

Department of Information  
and Agricultural Journalism  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Tel. (612) 373-0710  
April 6, 1981

Source: Sam Evans  
(612) 589-1711  
Writer: Jack Sperbeck  
(612) 373-0715

MEG  
3/2/81

### MANURE MANAGEMENT CAN SAVE FERTILIZER DOLLARS

You can save some money on fertilizer by fine tuning manure applications.

"Have manure samples analyzed by a testing lab to get a more definite reading on nutrient content," advises Sam Evans, researcher with the University of Minnesota's West Central Experiment Station at Morris. There can be big differences in N, P and K between samples.

"Don't use nutrient figures for fresh manure since this isn't what is hauled to the field," Evans says. There can be large nutrient losses during handling and storage. "In lagoons maximum losses of N and P can be as high as 80 percent," he adds.

Nitrogen is lost by volatilization of the ammonia and runoff and leaching in open lots. Under average conditions, you'll lose from 5 to 15 percent of the P and K in handling, except for open lots and lagoons designed as treatment rather than storage structures.

In open lots the P losses will average about 50 percent and K losses about 40 percent. However, all of these values will decrease with more frequent hauling, less rainfall for leaching and cooler temperatures.

A 50-cow dairy herd will produce a total of \$2,110 in fertilizer value annually. That assumes manure is stored in a deep pit and knifed into the soil and prices per pound of 17¢ for N, 20¢ for P<sub>2</sub>O<sub>5</sub> and 10¢ for K<sub>2</sub>O.

"When you're putting manure on crops it's useful to have figures on nutrient content on a per ton or per 1,000-gallon basis," Evans says. Such figures are available in the Livestock Waste Facilities Handbook from Extension Agricultural Engineers at the University of Minnesota, St. Paul.

add two--manure management

"But remember that these figures are estimates. Actual figures may be a lot different than those you see in the tables," Evans says. That's why it's important to have samples analyzed in a laboratory. Tests should be made for total N,  $\text{NH}_4\text{-N}$ , P, K, salt content and water.

Two Minnesota labs that will analyze manure samples are Serco Laboratories in Roseville and Minnesota Valley Testing Laboratories, New Ulm.

When you use manure as fertilizer, it's important to remember that most elements in manure aren't as available as those in conventional fertilizer. Usually about 40 percent of the N in manure is available the first year. However, stored liquid manure may contain over half its N in the  $\text{NH}_4\text{-N}$  form. In that case, N availability is greater than 40 percent since all  $\text{NH}_4\text{-N}$  is available the year you apply it.

Most of the P is in the organic form, so it's not all available the first year. From 70 to 80 percent becomes available the year of application. Availability of K the first year is 80 to 90 percent.

Corn is a good crop to apply manure to. It has a high nutrient requirement, and since it's an annual crop, there's time in the fall or spring to apply the manure and incorporate it to reduce odor, pollution and nutrient losses.

A 150-bushel corn crop takes up about 185 lbs. N, 80 lbs.  $\text{P}_2\text{O}_5$  and 215 lbs.  $\text{K}_2\text{O}$ . To meet the N requirement for the crop you'd need about 7,700 gallons of liquid beef manure. This would also supply 208 lbs. of  $\text{P}_2\text{O}_5$  and 262 lbs. of  $\text{K}_2\text{O}$  to the crop. But since P and K applications are above requirements, soil levels of these elements would build up rapidly.

Evans says a more reasonable rate might be 4,000 gallons per acre. This supplies 96 lbs. N, 108 lbs.  $\text{P}_2\text{O}_5$  and 136 lbs.  $\text{K}_2\text{O}$ . If your K test is already high, you need only additional N.

But if you repeat manure applications on the same field year after year, part of the unavailable nitrogen becomes available in each succeeding year.

add three--manure management

In this case you need to give some value to manure applications in previous years.

The best way to monitor P and K is with periodic soil tests. "But since manure usually isn't applied as uniformly as fertilizer, you need to take more samples to compensate for this problem," Evans says.

"Keep accurate records on each field on the amount, type and date of manure applications," Evans advises. This lets you apply manure only to fields where you'll get the most benefit. It also helps prevent building P and K test levels to ranges where you get no yield benefit, or a possible yield reduction.

"Damage from salt in the manure can be a problem with high or repeated applications of beef manure," Evans says. Possibility of damage depends largely on salt in the manure, which is a direct result of salt levels in the feed. Chances of salt damage decrease with more rainfall.

There are times during the year when you can't apply manure to land in annual crops like corn. You can apply manure to alfalfa or other perennial forages. Since the bacteria associated with alfalfa roots take nitrogen from the air for the crop's use, this isn't a good way to make use of the N in the manure. But if alfalfa ground is the only place you can spread manure, apply it so you utilize the P and K in the manure.

A 5-ton alfalfa crop takes up about 280 lbs. N, 50 lbs. P and 300 lbs. K. Applying 4,000 gallons of liquid beef manure supplies more P and slightly less K than needed. Spread the manure as soon after a cutting as possible to minimize salt damage and ammonia burn.

Another alternative with perennial forages is to make large manure applications before seeding to build up P and K levels. "Many farmers are replacing nurse crops with chemical weed control at seeding and this is another good way to use the manure," Evans says.

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RULES PROPOSED  
FOR POWER PLANT SITES

The Minnesota Environmental Quality Board (MEQB) has moved a step closer to adopting rules that would set limits and guidelines on sites for power plants, particularly in rural areas where prime farmland could be claimed.

At its March meeting, the MEQB gave the go-ahead for rule making proceedings including hearings throughout the state on the rules, which took some three years to develop. Included in the proposed rules are "avoidance areas" where a plant site would be allowed only if there are no practical alternatives. The amount of prime farmland that could be claimed for such purpose would be limited according to power plant capacity.

The proposed rules also call for expanded criteria on conservation and attention to community benefits and economic development that could result from a power plant siting. An inventory of any proposed power plant site would assess water availability, transportation access, impact on air quality and any state laws prohibiting power plants in certain areas.

Additional information on the proposed rules is available from the Minnesota Environmental Quality Board, 15 Capitol Square, 550 Cedar Street, St. Paul, MN 55101. During the rule making proceedings, the MEQB will accept collect calls at (612) 296-2169.

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NOTE TO AGENTS: April 20-26 is Bicycle Safety Week in Minnesota. Communities will be conducting activities to draw attention to their safety programs and to make children and adults aware of traffic laws that apply to bicyclists. Use this news story to spotlight Bicycle Safety Week.

Source: Sherri Wagner  
612/376-1369

### ENFORCING BIKE LAWS CUTS ACCIDENTS

Enforcing bicycle safety rules pays dividends. Among the Minnesota cities that strictly enforced such laws in 1980, the rate of bicycle accidents dropped by 18 percent.

Sherri Wagner, assistant 4-H Youth Development specialist at the University of Minnesota, says that the most frequent bicycle violations are failure to stop at stop signs, riding on the wrong side of the street, carrying passengers and riding between parked cars. These violations result in about 1,000 accidents each year in Minnesota. Last year, bicycle accidents claimed 19 lives within the state.

During Bicycle Safety Week, April 20-26, Wagner reminds bicyclists that they are subject to the same traffic laws as automobile drivers. Increasing numbers of communities are beginning bicycle safety education and enforcement programs.

Typically, such a program includes teachers in schools conducting in-classroom lessons followed by playground instruction on safe riding skills. These are often conducted by police officers assisted by volunteers from 4-H, the Highway Patrol, Scouts, Jaycees or other community groups.

Many police departments are hiring young people, ages 17 to 21, to enforce bicycle safety rules. These "bike patrol" members ride bicycles throughout the community, issue warnings or citations for violations and teach bicycle safety to groups of children. Violators of traffic laws are often required to attend a seminar to re-acquaint them with bicycle traffic laws.

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EARLY SIGN OF SPRING:  
GREENING OF THE PRODUCE COUNTER

Produce departments are greening up for spring, and that means a plentiful supply of crisp, nutritious salad ingredients, according to Mary Darling, extension nutritionist at the University of Minnesota.

Iceberg or head lettuce is the best known of all salad greens, and Darling suggests buying the greenest heads available. These offer highest Vitamin A content. Heads that "give" slightly when squeezed gently have the sweetest flavor and separate easily into individual leaves for attractive salads.

Romaine is another popular salad green. With careful refrigerator storage, it keeps well and its sweet taste and crisp texture make it a pleasant change of pace from iceberg lettuce salads. Young spinach is also catching on for salads, Darling adds.

"Greens for salads should be clean, crisp, cold and humid but dry," she comments. "Greens that have water drops on them are too wet and won't keep well. Dry greens thoroughly after they are washed. Dressing will not cling to wet greens and the flavor is diluted by water. Greens can be prepared ahead of time and stored in a covered bowl or plastic bag. Dressing and seasonings, however, should be added just before serving to avoid wilting the vegetables."

To get the most nutrients from salad vegetables, use them soon after purchase, keep them chilled and avoid soaking them in water. For any

Add one--Early sign of Spring

vegetables that require cooking, handle gently, cook in the least amount of water possible and cook quickly to a tender but still slightly crisp stage.

Cabbage is one vegetable that retains its nutrients quite well. In cold storage, heads retain as much as 75 percent of their vitamin C as long as six months. Don't let it dry out, however, and use the outer dark leaves where most of the nutrients are found. Peppers also retain nutrients well. Green peppers are high in vitamin C and mature red peppers are good sources of both vitamin C and vitamin A.

Tomatoes are an exception to the refrigeration rule. Those that are picked before they turn red will develop their nutrients at temperatures between 60 and 75<sup>0</sup> F. They shouldn't be refrigerated until they are completely red.

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Minnesota Women at Work #16

Source: Dottie Goss  
(612) 373-0914  
Writer: Deedee Nagy  
(612) 373-1781

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### WHAT WILL LABOR FORCE BE AS CENTURY TURNS?

In a few more years, the small number of persons born during the Great Depression will begin to leave the work force and their ranks will be filled by members of the post-World War II baby boom. By 1995, more than two-thirds of the growth in the labor force will be because of increasing numbers of women at work outside the home. Nearly half of all workers will be women by about the turn of the century.

What are some of the implications of this? Dottie Goss, extension family resource management specialist at the University of Minnesota, says that because much of this female labor force growth will come from mothers, employers may be forced to change their personnel practices, such as provision for day care and flexible scheduling, to attract these workers.

In addition, by 1995 the youngest of the baby boom generation will be in their thirties. They will face considerable competition for career positions, which could spell frustration for them but an overall boost to the nation's productivity. The oldest members of the baby boom generation will be in the pre-retirement years and at peak productivity, offering another boost to the nation's economy.

The labor force of the future will also be better educated than today's workers. Goss says higher levels of training and schooling will be typical for all classes of workers, but that women are likely to make big strides. Currently, 90 percent of the state's women between ages 25 and 34 are high school graduates and nearly half of this group has had some college. Men still edge women out in the number of college graduates, but this may nearly equalize within the next decade.

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Minnesota women at work #17

Source: Dottie Goss  
(612) 373-0914

Writer: Deedee Nagy  
(612) 373-1781

Employment briefs ---

The "pink collar ghetto" -- Many more women are working outside the home now, but they are flocking to jobs similar to those that they have held in the past -- as teachers, nurses, beauticians, waitresses and clerical workers. These sex-stereotyped jobs are sometimes referred to as the "pink collar ghetto."

Sixty percent of women but only 41 percent of men were classified as white collar workers in 1977. More than half of women were either clerical or service workers, occupations which account for less than 15 percent of men.

In the past decade, the largest increase in the number of employed persons occurred in service occupations, and women accounted for 80 percent of this increase.

\* \* \*

Part-time work -- About one-fourth of all Minnesota workers work part-time, defined as less than 35 hours a week. Women are more than twice as likely as men to work part-time -- 39 percent of women compared with 17 percent of men.

The presence of children is associated with hours of work. More than 40 percent of women who work part-time have children under age 18 at home, compared with 32 percent of women who are employed full-time. Most part-time workers, both men and women, report that they do not want full-time work.

\* \* \*

Add one--Employment briefs

Job turnover -- Men and women seem to differ little with respect to job turnover. Seventy percent of employed men and 68 percent of employed women said they are "not at all likely" to seek a new job within a year. About 80 percent of both men and women in a recent survey indicated that they did not expect to be in different occupations in five years.

About 40 percent of all persons working for pay have wages set by contract between their employer and an employee association or union. Women, however, are less likely than men to have their wages determined by union contract.

\* \* \*

Who is minding the kids?-- In a recent survey, one-third of employed women with children under age 18 found it necessary to make child care arrangements. By contrast, almost two-thirds of the fathers report that their spouse or some other family member takes care of the children.

Child care is provided predominantly in private homes. Only 16 percent of employed parents arrange for the care of their children in group centers or schools. Just over half of the child care being provided in the state is in the home of a relative or non-relative rather than in the child's home.

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Source: Charles Christians  
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Writer: Jack Sperbeck  
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### LIMOUSIN BULLS HAD HIGHEST GAINS

Limousin, Simmental, and Charolais bulls were top gainers in the Minnesota Central Bull Test.

Two Limousin bulls had the highest gains on the 112 day test. These bulls are owned by Leonard Wulf, Morris, Minnesota. They gained 3.60 pounds per day.

Twenty-five Simmental bulls on official test averaged 3.50 pounds per day the first 112 days on test.

The top gaining bull was a Simmental sired by Bar 5 Constructor owned by Howard Sargeant, Sandstone. This 3/4 Simmental had a 4.24 pound average daily gain and 3.34 pounds weight per day of age.

Twenty-one Charolais bulls averaged 3.49 pounds per day. Groen Charolais Farms, Clara City, had the top Charolais bull with 4.15 pounds on test. Hinrich's Charolais bulls from Clara City ranked high on weight per day of age with 3.62 pounds.

Twelve Gelbvieh bulls averaged 3.59 pounds per day for the 112 day test. James Young, Winona, had a bull that gained 4.06 pounds on test with 3.41 pounds per day of age. This highest gaining Gelbvieh bull was sired by Minnesota Magnum.

Twenty-five Shorthorn bulls averaged 3.07 pounds on test. Arnold Krog, Lake Benton, had the top Shorthorn at 3.88 pounds per day.

Twenty-nine Angus bulls averaged 3.08 pounds per day. Dennis Youngerberg, Springfield, owned the top gaining Angus bull with a 4.06 pound gain for 112 days.

Seven South Devon bulls grew at 3.12 pounds per day. The highest gaining (3.35) bull was owned by Horseshoe Lake Farms, Royalton, Minnesota.

The top gaining Hereford bull had a 3.17 pound gain and was owned by Jack Delaney, Lake Benton. The top Polled Hereford bull gained at 2.90 pounds and was owned by Leonard Thompson, Verndale, Minnesota.

add one--limousin bulls

The 125 bulls averaged 3.27 pounds for the first 112 days on test and will be for sale at 1 p.m. on April 25, 1981 at the Harder Livestock Exchange at Jackson, Minnesota.

The Minnesota Bull Test Station is located 3½ miles west of the junction of highways 15 & 8 near Truman, Minnesota. The Minnesota Bull Test is sponsored by the Minnesota Beef Cattle Improvement Association and supervised by the University of Minnesota Agricultural Extension Service. For more information on Central Bull Testing, contact C. J. Christians, 101 Peters Hall, 1404 Gortner Avenue, University of Minnesota, St. Paul, MN 55108.

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AG. ALUMNI REUNION  
TO BE HELD APRIL 25-26

The ninety-first annual reunion for alumni of the University of Minnesota's School of Agriculture will be held on April 25 and 26 in the Student Center on the St. Paul Campus.

Dr. Gertrude Esteros, professor emeritus in College of Home Economics, will speak at the banquet Saturday evening, April 25. Her topic is "Pacific Islands revisited." Last summer Dr. Esteros revisited islands in the South Pacific where she had been during World War II.

More than 12,000 graduates of the School of Agriculture are now living in Minnesota, mostly engaged in farming. About 300 are expected at the reunion to honor the classes of 1911, 1916 and every fifth year class since. William Bean, a member of the class of 1911, has made plans to come to the campus from Jonesboro, Ga.

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Contact: Don Bates  
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NEW FARM BUILDING  
HANDBOOK IS AVAILABLE

Farmers and others who want to build their own clear-span, gable roof, wood trusses should check the latest edition of Midwest Plan Service's Designs for Glued Trusses, MWPS-9, for detailed guidelines.

Designs for Glued Trusses gives maximum allowable roof loads for trusses instead of recommending member sizes for given snow zones as in previous editions. Snow load recommendations have been increased around Lake Michigan and in most of the northern part of the North Central region of the U.S.

Each of the 9,004 trusses for MWPS-9 was designed with the Purdue Plane Structures Analyzer (PPSA II), a computer program that accounts for joint rigidity and incorporates the latest design standards. Engineers and builders may be interested in a section on truss design which explains the specifics of the PPSA II analysis.

Summary pages are also included at the end of the book for recording dimensions and other specifications for 2, 4, and 6-web trusses.

Designs for Glued Trusses, MWPS-9, costs \$3.00 plus \$.12 sales tax and is available from Extension Agricultural Engineering, 201 Agricultural Engineering, University of Minnesota, St. Paul, MN 55108.

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Source: Sherri Johnson  
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Writer: Deedee Nagy  
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RECYCLING CLOTHING CAN KEEP YOU IN  
VOGUE WITHOUT PUTTING YOU IN DEBT

Frustrating, isn't it? Unless shopping for clothes is a top priority for both your time and budget, chances are many of the items in your closet are passé.

Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, agrees that buying new clothes with every whim of fashion is expensive. Instead, she suggests some simple alterations that can update a garment enough to get several more years of wear from it.

"If you can sew, the chances are that you can alter," she says. "The thing to keep in mind when considering altering a garment is 'Do I like the color and fabric?' If you don't, altering won't change that. You will have put time and effort into something that you still won't enjoy wearing."

Pants alterations usually involve the length, width and shape of the leg. These are quite easy to change, Mrs. Johnson says. Coats and jackets, however, are the most difficult to redesign. They often are the most costly garments to replace in your wardrobe so the effort may be worth it.

She adds that remodeling a garment can be a creative task. Some people enjoy the challenge and, for them, the time involved isn't important. "But for most people, time is valuable and you need to consider this before tackling an alteration. Remember, too, that if you will need to buy new accessories such as buttons or a new blouse to complete the outfit, your investment involves money as well as time."

Altering isn't for everyone, Mrs. Johnson stresses. "Someone with limited resources might be better off to buy second-hand or at a discount store. Remodeling clothing requires a sewing machine and some skills that low income people may not have. Remodeling is always a gamble because you may not be satisfied with the looks or fit. Gambling may not be wise on limited resources."

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### A FEW ALTERATIONS CAN UPDATE YOUR WARDROBE

Sometimes a few sewing skills coupled with knowledge about fashion trends can turn an outdated wardrobe into a fashionable one.

Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, says altering or remodeling garments is enjoying new popularity. She cautions, however, that not all remodeling projects will yield a garment that is worth the time and effort invested.

