display rainbow-like colors?

An explanation of these off-colors in meats comes from Verna Mikesh, extension nutritionist at the University of Minnesota. Generally, Miss Mikesh says, you don't need to worry about these off-colors if the meat has been properly cooked and otherwise cared for.

Occasionally thoroughly cooked turkey, fresh pork or veal will remain pink in color, according to the University nutritionist. It may appear in the form of a pink rim extending about a half inch into the cooked meat. It is often the meat of young birds or animals that shows the most pink because of the lack of fat cover.

The pinkness occurs when gaseous substances in the oven combine with the hemoglobin in the meat tissues. Or nitrates in the water used in processing remain in sufficient quantity to produce nitrogen compounds that turn the meat pink. If your meat thermometer or time table indicates that the meat is cooked, and yet the pink remains, you can assume that one of these chemical changes has taken place. Go ahead and enjoy the meat -- and don't worry about the pinkness.

Sometimes the meat around the bones of young poultry is discolored. This discoloration is due to the leeching of blood within the soft porous bones of young poultry into the surrounding tissue. It is often found in poultry that has been frozen. Although the condition may be somewhat unsightly, it is harmless, Miss Mikesh says.

Another concern of many homemakers is the many colors - like those in a soap bubble - appearing sometimes on sliced cured ham or beef roast. This iridescence is caused by the refraction of light on the muscle fiber ends in the meat. It is no cause for alarm.

# # # #

103-jbn-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 2, 1968

Immediate release

### UM TO HOST INTERCOLLEGIATE FLOWER JUDGING CONTEST

Students from 13 collegiate flower judging teams from throughout the United States will compete in a judging contest Friday (April 5) at the University of Minnesota's St. Paul Campus.

Contestants will judge 20 different stagings of cut flowers and pot plants. Points to be considered in flower selection include cultural perfection, trueness to type, uniformity, freedom from injury and damage, color, size, form and maturity.

All students have taken courses in floriculture, and many are planning careers in the flower industry.

The awards banquet for the contest will be held at 7 p.m. Friday. Featured speaker at the banquet will be John Walker, executive director of the Society of American Florists. Walker will also present awards to winning teams and top individual contestants.

# # # #

104-jms-68



Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 2, 1968

Immediate release

## MARKETING CENTER COULD BENEFIT STATE SAWMILL INDUSTRY

An efficiently operated distribution center for marketing lumber from Minnesota forests could benefit the sawmill industry of northern Minnesota, according to two University of Minnesota forest products specialists.

In a report on the harvesting and use of aspen lumber in the state, Fred Hill, research assistant, and Robert D. Thompson, assistant professor in forest products marketing, said that because of inadequate and sporadic supplies of aspen, many Minnesota manufacturers were using more expensive Western species. Aspen is used for crating and packing.

In Minnesota, 45 percent of the aspen sawtimber is centered in a 12-county area. This area accounts for about 50 percent of the lumber production in the state. Hill and Thompson projected that 266 mills in this area were idle, and most of the mills were not running to full capacity even though there could be a demand for their lumber.

Thompson and Hill said that the producing mills in this area have the production capacity to satisfy the existing Twin Cities markets. The fact that they haven't suggests problems in marketing, especially an apparent lack of coordination in marketing efforts.

A well-established, efficiently-operated distribution center could help these producers improve the effectiveness of the lumber industry and make Minnesota aspen lumber more competitive with imports. Consequently, a greater share of lumber consumption in the state would be met by in-state producers.

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105-wobn-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 2, 1968

Immediate release

## MANPOWER AND QUALITY OF LIVING AIDS METROPOLITAN GROWTH

Available resources of trained manpower coupled with maintaining a quality environment means future growth for the Twin Cities metropolitan area, according to John Hoyt, University of Minnesota extension economist.

The resources of trained manpower and a quality environment enhanced the area's ability to attract rapid-growth technical industries that contributed to the population growth of 94,000 new residents in the Twin Cities metropolitan area between 1950 and 1960.

If these resources are maintained, the Twin Cities metropolitan area population should increase by 800,000 between 1968 and 1980, and adjacent urban areas such as St. Cloud, Mankato, and Rochester also should experience growth.

Hoyt says that the Twin Cities prominent growth firms are tied to a quality level of living that is demanded by quality manpower. Consequently, a metropolis which is dependent on such industries and which fails to maintain its quality environment runs the risk of social and economic stagnation.

Between 1950 and 1960 only the Twin Cities metropolitan area was able to develop sufficient economic opportunities to experience substantial population growth within the state.

In the future, many areas outside of the Twin Cities metropolitan area will experience decreasing population, as they have in the past, unless they are able to develop regional economic opportunities.

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 4, 1968

Immediate release

#### STATE FFA CONVENTION SET FOR MAY 5-8

Nearly 2,500 boys from outstate Minnesota will be on the University of Minnesota's St. Paul Campus May 5-8 to take part in the 1968 Future Farmers of America (FFA) State Convention and Leadership Training Program.

The four-day meeting will kick off Sunday evening May 5, with a talent show and a vesper service, and wind up Wednesday with a training session for newly-elected state FFA officers. Theme for this year's event is "Challenging Youth in Agriculture!"

An annual highlight is the hand milking contest between the State Star Dairy Farmer and Minnesota's Princess Kay of the Milky Way. This unique event will take place in front of Coffey Hall on Monday at 4 p. m.

Monday's events will include judging contests, the fifth annual Creed Contest, first annual extemporaneous speech and public speaking contest, an awards luncheon honoring State Farmers, District Star Farmers and National FFA Foundation Award winners, walking tours of the St. Paul campus, and off campus tours for judging team members and judges.

The delegates will leave the campus Monday evening for the 32nd annual convention banquet in the St. Paul Municipal Auditorium. Governor Harold Levander and National FFA vice president William Boehm of Mosinee, Wisconsin will be the principal speakers.

-more-

add 1 - state FFA convention

Another banquet highlight will be the presentation of the State and regional Star Farmers and Proficiency Award winners.

During Tuesday morning the delegates will meet in Coffman Memorial Union on the University's Minneapolis campus to hear and discuss career opportunities in Food and Fiber. A parliamentary procedure contest will be held on Tuesday afternoon in Coffman Union.

The State FFA band and chorus will give concerts during the convention and Leadership Conference. State convention band director is David Gleason of Howard Lake. L. Y. Peters of Sanborn will direct the state chorus.

This year the delegates will take part in "Operation Books to Philippines." The chapters will collect agriculture and science books before the convention and leave them at a special depository in Coffey Hall. The books will be shipped to Future Farmers Chapters in the Philippines.

# # #

109-vak-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 4, 1968

Immediate release

#### PARENTS' DAY, APRIL 21

Parents of University of Minnesota home economics students as well as the public are invited to the School of Home Economics Parents' Day, Sunday, April 21.

The program will begin at 1 p.m. in the Northstar Ballroom of the St. Paul Campus Student Center with a welcome by students, faculty and administrators of the school. Barbara Thornton, director of Pillsbury Consumer Service Kitchens, the Pillsbury Co., Minneapolis, will be the keynote speaker. As a practicing home economist, Miss Thornton will acquaint parents with the focus of home economics today and tomorrow.

During the remainder of the afternoon, students and parents will be free to tour the arranged displays and facilities of McNeal Hall. The displays will depict educational opportunities provided by the seven divisions within the School of Home Economics.

Throughout the afternoon, H. E. faculty will be on hand to visit with parents, and refreshments will be served in the fireplace room of McNeal Hall.

Parents' Day is being sponsored by the Home Economics Board, a coordinating body of students elected to represent the student population of the school. The purpose of the event is to introduce parents to the diversity and depth of programs offered by the University of Minnesota in the field of home economics.

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110 - mew-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 4, 1968

Immediate release

#### MINNESOTA 4-H'ERS SELECTED FOR TEEN CARAVAN

Three Minnesota 4-H'ers have been selected for a summer abroad with the 4-H Teen Caravan, according to Mrs. Sue Fisher, assistant state leader, 4-H and youth development, University of Minnesota.

Paul Ludeman, 19, Tracy, will spend the summer in Denmark; Bill Millinczek, 17, Inver Grove Heights, will be in the Netherlands; and Linda Kleis, 18, Stillwater, will travel to Spain.

The 4-H Teen Caravan is a six-week program designed to give the selected 4-H'ers experience in living and working with host families in the countries abroad. In Minnesota it is sponsored by the Agricultural Extension Service and the National 4-H Club Foundation.

The teens will attend an orientation briefing in Washington, D. C., June 24-27 and leave for their host countries June 28. Each teen will spend six weeks with two families in the host country and then leave on a ten-day tour to other countries.

The 4-H'ers will travel to the U. S. on Aug. 23 for a two-day consultation briefing in Washington and then will return home.

Ludeman has spent 7 years as a 4-H member and is a freshman at the University of Minnesota. He is the son of Mr. and Mrs. Sander Ludeman.

Millinczek has been in 4-H for eight years and is a senior at Simley High School. He is the son of Mr. and Mrs. Alexander Millinczek.

Miss Kleis has been a 4-H member for four years and attends night school classes at the University of Minnesota. She is the daughter of Mr. and Mrs. Lawrence Kleis.

# # # #

108-mkb-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

**YOUNG MARRIEDS:  
THINK CAREFULLY  
ABOUT BORROWING**

Many kinds of credit are available for young marrieds today, but think carefully before you use consumer credit.

Mrs. Edna K. Jordahl, extension home management specialist at the University of Minnesota, suggests some guidelines for young marrieds who are considering borrowing money.

\* Review family finances. Will payments fit into the spending pattern or will they keep you from buying essentials?

\* How certain is your income? Will it be stable enough for the length of time that payments will run?

\* How much is credit going to cost you? Are you sure you've found the best credit buy? You may want to check with your Better Business Bureau on the reliability of the firm with which you're doing business. Do this before you enter into any binding contracts.

Credit can be a convenience for you, especially since you can use things while you're paying for them. You may get better service when you buy on credit, and credit can also be useful in emergencies.

The tendency to overspend is a disadvantage of credit. You may not realize that you're buying too many different items. Credit can be difficult to understand-- you must look carefully at the interest rates, which can sometimes be misleading.

If you decide that you need certain items now and can use credit wisely and carefully, it can prove to be a friend.

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
4-H NEWS  
Immediate release

4-H'ERS PREPARE  
FOR COUNTY  
SHARE-THE-FUN

\_\_\_\_\_ County 4-H'ers are preparing musical numbers, readings and  
skits for the countywide 4-H Share-the-Fun festival to be held \_\_\_\_\_  
in \_\_\_\_\_ (date, hour)  
\_\_\_\_\_ (place).

Each county may nominate up to three acts for possible participation in the  
district show. A state committee will screen the nominations and decide on which  
act will be invited to the district show.

The act will be selected on the basis of its contribution to a well-rounded  
program, as well as on its quality, according to Stanley Meinen, assistant state  
leader, 4-H and youth development, University of Minnesota.

Outstanding masters of ceremonies from county contests may also be nominated  
for the district shows. Two older 4-H members will be selected to emcee each  
district show.

The 4-H'ers have a chance to receive tips on performing from a professional  
person during the afternoon rehearsals at the district shows.

Eighteen acts will be selected at the district shows for the state 4-H Share-  
the-Fun program, which is given during the Minnesota State Fair.

The annual 4-H Share-the-Fun program has been a popular activity for 4-H boys  
and girls. Last year, nearly 15,000 4-H'ers represented 87 counties. More than  
50,000 people were in attendance at various county and district shows when the  
4-H'ers performed over 2,600 different acts.

The University of Minnesota Agricultural Extension Service and Cargill, Inc.,  
Minneapolis, sponsor the annual Share-the-Fun program.

-mkb-



Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
Immediate release

PLANT TREES  
CAREFULLY FOR  
GOOD STANDS

Poor tree planting practices can lead to heavy initial mortality and poor growth and form, according to Marvin Smith, extension forester at the University of Minnesota.

Smith offers some points that can make the difference between a good and poor stand.

\* Make sure the roots are kept moist. Thoroughly wet the packing material in the bundle when you get the tree from the nursery. On the job, keep moist material in the planting trays to prevent the roots from drying out.

\* Guard against freezing injury to the roots of planting stock. Below freezing temperatures aren't uncommon during the planting season, especially at night.

\* Make sure your planting technique--either hand or machine--provides a space deep and wide enough for the whole root system. Don't bend or fold roots into a hole that's too shallow.

\* Place the tree straight in the hole or trench. Never slant it forward, backward or to the side.

\* Plant the tree to a depth just slightly deeper than it was in the nursery.

\* Make sure the roots are close in contact with the soil. Check often to see that soil is firmly compacted around the tree roots. Loose soil will dry out and settle, leaving the upper roots exposed and causing them to dry out.

# # # #

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
Immediate release

SPECIAL PRECAUTIONS NEEDED  
TO AVOID CHEMICAL RESIDUES  
BECAUSE OF COOL, DRY 1967

A cool, dry 1967 could mean more potential chemical residue trouble for Minnesota farmers this year, according to Gerald Miller, extension agronomist at the University of Minnesota.

Miller says research at the University shows that rate of chemical breakdown under cool, dry conditions is slower. Temperatures were cool last summer and it's been very dry since July. So chemical residue problems may be serious this year.

Because of residue problems, Miller says label requirements recommend that small grains, flax, sugarbeets and small-seeded legumes not be planted in fields that received atrazine applications the year before.

Miller lists some practices that can help decrease chances of harmful residues:

\* Apply only the amount recommended for your soil type. In western Minnesota, soybeans may be injured if the atrazine rate during the previous year was more than two pounds active ingredient broadcast (or comparable rates in a band). In eastern Minnesota, more than three pounds active ingredient broadcast per acre may have the same effect.

\* Agitate the chemical well in the spray tank to insure uniform application.

\* Fit your chemical rotation to crop rotation. You may want to avoid using atrazine the year before planting crops other than corn.

\* Using band rather than broadcast applications can reduce residues.

\* Plowing and thorough soil tillage before planting susceptible crops will help cut the residue level in the soil.

Soil residues of atrazine can also be reduced by using a lower rate of atrazine in mixtures with other chemicals, Miller says.

# # # #

Department of Information  
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University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
Immediate release

PREPLANT APPLICATIONS  
OF HERBICIDES ON CORN  
OFFER SOME ADVANTAGES

Preplant applications of herbicides on corn make it possible to make some herbicide applications before the busy planting season. This can be especially helpful for custom applicators and for farmers with large acreages, says Gerald Miller, extension agronomist at the University of Minnesota.

Miller says preplant applications incorporated into the soil with a shallow disking offer the chance to apply herbicide, fertilizer and possibly insecticides at the same time. But the chemicals must be compatible and they also should be incorporated into the soil to give the proper placement for each chemical. Check labels for specific directions.

Atrazine is a widely used herbicide currently available for preplant application. R1910 (Sutan) is a new chemical that is applied preplanting and disked in. It has looked promising for grass control. A mixture of the two chemicals may also be used.

Atrazine or R1910 should be applied to the soil and incorporated with a shallow disking or similar operation. Results from the field cultivator haven't been as good as with the disk.

The depth and thoroughness of incorporation depend on many factors. Type of equipment, depth of operation, speed, soil texture and the physical condition of the soil at time of incorporation must all be considered.

-more-

add 1--preplant herbicide applications

Exact specifications for incorporation can't be given since so many factors are involved. But the deeper the herbicide is incorporated and the more soil it's mixed with, the more dilute it will be. Excessive incorporation and dilution may decrease the effectiveness of the herbicide. As a rule of thumb, incorporation devices such as the disk usually move the herbicide only 1/3 to 1/2 the depth at which the implement is operating, Miller says.

The major reason for incorporating some herbicides is to reduce herbicide loss from the soil surface. Loss of atrazine isn't very rapid, so incorporation isn't essential. R1910 is lost more rapidly and should be incorporated immediately. Another advantage for incorporating some herbicides is that the herbicide is moved into the soil where there is enough moisture for weeds to absorb the herbicide.

Research suggests that other herbicides for possible combination with atrazine, such as propachlor (Ramrod) or linuron (Lorox), often fail to maintain their effectiveness when incorporated.

Combinations such as atrazine and propachlor or atrazine and linuron might be applied preemergence after planting, but research suggests they shouldn't be incorporated.

# # # #

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
Immediate release

IN BRIEF.....

Improvement in Egg Prices Expected. Poultrymen discouraged by recent low egg prices may have a brighter future, says Melvin Hamre, extension poultry specialist at the University of Minnesota. Hamre says egg prices received by farmers for the next 12 months are expected to average about five cents a dozen above those received the past 12 months. The hatch of egg-type chicks during the first half of 1968 may be about 12 percent below a year ago, and the last half hatch will probably be about 8 percent above the same months last year. "The good poultryman has made money in the past and should continue to do so in the years ahead," Hamre says.

\* \* \* \*

Keep Bacteria Count Down in Milk. A low bacteria count assures the best price for farmers and helps maintain high quality dairy products with long shelf life. Vern Packard, extension dairy industries specialist at the University of Minnesota, says the grade A raw milk bacteria requirements have gone from a maximum of 200,000 to 100,000. The USDA has also tightened quality standards on some products purchased by the government, such as milk powder. For more information, ask your county agent for a copy of Dairy Industries Fact Sheet No. 10, "Keep Your Bacteria Count Down." Or, write to the Bulletin Room, University of Minnesota, St. Paul, Minn., 55101.