Some alteration projects are quite simple. Tapering pants, for example, can turn outdated flare-bottoms into the new, slimmer look. Mrs. Johnson says, "Remember to do both the outside and inside seams. Lay the pants flat and line up a yardstick from the hipline to the hem according to how tapered you want the pants."

Removing pants cuffs can be a problem because the cuffs' creases may show no matter how carefully you press the pants afterwards.

Changing a skirt style can also produce variable results. Mrs. Johnson says a flared skirt can usually be changed to a straight one quite easily, but it's hard to get pleat marks out so you may not be able to do much about a pleated skirt that looks dated.

Maternity clothes have short lives, but many of them can be altered to wear after the baby arrives. Straightening the hem and adding a belt can transform a maternity dress. On the other hand, if you're building a maternity wardrobe, you can insert a stretch panel into the front of a pair of pants.

Narrowing the lapels of a jacket or blazer is a major project, but if it's a good blazer that you wear regularly, Mrs. Johnson says the time investment is probably worth it. The same applies to men's suits and sport coats.

Altering a garment isn't always the only way to update it, Mrs. Johnson adds. "Sometimes all that's needed is just a different way to wear something. A new belt, scarf or other accessory might do just as well."

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#### SPECIAL MILK PROGRAM FOR 4-H EVENTS

Several events in the 4-H Building on the Minnesota State Fairgrounds this year will utilize the Special Milk Program available through the State Department of Education, Child Nutrition Section.

The 4-H Youth Development unit of the Agricultural Extension Service, University of Minnesota, will use the Special Milk Program at the Junior Leader Conference, June 15-19; 4-H Arts-In, Aug. 6-12; and the 4-H State Fair program, Aug. 26 - Sept. 7.

Under this program, milk is available at no separate charge to all children in attendance at major state 4-H events without regard to race, creed, color, sex, handicap or national origin.

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DEAN HAROLD MACY RECEIVES  
AWARD NAMED IN HIS HONOR

Harold Macy, dean of the University of Minnesota's Institute of Agriculture from 1953 to 1963 and a University staff member for a total of 44 years, received the first annual Harold Macy Food Science and Technology Award Monday (April 20). The award was given by the Minnesota section of the Institute of Food Technologists at its annual meeting at the Radisson Plaza Hotel in St. Paul.

Macy was recognized for his efforts to further the transfer of information and technology between food scientists at the University, in government and in private industry. A dairy bacteriologist by training and experience, Macy joined the University staff in 1919. He was a staff member in dairy husbandry until 1946 when he became director of the Agricultural Experiment Station, a position he held until assuming the dean's position in 1953.

During his University career, Macy wrote three textbooks and more than 150 technical articles in addition to receiving numerous awards and citations for his contributions to teaching and research. He continues to be active in the state section of the Institute of Food Technologists, a group that he helped found. Macy is 86. He and Mrs. Macy live at 2243 Folwell Ave., St. Paul.

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Source: Deborah Brown  
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### SAVE THOSE EASTER LILIES

There's no need to toss out your Easter lilies as soon as they're through blooming. If you have a garden spot in a bright, sunny part of your yard, you can plant them outdoors, suggests Deborah Brown, extension horticulturist at the University of Minnesota.

To prepare the plant for growth outdoors, remove its flowers as soon as they wither, she recommends. Keep the plant growing in a warm, sunny window until the leaves turn brown and dry. Then cut off the top growth at the soil line.

The bulb itself should be planted in the garden so that the top is six inches below the soil surface. It should be fertilized several times over the summer growing months with a balanced garden fertilizer. Brown adds that frequently, the Easter lily will reward you with a new display of flowers the first summer it is outdoors.

A good heavy layer of mulch applied in the fall will help carry the bulbs through most Minnesota winters without damage. And if they should be casualties of a severe season, Brown reminds gardeners that there's always another Easter and another chance to try the technique.

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DO YOU SPEAK METRIC?  
METRIC WEEK IS MAY 10-16

Are you beginning to feel more comfortable with liters, meters and grams? Metric measurement is making inroads in the U.S. and National Metric Week, May 10-16, has been designated to help acquaint the public with metric terms and their meanings.

Edna Jordahl, extension family resource management specialist at the University of Minnesota, says that Metric Week is supported by national education associations, the American Metric Council and a variety of national, local and state organizations as well as business and industry.

She adds, "Although many Americans don't realize it, metric measurement is an important part of our everyday life. The cars we drive, the beverages we drink, the movies we watch and many of the products we buy are made or labeled in metric dimensions. It is important that the consumer recognize metric measures and understand how the metric system works."

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SOURCE: Deborah Brown  
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WRITER: Deedee Nagy  
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SAVE YOUR MONEY--  
IGNORE ZOYSIA GRASS ADS

The University of Minnesota's horticulture clinic continues to get many questions about advertising claims being made in many popular magazines for zoysia grass plugs, says Deborah Brown, extension horticulturist at the University.

"Zoysia is a poor choice for Minnesota," Brown says. "In many cases it will survive the winter, but the plugs of grass won't spread in this climate to cover your whole lawn like the ads claim."

She says Zoysia grass is suited to the South, but even there it is a coarse grass. In this area, Zoysia will turn brown at the first frost and will turn green again very late in the spring.

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Editor: Jack Sperbeck  
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AG SCIENTISTS ARE "RELUCTANT REVOLUTIONARIES"

Agricultural scientists have been "reluctant revolutionaries," says Vernon W. Ruttan, agricultural economist at the University of Minnesota.

"They have wanted to revolutionize technology, but have preferred to neglect the revolutionary impact of technology on society," Ruttan recently wrote in an article prepared for Interdisciplinary Science Reviews. The article is part of Ruttan's book entitled Agricultural Research Policy, to be published by the University of Minnesota press.

Agricultural scientists "have often believed that it would be possible to revolutionize agricultural technology without changing rural institutions. Because they believed, they have often failed to recognize the link between the technical changes in which they took pride and the institutional changes which they either did not perceive or which they feared.

"As a result, they have often reacted with shock and anger when confronted with responsibility for institutional change that was induced by technical change."

However, Ruttan says it's "wasteful" for society to ask agricultural research managers and scientists to adopt objectives that aren't economically or politically sound. For example, it is "profitless to insist that the California Agricultural Experiment Station direct its mechanization or its biological research to the needs of the 160-acre farm, unless the state of California or the federal government is prepared to support the structural policies necessary to reverse the trends towards large-scale agriculture.

MBC  
9/25/79

Add one--Ag scientists are reluctant revolutionaries

"A research system cannot be asked to produce knowledge and technology that will not be used without eroding the intellectual integrity, and ultimately the scientific capacity of the research system."

In the future, Ruttan says society should insist on two things from agricultural science:

--Agricultural science must maintain a world-wide commitment to increase agricultural production. The world's increasing dependence on North American agriculture must be reversed. This dependence poses danger both to the developing world and to North America. Agricultural science in the developed countries must remain strong enough to contribute to and learn from the emerging global agricultural science community.

--Society should insist that agricultural scientists consider effects of agricultural technology on health and safety of agricultural producers, nutrition and health of consumers, and quality of life in rural communities.

Ruttan says agricultural science has the right to expect society to become more sophisticated regarding contributions of agricultural technology to the balance between man and the natural world. "The romantic view that agricultural science is engaged in a continuous assault on nature is mistaken. Society must understand that agricultural science can succeed in continuously expanding agricultural productive capacity only as it reveals and cooperates with the laws of nature."

Ruttan does not question society's right to hold scientists and research managers responsible for consequences of the employment effects of the technology based in their research--on mechanical tomato harvester, the health effects of improved tobacco or the environmental effects of persistent pesticides. But he insists that "It is in society's interest to let the burden of responsibility rest lightly. If society insists that advances in agricultural technology carry minimum risk--that agricultural scientists abandon their roles as reluctant revolutionaries--society must accept the

-more-

Add two--Ag scientists are reluctant revolutionaries

risk of killing the goose that has lain the golden eggs. The annual rates of return to investment in agricultural research have been high by any standard."

Western tradition, says Ruttan, leads to a view that technology alienates man from both the natural world and from the natural community. "But I can't believe that the Taiwanese farmer who harvests six tons of rice as a result of higher yielding varieties, chemical fertilizers and herbicides feels a greater alienation than his father who harvested less than two tons."

CA, IA

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3/25/81

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April 20, 1981

BEEF CATTLE CONFERENCE  
SET JUNE 4-5 IN ST. PAUL

Beef cattle survival in light of past years of low beef prices and increased production cost will be a focus of the Beef Cattle Conference to be held on the University of Minnesota St. Paul Campus, June 4-5.

Proposed changes in federal beef quality meat grading will be discussed by Richard Epley, University of Minnesota extension meat specialist, Minnesota State Cattlemen's president Christy Olson, and beef producer Leonard Wulf, Morris. A reduction in beef carcass marbling requirement could save money for the beef industry and provide the consumer a leaner, higher protein product. The Minnesota Beef Cattle Improvement Association will have discussions of state coordinated carcass evaluation on-farm performance and central test programs.

On the second day of the conference there will be a beef cattle reproductive efficiency symposium. Topics such as bull fertility, breeding behavior, ova transfer, and estrus synchronization will be discussed by veterinarians from the University of Minnesota College of Veterinary Medicine.

The University of Minnesota and elite purebred breeders who have superior performance tested cattle will have cattle on display.

To register, contact the Office of Special Programs, Coffey Hall, or C.J. Christians, Peters Hall, University of Minnesota, St. Paul, Minnesota 55108.

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April 20, 1981

LIVESTOCK EVALUATION CLINIC  
SCHEDULED JUNE 4

If you need to sharpen your livestock selection skills, a beef cattle, swine and sheep evaluation conference at the University of Minnesota, St. Paul Campus, is set for June 4th. The clinic will feature Wayne Vanderwert, of the animal science department at the University of Illinois, along with other judges who will serve as moderators.

Angus, Polled Hereford, Charolais and Simmental breeding cattle will be evaluated for type and performance. Various breeding and market sheep and swine classes will demonstrate current trends in desirable meat animals.

For more information and registration contact the Office of Special Programs, 405 Coffey Hall, or C.J. Christians, Extension Animal Science, 101 Peters Hall, University of Minnesota, St. Paul, MN 55108.

CA, 4L, TCO

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April 27, 1981

Note to Home Economists: The following material is extracted from the Winter issue of National Food Review, a publication of the USDA's Economics and Statistics Service.

### AMERICANS RESPOND TO INFLATION WITH GARDEN SHOVELS, FREEZER BAGS

American households are doing something about rising food bills. More and more consumers are hefting garden shovels and freezer bags to make their grocery budgets stretch.

Home food production and home freezing increased from 1964 to 1976, while participation in home canning shifted among types of households. In a survey of 3,500 households conducted in 1977, new trends in home food production showed up. Half of the surveyed households produced food at home in 1977 compared with one-third of the households in a comparable survey done in 1965.

Most of the increase in home food production appeared to be associated with vegetable gardening. More than 40 percent of the households grew tomatoes in 1977, compared with 27 percent in 1965. At the same time, the percentage of households producing animal products such as eggs, milk or meat for home use decreased from 10 to 7 percent.

The incomes of typical home food producers changed between 1965 and 1977 too. Once heavily associated with the lowest income groups, greater numbers of middle and upper income families produced food in 1977. In the lowest income levels, there was a reduction in the percent of home food produced from 43 to 35 percent. High food costs may have motivated upper income households to plant gardens, and their larger incomes may have helped make gardening costs more affordable.

Add one--Americans respond to inflation

In 1977, a household in a nonmetropolitan area was twice as likely to produce foods for home use as households in central cities. About 50 percent of households in suburban areas reported having produced food for home use.

Another major increase was in the number of households reporting home freezing of foods. The percentage of households engaged in freezing more than doubled between 1965 and 1977, increasing from 24 to 55 percent. The percentage of households canning foods remained the same, about 35 percent. Availability of home freezers, ease of preparing food for freezing and difficulty in obtaining canning supplies may have accounted for the surge in popularity of home freezing over canning. Like gardening, food freezing was most common among middle and upper income groups, possibly because of the cost of owning and operating a freezer. Freezer ownership has risen 57 percent since the mid-1960's.

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SPECIALIST: BEEF CONSUMPTION  
MYTH BASED ON FAULTY FIGURING

Do you eat more than 100 pounds of beef in a year? If you believe some often-quoted figures from the U.S. Department of Agriculture, that would seem to be the case.

Richard Epley, extension meats specialist at the University of Minnesota, disputes that figure. It is, he says, based on total carcass weight of beef cattle marketed each year. Only about 80 percent of cattle's weight reaches the retail meat counter, and bone, fat, cooking loss and trimmings left on our dinner plates reduce that even further.

"In truth, the average American eats about fifty pounds of beef yearly rather than the 107 pounds the USDA often publishes," Epley says. Bone and fat account for the biggest difference between the two figures, but shrinkage from cooking and uneaten portions left on our plates also have an effect.

The same method of figuring also leads to inflated figures for the amount of pork, lamb and veal we eat each year, Epley adds. Figures based on carcass weight for hogs, for example, would indicate that Americans eat an average of 70 pounds of pork yearly. If you subtract losses from meat processing as well as cooking losses and plate waste, the actual pork consumption is closer to 45 pounds per person per year. Veal and lamb each account for about a pound of actual consumption for each American in a year.

Epley says that the inflated figures for red meat consumption often lead to the conclusion that Americans are eating more meat than they need for good nutrition. This isn't so, he says. Totals for beef, pork, veal and lamb that are corrected for processing, cooking and plate loss show an average of about four ounces of red meat daily for each American.



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April 27, 1981

Source: Randy Jeppson  
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Editor: Jack Sperbeck  
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PLANTING DEPTH FOR SUNFLOWER  
SEEDS DISCUSSED

Parts of the state have adequate topsoil moisture, but many farmers face the possibility of planting their sunflower seeds into extremely dry seedbeds.

In this situation, the usual options are to plant shallow in dry soil in anticipation of rainfall or to plant deeper into the moisture zone and risk potential emergence problems. Randy Jeppson, agronomist with the University of Minnesota's Agricultural Extension Service, suggests considering several factors when making a decision on planting depth selection.

There is no difference in seed yield as a result of planting large compared to small seed if equal populations are established. However, it appears that seed size has a small effect on percent emergence.

Results of a study conducted at North Dakota State University indicate that on the average, large or size two seed emerged about six percent more than the smaller size five seed when planted at the same depth. When averaged over all seed sizes, emergence was reduced by five percent as planting depth increased from one to four and a half inches.

As planting depth is increased, larger seed has a slight advantage in emergence potential, compared to smaller seed. The relatively small reductions in emergence reported in this study would likely not have affected final yield since sunflower yield potential is comparable over a wide range in populations.

However, results of a study conducted at the University of Minnesota are somewhat different. When planted on a silt loam soil packed by heavy rains, emergence from depths of one, three, five, and seven inches was 97, 68, 42, and 5 percent, respectively. In addition, the number of days from planting to

## Add one--Planting depth for sunflower seeds

emergence was increased by four and eight days by planting at three and five inches deep respectively, compared to a one-inch planting depth.

"It's important to consider soil type when making a decision on planting depth," Jeppson says. In general, deeper planting is less risky on sandier soils as compared to heavier soils since heavier soils have more crusting potential if heavy rains and high temperatures follow deep planting. On sandy soils or in environments where topsoil dries quickly, planting can be slightly deeper than on fine-textured soils.

Differences in the number of days from planting to emergence is often observed between oilseed and non-oilseed hybrids. Non-oilseed hybrids often emerge more slowly than oilseed hybrids, which have thinner hulls that allow for more rapid water absorption and germination.

Growers have asked if planting depth will affect the potential for cutworm damage this year. Dave Noetzel, extension entomologist at the University of Minnesota points out that during the mid-70's, cutworm activity did follow dry conditions such as those experienced in 1980.

Noetzel says that at the present time we have no reason to expect serious cutworm problems this year, but he encourages growers to monitor their fields closely. In addition, Noetzel feels that planting depth probably won't affect the potential for cutworm damage.

CA, IA, 4-FC

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April 27, 1981

Contact: Dr. Walt Mackey  
(612) 296-5000

#### PSEUDORABIES DISEASE ALERT

Pseudorabies cases in swine and other Minnesota livestock increased over 250 percent in the first three months of this year, compared to the same time period in 1980.

According to a study by Dr. Walt Mackey of the Minnesota Board of Animal Health, each positive case of pseudorabies costs the livestock owner \$23,500. The study also showed that 75 percent of the infections were the result of purchasing infected breeding stock or feeder pigs. Healthy appearing hogs can be pseudorabies carriers.

While pseudorabies is primarily a disease which is fatal to baby pigs, other species can become infected and die. Deaths in 44 steers, 15 dairy cattle, and 18 sheep occurred on three separate farms during the past year. Numerous deaths have been reported in dogs, cats, and raccoon.

Pseudorabies is not related to the rabies virus. Pseudorabies causes no known problems in humans. It does not damage the carcass or the meat quality of hogs.

There is no known treatment for pseudorabies. However, vaccination can help reduce economic losses to producers. In infected herds vaccinated hogs can still carry the live virus and spread it to susceptible animals. Vaccinated hogs may carry a blood titer which cannot be differentiated from the titer of an infected animal. Consult with your veterinarian regarding vaccination.

Dr. Mackey and Drs. Al Lemman and Chuck Christians of the University of Minnesota suggest that hog producers follow these herd management practices to avoid pseudorabies:

--In cooperation with your veterinarian, establish a herd security program. Discuss the most likely ways for pseudorabies to enter your herd and take the necessary steps to reduce the chance of its entry.

--Buy only test negative breeding animals from pseudorabies free herds.

--Isolate for 30 days and then retest all breeding animals added to the herd.

--All show and exhibit animals returned to the herd should be isolated and retested the same as new herd additions.

Add one--Pseudorabies disease alert

--Do not buy feeder pigs and introduce onto a farm with a breeding herd.

--Provide sanitized boots and coveralls for all visitors who enter the production facilities. Keep visitors to a minimum.

--Do not permit pet dogs and cats to associate with the hogs. Stop pet movement between farms.

--Do not permit the commingling of swine with other livestock species.

--Establish an effective rodent control program.

--Clean boots and truck tires after going to places like livestock salesbarns, buying stations, packing plants and livestock exhibitions.

As counties begin to plan for their summer fairs, the following suggestions should be considered:

--Wherever possible, establish a terminal show. All exhibited pigs would go directly to market.

--Where breeding animals are to be exhibited, require a negative pseudorabies test within 30 days prior to the show. Encourage exhibitors to isolate animals upon return from an exhibition or show and retest before mixing with the other farm animals.

--Where county extension agents and 4-H leaders are involved in tattooing and weighing pigs for exhibition, extreme care should be taken to avoid any pseudorabies spread. Equipment should be sanitized between each group of pigs.

Minnesota law requires a quarantine on all herds where pseudorabies is confirmed, either by blood test or direct identification of the virus in animal tissues. But in addition to the quarantine herds, there are probably more infected herds in Minnesota.

Because the disease is unusually costly, take unusual precautions to keep the disease out. Once a herd is quarantined, the quarantine is lifted only after the disease has been eliminated from the herd. This is usually a lengthy and costly procedure. The Minnesota Board of Animal Health has the responsibility for the quarantine laws.

CA, IA, 4-L

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April 27, 1981

Source: Paul Hasbargen  
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Editor: Jack Sperbeck  
(612) 373-0715

CONSIDER FORWARD PRICING  
IF BEEF PRICES HIT MID-70's

Beef cattle prices could climb to the low \$70's per hundred by the end of June, and may run even higher for a short time before they decline again this fall.

That's the opinion of Paul Hasbargen, economist with the University of Minnesota's Agricultural Extension Service. Although the beef trade interpreted the April 1 Cattle On Feed Report as "neutral," Hasbargen says he's a bit more "bullish." "A closer look at the breakdown of the kinds and weights of cattle on feed led me to be a bit more optimistic," he says.

"The good news is that the bulk of the heavy weight cattle have been sold. This is especially true for heifers, where the numbers in the over 900 pound group were down 15 percent."

Hasbargen says those with cattle to market late in 1981 may find opportunities to forward price on the cash price bulge that could occur during the next 60 days. "Seriously consider opportunities to forward price in the mid-70's," he advises.

"If cash prices run up into the high 70's, the prudent manager may want to do some forward pricing since the futures for fall months would be high at the same time," he adds.

Hasbargen says average market weights will be two to three percent lower this year. He expects a four to six percent decline in fed beef production from year earlier levels and an even sharper decline from first quarter levels.

"If hog marketings also drop off during this quarter, total red meat supplies will be sharply lower," he says. The decline could be tempered by dry weather, causing additional sell-off of pasture cattle.

"An additional plus factor was the news that real growth in the U.S. economy was up by over six percent during the first quarter. This should show up soon in stronger consumer demand for beef."

CA, IA, TCO

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May 4, 1981

Source: Paul Hasbargen  
(612) 373-1145

Part II

IRS DELAYS HIGHER INTEREST RATE  
ON INSTALLMENT SALE CONTRACTS

The Internal Revenue Service (IRS) has announced a delay in the effective date of their proposed rule changes regarding imputed interest rates on installment sales contracts and loans between related entities, according to Paul Hasbargen, extension economist at the University of Minnesota. The newly announced effective date for these changes is July 1, 1981.

The existing rule under section 483 of the Internal Revenue Code is that IRS will impute an interest rate of 7 percent on installment sale contracts if, in fact, the contract is made at less than 6 percent. This rule will remain in force until July 1.

Hasbargen adds that last fall, IRS announced a change in the rule, increasing the imputed interest rate to 10 percent if the contract is made for less than 9 percent. At the same time, the IRS announced an even greater increase in the minimum "acceptable" interest rate on loans between related entities from 6 percent to 10 percent. The effective date of this rule change has also been extended to July 1, 1981.

The IRS also announced that in cases where both this rule (the one on loans between related entities) might be applied and the other rule (the one on deferred payments) the lower 9 percent "acceptable" minimum would apply. This change should help clear up the current confusion as to whether certain deferred payment sales contracts might fall under the loan rule rather than the deferred sales rule, therefore requiring a higher interest rate.

Hasbargen observes that if widely noted, these two announcements, can help clear up the current confusion following the rulings of last fall. He expresses concern, however, over the fact that the rulings, when first made last fall, called for interest rates on farm land contract sales that "were above the existing market rate in Minnesota".

Hasbargen testified at a U.S. Senate committee meeting April 27. He pointed out that the announcement of last fall has caused the interest rate on many contract sales to be increased, causing greater cash flow problems to purchasers of farm land.

Hasbargen questioned the wisdom of an IRS ruling that increases the difficulty of a beginning farmer to get started in farming at the same time that Minnesota and many other states are spending tax dollars in efforts to help young farmers to buy land through partial subsidization of interest payments.

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UNWANTED PINK COLOR IN  
COOKED MEAT LINKED TO  
COOKING METHODS

Juicy pinkness is a sought-after quality in beef roasts, but when it crops up in a fully cooked meatloaf or in pork chops prepared on the covered barbecue grill, it can be alarming.

Richard Epley, extension meats specialist at the University of Minnesota, reports that a number of consumers have noted this pink cast in fully cooked meat. If the meat is pork or a pork mixture, the cook may wonder if the meat is cooked sufficiently to destroy the organisms, if present, that can lead to trichinosis in humans. Normally, experts advise cooking pork until the pinkness has just disappeared to insure safety.

Epley reassures consumers that this pinkening of some kinds of meat is not related to how well done the product is. Instead, it indicates that either the cooking method or the ingredients added to the meat before cooking have altered the normal color changes associated with cooking.

In the case of meat loaf, stuffed green peppers or other items combining ground meat and green vegetables, the vegetables add nitrate to the meat mixture. The nitrate in onion, celery or green pepper combined with heat actually cures the meat in much the same way that nitrate and smokehouse heat cure pork into ham or bacon. The characteristic pink color of cured meat shows up in the meat loaf or other meat item, Epley explains.

-more-

Add one--Unwanted pink color in cooked meat

Meat cooked in a covered barbecue grill also can show an external pinkish cast when fully cooked. Epley says, "Apparently during cooking of meat in such a grill, carbon monoxide is released. This combines with the myoglobin in meat to form carbon monoxide myoglobin, which is pinkish-red. This level of carbon monoxide in meat is not known to be harmful."

Occasionally, the exterior of a roast cooked in a gas oven will stay pink after cooking to a well done stage. Epley says that this indicates that some compound is attaching to the myoglobin in the meat. A thorough cleaning of the gas oven jets often eliminates the problem, Epley adds.

"Consumers should use a meat thermometer to check the internal temperatures of cooked meat," Epley suggests. "Beef is rare at 140° F, medium at 150° F and well done at 160° F. If meat is still pink after cooking to well done, the problem may be in the cooking method or in the ingredients or seasonings added to the meat. Something is serving as the source of either nitrate or carbon monoxide. If you can't track it down yourself, contact me. I may be able to help."

Epley's address is 136 Andrew Boss Laboratory of Meat Science, University of Minnesota, St. Paul, MN 55108. His telephone number is (612) 373-0977.

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May 4, 1981

FAT AND CHOLESTEROL -- TWO  
LOADED WORDS, OFTEN MISUNDERSTOOD

Fat and cholesterol are two components of meat that are often misunderstood and even feared by the meat-eating public. Richard Epley, extension meats specialist at the University of Minnesota, points out that fat and cholesterol contents vary among types of meat and, in fact, all fat is not alike.

He explains that consumers can control the amount of fat they consume. Steaks from the top loin can vary from only about four percent fat in beef graded Good to 14.6 percent fat in beef graded Prime. This difference can boost the calorie content of a three and one-half ounce steak from 125 calories for the Good graded steak to 210 for a steak graded high Prime. Even in leaner beef cuts such as round steak, the fat percentage can vary from less than three percent for Good graded beef to seven percent for some Prime round steak.

Epley says, "Consumers concerned about fat intake and calories should learn to evaluate cuts of meat for the amount of trimmable fat and the amount of marbling (the visible intramuscular fat within a cut of meat). The cooking method also affects fat content. A three and one-half ounce ground beef pattie has 237 calories when raw, about 165 calories if grilled or broiled and about 145 calories if cooked in a microwave oven."

How much fat is needed to insure flavor, juiciness and tenderness in steaks, chops and roasts? Epley says research shows that about four percent fat (slight to a small amount of marbling) is necessary for "acceptable" palatability, juiciness and flavor but marbling is not a major factor in tenderness.

Add one--Fat and cholesterol

Cholesterol is a compound found in animal cell membranes, nerve tissue, bile and gallstones. It is an essential part of all animals' cells and is synthesized in the human body. It is not present in plant foods, however.

Cholesterol is often misunderstood, Epley says. Cholesterol content varies between types of meat. Veal and lamb have a higher cholesterol content than beef and pork. Highly marbled meat does not contribute more to cholesterol intake than does meat with little marbling. Thus, decreasing the amount of fat selected in meat does not decrease the amount of cholesterol. It does reduce the calorie level, however, and this may be more important to health because of the link between obesity and calories, Epley adds.

CA, 4HE I & II

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CATTLE PRODUCERS TO BE HONORED  
AT U OF M BEEF CONFERENCE

Three Minnesota beef producers will receive awards at the University of Minnesota's St. Paul Campus on June 4.

They are Howard Krog, Lake Benton; Lowell E. Schafer, Goodhue; and Earl Schmidt, Ward, S.D. The three will be honored at the annual Beef Cattle Improvement Association's awards banquet.

Many prominent Minnesota beef producers were nominated for these awards says Charles Christians, extension animal husbandman at the University of Minnesota. Awards are based on excellence of the individual's beef performance program plus service to the livestock industry and the community.

Krog will receive the Minnesota Purebred Beef Performance Man of the Year Award. He has raised Simmental cattle for many years and was an early user of ova transfers.

Schmidt will receive the Minnesota Commercial Beef Performance Man of the Year Award. He has used performance records for 27 years to help produce outstanding crossbred cattle.

Schafer will be named Minnesota's Young Beef Producer of the Year. He will be recognized as a leader in his community and state cattle organizations. Schafer has a partnership in a Hereford herd and emphasized performance selection as a key tool for herd improvement.

The conference will be held at the University of Minnesota's Earle Brown Continuing Education Center, St. Paul. Registration starts at 12:30 on June 4. The afternoon session will deal with potential beef carcass grade changes, on-farm performance selection and central test station programs.

The Beef Cattle Conference will continue on June 5 with a forenoon program on bull and female reproductive efficiency. The afternoon session will be highlighted by a display of the top performance cattle in the state.

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May 4, 1981

Source: Paul Hasbargen  
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Part I of II

PROPOSED  
IRS CHANGES  
COULD HURT BEGINNING FARMERS

Washington, D.C. -- Proposed changes in the Internal Revenue Service (IRS) code will discriminate against beginning farmers, a University of Minnesota economist told the Senate IRS Oversight Committee Monday, April 27.

The IRS announced proposed rule changes last fall saying that land contract sales not showing interest rates of at least nine percent will be taxed as though the interest rate was 10 percent.

The proposed regulations are "in direct conflict with one agricultural policy objective of this nation--to preserve its family-farm oriented agricultural structure," said Paul Hasbargen, economist with the University of Minnesota's Agricultural Extension Service.

Low equity, beginning farmers are most often granted a low interest rate when buying a farm. Minnesota's Department of Agriculture is responsible for a farm loan program aimed at helping young farmers get started in farming.

"Almost all farm sales involved in this program are contract-for-deed sales where the interest rates are negotiated privately between the buyer and the seller," Hasbargen said. All but two of about 200 sales in the past three years (before the proposed IRS rule changes) were at interest rates from six to eight percent.

"Some negative aspects of the proposal have already been felt by beginning farmers in Minnesota," Hasbargen said. An increase of two percentage points in the interest on a \$200,000 farm loan means an additional payment of \$3,030 per year on a 20-year payment plan, or an extra \$60,000 over the 20 years. The average loan under Minnesota's Farm Security Program is \$195,000.

Add one--Proposed IRS changes

These changes in cash flow requirements will "block entry into farming for some individuals and may force the exit of others," Hasbargen said.

The proposed regulations by IRS force the viewpoint that inflation rates will remain high on all citizens who draw up land sales contracts, Hasbargen said. "But this is contrary to the goals and economic projections of the government's executive branch, to which IRS is responsible," he added. President Reagan's message to Congress included a projection of the Consumer Price Index dropping from 11.1 percent in 1981 to 4.2 percent in 1986.

"If IRS persuades all land traders to accept their long term inflation forecasts, can government also be held responsible if land purchasers default on future loan payments? Purchasers could lose their farms back to the sellers if we have a period of significantly lower inflation rates. This would wipe out the inflationary increases in cash flows that are now bid into land prices, as well as the inflation premiums now included in interest rates.

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Tel. (612) 373-0710  
May 11, 1981

Source: Deborah Brown  
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Writer: Deedee Nagy  
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MSC  
5/27/81

KNOW HOW TO BUY  
BEDDING PLANTS  
FOR A BEAUTIFUL GARDEN

This is the time of year when colorful marigolds, petunias, bachelor buttons and dozens of other bedding plants beckon from every garden store. Deborah Brown, extension horticulturist at the University of Minnesota, offers some tips for those buying flowering bedding plants for transplanting into their gardens.

First, keep your intended location in mind, she suggests. Plant height and the amount of sun or shade will affect which plants are most appropriate for your yard.

Select compact, branched plants rather than tall, spindly or overgrown ones, Brown advises. Plants that are barely budded or even less mature will transplant better than larger plants that already show an abundance of blossoms.

Brown also suggests buying plants with good green color in the leaves. Pale leaves indicate a nutrient deficiency.

For transplanting ease, she recommends buying plants in compartment-style containers rather than those growing in solid packs. If you do choose solid packs, divide the plants with a sharp knife rather than pulling them apart. Using a knife will avoid some of the root damage that could result from tearing the plants apart.

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May 11, 1981

Contact: Donald Bates  
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### SWINE FINISHING BUILDING PLAN AVAILABLE

A plan for a modified open-front swine finishing building featuring two manure handling options is available from the Midwest Plan Service.

The plan, mwps-72689, is for a 28 by 56 or 64-foot pole frame building housing three 8-pig litters in each of seven pens for a total of 21 litters or 168 pigs.

Plan A shows a 10-foot-wide by 8-foot-deep manure storage pit under slats. Plan B offers a 10-foot-wide by 1-foot-deep gutter flushed with a tipping bucket under slats. A lagoon is recommended with the flush option. The flush option building is 8 feet longer than the pit unit.

The open front, rear vent doors, and ridge vents provide natural ventilation. The open front can be closed down with doors or rolled curtains in cold weather. Supplemental heat provided by heat lamps, radiant heaters, heat pads, or electric or hot water floor heat may be desired.

Lumber specifications and a 28-foot truss sheet are included with the plan. Construction details are given for poles and walls, pole anchors, pit endwalls, open ridge vents, ventilation doors and framing, insulated roof panels, endwall framing, knee braces, concrete partitions, flush tanks, and an uninsulated wall option.

The 10-page finishing building plan, mwps-72689, is available from Extension Agricultural Engineering, 201 Agricultural Engineering, University of Minnesota, St. Paul, MN 55108 for \$2.00 plus \$.08 sales tax.

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Department of Information  
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May 11, 1981

Contact: Donald Bates  
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### SWINE GESTATION PLAN AVAILABLE

Three manure handling options and two layout alternatives are featured in a modified open-front swine gestation plan available from the Midwest Plan Service.

The plan, mwps-72693, is for a 28 by 48-foot pole frame building with a partly slotted floor. Six 8 by 24-foot pens hold 12 gestating sows each and open into a 3-foot alley. An optional breeding/gestation layout provides four additional 12 by 24-foot pens for pen breeding and is 96 feet long. The gestation building is designed to accommodate a 20-sow farrowing unit.

Three manure handling systems are detailed. Plan A shows an 8-foot-deep manure storage pit under 10-foot slats. A 1-foot-deep flushed gutter under 10-foot slats is featured in Plan B, and Plan C has a 3-foot-wide open gutter flushed with a 150-gallon siphon-flush tank.

The gestation building is naturally ventilated through the open front, rear vent doors, and ridge vents. The open front can be closed down with doors or rolled curtains.

The 14-page gestation building plan, mwps-72693, is available from Extension Agricultural Engineering, 201 Agricultural Engineering, University of Minnesota, St. Paul, MN 55108 for \$3.00 plus \$.12 sales tax. Also available for 50¢ plus \$.02 sales tax is 3-Inch 150-Gal Siphon-Flush Tank, AED-17, a digest explaining siphon-flush tank construction and operation.

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May 11, 1981

WET WEATHER SPURS  
CEDAR-APPLE RUST

If your cedars or junipers appear to have been invaded by rusty orange colored sea anemones, you are one of many with the same concern. The University of Minnesota's Plant Disease Clinic reports many inquiries from homeowners observing the strange tendril-like structures on their trees.

Cedar-apple rust becomes evident on junipers and cedars during wet springs such as this one. The orangish spore horns release spores that in the presence of moisture, infect apple leaves and fruit, hurting both quantity and quality of the fruit tree's yield.

Although unsightly, the spore horns do not harm cedar or juniper trees, according to University plant pathologists. Clipping the spore horns from your cedars will not protect nearby apple trees because spores are already in the air from many infected cedars. If wet weather continues, the released spores will infect apple and crab apple leaves and fruit unless a good spray program is used on the trees regularly throughout the season.

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May 18, 1981

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#### FARMER COOPERATION NEEDED ON USDA SURVEY

Disappointing farm prices, soaring interest rates, and climbing production costs are overriding factors affecting farmers' production plans this year, according to the Minnesota Agricultural Statistics Service. The service surveys farmers each May and June to determine their production plans for the 1981 crop year and livestock inventories.

Carroll Rock, director of the service, says this year's survey will be particularly significant because of the current cost/price squeeze farmers are experiencing. A sample of Minnesota farmers will be interviewed personally by trained enumerators. Others will receive a questionnaire in the mail about crop acreages and livestock inventories.

"The current farm price situation makes it important that we have good information from farmers so our reports can reflect the direction of this year's farm production," says Rock. The service mails over 80 percent of its reports to farmers who use them in production and marketing decisions. "Because they're used mostly by farmers, it's important that these reports are accurate," says Rock. "A better response by the farmers we contact greatly improves the accuracy of the reports."

The roster of U.S. and Minnesota reports that are generated from these surveys are: 1981 spring planted acres (available on June 29); the season's first yield and production estimates for major crops (Released on July 10); hog and pig inventories (June 22); and cattle numbers (July 27). Farmers who are not receiving these reports may order them by writing: Ag Reports, P.O. Box 70068, St. Paul, MN 55107.



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May 18, 1981

Source: Chuck Christians  
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#### SIMMENTAL AND GELBVIEW BULLS SELL FOR TOP PRICES

Eighty performance tested bulls sold for an all-time high average (\$1389) at the Minnesota Central Test Station sale April 25. Nine Gelbvieh bulls averaged \$1780 while 18 Simmentals averaged \$1644.

Only the top 75 percent indexing bulls for growth rate were eligible for the auction. All bulls were branded with an "elite" Minnesota Beef Cattle Improvement Association brand.

Ten breeds had the following sales averages: 9 Gelbvieh, \$1780; 18 Simmental, \$1644; 15 Angus, \$1393; 13 Charolais, \$1419; 12 Shorthorn, \$981; 5 South Devon, \$1135; 2 Limousin, \$1487; 3 Red Angus, \$1016; 2 Horned Herefords, \$962; 1 Polled Hereford, \$750.

A 7/8 Gelbvieh, sired by Belgrad, topped the sale at \$2550. He was consigned by Clair Sauer, Lewiston and sold to Philip Jensen, Albert Lea.

Another 7/8 Gelbvieh, consigned by Clair Sauer, Belgrad, brought \$2400 and was sold to Lloyd Lindstrom, Laurens, Iowa.