\* \* \* \*

Store Potential Poisons Safely. Many items that can be easily bought at the neighborhood store or pharmacy are potentially dangerous to children. Young children under 5 years of age are the age group most susceptible to accidental poisoning, says Wayne Hanson, extension safety coordinator at the University of Minnesota. Young children like to explore, reach, and put materials in their mouths. Store potential hazardous materials safely, away from children. Medicine cabinets with locking devices and lockable chests to place in medicine cabinets are available.

-more-

add 1 -- in brief

Still Time for Spring Soil Test. There's still time to have your soil tested this spring. If you didn't take soil samples last fall, now's the time to do it-- before corn and soybean planting time, says John Grava, soil scientist at the University of Minnesota. Grava says the University's soil testing lab is equipped to give fast service. Results of most samples are ready within a week. Fees on regular samples are now \$2. A new buffer test for estimating lime requirements is now available, and sulfur, zinc and soluble salt tests will also be run on request. Grava cautions farmers to carefully check the tests they want run on the information sheet which is sent along with the sample.

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Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 8, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

SEMINARS FOR  
HOME ECONOMISTS

A special seminar for home economists and others interested is scheduled for Saturday afternoon, April 20, in the Fireplace Room of McNeal Hall on the University of Minnesota's St. Paul Campus, announces Home Agent \_\_\_\_\_.

Other St. Paul Campus events planned for the same date are the annual Home Economics Day for high school girls and the annual evening banquet for alumni of the University's College of Agriculture, Forestry and Home Economics.

The seminar at 2 p.m. will feature Gertrude Esteros, chairman of the Related Art Division in the School of Home Economics, and Evelyn Harne, associate state leader, 4-H and youth development. Miss Esteros will speak on "Environmental House Plans." Miss Harne will give her observations of the youth program in Vietnam as a member of a party of youth leaders who visited Vietnam last fall.

Also on the afternoon program will be a coffee hour, tours of McNeal Hall and an opportunity to view special exhibits prepared for Home Economics Day.

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Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 9, 1968

Immediate release

#### MINNESOTA IFYE TO IRELAND

A rural youth leader who is a secretary in the junior high school in St. James, Minn., will go to Ireland this summer as an International Farm Youth Exchange (IFYE) delegate from Minnesota.

She is Cleo Sandmeyer, 24, who will leave in June to spend six months living and working with farm families in various parts of Ireland to obtain an understanding of their way of life and at the same time introduce them to American ideals and customs.

Miss Sandmeyer has been national president of the Rural Youth of the U.S.A. and state president of the Young Adult Citizens' Council (YAC). She has also served as secretary-treasurer of the national organization, secretary-treasurer of the district Youth Adult Citizens' Council and has been president of the Watonwan County YAC.

During 10 years as a 4-H member in Watonwan County, she received the Key Award for leadership and achievement, was county champion 4-H horticulturist and won the county junior leadership award.

Miss Sandmeyer is the second IFYE delegate to be appointed from Minnesota for 1968. Anita Syltie, Porter, will go to Thailand in the fall.

The International Farm Youth Exchange program is a two-way exchange conducted by the National 4-H Foundation and the Agricultural Extension Service to increase world understanding at the family level.

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112-jbn-68



Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 9, 1968

Immediate release

## TURKEY, HAM, LAMB ALL GOOD CHOICES FOR EASTER DINNER

Turkey, ham, lamb -- any one of these meats is a good choice for Easter dinner this year, depending upon which is traditional at your house.

Best meat buy for Easter is turkey, which is unusually plentiful. Turkeys up to about 24 pounds should be available to satisfy whatever number you need to serve. The cost per serving is usually less for a large bird. A time and energy saver especially appropriate for the small family is the frozen turkey roast or roll, ready to slip into the oven in its own foil pan.

Hams in different styles are in generous supply. The fully cooked, boneless hams, trimmed of excess fat, are especially convenient and easy to slice. Although they are already cooked, flavor improves if they are baked and served hot, according to Verna Mikesh, extension nutritionist at the University of Minnesota. A pound of the boneless fully cooked ham should serve three persons generously since there should be no more shrinkage in roasting. To glamorize the ham, apply a glaze half an hour before the end of the cooking period.

Good choices in lamb are the leg of lamb or the less expensive shoulder roast. Removing the "fell," the thin, paperlike covering, is not necessary before roasting. Be sure to serve lamb very hot on pre-heated plates, Miss Mikesh suggests.

The University nutritionist gives these general suggestions on roasting meat:

- . Place the roast with fat side up (in turkey, with breast side up) on a rack in a shallow roasting pan. Season as desired.

- . If you have a meat thermometer, insert it into the roast so the tip is in the center, touching neither bone nor fat. In turkey, insert the thermometer between thigh and breast.

- . Use a low oven temperature--about 325°F. -- to prevent shrinkage, to promote uniform cooking with a minimum of spattering, to make slicing easier.

113-jbn-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
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St. Paul 55101-Tel. 647-3205  
April 9, 1968

Immediate release

## UM SCIENTISTS STUDY INTENSIVE SHEEP PRODUCTION

A study of intensive sheep production at the University of Minnesota has received additional support through the efforts of a Minnesota sheep producer.

Chester W. Bennett, Jr., of Lowry, Minnesota, was selected as one of 11 Ford Almanac Farm Efficiency Award winners throughout the United States. He was selected because of his outstanding sheep production record.

"This was the first award of this kind ever given in Minnesota and the only one awarded in the country for outstanding sheep production," according to R. M. Jordan, animal scientist at the University.

Bennett keeps about 300 ewes and sells about a 160 percent lamb crop. He produces market topping lambs by weaning them early and feeding them in drylot until they're ready for market in early June.

Bennett designated the \$2,000 Ford Grant for research purposes in farm flock production at the University's Animal Science Department.

Jordan and his co-workers are planning a research project to evaluate intensive sheep production practices. Ewes will be confined year-around and kept in a semi-controlled environment.

"This project will allow us to evaluate the relationships between confinement, disease incidence and production efficiency," Jordan says.

The research project will be conducted at the University's St. Paul and Morris Agricultural Experiment Stations.

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114-jms-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 9, 1968

Immediate release

## EASTER PLANTS NEED PROPER LIGHT, WATER AND TEMPERATURE

Easter plants need to be kept at the right temperature and given proper amounts of light and water. But individual plants need some special care, says Jane McKinnon, extension horticulturist at the University of Minnesota.

Easter lilies need sunlight or bright light and should be watered every day. The soil should be kept constantly moist, but shouldn't be allowed to get soggy.

Easter lily flowers will last longer if the plant is kept at a cool night temperature. Sometimes the Easter lily will bloom outside in late summer or early fall if the bulb is planted in the garden after the last frost, Mrs. McKinnon says.

Azaleas like bright light and a very uniform moisture supply. Set the pot in water occasionally so moisture will penetrate to the center of the pot. If the soil dries out, the flowers will wilt and dry prematurely. Blooms last longest if the plant is kept at a cool night temperature or lower.

Tulips, daffodils and other bulbs need bright light and a soil that's kept constantly moist. Blooms will last longer if the plants are kept in a cool room.

Hydrangeas require both bright light and a great deal of water. Check the moisture level twice a day to be sure the plant has an even supply of moisture. Keep the plant at a cool night temperature.

Potted roses will do best with abundant sunshine and plenty of soil moisture. After the plant is through flowering, keep it actively growing in bright light until it can be planted outside in the garden.

Cineraria and calceolaria need sunshine and a cool night temperature. Avoid overwatering, but don't let the soil dry out.

When buying any of the Easter plants, select flowers that are partially in bud, since they'll last longer, Mrs. McKinnon says. Exceptions are the hydrangea and the potted chrysanthemum, which should be in flower. The hydrangea should be fully colored, since color won't develop well in the home. # # #

116-jms-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 9, 1968

Immediate release

#### DATE SET FOR STATE FIRE SCHOOL

Dates have been announced for the 17th annual Minnesota State Fire School for volunteer and professional fire fighters from throughout the state.

The four-day school will run from Monday, April 29 through Thursday, May 2 at the University of Minnesota St. Paul Campus. Courses of instruction will include fire inspector training, officer training and two separate sequences of fire fighting.

Mayors and city officials from towns sending firemen to the school will be feted on the final day of the school, which is exhibit and demonstration day.

Demonstrations on the flammability of roofing materials, volatility of Christmas trees and other exhibits will be featured on Thursday in the Hippodrome of the State Fairgrounds. A high altitude rescue demonstration will be presented by the Minnesota Rescue and First Aid Association's para rescue team.

The school is sponsored each year by the University's Institute of Agriculture and the Trade and Industrial Unit of the Minnesota Department of Education.

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117-jbg-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 11, 1968

Immediate release

#### CARLTON COUNTY YOUTH TO NATIONAL MEET

A Carlton County youth, Larry Oraskovich, 17, has been selected as Minnesota's delegate to the National Agricultural Youth Institute to be held Aug. 5-16 in Lincoln, Neb.

The institute is an educational program for outstanding young men interested in agricultural careers, according to Leonard Harkness, state leader, 4-H and youth development at the University of Minnesota.

Sponsored by the University of Nebraska College of Agriculture and Home Economics, the 12-day institute seeks to acquaint young men from every state with opportunities in agriculture and agribusiness through seminars, practical experience and a weekend with a Nebraska host family engaged in agriculture or agricultural industry. National leaders in industry, farming, finance, science and education will lead workshop discussions.

Larry is a junior in Barnum High School. He is junior class president, treasurer of his Future Farmers of America chapter, treasurer of the Carlton County 4-H Federation and a member of the district FFA parliamentary procedure team.

He has held all the offices in his local 4-H club. Active in the 4-H dairy project, he was a member of the county dairy judging team last year and has won four trips to the Minnesota State Fair in dairying. He received grand championship at the Carlton County Fair on his cow in 1965 and reserve championship in 1966. He holds a reserve championship award for dairy showmanship as well as a Junior Holstein award.

Since the death of his mother last year, his responsibilities at home have increased; yet the Carlton County youth still finds time for extracurricular activities.

Larry hopes to attend the University of Minnesota to major in dairy husbandry. He is the son of George Oraskovich, Route 1, Carlton.

# # # #

118-jbn-68

Department of Information  
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St. Paul 55101-Tel. 647-3205  
April 11, 1968

FOR RELEASE: Monday, April 15

#### UM RELEASES THREE NEW FIELD CROP VARIETIES

New varieties of soybeans, flax and hard red spring wheat were announced today (April 15) by the University of Minnesota's Agricultural Experiment Station. The announcement was made by William F. Hueg, experiment station director.

Clay soybeans, Nored flax and Polk hard red spring wheat were developed by the Department of Agronomy and Plant Genetics and the Department of Plant Pathology in cooperation with the Agricultural Research Service, U. S. Department of Agriculture.

J. W. Lambert, professor of agronomy and plant genetics at the University, selected Clay soybeans from a cross between Renville and Capital.

Minnesota tests have shown Clay to mature six to eight days earlier than Merit and three days later than Flambeau. Clay has better standing ability than either of these varieties, but is shorter. In spite of its shortness, Clay has outyielded Merit and Flambeau in tests harvested with a combine. Clay soybeans have dense and dark green foliage, purple flowers and grey pubescence. Its seeds are medium size, shiny and yellow with colorless hila and their oil content is high.

The area of greatest use of Clay soybeans is projected to be a small area in northeastern South Dakota and the Red River Valley counties of both states.

add 1 - new field crop varieties

Nored flax is a medium to late maturing variety which is considered to be a replacement for Redwood and B-5128. Nored is superior to other recommended varieties in seed yield when sown early. It is outstanding in pasmo tolerance, resistant to rust and wilt, has good lodging resistance and high oil content. The new variety is medium in height, has blue flowers and brown seed of average size.

North Dakota, South Dakota and Wisconsin are also participating in the release of Nored. V. E. Comstock, USDA agronomist and associate professor of agronomy and plant genetics, and Harlan Ford, resident agronomist for the USDA, cooperated in its development at the University.

Polk hard red spring wheat was developed under the direction of Robert E. Heiner, USDA geneticist and assistant professor of agronomy and plant genetics at the University. This variety is a bearded wheat of medium height and maturity and moderately stiff straw. Polk wheat is superior to Chris in its resistance to the common types of stem and leaf rust. It is also resistant to black chaff and bunt.

One of its outstanding characteristics is its test weight, averaging about three percent better than Chris. In the 1967 regional field trials, Polk yielded six percent more than Chris, however over a three year period no difference was observed in this characteristic. Milling and baking characteristics are also satisfactory, placing it above Chris in quality.

North Dakota, South Dakota and Montana will be participating with Minnesota in the release of Polk.

According to Carl Borgeson, associate professor of agronomy, seed was distributed to registered and approved growers in 69 counties this year, and will be available to the public for 1969 planting.

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121-vak-68

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April 11, 1968

Immediate release

## UM PLACES THIRD IN FLOWER JUDGING CONTEST

The University of Minnesota placed third in the 27th annual intercollegiate flower judging contest held last week (April 4, 5 and 6) on the University's St. Paul Campus.

Teams representing 13 colleges and universities throughout the United States participated in the contest. Each team was made up of three contestants plus an alternate.

Team members representing Minnesota were Benjamin Lind, Houston; Mrs. Janice Styve, Excelsior; and James Madsen, 1605 Portland Ave. So., Minneapolis. The team alternate was James Murphy, 330 West Cottage, St. Paul.

Coaches of the team were Richard Widmer and Harold Wilkins, from the University's Department of Horticultural Science.

The purpose of the contest is to train students to recognize quality in floricultural products such as cut flowers, pot plants and foliage plants. Students must have completed at least two classes in floriculture and be enrolled in a four year college program to be eligible for the contest.

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120-jms-68



Department of Information  
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St. Paul 55101-Tel. 647-3205  
April 11, 1968

Immediate release

## UM TV SERIES TO FEATURE STATE TECHNICAL SERVICES PROGRAM

The role of the State Technical Services Program in bringing new technology to business, commerce and industry will be the subject of a three-part television series to be aired over several Minnesota stations this month.

The programs will feature John S. Hoyt, Jr., program leader for State Technical Services at the University of Minnesota, and guests. They are scheduled as follows:

Thursdays, April 18, 25 and May 2 at 9:30 p.m. on KTCA, channel 2 in the Twin Cities; WDSE, channel 8 in Duluth; KWCM, channel 10 in Appleton; and KFME, channel 13 in Fargo-Moorhead.

Saturdays, April 20, 27 and May 5 on WTCN, channel 11 in the Twin Cities.

The first program in the series will consider the role of University technical service agents in serving industry. Assisting Hoyt will be E. A. Zottola, professor of food science and industry at the University.

The second program will focus on the role of the Technical Information Service in helping businessmen locate the information they need. T. F. Peck, director of the Technical Information Service at the University will be the program's guest.

The series will conclude with a presentation on how the technical field service staff assists in problem identification and solution. John D. Peterson, assistant director of industrial development, Minnesota Department of Economic Development, will be the guest.

According to Hoyt, the Technical Services Program was established by the University to assist industry in locating and using technical and scientific information.

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121-jbg-68

## SPECIAL NOTE TO COUNTY AGENTS

The attached news release is based on information from a recent Extension Service publication dealing with farm sales in Minnesota from 1939 to 1964.

This report is based on a study by John S. Hoyt and Surjit S. Sidhu, agricultural economists. This study is part of a larger project sponsored by the Department of Agricultural Economics, the Extension Service and the Agricultural Experiment Station.

If you have not already received copies of this report on "Farm Sales," you should receive them shortly. Would you please see to it that each Weekly newspaper in your county receives a copy of the report for background information or possibly for a special release or editorial. Copies are being sent to all daily newspapers and radio and television stations in your area.

Also, you may wish to include in the attached release a paragraph or two telling about farm sales in your region or county.

Department of Information  
and Agricultural Journalism  
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University of Minnesota  
St. Paul, Minnesota 55101  
April 15, 1968

To all counties  
Immediate release

AGRICULTURAL SALES IN  
STATE INCREASE OVER  
THIRTY YEAR PERIOD

Changes in Minnesota's agriculture have been more striking during the past 30 years than during any previous period in the state's agricultural history, according to John S. Hoyt, Jr. and Surjit Sidhu, University of Minnesota extension economists.

Analyzing farm sales data from 1939 to 1964, the economists found that the dollar value of sales of all farm products increased substantially in Minnesota during this period despite some price fluctuations. This increase was accompanied by productivity increases in both crop and livestock sectors in most regions of Minnesota. Hoyt believes that this trend is continuing.

Despite this positive growth picture, however, Minnesota's agriculture experienced a slower growth than in the United States as a whole.

For example, for the all crops component, the United States had a growth rate of 6.87 percent, compared to a 6.38 percent rate for Minnesota during the entire 1939 to 1964 period. Comparable figures for the livestock and livestock products' component were 6.9 percent nationally and 6.15 percent in Minnesota.

Looking just at Minnesota, the economists note that the dollar value of sales of the all crops component increased between 1939 and 1964 in all counties except Cook. Thirty-six counties experienced an average annual growth rate that was higher than the Minnesota average of 6.15 percent, and 23 of these counties had growth rates higher than the national average of 6.9 percent.