The top Black Angus bull brought \$2400 and was consigned by Mensch and Senne, Welcome. He was a son of Bon View Long Distance, and sold to William Leupold, Spirit Lake, Iowa.

A purebred Gelbvieh consigned by Don Vogl, Walnut Grove sold for \$2300 to Robert Vogl also of Walnut Grove. The bull was sired by Floto.

James Bryan, Red Wing, Minnesota, consigned the top-selling Polled Shorthorn, an Abraham son. He sold for \$2,000 to the West Central Experiment Station, University of Minnesota, Morris.

Add one--Simmental and Gelebvieh bulls sell for top prices

The top Simmental bull was consigned by Jeff Sorenson, Ada. This 7/8 son of Salz sold for \$950 to Eilders Farms, Spring Valley, Minnesota.

The top Charolais bull was a polled son of Frisbie Mac Polled 245, from Wakefield Farms, New Richland. He sold for \$1900 to Craig Ferguson, Laurens, Iowa.

Leonard Wulf, Morris, Minnesota consigned the top Limousin bull. The 3/4 son of Goldenview Hebrides sold for \$1500 to Schmidt Herefords, Eyota.

A purebred South Devon bull, from Heath Creek Farm, Northfield, brought \$1300. The buyer was Eldon Gradert, Luverne.

Russell Pankonin, Sanborn, paid \$1050 for the top Red Angus consigned by W.G. Rohlfen, Windom.

The top Hereford bull brought \$975 and was consigned by Delaney Herefords, Inc., Lake Benton. The buyer was Adam Rachuy, Westbrook, Minnesota.

Cattle breeders from four states consigned bulls from the Minnesota Beef Cattle Improvement Association Test Station to the sale, according to C.J. Christians, University of Minnesota extension animal scientist.

Auctioneers were Ken Webster, Norfolk, Nebraska and Ron Harder, Jackson, Minnesota. The sale manager was Harder Livestock and Auction Management, Jackson, Minnesota.

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May 18, 1981

Source: Donald Wyse  
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Editor: Jack Sperbeck  
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#### WEEVIL MAY LIMIT QUACKGRASS CONTROL

A weevil may be the reason that glyphosate (Roundup) doesn't give complete control of quackgrass, according to researchers at the University of Minnesota's Agricultural Experiment Station.

Scientists have found that larvae of the Notaris bimaculatus weevil feed on the underground rhizomes of quackgrass and inhibit translocation of the Roundup herbicide.

Controlling the insect with a soil applied insecticide for two months before applying Roundup resulted in better quackgrass control in research trials, according to Donald Wyse, University weed scientist. However, the soil insecticide treatment probably won't be practical for farmers since the insects live deep in the soil. And many times the insects are well protected when they feed inside the rhizomes, or root-like structures.

Wyse, graduate student P. H. Westra and entomologist E. F. Cook noticed that the life cycle of the insect was closely associated with quackgrass. They evaluated some quackgrass rhizomes from fields treated with Roundup near Roseau, Minnesota.

"Some of the quackgrass regrowth was due to insect feeding damage that interfered with Roundup translocation through the rhizome system," Wyse says. "This is the opposite of 'biological control.' It's 'biological protection' of the quackgrass." The insects sever some of the rhizomes from shoots and prevent translocation of the herbicide from the shoot to all parts of the rhizome.

Quackgrass control with Roundup ranges from good to excellent, but rarely gives complete control, Wyse says. It works well in sod renovation programs.

But failure to get complete control in sod fields leads to quackgrass reinfestation in a matter of years. "This is a special problem for northern Minnesota farmers who produce Kentucky bluegrass and timothy seed in perennial sod fields that are commonly left in production for five to 10 years," Wyse says. No mechanical or chemical techniques are available to selectively remove quackgrass from such fields.

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Source: A. C. Caldwell  
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#### IRRIGATED MALTING BARLEY A POSSIBILITY IN MINNESOTA

"Malting barley could be a good crop to grow under irrigation if yield and quality are satisfactory," says A. C. Caldwell, soils researcher with the University of Minnesota's Agricultural Experiment Station. Caldwell and co-workers have been growing malting barley for several years at the Irrigation Station near Staples.

"There's enough irrigated acreage for growing malting barley in the state. And the concentrated irrigation area in central Minnesota is a plus for production and transportation," Caldwell says.

Irrigated malting barley won't become a common crop until it's financially competitive with other crops. But in some cases, malting barley may be competitive with corn, Caldwell says.

Raising 100 bushels of irrigated corn priced at \$3.25 per bushel with cash costs of \$166 per acre gives you a net return of \$159 per acre. A 65-bushel yield of irrigated malting barley at \$3.60 per bushel with cash costs of \$78 per acre leaves a net of \$156, or about the same return as for corn.

The researchers used different nitrogen rates to check effects on yield and quality. There were sharp yield increases of about 30 bushels per acre from nitrogen applied at 45 pounds per acre, compared to no nitrogen. A 90-pound nitrogen rate raised yields roughly another 30 bushels, to 89 bushels per acre (average yield for six varieties).

However, there was only a five-bushel gain in yields when nitrogen rates were increased from 90 to 135 pounds.

add one--irrigated malting barley

"The quality factor that's often hard to control is protein content," Caldwell says. Irrigated soils in Minnesota are mostly sandy, low in organic matter and in supplies of native soil nitrogen.

But growing malting barley under irrigation lets you tailor the supply of nitrogen to control protein content of the grain. The combination of nitrogen fertilizer and irrigation results in higher yields, so the nitrogen applied fertilizer adds extra bushels instead of higher protein content.

With dryland barley grown on soils higher in organic matter, either soil nitrogen or N from fertilizer may result in protein content that's too high for quality purposes if there's not enough moisture for higher yields.

Protein levels were satisfactory in the research trials. At the 90-pound nitrogen rate, the protein was 10.5 percent. With 135 pounds of nitrogen, it was 11.2 percent.

At the 90-pound nitrogen rate, 75 percent of the barley was plump; and 73 percent tested plump when 135 pounds of nitrogen were applied.

On irrigated sandy soils split applications of nitrogen give best result. "The small plant can't use much nitrogen early in the season," Caldwell says. "Eventually, the extra nitrogen moves down the soil profile beyond the reach of the plants." The split application resulting in highest yields for 90 pounds of nitrogen was when 40 pounds were applied preplant, 30 at tillering and 20 at early boot. Protein content was 11.2 percent and 71 percent of the kernels graded plump.

There are no farm records for malting barley yields under irrigation. But if competitive yields can be produced, there's "no reason" why the crop couldn't occupy a significant acreage in the state's irrigation area, Caldwell says.

The research project was partially funded by the Malting Barley Improvement Association.

Department of Information  
and Agricultural Journalism  
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May 18, 1981

Source: Paul Hasbargen  
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Writer: Jack Sperbeck  
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### BUY MEAT NOW, ECONOMIST ADVISES

Beef and pork are excellent consumer buys, says Paul Hasbargen, economist with the University of Minnesota's Agricultural Extension Service.

The wholesale meat prices released in early May by the Department of Labor showed another decline. Meat prices have been declining for six months, but Hasbargen expects them to increase during the next six months.

"Meat prices will probably start to move up by June and they'll probably go up more after July 1," Hasbargen says. He says that both institutional meat buyers and consumers may want to take advantage of current "bargain protein" values.

However, during the current marketing quarter Hasbargen expects red meat supplies to decline. At the same time, consumer interest should pick up as we move into the outdoor barbecue season. April probably will be recorded as the lowest wholesale meat price month this year.

Due to the usual time lag between wholesale and retail prices, May will likely record the lowest mid-month retail prices, he says.

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RED-ORANGE DINNERWARE  
MIGHT BE BEST RETIRED

If you have bright red-orange glazed ceramic dinnerware dating back to the 1960s or even to pre-World War II days, you might want to retire them from meal-time service.

This is the suggestion of the Food and Drug Administration's Bureau of Radiological Health. It is possible that the glaze could leach lead and radioactive uranium in tiny amounts into food, the FDA says.

After analyzing samples of one line of such dinnerware, marketed as Fiesta ware, the FDA stated, "The levels of radioactive material in ceramic tableware are not considered hazardous. However, such exposures are clearly avoidable and of no benefit to the public. Therefore, the use of such products should be avoided as unnecessary exposure to radioactive materials." The FDA adds, however, that display of such dinnerware as collectors' items poses no health hazard.

Most of the tableware in question was produced before World War II and during the 1960s and was sold under such brand names as Fiesta, Caliente, Early California, Edwin M. Knowles Franciscanware, Harlequin, Poppytrail, Stangl and Vistosa.

The manufacturers stopped producing dinnerware containing uranium in the early 1970s and the FDA knows of no manufacturer currently using uranium glazes in ceramic tableware. The leached lead levels observed were not considered significant from a health standpoint.

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June 1, 1981

Source: Jeff Reneau  
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Editor: Jack Sperbeck  
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### CUT DOWN ON COW STRESS

You're a good manager if you've removed all stress factors from the dairy herd except the stress of milk production.

Observing your cows is a practical way to measure stress in your herd, says Jeffrey Reneau, extension dairy specialist at the University of Minnesota. "Comfortable, stress-free cows should be doing one of three things," Reneau says.

--Standing to be milked

--Standing to eat or drink

--Lying down to rest or ruminate

"Think of what cows do when they're in their natural environment on pasture," he adds. "Don't take it for granted if a large percentage of the herd is standing to ruminate. Ask yourself why. Is there room to lie down? Is the stall comfortable? Does the heifer or cow have trouble getting up so she elects to stand? Is she in heat?"

Clean, comfortable cows with few teat injuries and knees and hocks free of lesions should have a relatively low stress level. "Good sanitation is probably the most neglected area on the dairy farm," he says. Manure-packed calf or maternity pens and wet, muddy exercise lots are significant stress factors in calf scours, mastitis and reproductive diseases. When you couple poor sanitation with the normal stresses of calving and high production the risk of mastitis or reproductive diseases increases," Reneau says.

Any stress factor by itself may seem insignificant. But when you add a number of stress factors up it has a significant effect on the cow's health and performance.



Add one--Cut down on cow stress

Stress factors include milk production, overcrowding, poor sanitation, poor ventilation, poor nutrition, poor genetics and acute and chronic disease. Extreme weather conditions or extreme environmental temperature, stray voltage, physiological distress and physical trauma are others.

A list of specific housing and environment requirements as they relate to foot, mastitis and reproductive problems is available from Dairy Extension, University of Minnesota, St. Paul, Minn. 55108. Ask for Dairy Update 56.

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June 1, 1981

Sources: Michael Pullen  
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Wanda Olson  
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Writer: Deedee Nagy  
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#### COOKING PRECAUTIONS WHEN PREPARING PORK IN THE MICROWAVE

Although the incidence of trichinosis from eating improperly cooked pork is very low, consumers still need to treat all pork as if it could be infected with trichina organisms. For the microwave oven owner, this may mean using microwave techniques that will insure the most even heating possible.

This is the conclusion reached by Michael Pullen, extension veterinarian, and Wanda Olson, extension household equipment specialist, both at the University of Minnesota. They cite a recent study by the U.S. Department of Agriculture that showed that trichina survived cooking processes in which microwaves were used to thaw pork before charbroiling or to partially cook pork before deep fat frying.

The other cooking methods tested -- roast and hold, conventional oven, convection oven and flat grill -- appeared to pose no trichinosis hazard when the pork was cooked to a 170.5° F temperature reading at its exact center (150.8° F was used as the goal temperature in the roast and hold cooking method). At those temperatures the trichina was destroyed and the pork was determined to be safe to eat.

The trichina were still present and alive, however, in the pork that was microwaved to thaw and then charbroiled to 170.5° F at its center and also in the pork that was microwaved to 140° F and then brought to 170.5° F by means of deep fat frying.

Add one--Cooking precautions when preparing pork in the microwave

Pullen and Olson say, "Both of these methods use fast heating and may not have resulted in the even heating of the product. Until further results are available these two methods of pork preparation are not recommended."

They add that most conventional methods of cooking meat have very slow rates of heat transfer. A temperature reading of 170° F at the center of a piece of meat means that the product is at that temperature. In contrast microwave cooking is fast but it can also be uneven because of the variable rates of heating in such components of meat as water, fat and protein. The presence of bone can also result in uneven microwave heating, the specialists say.

They suggest that if consumers choose to microwave fresh pork, they should use procedures that will give the most even heating possible.

These would include:

- \* turning the meat over and/or rotating the cooking tray or dish midway through the cooking period.
- \* using a lower power setting. (A 30 to 50 percent power setting will add to the cooking time but it will provide more uniform heat penetration)
- \* heating until the center of the meat reaches 170°F, then covering or wrapping and allowing the item to set for ten minutes. In large food items, the internal temperature may rise as heat from the outer layer moves toward the center of the item.

Pullen and Olson stress that there have been no human trichinosis cases attributed to microwave cooking of pork and that very few farm-raised swine in the U.S. are infected with trichina. In the absence of mandatory carcass-by-carcass inspection of pork for the presence of the parasite, however, a few cooking precautions are needed.

In addition to cooking to 170°F, freezing and dry-curing destroy trichina.

Department of Information  
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St. Paul, Minnesota 55108  
June 3, 1981

Source: John Lofgren  
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Writer: Jack Sperbeck  
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## CUTWORMS REPORTED IN CORN

Cutworms have been reported in south central and southwestern Minnesota corn fields. Farmers should check fields for symptoms of early feeding so control measures may be taken before economic damage is done, advises John Lofgren, entomologist with the University of Minnesota's Agricultural Extension Service.

The cutworms working now developed from eggs laid by moths that came into Minnesota from the south earlier in the spring. Earlier there had been some localized infestations of the dingy cutworm, a native species which overwinters as a partly grown worm.

Early damage by small cutworms appears as holes or ragged edges in the leaves. Some leaves may be chewed off. As the cutworms get larger they cut the plants off. If the soil is very dry, cutworms may feed below the soil surface.

At an average temperature of about 70°F the feeding damage may continue for 25 to 30 days, Lofgren says.

The field should be treated if an average of over 10 percent of the plants show the leaf feeding symptoms or if over three percent of the plants are cut. Treatments include carbaryl (Sevin) spray or bait, chlorpyrifos (Lorsban 4E) spray or trichlorfon (Dylox) spray. Check all label rates, instructions and limitations before applying any insecticide. Check with local county extension offices for additional information.

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Department of Information  
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Source: Dick Goodrich  
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Writer: Jack Sperbeck  
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BEEF COWS FED CORN STOVER MAY NEED PROTEIN SUPPLEMENTS

Lincoln, Neb.--Dry matter and fiber digestibilities of corn stover by beef cows improved slightly when nitrogen was supplemented, according to a research trial at the University of Minnesota's Agricultural Experiment Station.

"Our feeling going into the study was that corn stover alone does not provide enough protein for optimum digestibility," said animal scientist Dan Crawford. Data from the trial partially support that theory, he said.

Crawford and co-workers Dick Goodrich and Jay Meiske presented the report at a meeting of the Midwestern Section of the American Society of Animal Science June 9-10 in Lincoln, Neb.

"Protein requirements of beef cows are low," Crawford said. "We wanted to determine whether digestibility of a low quality, fibrous feedstuff, such as corn stover, would be improved by feeding additional nitrogen."

Beef cows and sheep were fed four levels of supplemental nitrogen, ranging from 7 to 11% crude protein in the total diet. Protein was provided by either urea, soybean meal or corn-urea supplements. The control group received no supplemental nitrogen. The data showed variable effects of nitrogen source and rumen ammonia level on fiber digestibility, but cows fed soybean meal or a corn-urea mixture had improved digestibilities.

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Sources: Dick Goodrich (612) 373-1110  
Paul Hasbargen (612) 373-1145

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#### HIGH GRAIN RATIONS STILL BETTER THAN HIGH FORAGE FEEDING

Lincoln, Neb.--Cattle feeders should continue to feed high grain diets if corn stays in the \$3 to \$5 per bushel range and non-feed costs remain high.

"Corn would have to get in the \$4.50 to \$5 range before feeders should shift to higher forage diets," a University of Minnesota animal scientist said today (June 9).

Non-feed costs, especially for interest, and lower than anticipated fed cattle prices are major reasons why feeders have recently lost money, said Richard D. Goodrich. Non-feed costs are about 25 cents per pound of gain. With feed costs at 35 to 40 cents, non-feed costs make up 35 to 40 percent of the cost of feedlot gain, he said.

"These high non-feed costs are the reason why feedlot gains must be as rapid as possible," Goodrich said. He spoke at a symposium on the future of the cattle feeding industry at the Midwest Section of the Animal Science Society of America meeting in Lincoln, Neb., June 9.

Goodrich said the cattle industry should take a lesson from hog producers, who have produced pork with less trimmable fat. "But it will take a big promotion effort to get the job done," he said.

Cattle feeders and packers need to start promoting leaner beef to help maintain the image of beef, Goodrich said. "Cattle producers should start promoting lean beef, and packers should initiate the sale of house grades of lean, high quality beef.

high grain--2

"Both consumers and the beef industry have been tied to over-fattened beef for too long. Now we're fighting the choice label. We can produce lean, high quality beef by feeding high grain feedlot rations for shorter feeding periods.

"Shortening the feeding period will cut non-feed costs. And we don't need as much fat for beef to taste good," he said. Goodrich based his remarks on a paper that he jointly authored with Paul Hasbargen, economist with the University of Minnesota's Agricultural Extension Service.

Goodrich and Hasbargen expect that the rapid growth of cattle feeding in the High Plains will be stalled. They predict future cattle feeding growth areas to be located in eastern Nebraska and Kansas, western Iowa, and possibly southwestern Minnesota.

Low energy prices in the 60's prompted irrigation of feed grains in the Southwest. But higher pumping costs and reduced water availability have rapidly increased feed grain production costs in these areas. Higher transportation costs are adding to the price differential on feed grains between the corn belt and the Southwest, Goodrich and Hasbargen said in their report.

Goodrich said economics favor cow-calf operators producing yearlings instead of calves. "Cow-calf operators should put more of the gain on. This would reduce cash interest costs of producing beef," Goodrich said.

Hasbargen has analyzed the economics of producing calves vs. yearlings. In the majority of past years, Minnesota cow-calf operators would have increased their profits by marketing yearlings instead of calves.

Putting yearlings into feedlots instead of calves shortens the feedlot period and lets feeders feed high grain diets for a short time period. "If you put a 700-pound yearling in the feedlot, the next pounds go on cheaper in the feedlot.

high grain--3

"Animals will gain about three pounds a day on high grain diets. You can put on 300 pounds in 100 days with less non-feed costs like interest," Goodrich said.

The smaller British breeds may fatten sufficiently on good pasture, he added. "Perhaps the original owner should carry these cattle to market weight without sending them through a feedlot. This is another way to reduce non-feed costs. These cattle--as well as the large-frame cattle--have a place in the industry."

The feedlot industry will continue to be part of cattle production in the U.S., Goodrich predicted. "Cattle feeders have come through several tough years. There have been few good years since 1972. These losses and other economic forces may change our industry, but cattle feeding will be with us as long as grain prices remain reasonable and cattle production is profitable.

"There are many things the beef industry can do to economize. We need to increase production per cow by twinning and improved breeding. Reducing transportation costs will also help.

"We can produce high quality beef more efficiently. This will give the consumer more meat for less money," Goodrich concluded.

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Source: Dick Goodrich  
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#### HAIR IS A POOR INDICATOR OF MINERAL STATUS OF ANIMALS

Lincoln, Neb.--Analyzing cattle hair for mineral content may not be a reliable way to predict mineral status of the animal, according to researchers with the University of Minnesota's Agricultural Experiment Station.

"Factors other than diet influence mineral content of hair samples," said animal scientist David K. Combs. "Sex, sire, time of year the hair is collected and where the hair is located on the body all affect mineral content of the samples. This makes it very difficult to predict mineral status on the basis of hair samples."

Combs and co-workers, T.S. Kahlon, Jay Meiske and R.D. Goodrich presented the report at the Midwestern Section of the American Society of Animal Science meeting June 9-10 in Lincoln, Neb.

Minerals studied in the project included potassium, phosphorus, calcium, magnesium, iron, manganese, zinc, copper, and cadmium.

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Tel. (612) 373-0710  
June 8, 1981

Source: Dick Goodrich  
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Writer: Jack Sperbeck  
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FOR CATTLE FEED, YOUNG ASPEN TREES  
NO BETTER THAN MATURE TREES

Lincoln, Neb.--One-year regrowths of aspen trees are high in lignin and are no better than mature trees for cattle feed, according to researchers at the University of Minnesota's Agricultural Experiment Station.

"Young aspen have a tremendous yield potential and we hoped they'd be useful in beef cattle rations," said animal scientist Linda L. Zerfoss. "We were disappointed in the results. Digestibility was only 30 to 40 percent, about the same as for mature trees."

Dry matter yields of young aspen have been estimated to be much higher than those of conventional forages. And, the young aspens grow back every year.

Zerfoss and co-workers R.D. Goodrich and Jay Meiske presented the report at the Midwestern section of the American Society of Animal Science meeting June 9-10 in Lincoln, Neb.

CA, IA, 4-L

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Department of Information  
and Agricultural Journalism  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
June 8, 1981

Source: Dick Goodrich  
(612) 373-1110

Writer: Jack Sperbeck  
(612) 373-0715

## OPEN LOT BEEF HOUSING SYSTEMS WORKED WELL

Lincoln, Neb.--Open lot housing systems for yearlings "look good."

The open lot systems worked better for feeding steers than for feeding heifers, according to researchers with the University of Minnesota's Agricultural Experiment Station.

"In the summer, the open lot was equal to other systems," said animal scientist Ralph E. Smith. In a three-year trial with yearling steers and heifers, researchers compared five housing systems.

In addition to the open lot, cattle were fed in cold slat and warm slat confinement units, manure scrape with bedded confinement and a conventional open shed with outside feed bunks. The study was conducted at the West Central Experiment Station, Morris.

Smith and other researchers presented results of the study at a meeting of the Midwestern Section of the American Society of Animal Science June 9-10 in Lincoln, Neb.

Heifers didn't do as well as steers in the open lots. "We're not sure why, but heifers may not tolerate temperature extremes as well as steers," Smith said. Daily gains and feed efficiencies of the steers declined in winter in the open lots. But from an economic standpoint, the open lots look very attractive, Smith said.

"Many cattle feeders use an open lot system and either empty the lot in the cold winter months or use protective housing. With high building costs, the open lot looks even more attractive."

For smaller feedlots that feed up to about 200 cattle a year, the manure scrape system has been a good option, he added.

Department of Information  
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Source: Roger Machmeier  
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Editor: Jack Sperbeck  
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### BE CAREFUL WHEN FILLING FARM CHEMICAL TANKS

It may be dangerous to use a yard hydrant to add water to a tank containing farm chemicals unless you're careful to prevent drain-back.

Most yard hydrants have a drain-back feature to prevent freezing during the winter, says Roger Machmeier, agricultural engineer with the University of Minnesota's Agricultural Extension Service.

But water can drain back into the ground around the hydrant if you connect a garden hose to the hydrant and place it in a tank to add water to farm chemicals. The drain-back will occur when you shut the hydrant off if the end of the hose is submerged in liquid.

To prevent back-syphoning, rig up an attachment so the end of the garden hose is at least six inches above the tank opening. By having a six-inch air-space above the tank, you avoid any possibility of back-syphoning. Remember to never throw the end of a garden hose into a tank containing chemicals.

Any concentration of farm chemicals draining into the soil around a yard hydrant can create a water pollution problem. Never drink from a hose used to mix water with chemicals. This could cause a serious health hazard if water has been back-syphoned through the hose.

CA, IA

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Department of Information  
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Agricultural Extension Service  
University of Minnesota  
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Tel. (612) 373-0710  
June 8, 1981

### FORAGE DAY SET FOR JUNE 25

A forage handling equipment and research day is scheduled for Rosemont on Tuesday, June 25.

The event will be held at the University of Minnesota's branch experiment station at Rosemount. Registration begins at 9:30 a.m.

There will be demonstrations of large round balers, bale unrollers and a tub-grinder. You can also see large round bales of first cut alfalfa at different densities.

A Silopress will be demonstrated and there will be samples of first cutting alfalfa and smooth bromegrass made with the Silopress.

Several forage studies will be shown, including conventional and sod-seeding plots seeded earlier this spring.

The registration fee of \$5 includes lunch. Contact local county extension offices for more information.

Sponsors include the Minnesota Forage and Grassland Councils, and the University's Agricultural Experiment Station at Rosemount.

CA, IA

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Source: Dick Goodrich  
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Writer: Jack Sperbeck  
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## THE TRAINED HUMAN EYE BEATS LINEAR MEASUREMENTS

Lincoln, Neb.--If you're good at eyeballing cattle, chances are you can predict body composition as good or better than you could with linear measurements.

That's what a study by animal scientists at the University of Minnesota's Agricultural Experiment Station says. "Our results suggest that a trained person can visually estimate body composition as accurately as linear measurements," said Will Thompson.

Thompson and co-workers J. C. Meiske, D. H. Theuninck and R. D. Goodrich presented the report at a meeting of the Midwestern Section of the American Society of Animal Science June 9-10 in Lincoln, Neb.

Linear measurements used were height, length and heart girth in ratios with body weight to estimate body composition. Whether you're dividing the cow herd into "fat" and "thin" groups for winter feeding, or selecting seedstock, the Minnesota study suggests that visual appraisal can accurately estimate body condition.

CA, IA, 4-L

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MSC  
9A27P  
Source: Dottie Goss  
(612) 373-0914

Writer: Deedee Nagy  
(612) 373-1781

PRESSED FOR THE MORTGAGE?  
DON'T PANIC, BUT ACT QUICKLY

There probably are few things that a homemaker fears more than the inability to make a monthly mortgage payment. Falling behind could mean losing the family home.

Dorothy Goss, extension family resource management specialist at the University of Minnesota, says that today's shaky financial picture has left some homeowners fearful. "If, for any reason, you are unable to make a house payment, don't panic, but act quickly to correct the situation," Goss advises.

As soon as it appears that you will miss a payment, contact the bank or financial institution to whom you make your payments, she suggests. "You will need to explain why you were unable to make your payments and you may be asked to list your resources such as salary, union or disability benefits, welfare payments, Social Security and savings accounts. This also should include insurance policies which you might be able to borrow against.

Next, Goss suggests developing a plan to bring your mortgage payments up to date. Although the mortgage lender may offer some assistance, it's up to the homeowner to take the initiative, Goss says.

The lender might agree to temporarily suspend your monthly mortgage payments or reduce them by extending payments over a longer period of time. In addition, local homeownership agencies may have credit counseling available. Credit unions, labor unions and religious or social service agencies also may offer financial counseling.

Goss advises, "Avoid people or businesses that offer to speak to the lender on your behalf, usually for a fee. Contact your lender directly and avoid 'counselors' who offer to lend money to help you make the payments. Borrowing money to make the missed payments may only compound your problems."

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FATHER'S DAY  
ESTABLISHED IN 1972

Mrs. John Bruce Dodd started it all. She conceived the idea of Father's Day to honor her own father who raised his motherless family with love, devotion and discipline in the early 1900's. Then Mrs. Dodd had the vision to see it as a tribute not just to her own father but to all fathers all over the world. President Wilson showed his approval by having a Father's Day button pressed in the White House in 1916 and President Coolidge recommended national observance of the day.

For about the next thirty years, however, nothing much happened, then Senator Margaret Chase Smith spoke out, chastising the conduct of the Congress in this matter. "Either we honor both our parents, mother and father, or let us desist from honoring either one. But to single out just one of our two parents and omit the other is the most grievous insult imaginable." Finally, in 1972 the day was established permanently when President Nixon signed a Congressional resolution. His action eliminated the need for an annual designation and put Father's Day-- June 21 this year--on the same continuing basis as Mother's Day.

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Source: Dottie Goss  
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Writer: Deedee Nagy  
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Consumer briefs---

Is a new car in your future?

Next to buying a home, purchasing a car is probably the most important financial decision you will make. The wise car buyer has to look for a car that fits his or her budget and is also the best buy in terms of fuel efficiency, maintenance costs, and insurance rates.

A new publication now available from the U.S. Department of Transportation may help you get the best buy for your dollar. The Car Book is available from the Consumer Information Center, Pueblo, Colorado 81009. It provides information on specific models and how they ranked in maintenance costs, crash tests, fuel efficiency ratings, insurance charges and safety recalls (for used cars). Also included is a buyer's checklist to help the comparison shopper look at advantages and disadvantages of several models and arrive at a wise decision. Consumers interested in obtaining a copy of The Car Book may write to the Consumer Information Center.

\* \* \*

Franchise and business opportunities

Are you thinking of buying a franchise or business opportunity? It's an appealing idea if you want to be your own boss, have limited money to invest and are relatively new to the business scene. The Federal Trade Commission offers consumers some safeguards in the form of the Franchise and Business Opportunities Rule that requires sellers to give buyers a disclosure document before any deal is completed. If you aren't given a disclosure document, ask why, the Federal Trade Commission experts advise.

In addition, spend some time researching the company and consult an attorney. The few dollars you spend on Professional assistance and phone calls could save you thousands. Also, before you buy:

-more-

Consumer Briefs--add one

\* Compare franchises of the same type.

\* Look through the Franchise Opportunities Handbook. It is available for \$8.50 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

\* Talk to several current owners about both good and bad points about the business.

\* Investigate earnings claims. Remember, broad sales claims about a successful area of business may have no bearing on how well you would do with the same business.

\* Listen to the sales presentation and be leery if the salesperson makes the job sound too easy.

\* Get the seller's promises in writing.

\* Get help from a lawyer, accountant or other business advisor to insure that you get the best deal possible.

\* \* \*

Early withdrawals of time accounts can be costly

Rapidly fluctuating interest rates are causing consumers to seek both high rate of return and the option of withdrawing money on short notice. Time accounts, which are attractive for their interest rates, often limit the consumer's liquidity. Some early withdrawals from time accounts even include penalties that could claim part of the principal in addition to any interest accrued.

Banks can also refuse to allow early withdrawal of time deposit funds. Most institutions will consider each case individually, however.

The Federal Deposit Insurance Corporation requires some conditions of all time deposits including six month "money market" certificates, 2½ year "small saver" certificates and sometimes even deposits of more than \$100,000.

Consumer Briefs--add two

\* Banks must honor a request for early withdrawal upon death of the owner or if he or she has been declared incompetent by a court.

\* Banks need not apply penalties when early withdrawal is of Individual Retirement Account or Keogh funds and the person who will benefit is 59½ or older or has become legally disabled.

\* \* \*

#### Guard those credit cards

Credit cards reduce the opportunities for criminals to steal cash but they can pose other problems. The Federal Deposit Insurance Corporation warns that fraud has turned up when dishonest sales clerks run off several sales slips when you present your card after buying something. The clerk later fills in an amount on each slip and submits them for collection.

To avoid this and other problems of this type, watch your card while it's being imprinted and never let it lie on a counter. When you get your credit card statement, go over it carefully and match your credit card receipts with the statement.

Be wary about giving out your credit card number and never allow your card to be photographed. Credit card numbers represent cash.

If you have an Electronic Fund Transfer card, select your code carefully. Never use your name, birthdate or social security number. These are the most obvious codes and are most often tried by anyone who has your card and access to such information. Also, never write the code on the card or keep it on a piece of paper in your wallet. When using an Electronic Fund Transfer machine, insist on privacy. If an onlooker waits beside or behind you, shield the keys with your hands.

\* \* \*

#### Electronic banking has arrived

Electronic Fund Transfer (EFT) is a relatively new method of making and receiving payments that has begun to replace the use of checks and cash. With EFT,

fund transfers are done electronically. Common EFT services include automatic teller machines, telephone bill-paying systems and direct electronic deposit of government benefit payments such as Social Security.

Although EFT is quite new, consumers are protected by the Electronic Fund Transfer Act. This requires banks to provide customers with a record of all transactions and a phone number to report any unauthorized transactions.

If a customer finds a discrepancy or bank error on the statement, the bank is required to investigate and report back to the customer within ten days. If the investigation takes more than ten days, the bank must recredit the disputed amount at least until the issue is resolved, which must be done within 45 days.

\* \* \*

Consumers have equal access to credit

The Equal Credit Opportunity Act doesn't give anyone automatic rights to credit, but it does require that the same standard of "credit worthiness" be applied to all applicants. It prohibits discrimination against an applicant on the basis of race, color, religion, national origin, age, sex, marital status or reliance on public assistance.

Creditors want to assess your ability to repay a debt and your willingness to do so. To determine these things, they can ask you about your finances, your earnings, savings, length of employment, length of time at your current address, your previous borrowing history and your efforts to pay past debts.

Creditors may not ask your marital status on an application for a bank credit card or an overdraft checking account, but they may ask your marital status on other than individual unsecured loans.

In order to estimate your expenses, creditors may ask about your children, their ages and the expenses of caring for them. They cannot ask about your birth control practices or your plans to have children.

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Department of Information  
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St. Paul, Minnesota 55108  
June 12, 1981

Source: Wilbur Maki (612) 376-3433  
Writer: Jack Sperbeck (612) 373-0715

#### MINNESOTA NEEDS CONTINGENCY FUND, ECONOMIST SAYS

Minnesota government needs to build a contingency fund to help cushion "boom-bust" patterns in state financing, a University of Minnesota agricultural economist said.

"Minnesota's economy is becoming very sensitive to national business cycles," said Wilbur Maki, who has just completed a study on the state's shift to a service economy and its impact on jobs, income and taxes.

"The state's economy has expanded rapidly in durable goods manufacturing, especially machinery. As this trend continues, our economy will become more sensitive to business cycles," he said.

"A shift to services will dampen this sensitivity, just like farming does. But by 1985, the shift to services will slow down and the state will again become more like the U.S. economy in its cyclical patterns in business activity and state tax revenues," Maki said.

More accurate economic forecasting will help. "But better forecasting is not the only answer. It's extremely important to build a contingency surplus to help cushion these effects and to help put the lid on public spending in the good years," Maki said.

According to his calculations, the economic recession plus the change in Minnesota's tax law caused the state to collect \$800 million less in taxes during the current fiscal year. Of the \$800 million, \$350 million was lost to state tax revenues due to the decline in business activity and corporate income relative to total personal income. Another \$175 million was lost because of lower total personal income. The remaining \$275 million was lost due to Minnesota's tax law change, Maki said.

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Tel. (612) 373-0710  
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MSC  
4/12/81  
Source: Sherri Johnson  
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Writer: Deedee Nagy  
(612) 373-1781

RESEARCH SHOWS CONSUMERS'  
BIASES ON USED CLOTHING

How widespread is the garage sale phenomenon? Research conducted at the University of California showed that of 315 randomly-selected persons telephoned in the Davis, Calif. area, more than half had shopped at garage sales in the past year.

Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, says that clothing and other textile products appear to be important components of such sales. The California study revealed that more than one-fourth of the garage sale shoppers had bought clothing and nearly that many had bought other textile products.

Of those who reported buying clothes at garage sales, 76 percent said the items were for themselves or for another family member. There was little evidence of garage sale shoppers buying items that they could make over into other garments or that they could re-sell later.

What's important to garage sale shoppers? The research showed that low prices and good condition of garments were top priorities. By the same token, the reasons most often cited for not buying clothing at garage sales were high prices and poor condition.

Mrs. Johnson says that concern about wearing another person's clothing seemed to vary with the clothing type. When asked what clothing they would not buy at a garage sale, those polled listed underwear first. It was followed by foot-wear, sleepwear, streetwear and finally, outerwear. The bias against used clothing seemed to increase with closeness or intimacy to the body. When shoppers at a garage sale were surveyed, they also stated that garments worn furthest from the body -- streetwear and outerwear -- were their most likely purchases.

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June 22, 1981

Source: Dottie Goss  
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Writer: Deedee Nagy  
(612) 373-1781

PLANNING A GARAGE SALE?  
ORGANIZE IT WELL  
FOR PROFITABLE RESULTS

Garage sales are a good way to recycle useful items, and they have the added benefit of bringing money into the family and freeing storage space for things that are used more often.

Dottie Goss, extension family resource management specialist at the University of Minnesota, says that successful garage sales require time, effort and organization. She advises potential sale givers to check first with their city officials for any regulations that could affect the sale. Some municipalities limit the number of sales or restrict their timing.

Next, she suggests, allow yourself plenty of time to gather and organize household items. "It always takes longer than one expects to sort out, clean up, price and display items," she adds. "If you are not ready when sale time begins, you'll lose shoppers and perhaps sell items for less than their worth."

What are good candidates for the sales tables? Goss suggests that any items you haven't used in the past year are worth considering. She says, "Go over your home and other storage areas and make possessions justify the space they occupy."

Be sure shoppers know about your sale. Goss suggests running a newspaper ad on the day of the sale. Bulletin boards in grocery and drug stores, laundries and other places are also good ideas. Signs along roadsides are also attention-getters if there are no local regulations to prohibit them. "Always remember to respect the property of others and to take signs down after your sale," Goss reminds sale organizers.

Add one--Planning a garage sale?

She offers these other tips:

\* Have a number of lower priced or free items to get people interested in looking and buying. Place these free or low-priced items throughout the sale area to keep people moving about.

\* Have items of interest to children placed conveniently so they will be amused while their parents browse through other merchandise.

\* Have all the needed information handy -- sizes, measurements, care instructions. Have an electrical plug nearby so people can test any appliances before they buy.

\* Have items clean and neatly displayed. Hang clothing rather than piling it.

\* Have enough help so you can answer questions, provide security, wrap items and handle the money.

\* Decide ahead of the sale how you will handle shoppers who arrive early. Also, ask yourself, are prices firm or are you willing to bargain? Will you accept checks? If not, your ads should mention this so that customers bring cash.

\* Be sure your sales table is well equipped with change, an adding machine or calculator, wrapping paper and bags or boxes.

\* Decide how you will handle items that aren't selling. You may want to reduce prices toward the end of the sale or move items onto the free table.