-more-

add 1 -- agricultural sales

This growth reflects the fact that crop culture in these 23 counties has been improving faster than the national average, Hoyt says. Nine counties had annual growth rates greater than 8 percent, and Mahnomon and Blue Earth counties had annual growth rates that were greater than 9 percent.

Livestock and livestock product sales also increased between 1939 and 1964 in all counties except Cook and Ramsey.

The percentage share of the individual counties in the state total value of all crops did not change significantly during this period.

However, the percentage share of individual counties in the state total value of the livestock and livestock products' component decreased in 49 counties and increased in 38 counties. These changes were insignificant in most counties. Only five counties--Polk, St. Louis, Blue Earth, Faribault, and Hennepin--suffered a decline greater than 0.5 percent, and these declines were less than 1 percent.

Average annual growth rates of livestock and livestock product sales for the period from 1939 to 1964 were negative only in Cook and Ramsey counties. There were 34 counties which experienced an average annual growth rate higher than 6.38 percent, the average growth rate for Minnesota. Of these counties, 19 experienced growth rates greater than 6.87 percent, the national average rate.

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St. Paul, Minnesota 55101  
April 15, 1968

To all counties  
Immediate release

SOLVE THE PROBLEM  
OF VOLUNTEER CORN  
IN SOYBEANS

Corn can be a weed, at least in soybeans. Volunteer corn in soybeans is often a problem for Minnesota farmers.

Gerald Miller, extension agronomist at the University of Minnesota, makes some suggestions for solving the problem of volunteer corn in soybeans.

One of the most practical ways to prevent volunteer corn is to turn livestock into the field. Or if the soil is fall-plowed much of the corn will rot and destroy the ability of the corn to grow.

If plowing is done sufficiently early in the spring, some of the corn will rot. Or if planting isn't too early, much of the volunteer corn will germinate soon enough to be killed during the seedbed preparation for the soybeans.

However, the biggest problem will occur when the corn is still alive and is worked into the soil immediately before planting of the soybeans.

None of the herbicides for soybeans can adequately control volunteer corn in soybeans, and rotary hoeing doesn't adequately remove a large-seeded plant like corn from soybeans. Row cultivation is ineffective if the corn already has a start with the beans directly in the row.

Hand hoeing is still one of the best ways to get rid of volunteer corn. The job will be easier if it's started during or immediately after cultivation and if the corn is cut below the growing point, Miller says.

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St. Paul, Minnesota 55101  
April 15, 1968

To all counties  
Immediate release

CONTROL  
STRAWBERRY  
DISEASES

Proper use of fungicides can reduce losses from strawberry diseases, according to Herbert Johnson, extension plant pathologist at the University of Minnesota.

Several fungi can cause leaf spots, blossom blights and fruit rots. As your fruits are developing, look over the clusters to see if the blossoms are developing into fruit or if some blossoms are brown or black and dried up.

The most important fungicide application is in the bud stage--just before blossoming, Johnson says. A complete schedule includes a fungicide spray application each week from the start of growth up to harvest.

Captan, thiram and zineb are commonly used. Other fungicides are also registered. Check 1968 labels for time of last application before harvest for each fungicide. Also apply recommended insect control pesticides at the proper time.

For more information, ask your county agent for copies of Extension Pamphlet 184, "Home Fruit Spray Guide," and Plant Pathology Fact Sheet No. 2, "Disease Control for Strawberries." You can also write for these publications to the Bulletin Room, University of Minnesota, St. Paul, Minn., 55101.

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St. Paul, Minnesota 55101  
April 15, 1968

To all counties  
Immediate release

EARLY PLANTED CORN  
GIVES HIGHER YIELDS,  
LOWER MOISTURE CONTENT

There are many advantages to planting corn early, says Harley Otto, extension agronomist at the University of Minnesota.

Yields are higher when corn is planted early. Trials at Waseca and Lamberton in two-year tests showed 110-day hybrids planted by mid-May yielded about 25 to 30 percent more than when they were planted in early to mid-June.

In northwest Iowa, 110-day maturity corn planted before May 10 yielded about 6 percent more than when planted May 20 and about 13 percent more than when it was planted on May 30.

And, Michigan trials showed that corn planted between May 1 and May 9 produced nearly 16 percent higher yields than corn planted May 23 to 31.

Earlier planted corn is also drier at harvest time in the fall. In the Iowa trials, corn planted May 10 had 31 percent moisture on October 4. Corn planted May 20 had 36 percent, and the May 30 planting had 41 percent on October 4.

Otto says early planted corn is shorter, lodges less, and has smaller leaves and lower ear placement on the stalk than later planted corn.

Early planting also results in an established plant at an earlier date, allowing the plant to take advantage of the longer days in mid-summer. Since earlier planted corn flowers sooner, it's more likely to pollinate and set seed at a time when more moisture is available.

But early planted corn usually emerges more slowly than later planted corn since the soil temperature is lower. So treatment with an effective fungicide is more critical with earlier planting. Early planted corn should be planted fairly shallow so it's in the warmer soil, Otto adds.

add 1 -- early corn planting

There's some danger of frost with early planted corn, but since the growing point is underground, serious injury to the crop won't result unless the frost is severe enough to penetrate into the soil.

Use of chemicals for weed control is especially important for early planted corn since it grows more slowly after emergence and is less competitive with weeds. Also, less late pre-planting tillage is possible for weed control with corn planted early.

Good management is important to get the crop planted early. Five-year averages at Lambertton showed that there were only 4 days during the first 10 days of May when soil was in the proper condition for planting.

So it's necessary to make sure your equipment is in good working order so planting can be done early if the soil is dry enough. You can apply fertilizer in the fall rather than at planting time to save time. Use of large machinery speeds up planting, especially when you're short of labor and have large acreages to plant.

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April 15, 1968

To all counties  
Immediate release

IN BRIEF.....

Clean Rubber Part of Milking Machines. Proper cleaning will prolong the life of rubber parts on your milking machine, says Vern Packard, extension dairy industries specialist at the University of Minnesota. Packard says the rubber parts on the milkers tend to absorb fat which will eventually break them down. The amount of fat absorbed varies with the kind of rubber. The best advice, Packard says, is to boil the rubber parts every week in a solution of lye or treat them with one of the common rubber cleaning compounds available.

\* \* \* \*

Corn Insecticides Toxic. Chemicals used to control soil insect pests of corn should be used with care, warns John Lofgren, extension entomologist at the University of Minnesota. Avoid exposure to the skin, lungs, mouth and eyes. Wear protective clothing when the manufacturer's label directs. Lofgren also advises not to breathe dust or vapors and says you should avoid eating or smoking until after you've washed thoroughly. He recommends taking soap, water and a basin to the field so you can wash your hands immediately after each filling of the hoppers or after any other contact with insecticides.

\* \* \* \*

Tips for Veal Feeders. Here are some feeding and marketing tips for veal feeders from Jesse Williams, animal scientist at the University of Minnesota. Williams says veal calves will gain rapidly on whole milk. During the first week, limit the calf to 8 to 10 pounds of milk per day per 100 pounds body weight. After that, give them all the milk they'll drink. A veal calf should gain 100 pounds in six weeks while consuming a total of 800 to 1,000 pounds of milk, Williams says. Calves fed high-fat milk replacers usually require two additional weeks to reach choice market grades. Market the choice calves at 180 to 250 pounds. Top choice calves usually reach the desired weight range of 190 to 220 pounds in six to eight weeks.

\* \* \* \*

-more-

add 1 -- in brief

More Terracing Needed. With the increase in intensive farming and row cropping, more terracing is needed, even on lesser slopes. Terracing effectively controls soil erosion while allowing more intense cropping of sloping land than either strip cropping or contouring alone. Modern parallel terraces allow the use of large, modern equipment and minimize point rows, says James Swan, University of Minnesota extension soils specialist. And, terracing conducts water off the field safely, eliminates some grass waterways and saves fertilizer from being washed away. Modern cut and fill construction techniques used with terracing improve topography and straighten terrace lines.

\* \* \* \*

Lambs on Corn Silage Need Some Dry Roughage. Corn silage is an economical roughage for finishing lambs. But a small amount of dry alfalfa hay or dehydrated alfalfa in the ration will cause faster and more economical weight gains, says R. M. Jordan, animal scientist at the University of Minnesota. Jordan says research has shown that a half pound of dry roughage per head daily in the ration results in faster gains and greater profits. In addition, the dry roughage may minimize problems with listeriosis.

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Department of Information  
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St. Paul, Minnesota 55101  
April 15, 1968

To all counties  
4-H NEWS  
Immediate release

4-H CAMP  
TRAINING  
DATES SET

County agents and adult and junior leaders will have an opportunity to learn more about camping through training offered by the University of Minnesota Agricultural Extension Service.

\_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ will be attending from \_\_\_\_\_ county. (List names and addresses.)

The 4-H camp training sessions will be held at Camp Courage, near Maple Lake, April 26-28, and at Kare Phree Pines, near McGregor, May 3-5, according to Marian Larson, assistant state leader, 4-H and youth development, University of Minnesota.

The program to be carried out at these sessions will be similar to a "real" camping situation, including special interest activities such as nature, crafts, swimming, song leading and recreation.

Those attending the camp training sessions will learn about the philosophy of camping and its educational contribution to 4-H. They will also study the leadership roles of staff members.

Glen Thompson, extension recreation specialist from Iowa, will assist in both sessions of the camp training program.

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St. Paul, Minnesota 55101  
April 15, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

YOUNG MARRIEDS:  
HOW SHOULD  
YOU BORROW

Many different ways to borrow are available to young marrieds of today, but you should consider your money spending habits carefully if you have to borrow money.

A creditor will usually want to know if you pay your bills on time, how much you earn, whether you have a steady income and whether you are a home owner. Your credit record moves with you all your life. It is a wise idea to establish credit and keep it in good standing.

Mrs. Edna K. Jordahl, extension home management specialist at the University of Minnesota, outlines the major ways of borrowing money.

\* Charge accounts. These are used to buy goods and services. On a regular 30-day charge account there is generally no interest or service charge. If not paid within the time limit, the bill may have a charge added. A revolving charge account generally has an interest rate of  $1\frac{1}{2}$  percent on the unpaid balance, which figures out to 18 percent simple interest a year.

\* Cash loans. Collateral may be required from some lending agencies. Banks, credit unions, life insurance companies, savings and loan associations and personal finance or small loan companies are the principal lending agencies. Interest rates from these different agencies vary, and it's wise to check carefully to see where you can get the lowest rate of interest. Also ask for the charge stated in dollars and cents.

\* Installment plan. This method of borrowing is usually used when buying large items, such as home furnishings or equipment. A contract, down payment and weekly or monthly payments usually characterize the transaction. Interest charges vary from firm to firm. Be sure you know the terms of the contract you sign and the true interest rates on your purchase.

\* Personal loans. You should always treat loans from relatives and friends on just as business-like a basis as from anyone else.

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St. Paul 55101-Tel. 647-3205  
April 16, 1968

Immediate release

#### UM TO HONOR TWO AGRICULTURE ALUMNI

Two alumni of the College of Agriculture, Forestry and Home Economics at the University of Minnesota will be honored Saturday (April 20) at the College's Tenth Annual Alumni Reunion on the St. Paul Campus.

Herbert H. Kramer of West Lafayette, Ind., and Harold H. Cole of Davis, Calif., will receive the University's Outstanding Achievement Award at an evening banquet in the Campus Student Center.

Stanley Wenberg, University vice president for educational relationships and development, will make the presentations.

Kramer is director of the Agricultural Experiment Station at Purdue University. He received his M. S. degree from the University in 1941 and his Ph. D. in plant genetics in 1946.

While at the University, he served as research assistant from 1939-41, instructor in plant genetics from 1941-43 and instructor of applied statistics from 1943-45, during which time he held an appointment with the U. S. Department of Agriculture as associate geneticist. In 1946 he was named assistant professor at Purdue University. He was promoted to associate professor in 1948 and professor in 1951. He was named director of the Nebraska Experiment Station in 1962 and returned to Purdue in his present position in 1966.

In 1958 he served as a member of the U. S. Department of Agriculture Technical Delegation to the Soviet, and in 1963 he was moderator of the International Rice Research Institute Symposium on Rice Genetics in the Philippines.

Kramer is known for his research in understanding the genetic basis for chemical characteristics of corn, and for studies of the basic effects and utility of

add 1 - honor alumni

chromosomal abberations of corn and barley. He investigated guayule as a source of rubber, and made significant contributions in the development of basic statistical and genetic techniques.

He was elected Fellow of the American Society of Agronomy and received the Society's Stevenson Award for outstanding contribution in Agronomy in 1953. He was a Gosney Fellow at the California Institute of Technology in 1964.

Cole is professor emeritus of animal husbandry at the University of California, Davis, where he spent his entire professional career. He received his Ph. D. from the University of Minnesota in 1928.

He joined the California faculty in 1928 as instructor in animal husbandry, advancing to professor in 1943. He was chairman of the Department of Animal Husbandry from 1951 to 1960 when he retired. He continues to serve the University through research and writing.

Cole's research activities have been directed toward the physiology of domestic animals, and include papers on reproductive, digestive and endocrine systems. His early work was concerned with the estrous cycle and includes a study on the estrous cycle of the dog, which is regarded as a classic in reproductive physiology.

Other research projects have dealt with reproductive organs of cattle during stages of the estrous cycle, the use of hormones for establishing estrus and ovulation in the anestrous ewe, milk fever, bloat, and the physiological mechanisms concerned with eructation and rumination.

Cole is the author of two books and contributed to a beginning text in animal science. He has been honored by the American Society of Animal Science, the California Wool Growers Association, the Grassland Council, and in 1965 he received a L.L.D. degree from the University of California.

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125-vak-68

Department of Information  
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Institute of Agriculture  
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St. Paul 55101-Tel. 647-3205  
April 16, 1968

Immediate release

## FOOD AND FIBER INDUSTRY LEADERS TO MEET AT UM

Leaders from Minnesota's food and fiber industries will participate in a symposium on food and fiber beginning at 9 a.m., Thursday April 18, in the University of Minnesota's St. Paul campus student center.

The symposium, titled "Focus on the Future," will provide an opportunity for food and fiber leaders to identify present and future needs and areas for research, education, manpower, and service in the food and fiber industries.

Sherwood O. Berg, dean of the University's Institute of Agriculture, will open the symposium with a review of the Institute's long-range planning program.

Following Berg, five industrial and agricultural leaders will focus on trends and developments in various segments of Minnesota's food and fiber system.

Speakers will be: William Garbett, general merchandising manager of the Dayton Company, Minneapolis, speaking on the relationship of food and fiber to the family; Austin Hayden, vice president, Green Giant, LeSueur, and Ron Kennedy, vice president, Peavey Company, Minneapolis, speaking on processing and distributing in the food and fiber industry; James Hensel, forest engineer for the American Pulpwood Association, Wausau, Wisconsin, who will discuss trends in the forestry industry; and Edgar Urevig, manager of Tilney farms, Lewisville, Minnesota, speaking on trends and developments in farming.

Group discussions on the needs of the various segments of Minnesota's food and fiber industries will be held in the afternoon. The symposium will conclude with reactions to comments and questions raised by those attending the meeting, and a review of plans for using the information secured from the participants.

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126-wobn-68

Department of Information  
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Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 16, 1968

Immediate release

#### SEMINAR FOR HOME ECONOMISTS APRIL 20

A seminar for alumnae of the University of Minnesota School of Home Economics and others interested has been scheduled for Saturday afternoon, April 20, beginning at 2 p.m. in the Fireplace Room of McNeal Hall.

Speakers at the session will be Gertrude Esteros, head of the related art division in the School of Home Economics, and Evelyn Harne, associate leader, 4-H and youth development. Miss Esteros will discuss "Environmental House Plans." Miss Harne will report her observations of the Vietnam youth program. She was a member of a team of youth leaders to Vietnam last fall.

Also scheduled for the afternoon are a coffee hour, a tour of McNeal Hall and viewing of exhibits set up for Home Economics Day.

The annual banquet for the Alumni Association of the College of Agriculture, Forestry and Home Economics in the St. Paul Campus Student Center will follow the seminar.

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April 16, 1968

Immediate release

## HOME ECONOMICS DAY AT U APRIL 20

Approximately 250 junior and senior high school girls from throughout Minnesota will attend the annual Home Economics Day sponsored by the University of Minnesota School of Home Economics in cooperation with the Agricultural Extension Service Saturday, April 20, on the St. Paul Campus.

Purpose of the event is to acquaint prospective students with the home economics program and college life on the University's St. Paul Campus. They will also be given information on the variety of opportunities in home economics careers.

The morning program will be devoted to talks on admission requirements, college costs and the home economics core curriculum. The girls will tour McNeal Hall, the home economics building, and hear about typical experiences of freshmen registered in home economics.

Greetings at the noon luncheon will be given by Sherwood O. Berg, dean of the Institute of Agriculture; Louise Stedman, director of the School of Home Economics; Keith McFarland, director of resident instruction, College of Agriculture, Forestry and Home Economics; and Mrs. Evelyn Quesenberry, state leader, home economics extension.