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Source: Sherri Johnson  
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FROM SEEDY TO TRENDY,  
SECOND-HAND CLOTHING  
TAKES ON NEW IMAGE

Expectant mothers in the last bulky months before delivery and newborns in quickly-outgrown sleepers were once about the only people for whom second-hand clothing was considered acceptable.

But no longer. Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, says that the image of used clothing has changed. The trend toward recycling, conservation and just basic thrift has blurred the line between thrift shop donors and buyers. The well-healed now browse as happily in second-hand clothing outlets as those for whom thrift is a must. Their goals are the same -- to get the highest style and best value at the lowest price.

In addition to garage and household sales, much used clothing changes hands in thrift and consignment shops. Mrs. Johnson explains that thrift shops usually sell donated clothes and the profits go to charity. Their donated items can range from never-worn designer label clothes donated by department stores to well-worn and often dated discards from closets. Whether or not the clothing is worn and dated, the donor gets a tax deduction for its value at the time of donation.

Consignment shops, however, allow donors to clear their closets and get some money in return. In such shops the donor gets a percentage of the sale price as does the store owner. Consignment shops can afford to be more selective about what they accept for sale, Mrs. Johnson says. They often require garments to be clean and in good repair as well as appropriate to the season and the current trends in fashion.

Add one--From seedy to trendy

Despite a growing number of these types of shops, Mrs. Johnson notes that there are still gaps in the range of clothing available. Resale shops for children's clothing, for example, are rare. Similarly, good used maternity clothing is scarce in resale shops although it might be more evident in garage and household sales. "The free exchange of children's and maternity clothing among friends and relatives probably account for their shortage on the resale scene," Mrs. Johnson adds. She predicts that the trend toward smaller families may eventually bring more of these garments into thrift and consignment shops.

Men's clothing is also somewhat scarce on the secondhand market, she says. The same is true of women's clothing in the larger sizes, about size 14 and up.

The Agricultural Extension Service has a new publication "Clothing Resale: A Buyer's Guide" for current and potential consumers of used clothing. The author is Edith B. Gazzuolo, former teaching associate in the textiles and clothing department of the University's College of Home Economics. Single free copies are available from local county extension offices or by writing to the Bulletin Room, 1420 Eckles Ave., University of Minnesota, St. Paul, MN 55108.

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Source: Sherri Johnson  
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Writer: Deedee Nagy  
(612) 373-1781

SMITTEN BY THE RESALE BUG?  
HERE ARE SURVIVAL TIPS

Have you been bitten by the resale bug? Symptoms include an urge to hit the car's brake when passing a thrift shop and an itch to rifle through the racks and tumble tables at garage sales.

Veteran shoppers say that resaleitis is nearly incurable, but it's far from fatal. In fact, it can be downright exciting as well as a boon to the family budget.

Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota, offers some tips for the novice resale shopper. First, she suggests developing an eye for garment size. There may not be sizes marked in items and opportunities for trying clothing on are limited.

"Study the visual size of items in your closet that fit well, or measure them and take along the dimensions and a tape measure when shopping for used clothing," Mrs. Johnson recommends. "It's also helpful to dress in form-fitting, lightweight garments that will allow you to slip on shirts, jackets and even some dresses right on the spot."

There is a trap in buying used clothes, Mrs. Johnson warns. It's often easy to think "Oh, only two dollars. How can I go wrong?" Indeed, you can go wrong if you buy something that you'll never wear. She suggests asking yourself if you will wear the item this month. If it is an off-season garment, will you wear it the first month that the weather permits? "If you can't honestly answer 'yes' to that question, pass the garment up," she adds.

Successful resale shopping often depends on timing, Mrs. Johnson says. It's a good idea to be at household sales when the doors open. Stop at

Add one--Smitten by the resale bug?

thrift or consignment shops regularly and view such shopping as a pastime, she recommends. "Finding great items at real bargain prices is often a matter of being there when they come in," she says.

"Clothing Resale: A Buyer's Guide" by Edith Gazzuolo, former teaching associate in the textiles and clothing department at the University of Minnesota's College of Home Economics, is now available at local county extension offices or by writing to the Bulletin Room, 1420 Eckles Avenue, University of Minnesota, St. Paul, MN 55108. The publication includes information on types of resale outlets, sizing, judging fit, making decisions and bargaining over prices.

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Food Briefs ---

FOOD PRICES:  
SO FAR,  
SO GOOD

You wouldn't guess it from the price of peanut butter, but the food price situation generally in 1981 is about as U.S. Department of Agriculture economists predicted it would be. Consumers will probably see a 10 to 15 percent gain over 1980's prices, and 12 percent now appears to be the most likely percentage.

The USDA's Economics and Statistics Service says that farmers have reported plans to put more acreage into crops this year and drought fears have abated somewhat. In addition, good crop production in the Southern Hemisphere means that demand for our farm product exports will lessen slightly and this could be good for consumers.

Despite this, surveys suggest that pork and beef supplies will be as tight later this year as predicted. Feedlots currently hold the fewest cattle since 1975.

\* \* \*

1980 FOOD PRICE  
VILLAINS AND GOOD GUYS

Food at grocery stores cost 8 percent more in 1980. It had gone up 11 percent the year before, according to statisticians from the U.S. Department of Agriculture's Economics and Statistics Service. Also during 1980, food prices at restaurants rose nearly 10 percent. On average, all food prices rose 8.6 percent, the least in three years.

-more-

Food Briefs--add one

Higher charges by the food industry for processing and marketing U.S. farm foods caused more than half the rise in prices. This was caused largely by higher prices for fish and imported foods. Only about one-fifth of the push came from higher farm prices.

\* \* \*  
PERISHABLE FOODS  
DRAW FEW AD BUCKS

Over half of our grocery store food dollars are spent for such items as unprocessed meats, poultry and fish, eggs, fruits and vegetables and dairy products, but you wouldn't know it from checking how many advertising dollars they attract. The U.S. Department of Agriculture's Economics and Statistics Service reports that such perishable foods accounted for less than eight percent of national media food advertising expenditures in 1978 and almost none of the discount coupons distributed.

At the same time, another group of foods took only 20 percent of the consumer food dollar in 1980 but accounted for half the advertising. These heavily advertised food items included soft drinks, cereals, candy and desserts, oils and salad dressings, coffee and prepared foods.

\* \* \*  
MICROWAVE COOKING  
MAINTAINS VITAMINS

Microwave ovens are time savers and they may also save nutrients. Research conducted at the University of Illinois Agricultural Experiment Station shows that meat and fresh or frozen vegetables cooked in microwave ovens retained the same levels of nutrients such as vitamin B, folacin, thiamin and vitamin C as they would cooked in more conventional ways. Their research also indicated that because less water is used in cooking, some foods may actually contain more vitamins when microwaved because there is less leaching of vitamins into the cooking water.

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MJC  
9/18/81

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June 22, 1981

Source: C. Gustov Hard  
(612) 373-1101

HOW DOES YOUR GARDEN GROW?  
DON'T LET IT LAG IN MID-SUMMER

Keeping those garden vegetables growing despite problems with rain, nutrients or diseases is the gardener's chief concern during mid-summer, suggests C.G. Hard, extension horticulturist at the University of Minnesota.

Moisture supply is critical as we enter the traditionally dry months of the growing season. Hard says that plants that are allowed to wilt can produce stringy, tough and misshapen vegetables. Water deprivation of tomatoes can cause blossom end rot. Alternating growth spurts and lags can cause tomatoes to crack open, allowing disease organisms to enter and lower the fruit quality.

Hard recommends that tomatoes that have gone through water stress should be picked when they begin to show color. They are best ripened off the vine.

How much water is enough? Hard says about an inch of moisture a week is ideal. If Mother Nature doesn't provide this much, it's time to get out the sprinklers.

Hard recommends watering in the morning, but if evening watering is more convenient, try to avoid wetting the foliage.

This is done best with a hose that has no nozzle or with a soaker hose. With any type of sprinkler, time your efforts so that all areas of the garden or lawn get enough to make up for any rainfall deficit. Hard also cautions against walking in the garden immediately after watering or after a rain. This hurts the soil structure, limits root growth and eventually slows plant development.

Add one--How does your garden grow?

An even supply of nutrients is as essential to a healthy garden as an even supply of moisture. Hard suggests sidedressing with dry commercial fertilizer and then watering in. Fortified compost also returns nutrients to the soil. A one-foot wide strip of mulch from the compost is recommended on each side of a row of plants, or you can mulch around the base of each plant, Hard says. Compost has rather low nutrient content so Hard advises gardeners to be generous in their use of compost for mulch. Keep mulch moist but not saturated, he recommends.

Diseases and insects take their toll at about this point in the summer. Whether you choose to use pesticides or not, Hard tells gardeners to be alert to any foliage color or shape changes. These could signal trouble. For insects, nicotine sulphate or pyrethrum are two naturally-occurring substances that offer some control. Sulphur can be used for diseases if you choose to follow the organic philosophy of gardening, Hard suggests.

Chemicals are widely accepted for insect and disease control. Hard says, "The good gardener is knowledgeable about healthy plants and recognizes small changes in time to pre-empt problems with timely applications of pesticides. Similarly, an alert gardener will note insect problems early and can act quickly. A little know-how in the area of diseases and insects can prevent abusive use and save on the cost of chemicals."

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MSC  
9/10/77

Department of Information  
and Agricultural Journalism  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
June 22, 1981

CAUTIOUS USE OF ART  
MATERIALS CAN PREVENT GRIEF

Certainly not all art materials are hazardous, but artists and craftspersons should know what ones to avoid.

Pat Kramm of the extension Home Economics Information Center at the University of Minnesota says some of the materials to avoid are asbestos, lead, arsenic, cadmium, polyvinyl chloride, carbon tetrachloride and benzene.

Symptoms that the substances may be affecting you would include fatigue, red eyes, weakness, weight loss, dizziness and respiratory problems.

She gives these precautions:

- \* Keep your workroom or craft area clean and cool. Store liquids in sealed containers and cover powders. Wash hands frequently and launder work clothes often.
- \* Don't eat, drink or smoke in a work area. Don't let dust accumulate.
- \* Get to know your art materials. If they are toxic, use them sparingly, preferably in liquid form rather than aerosol, in solid form rather than liquid.
- \* Wear protective clothing and equipment -- goggles, gloves and long sleeves.
- \* Use an exhaust system that vents to the outdoors. An open window is not sufficient ventilation for hazardous substances.
- \* Children shouldn't use adult art materials containing toxic solvents, dusts or acids.
- \* Children should limit their art materials to water-based inks, paints and glues, not epoxy paint, instant glues or rubber cement.
- \* Art and craft areas should have fire extinguishers, eye wash, goggles, masks, first aid supplies, lockable storage space for flammable liquids, adequate ventilation and labeled waste containers for paper, rags and solids.

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University of Minnesota  
St. Paul, Minnesota 55108  
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June 22, 1981

**CAUTION: ARTS AND CRAFTS  
CAN BE HEALTH HAZARDS**

No one would suspect an artist's studio, a home hobbyist's work area or a summer camp's craft cabin of being health hazards, but some of the substances they contain are risky.

Pat Kramm of the extension Home Economics Information Center at the University of Minnesota cautions artists and craftspersons to know what they're using and to take precautions for their own safety.

"All kinds of crafts call for hazardous materials that often aren't labeled as dangerous," Kramm says. "In ceramics, silica dust can cause what is known as 'potters asthma.' In collage, the adhesives can cause dry, inflamed skin, dizziness and nausea. In batik and tie-dyeing, the dyes can cause similar reactions and in stained glass art, there is a serious danger of lead poisoning."

She adds that even some children's art materials that are labeled "non-toxic" have not been tested for long-term toxicity. "We often assume that if a material is dangerous, it will not be on the market. Unfortunately, this is not always the case," Kramm says.

Currently, legislation is pending that would require caution labels and safe handling procedures on some products.

In the meantime, representatives of the art materials industry are attempting to develop labels that will protect unwary consumers.

Until these labels become widely used and craftspersons are better informed about their risks, ventilation and protective clothing are essential, Kramm says.

Add one--Caution: Arts and crafts

For example, art projects that produce dust, vapor, mists or fumes call for a good exhaust system. "Well ventilated means more than an open window nearby," Kramm warns. "Goggles are 'musts' for welding, glassmaking, wood and metal work. All artists should use, store and dispose of art materials carefully. They should clean up spills promptly and avoid eating or drinking in their work areas. Work clothes should be washed frequently and used only in the studio or craft area."

Kramm says artists and crafts enthusiasts are becoming more aware of the hazards in their materials, but it is coming about slowly. "There is no reason to panic, to stop working or to shut down programs," she adds. "But users should know what they're dealing with. Many substances are only minimally dangerous if handled properly."

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University of Minnesota  
St. Paul, Minnesota 55108  
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June 22, 1981

HEARINGS TO BEGIN ON PROPOSED  
POWER PLANT SITING AMENDMENTS

Twelve public hearings have been set in various Minnesota cities during July, August and September to allow persons to voice their opinions on proposed rules for locating power plants. The Minnesota Environmental Quality Board (MEQB) is asking for citizen reaction to the proposals, which set limits and guidelines for such plants, particularly in rural areas where prime farmland could be claimed.

Included in the proposed rules are "avoidance areas" where a plant site would be allowed only if there are no practical alternatives. The amount of prime farmland that could be claimed for such purpose would be limited according to power plant capacity.

They also call for expanded criteria on conservation and attention to community benefits and economic development that could result from a power plant siting. An inventory of any proposed power plant site would assess water availability, transportation access, impact on air quality and any state laws prohibiting power plants in certain areas.

Persons concerned about this topic can obtain drafts of the proposed amendments from the Environmental Quality Board, 550 Cedar St., St. Paul, MN 55101 (Telephone 612-276-9923, collect calls accepted) or at public libraries in Crookston, Bemidji, Duluth, Fergus Falls, Pine River, Willmar, Montevideo, Cambridge, St. Cloud, Marshall, Mankato, Rochester, Minneapolis, Granite Falls, Grand Rapids or Austin.

Add one--Hearings to begin

The schedule of hearings is:

|             |                |   |
|-------------|----------------|---|
| July 20     | 1 p.m., 7 p.m. | Granite Falls Technical<br>Vocational Institute |
| July 22     | 1 p.m., 7 p.m. | St. Cloud Public Library                        |
| July 27     | 1 p.m., 7 p.m. | Holiday Inn,<br>Grand Rapids                    |
| July 29     | 1 p.m., 7 p.m. | YWCA, Austin                                    |
| August 31   | 1 p.m., 7 p.m. | Granite Falls High School                       |
| September 2 | 1 p.m., 7 p.m. | St. Cloud Public Library                        |

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June 22, 1981

Picture available

BYRON SCHNEIDER IS  
NEW MINNESOTA 4-H HEAD

Byron Schneider has been selected to head Minnesota's 4-H youth development program.

Schneider begins his duties July 1. He replaces Leonard Harkness, who headed the state's 4-H program for 31 years until he retired last fall.

Schneider is an educator with a national reputation for new program ideas, according to Norman A. Brown, director of the University of Minnesota's 4-H program.

Schneider says he's excited about moving from the "formal" learning structure of public schools to the flexibility of the 4-H program. "Letting kids choose what they're interested in instead of having the school board and teachers set the curriculum has many advantages."

"The informal, flexible learning activities available through 4-H make it strong. Youngsters are more apt to be responsible for their own actions and 'learn by doing' when they've had a say in selecting what they study."

There's lots of respect for Minnesota's 4-H program, Schneider says. "I've been getting calls from people all over the state who have nothing but admiration for 4-H," he says.

Schneider says the "care and nurture" of volunteer 4-H leaders makes the program strong. Minnesota has about 16,000 adult volunteer 4-H leaders working with about 73,000 members.

"These leaders are dedicated, committed, enthusiastic people," he emphasizes. "But we need more of them, and we need to work at nurturing them on a daily basis. We can't recruit volunteer leaders, then ignore them," he adds.

-more-

Add one--Byron Schneider

"There are plenty of people in Minnesota who will be ready to serve as volunteer leaders if they're asked. I know a retired secretary in Minneapolis who has many skills and loves kids. I asked her to be a Red Cross volunteer, and she was thrilled. She'd never heard of the Red Cross volunteer program."

"Likewise, there are many people, especially in urban areas, who've never heard of 4-H. But if we ask them, they'll work with 4-H just like this lady did with the Red Cross program," Schneider says. "I come from an urban background and I want to help translate some of the great benefits of 4-H in rural areas to urban youngsters," he adds.

But Schneider hastens to say that he doesn't have all the answers. "First of all, I want to be a good listener. A friend of mine told me that he wasn't sure he had one original idea. That's where I'm coming from. I want to hear lots of good ideas from other people, then help facilitate them."

Schneider has been principal of Southwest High School and Folwell Junior High in Minneapolis. He's also been a high school teacher, faculty member at Washington University and assistant to the dean of the Graduate School of Education at the University of Chicago. He has been a member of the Governor's Council on Youth and coordinator of the National Network of Youth Practitioners. He has also been an officer in many Minneapolis professional educators' councils and organizations.

Honors include a Hays-Fulbright Fellowship, Harvard University Teaching Fellowship and a National Institute of Mental Health Fellowship.

He has a doctorate degree in educational administration from the University of Chicago, a master's in history and education from Harvard and an undergraduate degree in history and political science from Washington University.

CA, IA, TCO

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Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
July 6, 1981

Source: Bob Appleman  
(612) 373-1014  
Editor: Jack Sperbeck  
(612) 373-0715

## WHITEWASH THE DAIRY BARN

Grade A dairy barns that can't be cleaned easily must be whitewashed once a year to meet health department regulations.

This annual chore helps the appearance of the dairy barn. It also helps control flies and other insects, thereby minimizing the potential for disease spread and reduced milk production, says Bob Appleman, University of Minnesota extension dairy specialist.

Whitewash is usually applied by a custom operator. There are at least 16 commercial custom operators in Minnesota and western Wisconsin.

But each year dairy farmers ask the University of Minnesota Agricultural Extension Service for the formula so they can mix and apply their own whitewash.

Whitewash is a mixture of lime and water plus other materials. It has a low initial cost, but the surface has a short service life. It tends to build up with repeated applications and sooner or later peels and scales.

The old coating needs to be completely removed before the new is applied, says Appleman. Use a wire brush or a high-pressure water gun to remove dirt, scale and loose material. Dampen the walls before applying whitewash because the moisture improves the adherence of the whitewash.

Here is the formula for whitewash to be used on brick, concrete or stone: 25 lbs. of white Portland cement and 25 lbs. of hydrated lime to 8 gallons of water. Mix thoroughly to a thick slurry. Thin to the consistency of thick cream. Mix only enough for a few hours use. To reduce chalking, add 1 to 2 lbs. of dry calcium chloride dissolved in a small amount of water to the mix just before applying.