In the afternoon girls will attend workshops on the specialized areas of home economics in which they are interested to find out about courses and career opportunities. The afternoon program will conclude with tours of sororities and fraternities on the St. Paul Campus.

Student chairmen planning H. E. Day include Shirley Olson, St. James, selection committee; Joanne Lofgren, Rush City, program; Karen Meacham, 1899 White Bear Ave. St. Paul, luncheon; Mary L. Carlson, Rush City, finance.

Faculty co-chairmen of arrangements are Marcia Kendall, instructor in home economics and Mrs. Juanita Fehlhafer, assistant state leader, 4-H and youth development.

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Department of Information  
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April 16, 1968

Immediate release

## REVISED BULLETIN ON FREEZING FOODS AVAILABLE

Freezing continues to be a widely used and popular method of food preservation, if demand for copies of a University of Minnesota publication on freezing is any indication.

Since 1944, Extension Bulletin 244, Freezing Foods for Home Use, published by the University's Agricultural Extension Service, has gone through six different printings for a total of 275,000 copies. The original publication was printed in 1939 as Freezing Fruits and Vegetables for Home Use and was authored by Isabel Noble, professor of home economics, and J. D. Winter, associate professor emeritus of horticulture.

In time for the food preservation season, the newly revised bulletin is just off the press. Single copies are available free of charge from county extension offices or Bulletin Room, University of Minnesota, Institute of Agriculture, St. Paul, Minn. 55101.

Authors of Extension Bulletin 244 are Mrs. Shirley T. Munson, in charge of the University's food processing laboratory in the Department of Horticultural Science; J. D. Winter; M. L. Hamre, extension poultry specialist; and C. E. Allen, assistant professor of animal science.

Of special help to homemakers planning to freeze fruits and vegetables this summer are tables -- new in the revised bulletin -- of the number of pints of frozen fruit a crate of fresh fruit will yield, as well as the average amount of frozen vegetables obtained from 10 pounds of fresh product.

New also are directions for thawing poultry at room temperature.

add 1 - revised bulletin

Throughout the publication the authors emphasize that freezing does not improve low-grade food. Hence their first tip for freezing food is to select products of good quality. Here are some additional suggestions:

- . Select varieties of fruits and vegetables suitable for freezing and process them at the optimum stage of maturity, handling them promptly after harvesting.
- . As a general rule, freeze foods in packages or containers only large enough to hold the quantity you will use or cook at one time.
- . Use good packaging and wrapping materials.
- . When freezing the product, avoid close packing in the freezer so heat can escape from food.
- . Use a storage temperature at 0°F. or lower for most foods.

# # # #

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and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 18, 1968

Immediate release

## TIPS GIVEN ON CHOOSING PAINT FOR HOME DECORATING

If you're planning to give the inside of your home a face lifting with some fresh paint, choose your paint carefully and investigate the new, improved types on the market.

Every year paint manufacturers introduce paints with new desirable qualities. That's why it's important to read carefully labels on the cans, ask your dealer questions and tell him where you plan to use the paint so he can recommend the best type for your purpose, says Mrs. Myra Zabel, extension specialist in home furnishings at the University of Minnesota.

"There's no single best all-purpose paint," Mrs. Zabel says in answer to questions people ask about what type of paint is best. "Each paint type has its own virtues and limitations. Not all paints have all the desired qualities, but the qualities that fit the job you're doing are the ones you will want to find when buying paint."

Mrs. Zabel is author of a new University of Minnesota Agricultural Extension Service publication, Paints and Painting Interiors, Extension Bulletin 352, available from county extension offices or from Bulletin Room, University of Minnesota, St. Paul, Minn. 55101. The publication gives characteristics of the different types of paints and information on the how-to of painting.

Here are some of the characteristics Mrs. Zabel suggests looking for in buying paint:

- . Hiding power or the ability to cover with one coat -- to save both time

-more-

add 1 - tips given on paint

and money. White, yellow and pink have the least hiding power and almost always require at least two coats. Two or more coats are needed for light colors over dark.

- . Easy application without leaving run marks.

- . Relatively fast drying. Oil paints require more drying time than emulsion paints.

- . Smooth, even appearance with no indication of overlapping strokes.

- . Little or no objectionable odor. The so-called odorless type paints have a slight residual odor while drying but become odor free soon afterward.

- . Serviceability-- so the paint stands up for the usual two to three years between paint jobs.

- . Washability -- if the painted area is kitchen, bathroom or utility room to be scrubbed often.

# # # #

129-jbn-68

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April 18, 1968

Immediate release

#### FILLERS FOR YOUR WOMEN'S PAGES

Chocolate milk is whole milk with chocolate syrup added. Chocolate drink usually is partly skimmed milk with cocoa powder added.

\* \* \*

Turkey, pork, halibut steaks, potatoes, milk and dairy products, peanuts and peanut butter are the plentiful foods for April.

\* \* \*

Forty-two convenience foods are less expensive than "do-it-yourself" products, according to a recent study. Greatest savings were realized in instant coffee, frozen orange juice concentrate, frozen lima beans, canned orange juice, chow mein and devils food cake mix.

\* \* \*

Remember that water is a good conductor of electricity, so don't use electrical appliances near the kitchen sink or handle them with wet hands, warns Glenda Humphries, extension specialist in household equipment at the University of Minnesota.

\* \* \*

Moderate oven means 350 to 357<sup>o</sup> Fahrenheit; a hot oven is 400 to 475<sup>o</sup>, say extension nutritionists at the University of Minnesota. A "slow" oven is 250 to 325<sup>o</sup> F.

\* \* \*

Cooking eggs at low temperature and then cooling them promptly tends to prevent the green discoloration between white and yolk of a hard-cooked egg, according to University of Minnesota extension poultry specialists.

\* \* \*

Bread will keep fresh longer in the bread box than in the refrigerator. In hot summer weather, however, the refrigerator will protect it against mold.

# # #

115-jbn-68

Department of Information  
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University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 18, 1968

Immediate release

## UM DEVELOPS NEW LOW FAT DAIRY TOPPING

A new low fat dairy topping has been developed by University of Minnesota scientists.

The topping is made from cream, to which non-fat milk solids, sugar, emulsifiers, stabilizers, flavor and color have been added. The ingredients are blended together and homogenized to make a product which closely resembles whipped cream in appearance.

The product can be frozen and has lower fat content and more stability than regulation whipping cream, according to food scientists S. T. Coulter, M. A. Nielsen and E. L. Thomas.

It contains about 15 percent fat, compared to 30 to 35 percent for whipping cream. It's also lower in fat and higher in protein than current imitation products, which run from 25 to 30 percent fat.

The topping can be frozen and stored in individual cartons for several months, while regular whipping cream doesn't withstand freezing well. Freezable foods, like cakes and pies, may be frozen after the new topping is added.

The scientists say the new product is also more stable than whipped cream. It stays in the whipped condition and maintains its uniformity longer.

The new topping is currently being test marketed by the University's Department of Food Science and Industries.

# # #

127-jms-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 18, 1968

Immediate release

#### UNIVERSITY OF WASHINGTON NAMES BUILDING AFTER FORMER UM PROFESSOR

The Board of Regents at the University of Washington announced recently that the University will name a planned \$3.5-million student service building after the late Henry Schmitz, director of the University of Minnesota's School of Forestry from 1925 to 1947.

Frank Kaufert, director of the University of Minnesota School of Forestry, said, "This is a most appropriate and significant recognition of Dr. Schmitz's deepest interest and life-long dedication--the development of student leadership."

Schmitz also served as dean of the University of Minnesota's College of Agriculture, Forestry, and Home Economics from 1943 to 1952, when he became president of the University of Washington. He retired in 1960. Schmitz died in 1965.

In 1953 Schmitz received the University of Minnesota "Builder of the Name" Award, and the Henry Schmitz Student Leadership Scholarship program in the Minnesota School of Forestry recognizes his contributions to education while he was at the University of Minnesota.

# # #

128-wobn-68



Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
4-H News  
Immediate release

LET SNACKS HELP  
PAVE THE WAY TO  
BETTER HEALTH

Your snacks can help give you the pep, good complexion and happy disposition you want as an active teenager.

Food choices are important to your health not only today, but in the years to come. And snacks can help to provide the nutrients you need, according to Verna Mikesh, extension nutritionist at the University of Minnesota.

You can get protein, vitamins and minerals for body development from some of your snacks.

Frequent eating, including snacking, doesn't hurt you as long as you satisfy nutrient needs and maintain a balance between calories and activities.

The foundation of a good daily diet includes:

\* Milk--four or more glasses. You could get part of this through snacks of cheese, ice cream and other milk products. Or make a glass of milk a snack.

\* Meat--two or more large servings. Hamburgers, hot dogs and pizza are favorites. Nuts also fall into this meat category, and you can prepare many snacks with peanuts. Even a bag of salted peanuts can be nutritious.

\* Vegetables and fruits--four or more servings. Tossed salads are fun to make and good to eat. Fruit juices also contribute to your daily food needs. Raw vegetables--such as carrots, celery and radishes--give you vitamins. A raw vegetable tray, teamed with milk for calcium, gives you a refreshing snack.

\* Bread and cereals--four or more servings of enriched or whole grain products.

When you snack, remember this: eating the right kinds of food and the right amounts of each kind can improve your well-being not only as a teenager but as an adult, too.

Department of Information  
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University of Minnesota  
St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
ATT: HOME AGENTS  
Immediate release

SPRUCE UP FOR  
SPRING WITH A  
PAINT JOB

So your house needs a spring sprucing up? One of the best ways is to redecorate with paint.

Armed with good paints, the necessary tools, a willingness to do the preliminaries and considerable patience, you can give a new look to the interior of your house, says Mrs. Myra Zabel, extension specialist in home furnishings at the University of Minnesota.

A new University of Minnesota Agricultural Extension Service publication, Paints and Painting Interiors, Extension Bulletin 352, by Mrs. Zabel, gives some facts about different types of paint, tools necessary for painting and tips on how to do the job. Single copies of the publication are available free of charge from the county extension office.

Here are some of Mrs. Zabel's pointers for the do-it-yourselfer:

- Know the measurements of the room you're going to paint so the dealer can help you decide how much paint you need to buy. Remember that the smoother the wall, the less paint it takes. A gallon may cover from 300 to 500 square feet of primed or sealed wall.
- Tell your paint dealer where you plan to use the paint so he can recommend the best paint for the purpose.
- Read the directions on the paint can label; then follow them carefully to get the best results.

add 1 -- spruce up for spring

- . Fill open-grained woods with paste wood filler before applying paint.
- . Avoid painting during rainy weather. Enamel and varnish don't dry well when humidity is high.
- . Use masking tape around the edges of window panes to make the cleanup job easier. Pull off the masking tape a few hours later or it will be hard to remove.
- . Keep a careful lookout for spatters and wipe them away before they set. A wet rag will wipe up paints thinned with water. For others, use a cloth dampened in turpentine. When the job is done, be sure to give brushes and other painting tools a good cleaning so they will be ready for the next use.

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St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
Immediate release

TWO NEW OAT VARIETIES  
AVAILABLE TO REGISTERED  
SEED GROWERS IN STATE

Two new Multiline oat varieties have been made available to registered growers in Minnesota, announces Harley Otto, extension agronomist at the University of Minnesota.

The varieties, called "Multiline E-68" and "Multiline M-68" were developed by the Iowa Agricultural Experiment Station and the Crops Research Branch of the United States Department of Agriculture.

Otto says the development of these new varieties represents a new concept in oat breeding. He explains that Multiline varieties are composites of lines developed through backcross plant breeding programs and are different than variety mixtures.

This backcross method of plant breeding allows the transfer of one characteristic into a variety without changing other characteristics. In the case of these two Multilines, the character transferred was crown rust resistance. Individual plants in Multilines vary only in their resistance to crown rust. Other characteristics such as yield, stem rust resistance, lodging resistance and height don't vary within the Multilines.

Researchers think this new concept will extend the useful life of varieties. The new varieties are designed to provide lasting resistance to crown rust by delaying the onset of rust epidemics.

Multiline E-68 is very early in maturity, short in height, and produces large, plump seeds that are ivory colored with a bronze basal tip. It has very strong straw.

Multiline M-68 is midseason in maturity, medium in height, and produces medium size, yellow seeds. The straw is moderately strong.

Seed for the new varieties will be available to farmers in 1969, but Otto says the oats haven't been tested enough in Minnesota to know if they'll be on the University's list of recommended varieties for 1969.

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St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
Immediate release

IN BRIEF.....

Control Raspberry Diseases in Spring. Application of fungicides as a spray or dust will reduce disease losses in raspberries, says Herbert Johnson, extension plant pathologist at the University of Minnesota. Johnson says a minimum application schedule requires an application when the leaves are fully expanded and another when buds are present. A more complete schedule includes an application every 7 to 10 days until harvest. Recommended fungicides include captan, Dyrene, ferbam, folpet and zineb. If plants are stunted or have abnormal leaf shape, mottled leaves or other abnormalities, they should be dug out and removed immediately. They may be infected with a virus which can be spread to healthy plants by insects. For more information, ask your county agent for Extension Pamphlet 184, "Home Fruit Spray Guide," and Plant Pathology Fact Sheet No. 8, "Raspberry Diseases." These publications are also available from the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

\* \* \* \*

Watch for Cedar Apple-Rust. Apple growers should watch for signs of cedar-apple rust after warm rains during May, says Herbert Johnson, extension plant pathologist at the University of Minnesota. This fungus forms on red cedar trees and the spores can infect apple leaves and fruit in a radius of about one-fourth to one-half mile. The fungus appears as a bright orange jelly-like growth on cedar trees. The fungus releases spores after warm rains and they can be spread to the leaves, fruit, and young twig growth of apple trees. The right fungicides can control the disease, Johnson says. Spray the apple trees from the pink stage of the apple buds until about the middle of June. For more information, ask your county agent for Plant Pathology Fact Sheet No. 4, "Cedar Apple-Rust." You can also write for a copy to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

\* \* \* \*

Stilbestrol Implants Increase Lamb Gains. University of Minnesota research has shown that implanting young lambs with stilbestrol can increase weight gains significantly. But the stilbestrol implants must be made at the right time to get best gains, according to University animal scientist R. M. Jordan. Lambs should be treated at 12 to 14 weeks of age for best results, Jordan says. Lambs treated at 6 to 8 weeks showed no response to the implants.

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St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
Immediate release

CHECK TIMING AND  
PLACEMENT OF  
AMMONIA IN CORN

High ammonia concentrations near the seed or root zone in corn can cause delayed germination, low germination rates, stunted growth, killing of the corn plants and phosphorus deficiency.

To avoid problems with anhydrous, University of Minnesota soils men offer these suggestions.

\* Put ammonia deep in the soil. Higher application rates, dry soil conditions, and short time intervals between application and planting require the anhydrous to be placed deeper.

\* If you apply anhydrous and plant the same day, place the anhydrous 10 inches deep. If ammonia is placed less than 10 inches deep, it may cause damage at rates of 100 pounds of nitrogen or more per acre. But on cold, wet soils, it's also possible to get too deep.

\* By allowing a few days interval between application and planting, you can safely place 100 pounds of nitrogen per acre at 7 inches. But 200 pounds of nitrogen should be placed 10 inches deep.

\* For very high applications such as 200 pounds or more of nitrogen per acre, allow more than a week-long interval between application and planting, or decrease the spacing between knives.

\* The soils men base these suggestions on the results of a recently completed study of timing of application, rates and depths of anhydrous placement with 30-inch knife spacings.

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St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
Immediate release

CALIBRATE SPRAYER  
TO GET UNIFORM  
APPLICATION RATE

To get good weed control with chemicals, you have to apply the right amount of the spray chemical on unwanted weeds. A lower application rate than the recommended amount may fail to kill the weeds, and an overdose may injure the crop, says John True, extension agricultural engineer at the University of Minnesota.

To apply the correct amount of spray, two things must be considered. First, have the sprayer accurately calibrated so you know how much liquid it applies per acre. Second, calculate how much spray concentrate to use in mixing the spray solution.

But before you calibrate the sprayer, determine whether each nozzle is discharging at a uniform rate. Clean each nozzle thoroughly, then operate the sprayer in a stationary position with clear water at normal spraying pressure.

Place quart fruit jars under all nozzles to catch the discharge from each nozzle. The water level in all jars should rise uniformly. Replace any nozzle that shows a discharge rate different from the rest.

Here's a simple method for calibrating your farm sprayer:

\* Start with a full tank of clean water. Have the pressure adjusted to what you normally use in the field (usually 30 to 40 pounds).

\* Drive exactly one-eighth of a mile (40 rods) in a field at the speed you would use in spraying (usually 4 to 5 miles per hour). Mark which notch the throttle is in, and keep the throttle in that notch when spraying.

add 1 -- sprayer calibration

\* Refill the tank, carefully measuring the amount of liquid this requires.

\* Use a chart available from your county agent to calculate the application rate. Ask him for a copy of Agricultural Engineering Fact Sheet No. 4, "Calibrating the Farm Sprayer." Or write to the Bulletin Room, University of Minnesota, St. Paul, Minn., 55101.

True says the application rate of any sprayer is affected by vibration, wear on the pump, corrosion, partial clogging of nozzles and strainers and changes in field conditions. Keep a close watch on the sprayer to make sure the application rate doesn't change.

Remember that sprayer calibration is good only for the conditions under which it's made. You have to recalibrate if speed, pressure, nozzle sizes or field conditions change.

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St. Paul, Minnesota 55101  
April 22, 1968

To all counties

Immediate release

UM SCHEDULES CLINIC  
TO JUDGE, EVALUATE  
LIVESTOCK CLASSES

A judging and evaluation clinic is scheduled at the University of Minnesota livestock pavilion, St. Paul, June 3-5. Harlan Ritchie, nationally known livestock judge from Michigan State University, along with other livestock specialists, will evaluate beef cattle, swine and sheep and give their views on future selection trends.

Slaughter cattle, swine and sheep will be appraised for muscling, backfat and general carcass desirability, according to Charles Christians, University extension animal husbandman. Carcasses will be viewed the last day of the clinic and meats specialists will discuss the ideal carcass desired by today's consumer.

A beef cattle evaluation clinic will be conducted the morning of June 3, starting at 10 a. m. Slaughter steers, bulls and heifers, with complete performance data will be appraised and placed on show ring standards and growth performance records.

Weanling calves will be evaluated for conformation and performance records. Freeze branding and other cattle identification methods will be demonstrated.

The first statewide beef cattle improvement association will be formed. The association will develop cooperation among all segments of the beef industry in the utilization of performance records to improve efficient beef production. Members will be encouraged to emphasize the use of performance data and increase confidence in the economic potential of performance testing.

-more-

add 1 -- UM schedules clinic

On June 4, starting at 8:30 a. m., judging will center on market and breeding classes of Yorkshire, Hampshire, and crossbreds. In the afternoon, sheep breeding classes of Hampshire, Columbia and Southdown breeds will be judged.

All county livestock judges, breeders, county agricultural agents, vocational agriculture instructors and other individuals interested in attending should write to either the Department of Agricultural Short Courses or Extension Animal Husbandry, 101 Peters Hall, University of Minnesota, St. Paul, Minnesota 55101.

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St. Paul, Minnesota 55101  
April 22, 1968

To all counties  
Immediate release

WATER SUPPLY MAY  
BE CRITICAL DURING  
1968 GROWING SEASON

The chances that crops in many areas of Minnesota will have adequate moisture during the entire growing season appears to be quite low, according to University of Minnesota soil scientists Donald Baker and James Swan.

Chances are quite low that the growing season precipitation will be both adequate in amount and frequent enough to make up for the depleted subsoil moisture supplies.

During March and the first half of April most areas of the state have had only normal precipitation. And, the rains have been unable to soak deeply into the soil since the soil surface is so dry. This means that the water is soon lost due to evaporation.

The scientists point out that most areas of the state have had extremely low precipitation since June, 1967. Crops survived last season only by withdrawing large volumes of water from the soil moisture reservoir. By the end of the growing season the subsoil moisture supplies in many areas were largely depleted.

Soil moisture supplies in most areas weren't recharged last fall between the end of plant growth and freeze-up, one of two major soil moisture recharge periods. And, during the second major recharge period, this spring, water has failed to wet the soil surface and soak down into the subsoil to replenish subsoil moisture supplies.

-more-

add 1 -- low soil moisture

Baker and Swan say that without adequate subsoil moisture reserves, plants have great difficulty avoiding drought damage during rainless periods that occur during each growing season. Soil reserves are now low and the time is so late that there's only a small chance for a sizeable net gain in subsoil moisture reserves before next autumn.

As of April 15, subsoil reserves in the state are adequate only in extreme north-central and northeastern Minnesota, the scientists say. The southwestern and northwestern corners of the state are the shortest in moisture, except for some scattered areas which may have near normal subsoil moisture reserves.

State-wide rains over the weekend of April 13-14 added amounts varying from 0.5 to 0.9 inches of water to the topsoil, which temporarily relieved the dry condition of the surface soil. But the topsoil in the latter part of April usually loses about 0.05 to 0.08 inches of water per day by evaporation, and this greatly reduces the effectiveness of the water that remains in the topsoil, the scientists add.

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St. Paul 55101-Tel. 647-3205  
April 23, 1968

Immediate release

## UM OFFERS BEEKEEPER MANAGEMENT SHORT COURSE

Minnesota beekeepers will attend a Beekeepers' Management Short Course at the University of Minnesota St. Paul Campus May 3-4.

The two-day short course will begin with registration at 8:15 a.m. Friday in room 203 Coffey Hall, St. Paul Campus. The registration fee is \$5.

Topics to be discussed Friday morning include the hive and the honey bee, beekeeping regulations and improving honey bee stock. During the afternoon session preparing colonies for the honey crop, spring and early summer management and preparing bees for winter will be discussed.

V. E. Sisson, editor of the American Bee Journal, will speak Friday night on how beekeepers can support their industry. Following his talk, a meeting of the Minnesota Hobby Beekeepers' Association will be held.

Subjects to be discussed Saturday morning include brood and adult bee diseases and honey bee pollination. The course will conclude Saturday afternoon with a discussion on pesticides and beekeeping.

University participants include L. K. Cutkomp, C. D. Floyd, B. Furgala, A. C. Hodson and A. G. Peterson of the Department of Entomology, Fisheries and Wildlife.

The course is being sponsored by the Department of Entomology, Fisheries and Wildlife and the Department of Agricultural Short Courses.

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131-jbg-68

Department of Information  
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Institute of Agriculture  
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St. Paul 55101-Tel. 647-3205  
April 23, 1968

Immediate release

#### UM NAMES EXTENSION PLANT PATHOLOGIST

Howard L. Bissonnette, who has served as Extension plant pathologist at North Dakota State University in Fargo, since 1962 has been appointed professor and Extension plant pathologist at the University of Minnesota.

His appointment was announced recently by Roland Abraham, acting director of the Agricultural Extension Service.

Bissonnette will work closely with Herbert G. Johnson, the University's other Extension plant pathologist, on problems of plant disease control. Bissonnette will work on problems in cereal grains, sugarbeets, potatoes and sunflowers. Johnson will work on disease control in corn and soybeans. They will both work on problems in ornamental fruits, vegetables and trees.

Bissonnette joined the NDSU faculty in 1962. Before that, he had served for over five years with the U. S. Department of Agriculture and was located on the St. Paul Campus of the University.

He received his M. S. and Ph. D. degrees from the University of Minnesota in 1956 and 1963, respectively. He earned a B. S. degree from St. Thomas College in St. Paul in 1952. Before that he participated in U. S. Navy educational programs at Chicago, Cleveland, Ohio, and Dickinson, N. D.

Bissonnette is a member of the American Phytopathological Society, the American Mycological Society, the World Meteorological Society and the American Society of Sugar Beet Technologists.

# # # #

130-vak-68

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul 55101-Tel. 647-3205  
April 23, 1968

Immediate release

## FAMILIES ARE CHANGING

Have you wondered what changes have actually taken place in the American family during the past 25 years?

Data from many studies show that the family in the U. S. has undergone many changes in size, education, employment, income, home ownership and quality of housing in the last quarter century, reports Ronald Pitzer, extension specialist in family life education at the University of Minnesota. Here are some of the changes that have taken place:

Number. The number of U. S. households, which was about 35 million in the early 1940's, is now about 59 million. Farm households total about 3 million compared with 7 million in 1940 -- or only 5 percent of all U. S. households now compared with 20 percent in 1940. The decrease in farm households is the result of the movement from farms to urban areas but also of the dropping of many small units from the farm classification in the census.

Size. The average U. S. household has about 3.3 members, down from 3.7 in 1940. It has fewer adults but slightly more children under 18, partly because many more single persons and elderly couples now maintain their own households.

Marriages and children. Men and women are marrying younger than they did two decades ago and fewer of them remain single throughout life. The median age at first marriage for all men who had married was 22.8 years in 1966 compared with 24.3 years in 1940. For women, the median age at first marriage was 20.5 years in 1966, 1 year less than the 1940 median of 21.5 years.

Among men 20 to 24 years old in 1966, only 52 percent were unmarried compared with 72 percent in 1940. Only 30 percent of 20 to 24-year-old women were unmarried in 1966 in contrast to 47 percent in 1940.

Women in the 1960's have more children than those of the early 1940's. The number of children born per 1,000 women 15 to 44 years old was almost 50 percent  
-more-

add 1 - families are changing

higher in 1964 than in 1940 -- and even much greater for women 20 to 29 years old.

Education. Great improvements have been made in education levels. The median level of schooling for persons 25 years or over in 1966 was a high school education -- 12 years -- an improvement over the median of 8 years of school in 1940. About 10 percent of this age group are college graduates now, compared with 5 percent in 1940. Advances in education are greater still for younger groups. Among persons 25 to 34 years old, 14 percent now have college degrees compared with 6 percent in 1940.

Higher enrollment in school is most notable among beginners and high school and college students. Between 1940 and 1965 the enrollment rate for 5 year olds increased from 18 percent to 70 percent, and the rate for 18 and 19 year olds from 29 to 46 percent.

Employment. Types of employment have also undergone major changes. Among employed men, the proportion working in agriculture dropped from 24 percent in 1940 to only 9 percent in 1960. But the number of men working in manufacturing, construction, transportation, entertainment and finance increased considerably. Percentages of employed men in work related to education, public administration and health services increased 1 or 2 points each.

The big development in the job picture for women has been the movement of wives into the labor force. About 35 percent of all U. S. wives (with husbands) are in the labor force today, more than double the 15 percent figure of 1940. The labor force rate for wives 35 years old or over has actually tripled. Married women of all ages represented 20 percent of the civilian U. S. labor force in 1966 -- but only 8 percent in 1940.

Incomes. Median family income in 1966 was \$7,436 -- almost three times the 1944 median of \$2,533. In 1966, 34 percent had incomes (before taxes) of \$6,000 to \$9,999, in contrast to 5 percent in 1944; 30 percent had incomes of \$10,000 or over contrasted with 2 percent in 1944.

Home ownership and quality of housing. Owner-occupied homes increased from 44 percent of all U. S. homes in 1940 to 62 percent in 1960, with ownership highest on farms.

Higher incomes and living standards resulted in better housing also. In 1960 74 percent of all U. S. housing units were reported in sound condition and supplied with hot and cold water and private bath and flush toilet compared with 51 percent of U. S. homes in 1940.



Apr 23 1968

AGRICULTURAL EXTENSION SERVICE

UNIVERSITY OF MINNESOTA

INSTITUTE OF AGRICULTURE  
ST. PAUL 55101

April 23, 1968

TO: Area Newsmen

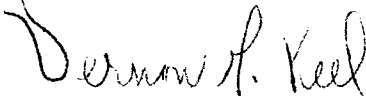
Enclosed is a copy of a special publication issued recently by the University of Minnesota on "Farm Sales" from 1939 to 1964.

The report is based on a study sponsored by the University's Department of Agricultural Economics, the Agricultural Extension Service, and the Agricultural Experiment Station.

We are sending this publication for your background information and also to allow you to study more closely the figures for your county or region.

Also enclosed is a news release based on this recent publication, which is one in a series on Minnesota county and regional data. We will make the forthcoming issues available to you as they are published.

Sincerely



Vernon A. Keel  
Extension Information Specialist

VAK:kmb

Enclosures (2)

Department of Information  
and Agricultural Journalism  
Institute of Agriculture  
University of Minnesota  
St. Paul, Minnesota 55101  
April 23, 1968

#### AGRICULTURAL SALES IN MINNESOTA INCREASED OVER THIRTY YEARS

The dollar value of sales of all farm products in Minnesota increased substantially between 1939 and 1964 despite some price fluctuations, says John S. Hoyt, Jr., and Surjit Sidhu, University of Minnesota extension economists.

This increase was accompanied by productivity increases in both crop and livestock sectors in most regions of Minnesota. Hoyt believes that this growth trend is continuing.

Despite this positive growth picture Minnesota's agriculture experienced a slower growth rate than in the United States as a whole.

For example, for the all crops component, the United States growth rate was 6.87 percent, compared to 6.38 percent for Minnesota during the 1939 to 1964 period. Comparable figures for the livestock and livestock products' component were 6.9 percent nationally and 6.15 in Minnesota.

Looking just at Minnesota, the economists noted that the dollar value of sales of the all crops component increased between 1939 and 1964 in all counties except Cook. Livestock and livestock product sales also increased during this period in all counties except Cook and Ramsey.

The percentage share of the individual counties in the state in the total value of all crops did not change significantly during this period.

However, the percentage share of individual counties in the total value of the livestock and livestock products' component decreased in 49 counties and increased in 38 counties. These changes were insignificant in most counties. Only five counties-- Polk, St. Louis, Blue Earth, Faribault, and Hennepin--suffered a decline greater than 0.5 percent, and these declines were less than 1 percent.

Average annual growth rates of livestock and livestock product sales for the period from 1939 to 1964 were negative only in Cook and Ramsey counties. In the all crops component there were 34 counties which experienced an average annual growth rate higher than 6.38 percent, the average growth rate for Minnesota. Of these counties, 19 experienced growth rates greater than 6.87 percent, the national average rate.

# # # #

# MINNESOTA ECONOMIC DATA, COUNTIES & REGIONS

Prepared by Department of Agricultural Economics, Agricultural Extension Service & Agricultural Experiment Station cooperating • University of Minnesota

## Minnesota's Farm Sales 1939-1964

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Changes in Minnesota's agriculture have been more striking during the past 25 or 30 years than in any previous period of the state's agricultural history. Data from the U.S. Census of Agriculture indicate significant productivity increases in both the crop and livestock sectors during this period. There have been simultaneous increases in the total value of Minnesota's agricultural output.\* The purpose of this publication is to discuss the relative performance of the state and the counties and regions in Minnesota for the period 1939 to 1964. This performance is judged by changes in the respective shares of total output as well as the rates of growth of the dollar value of sales of total farm output and its two major components, "All Crops" and "Livestock and Livestock Products." Because our main interest is only in the relative performance between counties and regions, and not the interperiod performance of a county or a region, the use of current dollar value of sales data is appropriate. The discussion is limited to brief explanations and analyses as they are necessary to insure clarity in the meaning and significance of the statistical information.

It is worth noting that even though there has been a tremendous increase in the dollar sales of agricultural products in Minnesota, the state's share as a percentage of total U.S. sales has been steadily declining. Minnesota's percentage share of value of output of all farm products in the United States was 4.5, 4.4, 4.0, and 3.9 for the years 1939, 1949, 1959, and 1964, respectively. The value of Minnesota's output of all crops was 3.4 percent and 2.9 percent and that of livestock sales, 5.5 percent and 4.8 percent of the national value for the years 1939 and 1964, respectively. These data indicate a somewhat slower growth for Minnesota

agriculture than the United States as a whole. This discrepancy is illustrated in another way when comparison of average annual growth rates in these sectors are made for Minnesota and the United States. For all farm products for the period 1939-59, the United States had an annual average growth of 7.88 percent as compared to 7.22 percent for Minnesota. For the recent period of 1959-64 these rates were 3.01 percent (United States) and 2.66 percent (Minnesota). For the all crops component the United States experienced a growth rate of 6.87 percent as compared to a 6.38 percent rate for Minnesota for the entire 1939-64 period. Comparable figures for the livestock and livestock products components were 6.9 percent and 6.15 percent.

In Minnesota over this period there has been only a slight shift in the distribution of the total value of all farm products sold between the all crops component and the livestock and livestock products component. In 1939 the livestock and livestock products component accounted for 65 percent of the total value of all farm products sold. By 1964 this component had risen to 66 percent—only a minor change. Recent data for 1966 indicate that the percentage has risen to nearly 70 percent.† This shift is not discussed further in this report but will be the subject of a future publication, if, in fact, fuller information verifies a shift of this magnitude over the period 1964-66.

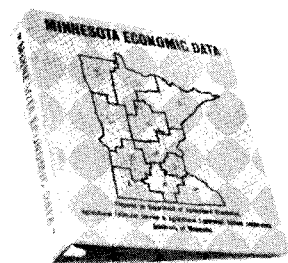
In Minnesota the dollar value of output of all farm products increased in every county from 1939 to 1949. From 1949 to 1959 there was a change in this overall pattern of growth, with Hubbard, Koochiching, Lake of the Woods, Carlton, Cook, Itasca, Lake, St. Louis, Traverse, and Ramsey Counties experiencing a decline in their dollar sales of all farm products. But dollar sales of all farm products continued to increase in all other counties in the state. From 1959 to 1964 the decrease continued in Koochiching,

Lake of the Woods, and Ramsey Counties. In addition Beltrami, Cass, Crow Wing, Dodge, Goodhue, Mower, Olmsted, Winona, Anoka, Dakota, Hennepin, and Washington Counties experienced a decline from the 1959 level.

However, no definitive trend is visible in most counties when data are examined on the basis of change in the percentage share of each county of the total value of all farm products in the state. Only Mahanomen, Polk, Becker, Norman, Kandiyohi, Stearns, Rock, Brown, and Sibley Counties made continuous gains in their shares throughout the period 1939 to 1964. Conversely, Koochiching, Lake of the Woods, Carlton, Cook, Grant, Aitkin, Cass, Meeker, Murray, Anoka, Carver, Hennepin, and Ramsey Counties suffered continuous declines in their percentage shares.