On wood surfaces, the U. S. Department of Agriculture "Home and Garden Bulletin 184" gives the following formula: (1) Soak 50 lbs. of hydrated lime in 5 gallons of water to make 8 gallons of paste. (2) Dissolve 15 lbs. of salt in 5 gallons of water. Add this solution to the 8 gallons of paste, stirring constantly. Thin this preparation to the desired consistency by adding water. To reduce chalking, use 5 lbs. of dry calcium chloride instead of the salt.

# # #



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Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
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Source: Chuck Christians  
(612) 373-1166  
Editor: Jack Sperbeck  
(612) 373-0715

## COW HERD BREEDING MANAGEMENT

Good management will improve conception rate and increase gains of nursing calves, says Chuck Christians, University of Minnesota extension livestock specialist. Due to variation in the state's rainfall, pastures range from short to lush growth. Cows on short pasture usually don't get adequate energy to promote estrus.

A female should cycle 50-55 days after calving. Three or four pounds of corn per cow will supply the necessary energy needed to initiate estrus, Christians says. Handle first calf heifers separately from the mature cow herd and feed supplemental feed. Rotate pastures every 30 days to increase cow-calf carrying capacity.

A calf that's nursing the cow delays estrus, so keeping calves away from the cow for a 24 hour period will speed up estrus. Creep feeding the calf, which takes the calf away from its mother, or allowing the calf to nurse only twice daily speeds up estrus.

Mineral supplementation in addition to energy is important. Most pasture grazing programs are deficient in phosphorus. Long-term studies in Texas, New Mexico and Wyoming have shown an increase in calving percent and weaning weight when trace mineralized salt and phosphorus mineral mixtures were fed free choice.

A protected feeder containing a mineral mixture of 50 percent trace mineralized salt and 50 percent dicalcium phosphate is recommended.

# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
July 10, 1981

Contact: Uel Blank  
(612) 376-3433

by Mark Strand

## TOURISM IS MORE THAN FISHING, CAMPING

Minnesota has traditionally been viewed as a state of pine trees, wildlife, and open spaces for fishing and relaxing. And these are the things we think of when discussing the state's tourism industry.

While these are, indeed, major attractions, tourism in Minnesota is becoming more than the chance to camp out and catch a few walleyes, according to the experts.

David Gaitley, Minnesota's assistant director of tourism points out that the state Bureau of Tourism has been working to explain this to potential travelers.

"The last several years," Gaitley said, "we've tried to paint a picture that there is in fact more to do; and that's where our slogan came about-- Minnesota. Lakes and a whole lot more."

Gaitley said that high gas prices have caused many vacationers to take fewer trips each year. Instead of numerous three or four day jaunts, common in the 1960s and early 70s, people are choosing to stay in one area for a week or two, he said, taking time to see and do more.

"The small historical societies in various communities are developing more and more, adding to their collections, and people are visiting them," Gaitley said. "Summer festivals seem to be growing. We publicize them, and they seem to be developing pretty well."

Promoting lesser-known activities was a smart move, said University of Minnesota Tourism Specialist Uel Blank. He sees the lakes and streams as already crowded, and thinks spreading people out will create a more peaceful, quality vacation for everyone.

add one--tourism

"When we sell fishing and camping, we're not doing the best thing that we can do," Blank said, "because there are just so many fish in our streams. But you can sell them (tourists) an experience in the north woods, and you can sell them a view of the North Shore. There's no limit to the number of people who can see that and it continues undiminished, if you manage the accesses properly."

There are varying figures for the size of the tourism industry in Minnesota. Bureau of Tourism officials estimate that the state spends about \$450,000 a year attracting tourists, including residents who vacation within the state. The Bureau estimates that Minnesota takes in about \$2 billion in tourism receipts, putting it in the top 10 in the nation in that category. This is a conservative figure, according to Blank. He said that use of a comprehensive definition of tourists and their expenditures would result in a total tourism impact of close to \$4 billion.

The reason for the success of the state's tourism industry is simple, according to Gaitley. The scenery and attractions draw a variety of people.

"In Minnesota, we have everything that anybody could possibly want in a vacation," Gaitley said. "It doesn't make any difference whether you're an active, adventurous person, or the type of person who wants quiet and solitude, or a history or restaurant buff. We have all those things here, and you don't need to look very far to satisfy any of your needs."

Communication Resources  
Agricultural Extension Service  
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St. Paul, Minnesota 55108  
July 10, 1981

Contact: Rouse Farnham  
(612) 373-1447  
by: Mark Strand

## PEAT IS A VIABLE ENERGY SOURCE, RESEARCHERS SAY

Many objections to using Minnesota's peat as an energy source are unfounded and blown out of proportion, according to a University of Minnesota Agricultural Experiment Station scientist who has studied peat use for 25 years.

Rouse Farnham, an internationally-known peat researcher, feels that Minnesotans who oppose harvesting of the state's peat deposits object for reasons not always borne out by scientific research. Peat has been used for fuel in other countries for years, he said, without harm to the surrounding land.

In light of rising costs of oil and natural gas, Farnham said, Minnesotans should consider using some of its peat.

"We could use a small amount and get a lot of energy from it," he said. For instance, Farnham said, a city the size of Hibbing, Bemidji, Virginia, or Grand Rapids could supply their electrical and heating needs for 20 years by harvesting about 1,000 acres of peat to a depth of 10 feet. He stressed that only cities near the peat deposits, such as the range cities, should consider using peat for fuel. Places like the Twin Cities would not be practical for peat use because of high transportation costs and the large amounts needed, he said.

Farnham feels that the public is misinformed on the issue, especially the potential magnitude of the proposed use. He points out that much of the state's 7.5 million acres of peatland lies within State and National Forests,

add one--peat is a viable

wildlife refuges, and other recreation areas. None of these peatlands would be considered for use, he said.

"A lot of bogs will never be developed," he said. "Of those 7.5 million acres, there are about 4 million that are undeveloped. That's where the (development) sites would come from."

People also shouldn't worry that harvested peatlands will be a scar on the countryside, Farnham said. He talks about areas in Europe where harvested peat bogs have been reclaimed to crops, trees and even to breeding grounds and recreation areas.

"All we need to do," he said, "is select sites which will minimize any harm to the environment. I think we will prove this can be done. In my opinion (after a bog is harvested), it can be reclaimed to crops and looks more productive than it did in its natural state.

"One big misconception is that a peat bog acts as a giant sponge," he said, "to keep water from flooding the receiving streams. For one thing, when you drain a bog, it increases its ability to hold water. You have complete control over it if your ditch design was planned right. In nature, there's no control over it.

"People think peat bogs are flat. Only the small ones are. The large bogs all slope; all the ones you'd harvest slope anywhere from five to ten feet per mile. But you can design a drainage and water-control system to do what you want it to do. You can make it so it provides water to a stream in low-water conditions, or have it do the opposite if needed.

In response to the question of whether water quality in nearby lakes and streams would be adversely affected after draining a bog, Farnham said this is where careful site selection and mitigation against any environmental impacts becomes important.

add two--peat is a viable

"You wouldn't drain a bog that had a lake in it," he said. He pointed out several studies, including a four-year project he worked with in Minnesota. The research showed, he said, that certain peatlands could be drained, fertilized and used for crop production without affecting the pH, nitrate, or phosphate levels in streams and lakes draining the land. But because the hydrology and water chemistry of all peatlands is not the same, he warned, many of them should not even be considered for development.

"I would hope that we don't have to use any of them for energy" Farnham said. "But if it gets to the point that the price of fossil fuels becomes exorbitantly high, I think it would be in the best interest of the state of Minnesota to develop our own indigenous alternate fuel. I don't advocate using peat forever as an energy source. I think we should use it in the interim period until we develop solar energy, or some other alternative. Peat is renewable until we harvest and burn more than is being produced, and we aren't mining any right now."

The Minnesota Energy Agency is, however, investigating the potential uses of Minnesota's peatlands. Dennis Devereaux, spokesman for the Agency's Alternative Energy Projects Activity, said that right now, the state feels that harvesting enough peat in selected bogs to level the ground to allow planting of renewable energy crops (cattails, willows, alders, etc.) would be the best use of Minnesota's peatlands.

"We may have a lot of peat in Minnesota," Devereaux said, "but we still view it as a finite resource. We could use it all up in 50 years or so if we mined it intensively. We (the Agency) say it's OK to use some of it to get a harvesting system going; and then we should plant energy crops on the mined peat bogs that can be renewed every year."

Farnham agrees with the state Energy Agency and the Department of Natural Resources (DNR) that peat harvesting in Minnesota should be started

add three--peat is a viable

on a small scale. Then, if it proves successful, he said, it should proceed slowly in selected areas, with strict laws designed to restore and protect the environment.

"That's the only way we're going to prove if it's good, bad, or indifferent," he said. "It's my feeling there's enough underutilized land out there that we can allocate it for many uses including preservation."

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Communication Resources  
Agricultural Extension Services  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
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Contact: Neal Martin  
(612) 373-1181

### COMPUTERIZED HAY LISTING AVAILABLE

A computerized hay "hot line" listing service is available through the University of Minnesota's Agricultural Extension Service.

Anyone with hay for sale may enter it on the list by sending in a form that's available through local county extension offices. Or, you can call the hay hot line number directly at (612) 376-9910. Long distance callers may call collect.

For those wishing to buy hay, computerized listings of hay for sale in a five-state area will be available from county extension offices.

Hay sellers who call the hot line directly will receive a recording, and must be prepared to give the following information:

- Name and address, including zip code.
- Telephone number, including area code.
- County where the feed is located.
- Type of feed (alfalfa, alfalfa-grass, clover, pasture, etc).
- Type of storage (square bales, large round bales, wagon stacked, etc.)
- Which cutting.
- Percentage of grass.
- Whether the hay is rain damaged.

People who sell hay must call the hay hot line number immediately to cancel the listing.

"Farmers in a small area around Lambertton in southwestern Minnesota are still very short of moisture and need hay information," says Neal Martin, extension agronomist at the University of Minnesota. He says people in South Dakota are also requesting hay information, as are farmers in scattered areas of Minnesota.

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July 13, 1981

1981  
373-0710  
Contact: Robert Andersen  
(612) 373-0877

Note: The commercial name of diclofop is Hoelon and the commercial name of glyphosate is Roundup. Both are registered for use on volunteer corn in soybeans.

#### VOLUNTEER CORN CUTS SOYBEAN YIELDS:

ST. PAUL, Minn.--Heavy volunteer corn populations reduced soybean yields by as much as 83 percent in experiments reported by Robert N. Andersen, weed scientist with USDA's Agricultural Research Service.

Andersen, working with University of Minnesota researchers J. Harlan Ford and William E. Lueschen, planted corn, in clumps of 10 kernels each, at three spacing rates: two, four and eight feet apart in Hodgson soybeans planted in 30 or 40 inch rows.

The 2-foot corn spacings cut yields 83 percent; the 4-foot spacings, 58 percent; and the 8-foot spacings, 31 percent. These are averages of two-year tests at three locations on University of Minnesota experimental plots at Rosemount, Waseca and Lamberton. The average loss of soybeans per clump of volunteer corn on the plots with the lightest rate, one clump per 8 feet, was 0.32 pounds.

"In other words, every 180 clumps of volunteer corn per acre will reduce the yield about one bushel," Andersen says.

This estimate would include only the direct reduction in seed production, he added. There would be additional losses due to harvesting problems caused by the corn.

-more-

Add one--Volunteer corn

The researchers were also comparing two herbicide treatments for volunteer corn control, early postemergence spray application of diclofop, and rope-wick application of glyphosate.

Andersen found diclofop was more effective in increasing soybean yields than was glyphosate at the higher corn densities. This was probably because the diclofop applications, being a spray method, could be made an average of 19 days earlier than the rope-wick applied glyphosate applications, allowing the corn less time to compete with the beans, Andersen says. Rope-wick applications had to wait for the corn to grow above the soybeans.

Andersen suggests early overtop application of diclofop for heavy infestations of volunteer corn. For lighter infestations, it may be cheaper to use glyphosate applied with a selective applicator such as a rope-wick unit.

CA,IA

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Tel. (612) 373-0710  
July 13, 1981

msc  
7/13/81  
Contact: Carroll Rock  
(612) 296-3896

MINNESOTA CORN, SOYBEAN CROPS TO  
BE MEASURED IN SAMPLE FIELDS

Minnesota farmers have planted a record acreage to the state's biggest cash crop this year -- 7.7 million acres of corn were planted this spring. Soybeans, the second largest cash crop, took a six percent cutback from 1980, with 4½ million acres planted, according to the Minnesota Agricultural Statistics Service.

But there was damage to both crops in parts of Minnesota's major production areas, says Carroll Rock, director of the service, and this could affect yields and the size of the final harvest.

July will again mark the descent of the service's field enumerators on randomly selected sample plots of corn and soybeans. Most of the 330 sample corn and soybean fields are located in the southern two-thirds of the state. The enumerators will ask farmers for information on their crop during July. Then, with the farmer's permission, they'll go into the field to make objective counts and measurements each month and to watch plant development and growth.

The survey is done as part of an effort to measure state yields and production. Individual information provided by farmers is confidential and is combined together to make estimates for the entire state.

"Farmers have had more than their share of weather-related problems this year," said Rock. "Just what effect this and the present low stocks reserves will have on prices is up in the air right now. We need reliable feedback from farmers to make an accurate estimate of the size of this year's crops."

Rock urges all farmers who are contacted for this survey to offer their cooperation since better participation by farmers means a higher level of accuracy in the reports. The Service issues these yield and production estimates in its monthly CROP PRODUCTION REPORT.

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Tel. (612) 373-0710  
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Source: Sherri Johnson  
(612) 376-1537

NO TIME TO SEW?  
THESE TIPS MAY HELP

If you want to stretch the clothing budget but you "don't have time to sew," try some of these ideas for finding sewing time, suggests Sherri Johnson, extension textiles and clothing specialist at the University of Minnesota.

Push yourself hard for a short period of time, like one week, Mrs. Johnson suggests. "You might not be happy with yourself if you tried to push yourself that hard all the time, but knowing it's just for one week will make it seem possible."

Are there some routine jobs that could be skipped for a week? Ask for cooperation from a roommate or family members, too, Mrs. Johnson says. For example, can you leave your sewing machine and materials up for the week? It may mean some clutter, but it's efficient. How about trading some responsibilities for that week--let others prepare meals or clean up. If you're making the item for someone else, perhaps that person could take over some duties."

Next look for bits of time that you can use, Mrs. Johnson says. How about the 20 minutes between dinner and time to leave for choir practice?

Do you have a few minutes while something is cooking? Can you stay up a little later or get up a little earlier for one week?

add one -- No Time To Sew

Break any project down into small segments and set little goals. "That way you can congratulate yourself on each little accomplishment. That will help motivate you to continue," Mrs. Johnson says. Decide, for example, that you will try to alter the pattern the first day, cut it out, handle interfacing, and pin major seams together the second day. Sew major seams and put in the zipper the third day and so on.

You also may be able to step up your work speed. Mrs. Johnson says, "We tend to work at a comfortable pace, but we could probably work as carefully and accurately even if we pushed ourselves a bit. You might set time limits to complete the zipper and see if you can make it."

Also, try to stop at a point where you can easily continue the project if you have a few minutes. For example, instead of stopping after a group of seams are sewn, take a few minutes to press them open so if you have some unexpected free time you can pin together the next seams to be sewn.

And finally, plan some reward for yourself when you finish. You deserve it, she adds.

Once you've set a sewing goal for yourself and have achieved it, the next project will be easier to begin and keep at, she says. Consider organizing your sewing area with peg boards or shelves with see-through storage boxes. Extra pin cushions, tape measures, seam rippers etc. will save search time when you sit down to sew.

Shopping wisely can also save time, Mrs. Johnson says. Fabrics change as rapidly as fashion itself so don't buy fabric unless you have planned what you will make. Buy notions and pattern at the same time and keep a good supply of fasteners, interfacing and other basics to reduce your trips to the store.

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Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
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Source: John True  
(612) 373-0764

### REDUCE ACCIDENT RISK AT HAY HARVEST

Good maintenance is one of the best hay harvest safety measures, according to John True, extension agricultural engineer at the University of Minnesota.

Good maintenance could mean you won't have to clean out a clogged machine, which could lead to a serious accident. Lubricate machinery, adjust belts and gears, keep shields in place, replace worn knife sections and check the register of knives, True advises.

When doing any maintenance, repair or adjustment on any type of hay harvest equipment, always shut the power off. A recent farm accident study completed in Minnesota indicated that 15 percent of all farm machinery-related accidents occur while the person is doing maintenance and repair work on the equipment, often while the equipment was running.

To avoid fire, clean out hay wrapped around turning parts. Clean chaff and dirt from the engine, especially near exhaust parts and keep an ABC, all-purpose dry chemical fire extinguisher handy.

Handle bales with care. Large round bales may roll when discharged, True says. Use front end loaders with care. Always keep the load as low as possible. Raising the load upsets the tractor balance and can cause it to tip. Stabilize the load by using a grapple restrainer and rear weights to enhance stability and safety.

Falling is common around hay harvesting areas. Keep walking surfaces smooth and clean and wear non-slip shoes or boots, True adds.

# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
July 21, 1981

Source: Robert Aherin  
(612) 373-0764

## 56 DIE IN ACCIDENTS ON MINNESOTA FARMS

In 1980, 56 individuals lost their lives on farms in Minnesota as a result of farm work-related accidents, says Bob Aherin, Agricultural Extension Safety Specialist at the University of Minnesota. More people are killed in agricultural-related accidents than in any other industry in our state.

The largest number of fatalities came from tractor-related accidents, which accounted for 18 of the fatalities. The major causes of tractor deaths were rollovers, extra riders falling off the tractor, and power take off related accidents, says Aherin.

Farm machinery other than tractors accounted for 10 of the fatalities.

There was a substantial increase in the number of animal-related fatalities in 1980. Normally one or two people lose their lives each year as a result of an animal-related accident. In 1980 seven Minnesotans were killed by dairy bulls. Many of the bulls were pets that were raised by the family and turned on individuals for no apparent reason. Aherin says, "This shows the caution that should always be taken when working with bulls no matter how familiar they may be with you or other family members."

Other fatalities included five killed in farm falls, three deaths from electrocutions, three deaths from grain bin and fertilizer storage suffocations, six truck related accidents, two fire related fatalities, and a choking fatality.

Another recent Minnesota farm accident study showed that about one out of every five farms experiences an accident each year that results in time lost from farm work. The same study showed that the 5-15 year age group had almost twice as many accidents as any other age group. These young people are often the extra riders on farm equipment and the ones who begin operating farm equipment before they are physically ready or adequately trained.

"This indicates the need for every farm to incorporate safety into day-to-day activities," Aherin says. "It can benefit the farm family both economically and by reducing the risk of experiencing trauma, grief, and suffering associated with most farm accidents. There are several farm safety training materials available through local county extension offices and other farm organizations."

DSC  
7-21-81

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
July 21, 1981

#### GOVERNOR PROCLAIMS FARM SAFETY WEEK

July 25-31 is Minnesota Farm Safety Week according to a proclamation signed by Governor Al Quie. The theme for Minnesota and National Farm Safety Week, during the same time period, is "Enjoy Life Safely."