Annual average growth rates, calculated on the basis of dollar values of all farm products, for the period 1939 to 1959 were positive in all counties, other than Cook County. During this period Mahanomen, Clay, Norman, Morrison, Stearns, Sibley, Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, and

## Publication Notes



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Questions and comments on this or other issues are welcome. Correspondence should be addressed to John S. Hoyt, Jr., Department of Agricultural Economics, 190E Coffey Hall, University of Minnesota, St. Paul, Minnesota 55101.

† U.S. Department of Agriculture and Minnesota Department of Agriculture; 1966 Cash Farm Income, Minnesota, September 15, 1966.

\* See Tables 1 and 2

Winona Counties all had growth rates higher than the national average annual growth rate of 7.88 percent. The lowest growth rates (below 4 percent) were experienced by Lake, St. Louis, Freeborn, and Ramsey Counties. All farm products growth rates for the period 1939-64 were generally smaller and were negative in 17 counties as compared to the situation of positive growth in all counties, other than Cook County, during the 1939-59 period. This decline in rate was highest in Ramsey County (6.34 percent).

The dollar value of the all crops component increased for the entire period from 1939 to 1964 in all Minnesota counties except Cook. The individual counties' percentage share in the state total value of all crops did not change significantly. Polk County experienced the largest increase—from 3.62 to 6.59 percent. There were only four other counties (Clay, Blue Earth, Faribault, and Freeborn) whose share increased more than 1 percent. Forty-eight counties scattered throughout the state experienced a decline in their shares. But these declines were insignificant. Only three counties—Lyon, Murray, and Nobles—experienced a decline of greater than 1 percent in

their respective shares.

Thus, 86 of the state's 87 counties experienced positive growth in the dollar value of all crops during the period 1939-64. Cook was the only county with a negative annual average growth rate (-3.80 percent). Thirty-six counties experienced an average annual growth rate higher than the Minnesota average of 6.15 percent, and 23 of them experienced growth rates higher than the U.S. average of 6.90 percent. This, perhaps, reflects the fact that crop culture in these 23 counties has been improving faster than the national average. Nine counties had annual growth rates greater than 8 percent, and Mahanomen and Blue Earth Counties had annual growth rates greater than 9 percent.

Livestock and livestock product sales also increased in all counties except Cook and Ramsey Counties for the period 1939-64. The percentage share of the individual counties in the state total value of the livestock and livestock products component decreased in 49 counties and increased in the remaining 38 counties. As in the case of all crops, these changes were insignificant in most counties. No county suffered a decline in share greater than 1 percent and only five counties

(Polk, St. Louis, Blue Earth, Faribault, and Hennepin) suffered a decline greater than 0.5 percent. The other 33 counties experienced declines of less than 0.5 percent. Similarly, the increases in the percentage shares of the total value of livestock and livestock products experienced by 38 other counties were not very large. There were only four counties (Kandiyohi, Stearns, Lyon, and Rock) that experienced increases of greater than 0.5 percent and, of these, only Stearns County experienced an increase greater than 1 percent (1.09 percent).\*

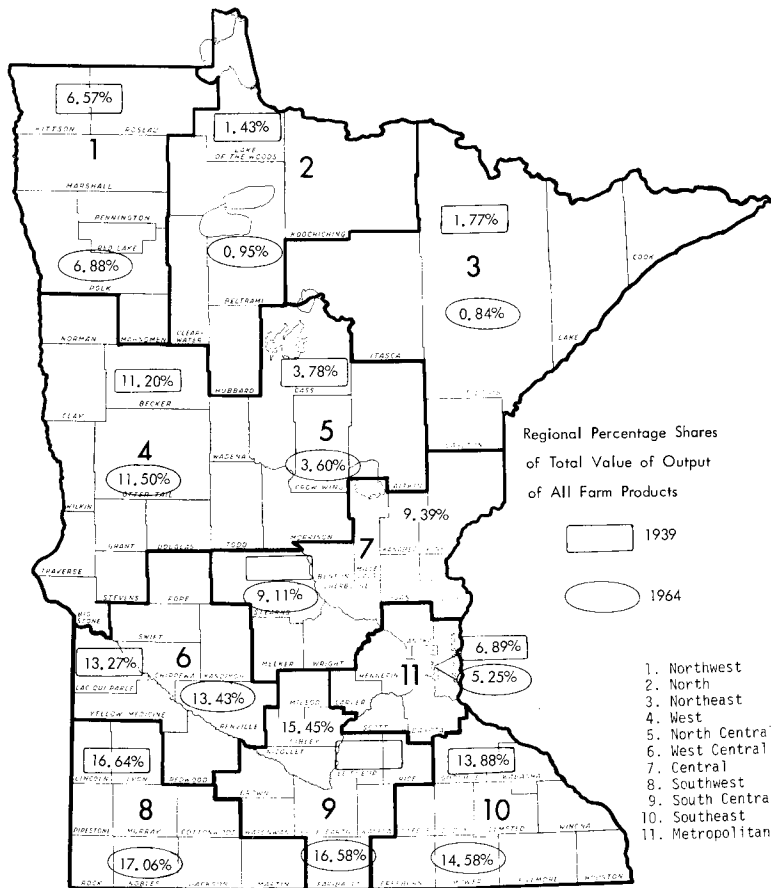
Average annual growth rates for the period 1939-64 of livestock and livestock product sales were negative only in Cook and Ramsey Counties and positive in all other counties. There were 34 counties which experienced an average annual growth rate higher than 6.38 percent, the average growth rate for Minnesota. Of these counties, 19 experienced growth rates greater than 6.87 percent, the national average rate. Three counties (Stevens, Lyon, and Rock) had an annual average growth rate even greater than 8 percent. The highest—8.52 percent—occurred in Rock County.

### Regional Changes

The dollar value of output of all farm products increased in all regions of the state from 1939 to 1964. These increases were substantial and continuous in almost all regions. The northeast is the only region which, after experiencing a sharp increase from 1939 to 1949, suffered a slight decline thereafter. The percentage shares of the state total of individual regions did not change in any large measure. Of the four regions (north, northeast, north central, and metropolitan) that suffered a decline in share of sales of total farm output only the rapidly urbanizing metropolitan region lost more than a full percentage point (about 1.7 percent). In contrast, only the agriculturally intensive south central region gained more than a full percentage point.

From 1939 to 1959, four of Minnesota's 11 economic regions experienced higher annual average growth rates for all farm products sold than the average growth rate for the state as a whole (7.22 percent). In four other regions the rates were quite close to the Minnesota average rate. Only three regions (north, northeast, and metropolitan) had lower rates

\* It is important to note that even though for individual counties these changes seem small, when added together in regional groupings, they indicate considerable shifts. See the remarks below on regional discussion.



Minnesota Economic Regions

Region and County	Value of Output of All Crops (\$000)		Share of State Total of All Crops (Percent)		Annual Average Rate of Growth (Percent)	Value of Output of Livestock and Livestock Products (\$000)		Share of State Total of Livestock and Livestock Products (Percent)		Annual Average Rate of Growth (Percent)
	1939	1964	1939	1964	1939-1964	1939	1964	1939	1964	1939-1964
Region 7 - Central	5,440	18,256	5.14	3.88	4.97	21,892	110,741	11.27	12.25	6.70
Benton	357	626	0.34	0.13	2.26	1,461	7,779	0.75	0.86	6.91
Chisago	236	1,059	0.22	0.22	6.19	1,765	7,202	0.91	0.80	5.79
Isanti	380	1,774	0.36	0.38	6.36	1,083	4,900	0.56	0.54	6.22
Kanabec	57	491	0.05	0.10	8.99	1,142	4,917	0.59	0.54	6.02
Meeker	1,525	4,885	1.44	1.04	4.76	3,094	15,173	1.59	1.68	6.56
Mille Lacs	203	642	0.19	0.14	4.71	1,464	6,571	0.75	0.73	6.19
Pine	272	813	0.26	0.17	4.49	1,935	8,014	1.00	0.89	5.85
Sherburne	319	2,036	0.30	0.43	7.69	953	5,356	0.49	0.59	7.15
Stearns	1,241	2,637	1.17	0.56	3.05	5,142	33,786	2.65	3.74	7.82
Wright	850	3,293	0.80	0.70	5.56	3,853	17,043	1.98	1.88	6.12
Region 8 - Southwest	23,036	76,413	21.78	16.22	4.92	27,053	158,258	13.92	17.50	7.31
Cottonwood	2,860	11,863	2.70	2.52	5.86	3,053	14,983	1.57	1.66	6.57
Jackson	3,604	14,869	3.41	3.16	5.84	3,322	19,544	1.71	2.16	7.34
Lincoln	1,360	3,521	1.29	0.75	3.88	1,705	11,250	0.88	1.24	7.84
Lyon	2,885	7,012	2.73	1.49	3.62	2,552	19,280	1.31	2.13	8.42
Martin	3,672	16,686	3.47	3.54	6.24	4,644	22,857	2.39	2.53	6.58
Murray	2,799	7,056	2.65	1.50	3.77	3,044	17,953	1.57	1.99	7.36
Nobles	3,189	9,116	3.02	1.94	4.29	3,991	19,458	2.05	2.15	6.55
Pipestone	1,223	2,187	1.16	0.46	2.36	2,231	13,517	1.15	1.49	7.47
Rock	1,444	4,103	1.37	0.87	4.26	2,511	19,416	1.29	2.15	8.52
Region 9 - South Central	15,501	96,118	14.66	20.41	7.57	30,944	131,891	15.93	14.59	5.97
Blue Earth	1,902	17,674	1.80	3.75	9.33	4,207	13,541	2.17	1.50	4.79
Brown	2,129	9,695	2.01	2.06	6.25	2,832	16,153	1.46	1.79	7.21
Faribault	3,242	20,234	3.07	4.30	7.60	4,755	15,444	2.45	1.71	4.83
Le Sueur	926	6,245	0.88	1.33	7.93	2,293	10,277	1.18	1.14	6.18
McLeod	1,084	5,076	1.03	1.08	6.37	3,453	15,300	1.78	1.69	6.13
Nicollet	1,216	7,784	1.15	1.65	7.71	2,516	11,391	1.29	1.26	6.23
Rice	855	4,444	0.81	0.94	6.82	2,958	13,663	1.52	1.51	6.31
Sibley	1,219	8,188	1.15	1.74	7.92	3,273	16,553	1.68	1.83	6.70
Waseca	1,052	8,237	0.99	1.75	8.58	2,364	8,883	1.22	0.98	5.44
Watsonwan	1,876	8,541	1.77	1.81	6.25	2,293	10,686	1.18	1.18	6.35
Region 10 - Southeast	8,685	44,080	8.21	9.36	6.72	33,015	156,469	16.99	17.31	6.42
Dodge	337	3,800	0.32	0.81	-----	2,559	10,844	1.32	1.20	5.95
Fillmore	605	3,152	0.57	0.67	6.83	4,335	24,477	2.23	2.71	7.17
Freeborn	1,835	13,450	1.74	2.86	8.29	4,824	18,268	2.48	2.02	5.47
Goodhue	1,168	4,518	1.10	0.96	5.56	3,756	18,599	1.93	2.06	6.61
Houston	282	1,177	0.27	0.24	5.88	2,261	12,578	1.16	1.39	7.10
Mower	1,282	5,859	1.21	1.24	6.27	3,860	16,862	1.99	1.86	6.08
Olmsted	666	2,708	0.63	0.57	5.78	3,544	16,459	1.82	1.82	6.33
Steele	922	5,551	0.87	1.18	7.44	3,221	12,278	1.66	1.36	5.50
Wabasha	1,020	2,206	0.96	0.47	3.13	2,155	11,937	1.11	1.32	7.09
Winona	568	1,659	0.54	0.35	4.38	2,500	14,167	1.29	1.57	7.19
Region 11 - Metropolitan	5,433	20,351	5.14	4.32	5.43	15,247	51,792	7.85	5.73	5.02
Anoka	216	1,576	0.20	0.33	8.28	1,438	3,780	0.74	0.42	3.94
Carver	351	2,160	0.33	0.46	7.54	3,160	12,568	1.63	1.39	5.68
Dakota	1,010	3,752	0.96	0.80	5.38	2,733	11,325	1.41	1.25	5.85
Hennepin	2,071	6,883	1.96	1.46	4.92	3,224	7,381	1.66	0.82	3.37
Ramsey	934	1,685	0.88	0.36	2.38	644	284	0.33	0.03	-----
Scott	488	1,969	0.46	0.42	3.73	2,008	8,837	1.03	0.98	6.11
Washington	363	2,326	0.34	0.49	7.71	2,040	7,617	1.05	0.84	5.41
Minnesota	105,751	471,016	100.00	100.00	6.15	194,279	903,762	100.00	100.00	6.38
United States <sup>a/</sup>	3,095	16,416	-----	-----	6.90	3,547	18,850	-----	-----	6.87

<sup>a/</sup> Figures are in millions.

Table 1. Minnesota; total value of output of all farm products, shares of state total, and annual rates of change, 1939-1964.

Region and County	Total Value of Output in Thousands of Dollars				Share of State Total Value of Output in Percent				Annual Average Rate of Growth (+) or Decline (-) in Percent	
	1939	1949	1959	1964	1939	1949	1959	1964	1939-1959	1959-1964
Region 1 - Northwest	19,782	61,006	76,726	93,630	6.57	6.35	6.33	6.81	7.01	4.06
Kittson	3,056	9,439	8,966	11,381	1.02	0.98	0.74	0.83	5.52	4.90
Mahnomon	833	3,049	3,957	4,891	0.28	0.32	0.33	0.36	8.10	4.40
Marshall	3,797	12,118	15,075	18,065	1.26	1.26	1.24	1.31	7.14	3.71
Pennington	1,419	3,496	5,140	6,042	0.47	0.36	0.42	0.44	6.64	3.37
Polk	6,832	22,506	31,749	39,326	2.27	2.34	2.62	2.86	7.99	4.40
Red Lake	1,071	3,083	3,686	4,326	0.36	0.33	0.30	0.31	6.37	3.19
Roseau	2,774	7,315	8,153	9,599	0.92	0.76	0.67	0.70	5.54	3.37
Region 2 - North	4,291	11,995	13,422	13,126	1.43	1.25	1.11	0.95	5.85	-0.42
Beltrami	1,230	3,086	3,970	3,516	0.41	0.32	0.33	0.26	6.04	-1.69
Clearwater	1,154	3,164	4,180	4,537	0.38	0.33	0.34	0.33	6.64	1.74
Hubbard	662	2,305	2,088	2,274	0.22	0.24	0.17	0.17	5.90	1.74
Koochiching	613	1,532	1,493	1,297	0.20	0.16	0.12	0.09	4.56	-2.86
Lake of the Woods	632	1,909	1,691	1,502	0.21	0.20	0.14	0.11	5.05	-1.69
Region 3 - Northeast	5,336	13,413	10,156	11,564	1.77	1.40	0.84	0.84	3.26	2.66
Carlton	1,410	4,263	3,797	4,067	0.47	0.44	0.31	0.30	5.07	1.36
Cook	46	61	6	11	0.02	0.01	----	----	----	12.85
Itasca	1,009	2,546	2,220	2,411	0.34	0.27	0.18	0.18	4.02	1.74
Lake	103	257	126	304	0.03	0.03	0.01	0.02	1.00	19.23
St. Louis	2,768	6,284	4,007	4,771	0.92	0.65	0.33	0.35	1.88	3.54
Region 4 - West	33,714	111,875	133,688	158,272	11.20	11.65	11.03	11.50	7.14	3.37
Becker	2,633	8,978	11,473	13,585	0.87	0.93	0.95	0.99	7.64	3.37
Big Stone	2,330	6,115	6,633	9,216	0.77	0.64	0.55	0.67	5.38	6.81
Clay	3,936	15,924	18,537	24,113	1.31	1.66	1.53	1.75	8.06	5.39
Douglas	2,887	10,002	12,135	12,944	0.96	1.04	1.00	0.94	7.44	1.36
Grant	3,006	8,340	10,309	10,567	1.00	0.87	0.85	0.77	6.36	0.59
Norman	2,765	10,080	12,787	14,661	0.92	1.05	1.06	1.07	7.95	2.83
Otter Tail	7,477	26,105	30,109	34,208	2.48	2.72	2.48	2.49	7.22	2.66
Stevens	2,931	9,060	12,391	14,861	0.97	0.94	1.02	1.08	7.48	3.71
Traverse	2,861	8,071	7,877	10,600	0.95	0.84	0.65	0.77	5.19	6.19
Wilkin	2,888	9,200	11,437	13,517	0.96	0.96	0.94	0.98	7.12	3.37
Region 5 - North Central	11,385	36,351	47,224	49,569	3.78	3.78	3.90	3.60	7.37	0.98
Aitkin	1,559	4,542	5,283	5,380	0.52	0.47	0.44	0.39	6.29	0.40
Cass	1,137	3,375	3,829	3,729	0.38	0.35	0.32	0.27	6.26	-0.63
Crow Wing	1,007	2,923	4,127	3,817	0.33	0.30	0.34	0.28	7.31	-1.72
Morrison	2,605	9,069	14,083	14,608	0.87	0.95	1.16	1.06	8.81	0.79
Todd	3,919	12,468	15,247	16,574	1.30	1.30	1.26	1.20	7.03	1.74
Wadena	1,158	3,973	4,655	5,461	0.38	0.41	0.38	0.40	7.20	3.19
Region 6 - West Central	39,949	130,320	154,789	184,726	13.27	13.57	12.77	13.43	7.01	3.54
Chippewa	3,852	13,457	15,634	17,611	1.28	1.40	1.29	1.28	7.26	2.47
Kandiyohi	5,174	17,211	22,943	27,836	1.72	1.79	1.89	2.02	7.73	3.89
Lac qui Parle	4,462	14,688	15,073	17,780	1.48	1.53	1.24	1.29	6.28	3.37
Pope	2,647	9,316	11,236	12,006	0.88	0.97	0.93	0.87	7.49	1.36
Redwood	7,040	21,494	26,026	31,699	2.34	2.24	2.15	2.30	6.76	4.06
Renville	8,100	25,209	31,686	37,414	2.69	2.62	2.61	2.72	7.06	3.37
Swift	3,431	12,353	13,921	17,591	1.14	1.29	1.15	1.28	7.26	4.73
Yellow Medicine	5,243	16,593	18,270	22,789	1.74	1.73	1.51	1.66	6.43	4.56

than the Minnesota average. The south-east region experienced a growth rate of 8.16 percent—even higher than the national average rate of 7.88 percent. For the period 1959 to 1964, however, this region experienced a slightly declining growth rate of -0.21 percent per year. The north and metropolitan regions also had declining growth rates in this period.

The total value of all crops sold increased severalfold in all regions of the state from 1939 to 1964. Three regions

(north, northeast, and north central) were relatively unimportant in crop output both during 1939 and 1964. Their combined share of the total crop sales of the state was only 3.53 percent in 1939 and declined to 2.27 percent in 1964. Four regions—west, southeast, south central, and northwest—increased their shares from the 1939 level. The increases in the south central and north-west regions were quite significant (up from 14.66 to 20.41 percent and from

10.13 to 13.61 percent, respectively). Of the remaining four regions, all of which suffered declines in their percentage shares of total crop sales in the state, the losses in the west central and southwest regions were quite substantial (down from 18.16 to 15.95 percent and from 21.78 to 16.22 percent, respectively.)

Average annual growth rates of all crop sales for the period 1939-64 were above the national average rate of 6.9 percent only in the northwest and south

Table 2. Minnesota; total value of output of all crops and of livestock and livestock products, shares of state total and annual growth rates, 1939-1964

Region and County	Value of Output of All Crops (\$000)		Share of State Total of All Crops (Percent)		Annual Average Rate of Growth (Percent) 1939-1964	Value of Output of Livestock and Livestock Products (\$000)		Share of State Total of Livestock and Livestock Products (Percent)		Annual Average Rate of Growth (Percent) 1939-1964
	1939	1964	1939	1964		1939	1964	1939	1964	
Region 1 - Northwest	10,712	64,093	10.13	13.61	7.42	8,976	29,523	4.62	3.27	4.88
Kittson	2,140	9,273	2.02	1.97	6.04	907	2,108	0.47	0.23	3.42
Mahnomon	201	1,974	0.19	0.42	9.57	621	2,911	0.32	0.32	6.38
Marshall	2,161	13,878	2.04	2.95	7.72	1,614	4,186	0.83	0.46	3.88
Pennington	460	2,627	0.43	0.56	7.22	953	3,414	0.49	0.38	5.23
Polk	3,831	31,022	3.62	6.59	8.73	2,977	8,299	1.53	0.92	4.19
Red Lake	363	1,938	0.34	0.41	6.93	703	2,388	0.36	0.26	5.02
Roseau	1,556	3,381	1.47	0.72	3.15	1,201	6,217	0.62	0.69	6.80
Region 2 - North	1,385	3,860	1.31	0.82	4.19	2,782	9,232	1.43	1.02	4.92
Beltrami	359	957	0.34	0.20	4.01	832	2,546	0.43	0.28	4.58
Clearwater	322	1,395	0.30	0.30	6.04	804	3,141	0.41	0.35	5.61
Hubbard	96	361	0.09	0.08	5.44	551	1,907	0.28	0.21	5.09
Koochiching	224	419	0.21	0.09	2.54	356	873	0.18	0.10	3.65
Lake of the Woods	384	728	0.36	0.15	2.60	239	765	0.12	0.08	4.76
Region 3 - Northeast	876	2,457	0.83	0.52	4.20	4,319	9,058	2.22	1.00	3.01
Carlton	179	651	0.17	0.14	5.30	1,219	3,403	0.63	0.38	4.19
Cook	8	3	0.01	-----	-3.80	36	9	0.02	-----	-5.40
Itasca	206	630	0.19	0.13	4.58	773	1,758	0.40	0.19	3.33
Lake	5	31	-----	0.01	7.57	94	270	0.05	0.03	4.31
St. Louis	478	1,142	0.45	0.24	3.55	2,197	3,618	1.13	0.40	2.02
Region 4 - West	13,997	65,869	13.24	13.98	6.39	19,602	92,140	10.09	10.19	6.39
Becker	606	3,000	0.57	0.64	6.61	1,985	10,540	1.02	1.17	6.91
Big Stone	1,347	3,747	1.27	0.80	4.17	982	5,464	0.51	0.60	7.10
Clay	2,289	18,250	2.16	3.87	8.66	1,642	5,823	0.85	0.64	5.20
Douglas	504	2,010	0.48	0.43	5.69	2,373	10,851	1.22	1.20	6.27
Grant	1,518	4,137	1.44	0.87	4.10	1,487	6,425	0.77	0.71	6.03
Norman	1,197	8,605	1.13	1.82	8.21	1,561	6,055	0.80	0.66	5.57
Otter Tail	1,387	5,675	1.31	1.20	5.80	6,041	28,464	3.11	3.15	6.39
Stevens	1,439	4,254	1.36	0.90	4.44	1,492	10,605	0.77	1.17	8.16
Traverse	1,917	6,620	1.81	1.41	5.08	943	3,967	0.49	0.44	5.92
Wilkin	1,793	9,571	1.70	2.03	6.93	1,096	3,946	0.56	0.44	5.26
Region 5 - North Central	1,468	4,379	1.39	0.93	4.46	9,723	45,105	5.00	4.99	6.33
Aitkin	231	523	0.22	0.11	3.32	1,279	4,818	0.66	0.53	5.45
Cass	108	360	0.10	0.08	4.93	1,010	3,362	0.52	0.37	4.93
Crow Wing	73	461	0.07	0.10	7.65	868	3,350	0.45	0.37	5.55
Morrison	263	1,083	0.25	0.23	5.83	2,331	13,523	1.20	1.50	7.28
Todd	748	1,474	0.71	0.31	2.75	3,157	15,074	1.62	1.67	6.45
Wadena	63	478	0.06	0.10	8.45	1,078	4,978	0.55	0.55	6.31
Region 6 - West Central	19,200	75,143	18.16	15.95	5.61	20,731	109,553	10.67	12.12	6.88
Chippewa	1,933	7,918	1.83	1.68	5.81	1,917	9,692	0.99	1.07	6.70
Kandiyohi	2,071	6,961	1.96	1.48	4.97	3,097	20,869	1.59	2.31	7.93
Lac qui Parle	2,491	7,995	2.36	1.70	4.78	1,970	9,780	1.01	1.08	6.62
Pope	812	2,215	0.77	0.47	4.10	1,832	9,787	0.94	1.08	6.93
Redwood	3,699	14,124	3.50	3.00	4.23	3,340	17,562	1.72	1.94	6.87
Renville	3,676	18,118	3.48	3.84	6.59	4,421	19,296	2.28	2.13	6.07
Swift	1,563	6,944	1.48	1.47	6.14	1,867	10,646	0.96	1.18	7.21
Yellow Medicine	2,955	10,868	2.79	2.31	5.35	2,287	11,921	1.18	1.32	6.83

Table 2. Minnesota; total value of output of all crops and of livestock and livestock products, shares of state total and annual growth rates, 1939-1964

Region and County	Value of Output of All Crops (\$000)		Share of State Total of All Crops (Percent)		Annual Average Rate of Growth (Percent) 1939-1964	Value of Output of Livestock and Livestock Products (\$000)		Share of State Total of Livestock and Livestock Products (Percent)		Annual Average Rate of Growth (Percent) 1939-1964
	1939	1964	1939	1964		1939	1964	1939	1964	
Region 1 - Northwest	10,712	64,093	10.13	13.61	7.42	8,976	29,523	4.62	3.27	4.88
Kittson	2,140	9,273	2.02	1.97	6.04	907	2,108	0.47	0.23	3.42
Mahnomon	201	1,974	0.19	0.42	9.57	621	2,911	0.32	0.32	6.38
Marshall	2,161	13,878	2.04	2.95	7.72	1,614	4,186	0.83	0.46	3.88
Pennington	460	2,627	0.43	0.56	7.22	953	3,414	0.49	0.38	5.23
Polk	3,831	31,022	3.62	6.59	8.73	2,977	8,299	1.53	0.92	4.19
Red Lake	363	1,938	0.34	0.41	6.93	703	2,388	0.36	0.26	5.02
Roseau	1,556	3,381	1.47	0.72	3.15	1,201	6,217	0.62	0.69	6.80
Region 2 - North	1,385	3,860	1.31	0.82	4.19	2,782	9,232	1.43	1.02	4.92
Beltrami	359	957	0.34	0.20	4.01	832	2,546	0.43	0.28	4.58
Clearwater	322	1,395	0.30	0.30	6.04	804	3,141	0.41	0.35	5.61
Hubbard	96	361	0.09	0.08	5.44	551	1,907	0.28	0.21	5.09
Koochiching	224	419	0.21	0.09	2.54	356	873	0.18	0.10	3.65
Lake of the Woods	384	728	0.36	0.15	2.60	239	765	0.12	0.08	4.76
Region 3 - Northeast	876	2,457	0.83	0.52	4.20	4,319	9,058	2.22	1.00	3.01
Carlton	179	651	0.17	0.14	5.30	1,219	3,403	0.63	0.38	4.19
Cook	8	3	0.01	-----	-3.80	36	9	0.02	-----	-5.40
Itasca	206	630	0.19	0.13	4.58	773	1,758	0.40	0.19	3.33
Lake	5	31	-----	0.01	7.57	94	270	0.05	0.03	4.31
St. Louis	478	1,142	0.45	0.24	3.55	2,197	3,618	1.13	0.40	2.02
Region 4 - West	13,997	65,869	13.24	13.98	6.39	19,602	92,140	10.09	10.19	6.39
Becker	606	3,000	0.57	0.64	6.61	1,985	10,540	1.02	1.17	6.91
Big Stone	1,347	3,747	1.27	0.80	4.17	982	5,464	0.51	0.60	7.10
Clay	2,289	18,250	2.16	3.87	8.66	1,642	5,823	0.85	0.64	5.20
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Grant	1,518	4,137	1.44	0.87	4.10	1,487	6,425	0.77	0.71	6.03
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Stevens	1,439	4,254	1.36	0.90	4.44	1,492	10,605	0.77	1.17	8.16
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Aitkin	231	523	0.22	0.11	3.32	1,279	4,818	0.66	0.53	5.45
Cass	108	360	0.10	0.08	4.93	1,010	3,362	0.52	0.37	4.93
Crow Wing	73	461	0.07	0.10	7.65	868	3,350	0.45	0.37	5.55
Morrison	263	1,083	0.25	0.23	5.83	2,331	13,523	1.20	1.50	7.28
Todd	748	1,474	0.71	0.31	2.75	3,157	15,074	1.62	1.67	6.45
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Region 6 - West Central	19,200	75,143	18.16	15.95	5.61	20,731	109,553	10.67	12.12	6.88
Chippewa	1,933	7,918	1.83	1.68	5.81	1,917	9,692	0.99	1.07	6.70
Kandiyohi	2,071	6,961	1.96	1.48	4.97	3,097	20,869	1.59	2.31	7.93
Lac qui Parle	2,491	7,995	2.36	1.70	4.78	1,970	9,780	1.01	1.08	6.62
Pope	812	2,215	0.77	0.47	4.10	1,832	9,787	0.94	1.08	6.93
Redwood	3,699	14,124	3.50	3.00	4.23	3,340	17,562	1.72	1.94	6.87
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Yellow Medicine	2,955	10,868	2.79	2.31	5.35	2,287	11,921	1.18	1.32	6.83



Table 2. Minnesota; total value of output of all crops and of livestock and livestock products, shares of state total and annual growth rates, 1939-1964

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Crow Wing	73	461	0.07	0.10	7.65	868	3,350	0.45	0.37	5.55
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Todd	748	1,474	0.71	0.31	2.75	3,157	15,074	1.62	1.67	6.45
Wadena	63	478	0.06	0.10	8.45	1,078	4,978	0.55	0.55	6.31
Region 6 - West Central	19,200	75,143	18.16	15.95	5.61	20,731	109,553	10.67	12.12	6.88
Chippewa	1,933	7,918	1.83	1.68	5.81	1,917	9,692	0.99	1.07	6.70
Kandiyohi	2,071	6,961	1.96	1.48	4.97	3,097	20,869	1.59	2.31	7.93
Lac qui Parle	2,491	7,995	2.36	1.70	4.78	1,970	9,780	1.01	1.08	6.62
Pope	812	2,215	0.77	0.47	4.10	1,832	9,787	0.94	1.08	6.93
Redwood	3,699	14,124	3.50	3.00	4.23	3,340	17,562	1.72	1.94	6.87
Renville	3,676	18,118	3.48	3.84	6.59	4,421	19,296	2.28	2.13	6.07
Swift	1,563	6,944	1.48	1.47	6.14	1,867	10,646	0.96	1.18	7.21
Yellow Medicine	2,955	10,868	2.79	2.31	5.35	2,287	11,921	1.18	1.32	6.83

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April 25, 1968

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INSTITUTE OF AGRICULTURE CALENDAR OF EVENTS

MAY

3 and 4	BEEKEEPERS' MANAGEMENT SHORT COURSE, St. Paul Campus, Coffey Hall
3 - 5	4-H CAMP TRAINING, Kare Phree Pines, McGregor
5 - 7	FFA CONVENTION, St. Paul Campus
19	RURAL LIFE SUNDAY
	LANDSCAPE ARBORETUM TOURS:
4 and 11	Wildlife tour
18	Bird watching hike, flowering crabapple tour
25	Lilac tour

# # #

134-vak-68

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## STATE FIRE SCHOOL TO BEGIN MONDAY

Over 600 firemen, fire service officers and fire inspectors will attend the 17th Annual Minnesota State Fire School starting Monday, April 29 at the University of Minnesota's St. Paul Campus Student Center.

One of the features of this year's program will be a U. S. Forest Service fire simulator, a visual device which recreates all of the possible situations which may occur during a forest fire fighting operation. This system assists firemen in planning correct tactical procedures to fire fighting problems.

During the school, the firemen will receive instruction on fire characteristics, protective fire fighting equipment, rescue squad training and pumper operation. They also will study practical methods of attacking fires, ventilation for fire prevention, and safety in handling L-P gas and combustible vaporizing liquids.

Officers will study fire department support for automatic sprinkler systems and emergencies involving the transportation and use of radioactive materials.

Fire inspectors will receive training in instruction procedures, and maintenance and inspection of sprinkler systems. Field inspections also will be made of petroleum bulk plants, hotels, apartment buildings and dormitories.

The school will close with City Officials' Day on Thursday. Exhibits will be on display throughout the day in the Hippodrome of the State Fairgrounds. Demonstrations will be given during the afternoon on the volatility of Christmas trees under varying conditions, flammability of roofing materials and high level rescue procedures.

The school is sponsored by the University's Institute of Agriculture and the Trade and Industrial Unit of the Minnesota Department of Education.

# # # #

135-jbg-68

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### VARIETY OF CONTAINERS APPROPRIATE FOR FREEZING

If you wonder what types of containers are best for freezing food, the answer is to consider convenience, the space the container will take and its cost.

Almost all types of frozen food containers now on the market are suitable, according to Mrs. Shirley Munson, in charge of the University of Minnesota's food processing laboratory in the Department of Horticultural Science.

For sanitary reasons, however, do not re-use milk, ice cream and cottage cheese cartons, Mrs. Munson cautions. But waxed paper cartons and plastic-coated cartons that are new are perfectly satisfactory for many foods including fruits and vegetables.

Wide-mouthed glass canning jars may be used in the home freezer for fruits. Used metal cans that have been washed thoroughly and dried are adequate if they have tight covers. If the can does not have a tight lid, cover the opening with a circle of freezer wrap, hold it in place with a rubber binder, then secure it snugly with locker tape and remove the binder. One precaution: reuse only enamel-lined cans for fruits, vegetables and other moist foods.

Polyethylene plastic bags are excellent for freezing bread, rolls and similar baked foods. Twist-ems, used by florists and gardeners, are inexpensive and make good closures for plastic bags.

On the market are polyester film boil-in-the-bag containers suitable for precooked foods such as stew, chow mein and many dishes containing gravies

- more -

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#### PSYCHOLOGY PROFESSOR TO SPEAK AT STATE HOME EC MEETING

Harold M. Schroder, professor of psychology at Princeton University, will be the featured speaker at the spring meeting of the Minnesota Home Economics Association Saturday, May 4, at Mankato State College.

He will address the organization at 9 a.m. on "The Structure and Function of Professional Organizations." The meeting will be in the Centennial Student Union.

Group discussions reacting to the address will comprise the remainder of the morning. A summary session at 1 p.m. will follow luncheon. A business meeting will conclude the day's program.

Dr. Schroder is the author of two books, Conceptual Systems and Personality Organization and Human Information Processing. His research is providing some of the answers to ways organizations -- from universities to corporations and nations -- can set up efficient decision-making teams. How learning affects functioning in groups and group behavior is one of his interests.

# # # #

132-jbn-68

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April 29, 1968

To all counties  
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IN BRIEF.....

Chemicals Control Peony Diseases. You can protect your peonies from fungus infection by using a chemical spray program, says Herbert Johnson, extension plant pathologist at the University of Minnesota. Johnson says you should use sprays instead of dust since sprays usually cover plant surfaces better and stick better during rains than dusts. Begin spraying when new shoots are 3 to 4 inches high, and continue spraying at 7 or 10 day intervals until flowers open. For more information, ask your county agent for a copy of Plant Pathology Fact Sheet No. 10, "Diseases of Peony." You can also write for a copy of Plant Pathology Fact Sheet No. 10 to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

\* \* \* \*

Upgrade Your Hog Herd. Hog producers can increase profits by entering pigs for performance trials at Minnesota swine evaluation stations, says Charles Christians, extension animal husbandman at the University of Minnesota. Tested pigs are fed out under uniform conditions and evaluated for rate and efficiency of gain and meatiness. Christians says producers can use this information to upgrade their swine herds and produce the kind of pork products that consumers want. For more information on swine testing programs, write to Charles Christians, Department of Animal Science, University of Minnesota, St. Paul, Minnesota 55101.

\* \* \* \*

Control Cankerworms This Spring. There may be some localized cankerworm infestations this spring, according to John Lofgren, extension entomologist at the University of Minnesota. Lofgren says the best time to spray trees for cankerworm control is as soon as leaves open early in spring, when the young worms begin to feed and before leaves are badly damaged. Methoxychlor or carbaryl (Sevin) is recommended. For more information on cankerworm control and spray on application rates, ask your county agent for a copy of Entomology Fact Sheet No. 21, "Cankerworms." Or, write to the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

\* \* \* \*

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April 29, 1968

To all counties  
ATT: HOME AGENTS  
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IT'S TIME TO GET  
FREEZER READY  
FOR NEW CROP

Planning to freeze vegetables and fruits from your home garden this summer?

Then it's not a bit too soon to get the freezer ready for the new crop of produce, says Mrs. Shirley Munson, in charge of the University of Minnesota's food processing laboratory in the Department of Horticultural Science. Getting the freezer ready includes taking inventory of what's in the freezer, using up what has been stored the longest and removing excess frost or defrosting the freezer.

If the frost is no more than half an inch thick, scraping it off may be all that's necessary. But remember that it's important to defrost the freezer once or twice a year to remove all frost, ice and spilled food.

Frost-free freezers do not need defrosting, of course, but they do need cleaning once or twice a year.

To defrost the freezer, first remove all food packages, pile them into a box and cover them with a blanket.

Shut off the electricity and leave the lid or door of the freezer open. To hasten thawing, direct an electric fan into the open freezer, then scrape off the ice as it loosens. Use towels on the bottom of the chest-type freezer or on the shelves of the upright freezer to collect the ice and to soak up water.

add 1 -- It's time to get freezer ready

April 29, 1968

After the ice is thawed, wash the inside of the freezer with a warm detergent solution or a baking soda solution, using 3 tablespoons soda to a quart of water. Wipe the walls and floor dry and turn on the electricity. After the remaining moisture inside has frozen, replace the food and check the thermometer to see that the temperature is dropping to zero.

If your freezer does not need defrosting but does need some of the frost removed, use this procedure: Move the food to another part of the freezer or outside the freezer. Lay towels at the bottom to collect the frost. Do not shut off the electricity. Scrape off the ice with a wooden or plastic paddle -- never a metal scraper.

A newly revised University of Minnesota publication, Freezing Foods for Home Use, Extension Bulletin 244, gives directions on care and use of your home freezer as well as information on how to freeze all types of foods. Single copies are available free of charge from the county extension office.

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April 29, 1968

To all counties

4-H News

PLAN DELICIOUS  
AND NUTRITIOUS  
SNACKS

What do you snack on when you have a 4-H meeting at your house or when you have the gang over after a game?

Snacks can be fun as well as nutritious, according to Verna Mikesh, extension nutritionist at the University of Minnesota.

A snack that will appeal to your friends is a hamburger on a bun, relishes, milk and ice cream. These snacks give you some of your daily protein and iron needs, as well as calories.

The favorite snack of people in the U. S. today is potato chips, selected by 50 percent of the population. But remember they're high in calories. More nutritious snacks would be raw fruits, dried fruits, raw vegetables and peanuts.

The peanut is a versatile food. You can use peanuts in a variety of ways for your snacks. Peanuts can be combined with deviled ham, for example, to make a cracker snack dip.

Mix peanuts with melted chocolate and you have peanut cluster candy. You could also use peanut brittle as a colorful addition to your snack bar when the gang comes over.

Peanut butter is high in food energy, fats and proteins. You may want to use peanut butter as a stuffing for celery when you make a raw vegetable plate.

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To all counties  
Immediate release

CULTIVATION, CHEMICALS  
NEEDED FOR GOOD WEED  
CONTROL IN SOYBEANS

A well-managed program of preemergence herbicides and early cultivation can increase yields and profits from soybeans, says Gerald Miller, extension agronomist at the University of Minnesota.

Miller says research shows the weeds that reduce yields the most are the ones that come up at the same time as the crop. The early weeds compete strongly for water, nutrients and light when young soybeans are just getting started.

With cool soil temperatures, soybeans germinate slowly and weeds may gain the advantage.

Weed control begins with high-quality seed and good soil preparation to get a good stand of soybeans. Suggested stands in Minnesota with 40 inch rows are 10 to 12 plants per foot of row.

The important thing is to kill weeds early--about when they begin to sprout. Weeds are easiest to kill in the early stage of growth and cultivation at this point won't cause root damage to the beans.

Fall or spring plowing plus tillage before seeding soybeans can kill many weeds. Postemergence cultivation with a rotary hoe, spike tooth or flexible-tined harrow or cultivator is effective from the time weeds are just germinating until they are one-fourth inch tall.

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A rotary hoe can be used until the soybeans are six inches tall. Little damage is done to the stand if this type of cultivation is used when plants are slightly wilted. Avoid rotary hoeing when soybeans are in the crook stage.

If a rotary hoe or similar implement isn't available, cultivate early and carefully to kill the weeds without covering the bean plants. Miller says cultivating should be shallow and level. Avoid ridging because this makes harvesting more difficult.

On fine-textured soils, crusts may form after hard rains and hinder seedling emergence. The crusts can be broken with a rotary hoe, harrow, weeder or cultivator.

Preemergence herbicides banded in a 12 to 14 inch strip over the row can give effective early weed control if there is adequate rainfall, says Miller. But usually some weeds will escape the preemergence weed killers. So don't delay cultivation if weeds are coming through.

Using a rotary hoe or similar implement under dry conditions may actually improve chemical performance. If the herbicide has been banded and is working, it is possible to delay the first cultivation.

But don't let the weeds in the middles get too big, says Miller. It's difficult to do a good cultivating job after the weeds get past seedling stage and grasses start spreading. And, during cultivation, avoid throwing soil into the row if the herbicide is working. This helps keep out new weed seeds and keep the row clean.

For more information on herbicides recommended for weed control in soybeans, get a copy of Extension Folder 212, "Cultural and Chemical Weed Control in Field Crops 1968." Copies are available from your county agent or from the Bulletin Room, University of Minnesota, St. Paul, Minnesota 55101.

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FOLLOW BASIC  
STEPS WHEN  
MIXING CEMENT

If you plan to mix concrete this spring for repairing, refinishing or rebuilding a special project, University of Minnesota extension agricultural engineer Dennis Ryan suggests you follow a few basic steps.

Following these steps will assure you of concrete which will resist severe wear and give long years of life.

Use only clean sand, stone and water. If you plan to construct a building, use five sacks of cement for each cubic yard of concrete you estimate you'll need. For walks and floors, use six sacks. For heavy-duty concrete, use seven sacks of cement.

Add no more than five to six gallons of water per bag of cement. Any more water reduces the life and strength of the concrete.

Make a smooth surface with a steel trowel after the concrete has lost its water sheen. A wood float will leave a rough surface. Use a stiff broom to make a pronounced rough surface. Don't overuse the steel trowel or you'll get too smooth a surface and the richness of the cement will move to the top, resulting in shrinkage cracks.

Keep the fresh concrete damp for five to seven days by covering it with plastic, building paper or damp straw. Concrete which has "cured" five to seven days is stronger and resists wear.

For more information, write for a publication entitled "Pave Your Barnyard With Concrete" to the Bulletin Room, University of Minnesota, St. Paul Minnesota 55101.

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TYPE OF HERBICIDE  
DETERMINES WHETHER  
INCORPORATION NEEDED

The type of herbicide you use determines whether you should incorporate it, says University of Minnesota extension agronomist Gerald Miller.

Miller lists three herbicide types:

\* Herbicides such as EPTC which are either volatile or are likely to decompose rapidly if left on the soil surface. Such herbicides should be incorporated deep enough to reduce surface loss. The exact depth depends on factors such as soil texture, soil moisture and the chemical and physical properties of the herbicide.

\* Herbicides such as atrazine which are less volatile, but gradually lose their effectiveness when left on the soil surface. Under relatively dry soil conditions, such herbicides may perform better when incorporated.

\* Herbicides such as CDAA and linuron which are usually most effective when applied to the soil surface. Herbicides in this class may lose their effectiveness when incorporated.

Decreased effectiveness of highly soluble herbicides has been attributed to rapid leaching, says Miller. But sometimes herbicides of low solubility also perform less satisfactorily when incorporated. The decrease in effectiveness of some herbicides may be caused by greater absorption onto the soil or organic matter particles when they are mechanically incorporated.

add 1 -- benefits from incorporation

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Miller cites recent evidence that many preemergence herbicides control certain grass weeds most effectively when the chemicals are positioned for uptake in the shoot zone. He points out that roots have generally been credited as the site of absorption.

Miller also describes a "dilution effect" that occurs as the incorporation depth is increased. When incorporated, he says, herbicides should be kept relatively shallow and concentrated in the shoot zone.

But incorporation sufficient to reach soil moisture may increase absorption of the herbicide and mask the decreased effectiveness caused by dilution.

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## HORSE INDUSTRY IS BIG BUSINESS

Any 4 billion dollar industry is big business, and that's how much horse owners in the United States spend each year on feed and equipment.

It used to be that the easiest way to see a horse was to turn the TV set to a western in the evening. But a current horse boom has made light horses the fastest growing segment of the livestock industry today.

Back in 1920, when horses were used for farm power and public transportation, there were over 2-1/2 million horses in Minnesota. When horses started to be replaced by automobiles and tractors, many old-time horse lovers insisted that the horse would make a comeback.

It never happened that way--the automobile and tractor have dominated. By 1959, horse numbers in Minnesota had dwindled to about 61,000. Many of these were draft horses and have now been retired in favor of tractors.

But now there are close to 100,000 horses in the state, most of them used for sporting and pleasure. There's no accurate count of horse numbers available on a national basis, but estimates range from 5 to 7 million--double the number 10 years ago. The last U. S. horse census made in 1959 showed about 3 million horses and mules, mostly on farms.

R. M. Jordan, animal scientist at the University of Minnesota, says the affluence of our society, increased leisure time and the love for participation in an active sport spell increased horse numbers in the future.

As you might expect, horses are found where the people are. The state of New York has about 5600 owners with two or more horses, and the small but densely populated state of New Jersey has over 1500 owners with two or more horses.

An indication of how popular horses are becoming with young people is the number of 4-H club members enrolled in the horse project. Over 3600 members

-more-

add 1 - horses

are enrolled in Minnesota, and there are over 200,000 4-H horse project members in the United States.

Horse racing is America's leading spectator sport, outdrawing auto racing, baseball or football by about 30 million people yearly. Also, there are over 500 major horse shows, plus many small ones. The game of polo is expanding, riding to hounds is increasing and saddle clubs are springing up everywhere.

But horses aren't limited entirely to pleasure and sporting use, Jordan says. Most ranches still have horses and use them for a variety of purposes. At least three city police departments use horses for patrolling and riot control. And, a few horses still exist for farm work.

The increasing number of horses means that professional people are needed to look after their health and welfare. At least one veterinarian in Minnesota has a private practice which is devoted to horse care only, and several farriers--men who take care of shoeing and foot care--are active in the state.

The amount of feed required by a horse amounts to 3.5 to 4 tons per year. This adds up to about 350 tons per year to feed the horses in Minnesota, Jordan says.

A number of potential problems confront horse owners. Feeding, foot care, training and horsemanship, and prevention of diseases and parasites require a wide amount of knowledge.

To answer some of the questions horse owners may be asking, Jordan has authored two publications--University of Minnesota Extension Bulletin 348 entitled, "Horse Nutrition and Feeding," and Extension Bulletin 361, "Horse Selection."

The University also offers a course for horse owners on the care, management, showing and diseases of horses. The course is coordinated by Dr. George Mather, of the University's College of Veterinary Medicine.



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#### HOME AGENT RECEIVES FELLOWSHIP

Glenice Rugland, Thief River Falls, home agent in Pennington County, has been awarded a \$3,000 4-H fellowship for a year of federal government and graduate study in Washington, D. C.

She is one of six young Cooperative Extension Service workers from six states chosen on a nationwide basis for the awards. Other Midwesterners selected were Lina Crow, Fargo, N. D., and David Pace, Muscatine, Iowa.

Miss Rugland's plans are to do graduate study in home economics and communications.

Miss Rugland was an International Farm Youth Exchange (IFYE) delegate from Minnesota to India in 1966-67. Since her return she has been Extension home agent in Pennington County.

She received her B. S. degree in home economics education "with distinction" in 1964 from the University of Minnesota.

For four consecutive years she was granted an educational scholarship and one year won a scholastic and leadership award. Following graduation she was appointed home agent in Kittson County and served in that capacity until she went to India as an IFYE.

She holds memberships in Phi Upsilon Omicron, national home economics professional fraternity; Omicron Nu, national home economics honorary society; Pi Lambda Theta, national honor society for women in education; the National Association of Extension Home Economists; and the American Home Economics Association.

For 12 years she was a 4-H member and leader in Roseau County, where she grew up on a 540-acre farm. As a 4-H member she held the offices of president,

add l - home agent receives

secretary and treasurer of her club and gave many demonstrations at county and state fairs. At the University she was president of the Clovia Sorority.

Along with the other winners of the 4-H fellowships, Miss Rugland will report in Chicago in late August for a week's orientation by the fellowship fund donors -- the National 4-H Service Committee and Massey-Ferguson, Inc., farm equipment manufacturers. The young men and women then go to Washington where they will be hosted by the Federal Extension Service in the U. S. Department of Agriculture. In addition to classes at one of the colleges in the Washington area, their study program calls for spending two or more days a week in conference with officials of USDA and various other federal agencies.

The Federal Extension Service Division of Extension Research and Education directs the 4-H fellowship study program.

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### WATER SUPPLY MAY BE CRITICAL DURING 1968 GROWING SEASON

The availability of adequate moisture for crops may be critical during the 1968 growing season in many areas of Minnesota, according to University of Minnesota soil scientists Donald Baker and James Swan.

Chances are low that precipitation during the growing season will be adequate in amount and frequent enough to make up for depleted subsoil moisture supplies.

During March and the first half of April most areas of the state have had only normal precipitation. And, the rains have been unable to soak deeply into the soil since the soil surface is so dry. This means that the water is soon lost due to evaporation.

The scientists point out that most areas of the state have had extremely low precipitation since June 1967. Crops survived last season only by withdrawing large volumes of water from the soil moisture reservoir. By the end of the growing season the subsoil moisture supplies in many areas were largely depleted.

Soil moisture supplies in most areas weren't recharged last fall between the end of plant growth and freeze-up, one of two major soil moisture recharge periods. And, during the second major recharge period, this spring, water has failed to wet the soil surface and soak down into the subsoil to replenish subsoil moisture supplies.

Baker and Swan say that without adequate subsoil moisture reserves, plants

add 1 - low soil moisture

have great difficulty avoiding drought damage during rainless periods that occur during each growing season. Soil reserves are now low and the time is so late that there's only a small chance for a sizeable net gain in subsoil moisture reserves before next autumn.

As of April 15, subsoil reserves in the state are adequate only in extreme north-central and northeastern Minnesota, the scientists say. The southwestern and northwestern corners of the state are the shortest in moisture, except for some scattered areas which may have near normal subsoil moisture reserves.

State-wide rains over the weekend of April 13-14 added amounts varying from 0.5 to 0.9 inches of water to the topsoil, which temporarily relieved the dry condition of the surface soil. But the topsoil in the latter part of April usually loses about 0.05 to 0.08 inches of water per day by evaporation, and this greatly reduces the effectiveness of the water that remains in the topsoil, the scientists add.

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