Bob Aherin, extension safety specialist at the University of Minnesota reminds farm workers that in reaching our goals, we are exposed to a certain level of accident risk. But the accident potential in agriculture is much higher than in other industries. Thus, it is extremely important to understand how to deal effectively with these hazards. "By knowing how to deal with them, we can reduce the risk in agricultural work so that we can enjoy those things in life that mean the most to us," Aherin adds.

Governor Al Quie made the following statement in this proclamation for Farm Safety Week. "Minnesota is blessed with a capacity to produce a wide abundance of agricultural products; and, agriculture is Minnesota's number one industry with its production, processing and marketing segments which collectively provide more jobs than any other single industry; and farming is recognized as a hazardous occupation which during 1980, resulted in 56 Minnesota farm work deaths; and farm accidents cause much needless grief and suffering and millions of dollars of property damage and medical expenses; and, emergencies do suddenly occur in many ways on the farm whether by natural disasters, accidental injuries or illness...I urge all people who live and work on the farm to adopt the motto 'Be Prepared' and take all steps necessary to avoid accidents and to minimize loss and injury."

There are resources available to people working in agriculture to help them identify and control their accident potential, Aherin says. Educational programs and resources are available at the University of Minnesota through the Agricultural Extension Service and other departments, through vocational-agriculture departments, farm organizations, the State Department of Agriculture, the State Department of Public Safety, and agricultural industry organizations and companies.



add one--farm safety week

"As an agricultural worker or farm operator, assess the accident potential in your operation and then incorporate those measures that can reduce risks," Aherin advises. "The benefits can be great in both reduction of human suffering and in economic gain."

# # # # #

CA

MSC  
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Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Tel. (612) 373-0710  
July 21, 1981

Source: Dottie Goss  
(612) 373-0914

NEW INSURANCE HOTLINE ANSWERS  
CONSUMER QUESTIONS

Do you have questions about your auto, homeowners or business insurance?

A new, toll-free insurance consumer hotline can help you answer them.

Operated by the Insurance Information Institute, an educational, fact-finding and communications organization supported by property/casualty insurance companies, the hotline is designed to help consumers get answers to their questions and better understand how their insurance works.

And if a consumer has a personal insurance problem, the hotline operators will try and help straighten it out.

Hotline callers can find out how insurance rates are made, what information is needed to file a claim, why household inventories are important, what insurance discounts are available and other useful information about property/casualty insurance.

The hotline number is 800-221-4954.

# # #

CA

1050  
21-7

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
July 21, 1981

FORESTRY FIELD DAY  
SET JULY 30 IN CLOQUET

A forestry field day will be held at the Cloquet Forestry Center on July 30. The day will include wagon tours of the center's forest land with stops at research plots and demonstration areas. The center will be open to the public from 10 a.m. to 3 p.m. and again from 6 p.m. to 8 p.m. on July 30.

A. R. Hallgren, field day coordinator, says tree disease and insect clinics as well as exhibits of forestry research will be in the headquarters building during the day. The displays will feature work from both St. Paul and Cloquet faculty members and other staff.

The Cloquet Forestry Center is located four miles southwest of Cloquet.

# # #

CA

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Telephone (612) 373-0710  
August 3, 1981

(Newsletter article)  
(also usable as a utility  
bill stuffer)

EXTENSION HOMEMAKERS' DAY  
ON CAMPUS SET OCTOBER 22

"Together: Growing, Becoming" is the theme of Extension Homemakers Day on campus, Thursday, October 22 on the St. Paul campus of the University of Minnesota. Workshop topics for the conference will include stress and personal "burnout", financial planning, facts about nutrition, family communication and women's options and expectations in the job market.

The conference, which is open to all adults, will look at many concerns that Minnesotans often share about family, community and jobs. Each participant will be able to attend as many as six small group discussions led by University faculty members and extension specialists in the College of Home Economics.

Fee for the conference is \$10, which includes lunch. Advance registration is required and must be received the \_\_\_\_\_ County extension office  
(county name)  
in \_\_\_\_\_ by \_\_\_\_\_. Car  
(county seat town) (local registration deadline)  
and van pools will be arranged if registration merits it.

If you would like further information, contact \_\_\_\_\_,  
(agent's name)  
county extension agent at \_\_\_\_\_ - \_\_\_\_\_.  
(office phone number)

# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Telephone (612) 373-0710  
August 3, 1981

RADIO SPOTS

Could you use a mental pick-me-up and some information on family life and how to handle stress?

This is \_\_\_\_\_, \_\_\_\_\_ County  
(agent's name) (county name)  
extension agent, inviting you to join extension homemakers and other men and women from throughout the state at a one-day conference, October 22, on the St. Paul campus of the University of Minnesota. The theme is "Together: Growing, Becoming," and workshop topics will include stress, financial planning, nutrition, family communication and employment concerns.

Registration is \$10 and there will be car pools traveling from \_\_\_\_\_ to St. Paul. Call me at \_\_\_\_\_ - \_\_\_\_\_  
(county seat town) (phone number)  
for further information and registration details.

\* \* \*

Financial planning, talking to your spouse and teens, stress and personal "burnout"--these are all topics of concern to most \_\_\_\_\_ County residents.

Are you interested in learning more about how to cope with these and other day-to-day concerns? Join homemakers and other adults from throughout Minnesota at Extension Homemakers Day, Thursday, October 22, on the St. Paul campus of the University.

Call the \_\_\_\_\_ County extension office, \_\_\_\_\_ - \_\_\_\_\_  
(County name) (phone number)  
for details.

\* \* \*

-more-

Add one -- Radio Spots

Would you like to know more about the facts and fallacies of nutrition, your future in the job market or the multiple roles that today's employed women take on?

These topics as well as ones on stress and family relationships will be featured in the October 22 Extension Homemakers Day on the St. Paul campus of the University of Minnesota. You can join men and women from \_\_\_\_\_ County and throughout Minnesota at this informative conference led by University faculty members and extension specialists. Call the county extension office at \_\_\_\_\_ - \_\_\_\_\_ for registration details.

\* \* \*

CA, HE I & II

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Telephone (612) 373-0710  
August 3, 1981

(Newsletter article)  
(also usable as a utility  
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The conference, which is open to all adults, will look at many concerns that Minnesotans often share about family, community and jobs. Each participant will be able to attend as many as six small group discussions led by University faculty members and extension specialists in the College of Home Economics.

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# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Telephone (612) 373-0710  
August 3, 1981

(Newspaper release)

Note to Agents: These promotional news releases are written in a fill-in-the-blank style for you to personalize. Add any additional information such as bussing, car pooling or overnight accommodation details in a separate paragraph at the bottom. The Office of Special Programs wants registration complete by October 12 so set the date in paragraph #5 to permit that.

EXTENSION HOMEMAKERS' DAY TO FOCUS  
ON TODAY'S ADULT IN FAMILY, COMMUNITY, JOB

Do you need to re-charge your mental batteries and get a fresh perspective on your life stage or your role in family or community?

A conference Thursday, October 22 on the St. Paul campus of the University of Minnesota, "Together: Growing, Becoming" is open to Extension Homemakers and all adults. Workshop sessions will focus on developing leadership skills, personal development and the concerns of employed women. Each participant will be able to attend as many as six small group discussions led by University faculty members and extension specialists in the College of Home Economics.

Topics will include stress and personal "burnout", financial planning and life stages, facts and fallacies in nutrition, family communication, women in dead-end jobs, sexual harrassment on the job, menopause, women's role choices, dealing with aging parents and housing decisions related to changing family size and economics.

According to \_\_\_\_\_, \_\_\_\_\_ County extension agent,  
(agent's name) (county name)  
the Extension Homemakers' Day on Campus is designed to provide both men and women with new insights into family and personal concerns that may be causing

-more-



Add one -- Extension Homemakers' Day to Focus

stress or anxiety. "This is a chance for us to discuss common concerns and to share some of the information resulting from research done at the University," \_\_\_\_\_ added. Local participants will be helped to form  
(agent's name)  
car and van pools for the trip to St. Paul and back.

Fee for the conference is \$10, which includes lunch. Advance registration is required and must be received by the \_\_\_\_\_ County extension  
(county name)  
office by \_\_\_\_\_ . Phone \_\_\_\_\_ - \_\_\_\_\_  
(local registration deadline) (telephone number)  
or stop by the office for registration forms and details.

# # #

CA, HE I & II

\*\*\*\*\*  
\* CORRECTED VERSION -- PLEASE USE THIS INSTEAD OF THE ORIGINAL AUG. 3 VERSION \*  
\*\*\*\*\*

Communication Resources  
Agricultural Extension Services  
University of Minnesota  
St. Paul, MN 55108  
Tel. (612) 373-0710  
August 7, 1981

(Newsletter article)  
(Also usable as a utility  
bill stuffer)

DAY ON CAMPUS SET OCTOBER 22

"Together: Growing, Becoming" is the theme of the Day on Campus, Thursday, October 22 on the St. Paul campus of the University of Minnesota. Workshop topics for the conference will include stress and personal "burnout", financial planning, facts about nutrition, family communication and women's options and expectations in the job market.

The conference, which is open to all adults, will look at many concerns that Minnesotans often share about family, community and jobs. Each participant will be able to attend as many as six small group discussions led by University faculty members and extension specialists in the College of Home Economics.

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CA, HE I & II

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Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Tel. (612) 373-0710  
August 7, 1981

(Newspaper release)

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(agent's name) (county name)  
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(agent's name)

-more-

Add one -- Day on Campus to Focus

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\* \* \*

CA, HE I & II

\*\*\*\*\*  
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Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, MN 55108  
Tel. (612) 373-0710  
August 7, 1981

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\* \* \*

-more-

Add one -- Radio Spots

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\* \* \*

CA, HE I & II

MSC  
9/27/81

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
August 31, 1981

Source: Sherri Johnson  
(612) 376-1537

HOME SEWING WEEK  
SET SEPT. 13-19

September 13-19 is Minnesota Home Sewing Week. The proclamation signed by Governor Albert Quie is through the efforts of the Twin Cities Chapter of the American Sewing Guild, a non-profit organization of home sewers interested in sharing and improving their skills.

The specially designated week recognizes home sewing for its many educational and creative influences. During Minnesota Home Sewing Week many retailers in Minnesota will be developing programs and promotions to salute home sewing.

Highlighting the week will be a fashion show, September 17, at the Minneapolis Auditorium and Convention Center. Members of the Twin Cities Chapter of the American Sewing Guild will model garments they have made. In addition to the fashion show, home sewing manufacturers and retailers from the Twin Cities area will exhibit the latest in fabrics, notions and sewing techniques.

For more information about the Guild and Minnesota Home Sewing Week write the American Sewing Guild, Post Office Box 24174, Minneapolis, Minn. 55424.

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CA

MSC  
9/27/81

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
August 31, 1981

Source: Dottie Goss  
(612) 373-0914  
Writer: Deedee Nagy

NEW RESCISSION DECISION  
AFFECTS BORROWERS

Are you thinking about borrowing money for home improvements, using your home as collateral? A recent change in the Truth in Lending Act could work to your advantage or it could also jeopardize your home to the creditor if you later can't or don't want to make loan payments.

Dottie Goss, extension family resource management specialist at the University of Minnesota, says it's easier now for consumers to give up their "right to rescission", a provision that allowed a potential borrower to cancel a credit transaction within three days of closing a deal.

This right to rescission allows consumers to cancel a deal if they change their minds or find better credit terms from another lender. Sometimes, however, borrowers do not want the creditor to slow down the loan by suspending all action on the deal for the three days of the rescission period. Goss says that if speed is important, a borrower can notify the creditor that he or she has a financial emergency and is willing to waive the right to rescission.

Problems can arise, however, if a borrower waives rescission rights and then has a change of heart on the matter. The borrower could lose his or her home to the creditor.

Goss reminds borrowers that the right of rescission and the three-day waiting period are for the consumer's protection and they probably should be waived only under very unusual emergency circumstances.

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MEC  
9/27/81

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
August 31, 1981

Source: Mary Darling  
(612) 376-4663  
Writer: Deedee Nagy  
(612) 373-1781

BE LEERY OF NUTRITIONAL  
CLAIMS FOR SPIRULINA ALGAE

Advertisements and some health food salespersons are making startling nutritional claims for spirulina algae tablets and powder--claims that a University of Minnesota extension nutritionist says are greatly overblown.

Mary Darling of the University's Food Science and Nutrition Department says the algae product is promoted as a diet supplement or for use during a fast. She cautions, "Spirulina is not a miracle food. Like other foods, it may be used in moderation to contribute to the nutrient content of a diet, but its exclusive use for weight reduction would lead to malnutrition."

Promoters of the produce suggest that six spirulina tablets be used each day as a diet supplement. Darling points out that the amount of protein (amino acids) in six tablets is only a small percentage of the estimated amino acid requirement for adults. "A person would need to eat about 160 such tablets every day to get the amount of protein in the Recommended Dietary Allowance (RDA). An egg or a glass of milk provides more amino acids than spirulina for less money."

Spirulina doesn't stack up well as a supplier of vitamins and minerals either. Darling says six tablets of spirulina would supply the RDA for vitamin A, but so would one-half cup of frozen spinach. It is a good source of vitamin B<sub>12</sub> for people who avoid animal products, but a cup of milk provides more of most vitamins than six spirulina tablets and the milk would cost about half as much.

Spirulina is not a rich source of any minerals for which there are RDA listings. Six tablets supply about as much iron as one and one-half eggs, but this is only about one-tenth of the RDA for iron, according to Darling.

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
August 31, 1981

Contact: Gene Anderson  
(612) 373-0725

CROP PEST MANAGEMENT SHORT COURSE NOV. 4-5

Crop pest management in Minnesota will be the topic of a short course set for Nov. 4-5 at the Sheraton-Inn Northwest in Brooklyn Park, Minn.

According to Dr. Gerald Miller, extension agronomist at the University of Minnesota, the short course will examine integrated pest management concepts and review present pest management programs in Minnesota. Other topics include alternatives for organizing and conducting pest management programs and potential future pest management developments in Minnesota.

Speakers will include growers participating in pest management programs, crop scouts, pest management consultants, and weather, insect, disease and weed specialists.

Other speakers will present national views of crop pest management and legal and financial considerations affecting grower organizations.

The short course is sponsored by the University of Minnesota Agricultural Extension Service. The early registration fee is \$30 per person. After Oct. 23, the fee will be \$35. For further information, call 612-373-0725 or write: Office of Special Programs, 405 Coffey Hall, University of Minnesota, St. Paul, Minnesota 55108.

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CA, 1A

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
September 18, 1981

Source: Jack True  
(612) 373-0764  
Writer: Jack Sperbeck  
(612) 373-0715

DRIVING FASTER CAN  
INCREASE MACHINE  
PRODUCTIVITY

You may be able to increase machine productivity by driving faster.

"Tractors and tillage equipment are being designed to go faster," says John True, extension agricultural engineer at the University of Minnesota. Equipment is being designed to go five to six miles per hour instead of three or four.

"We aren't talking about a safety hazard at these speeds," True emphasizes.

True says that today's tractors are designed to generate maximum horsepower at these higher speeds. "Horsepower generated is a matter of speed times pull. Today's tractors require large amounts of weight to utilize their power at slow speeds. But they can generate the horsepower by operating at higher speeds," he says.

Chisel plowing is more effective at the higher speeds since the soil gets more "stirring," True says. "With the moldboard plow, they had to redesign the plow before they could go faster. But chisel plows can be pulled faster without creating draft problems."

With a chisel plow, you can probably cover 50 percent more acreage in the same time, opposed to using a moldboard plow. That assumes you're operating at the same depth. You need only about two-thirds as much energy to pull the chisel. Another way to look at it: You can cover 1½ times the acreage with the same horsepower.

But these higher speeds don't apply to harvesting. "You lose too much operator control if you try to go faster with a large combine," True says. Watching 12 rows is a lot tougher than watching two.

And you don't double machine capacity when you go from a 6-row to a 12-row combine since you can't go as fast.

# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
September 18, 1981

Writer: Jack Sperbeck  
(612) 373-0715

Source: Jim Linn  
(612) 373-1014

#### WATCH MOISTURE CONTENT WHEN ADDING ANHYDROUS TO CORN SILAGE

Dairy farmers can reduce protein supplement costs and add bunk life to corn silage by adding anhydrous ammonia at ensiling time.

But it's important to add the anhydrous ammonia when the corn silage is at 32 to 38 percent dry matter, says Jim Linn, extension dairy specialist at the University of Minnesota. Losses increase when the silage is too dry or too wet.

Adding 6 to 7 pounds of anhydrous ammonia to corn silage will bring the crude protein level from 8 percent to around 12 to 13 percent. Linn says adding anhydrous ammonia above recommended levels decreases palatability and may decrease bunk life.

Recovery rates of anhydrous additions to corn silage are usually between 70-80 percent when applied correctly.

Ammonia has also been shown to improve recovery of dry matter, energy and sugars from corn silage compared to untreated corn silage.

The anhydrous is usually applied with the cold flow method since losses are much less than when it's added as a direct liquid to fresh corn silage. Anhydrous is run from the tank through the cold flow chamber, which is usually mounted on the blower. Then it's injected into the corn silage as it's blown into the silage.

# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
September 18, 1981

Source: Mary Darling  
(612) 376-4663  
Writer: Deedee Nagy  
(612) 373-1781

MSC  
GA 27P

CHECK CREDENTIALS, PHILOSOPHIES  
OF WEIGHT REDUCTION PROGRAMS

Weight reduction programs are big business, and a University of Minnesota extension nutritionist warns that some may be more interested in lightening your wallet than in solving your weight problem and improving your health.

Mary Darling suggests some comparison "shopping" before deciding on a weight reduction program or organization. Ask about cost, program length, the types and frequency of meetings, staff qualifications and the nature of the diet plan used.

"Evaluating the many different programs that are marketed to the overweight is difficult," Darling admits. Some consumers would like to have diet programs reveal their success rates, but currently this type of information is seldom shared with prospective enrollees.

Besides cost, Darling advises consumers to think about these points before signing a contract with a weight reduction program:

- \* Medical supervision is advisable, particularly if you plan to lost 15-20 pounds or more.
- \* Rapid weight loss can be risky and it may represent primarily body fluids, which will be replaced once more normal eating habits resume. A weight loss of 1½ to 2 pounds a week is a safe recommendation.
- \* Many people find that group support is helpful in losing weight. Exercise also can improve muscle tone and sense of well-being while controlling weight.

\* A commitment to helping you change eating habits is essential. Many people want to lose weight but they don't want to change the way they eat. If eating habits aren't changed, the weight will be regained. Keeping the weight off is as important as losing the weight.

Darling adds, "Many dieters experience a 'yo-yo' syndrome and realize that shifts in weight can be a greater health risk, wardrobe expense and embarrassment than remaining overweight. A maintenance program is helpful as you learn new ways of eating."

\* If your calories will be restricted to 1,200 or less each day for several months, a vitamin pill enriched with iron may be appropriate. Programs that call for large amounts of vitamins, minerals or other supplements can create imbalances in the interactions of nutrients in your body. A variety of nourishing low calorie foods is the best plan for good nutrition.

\* Will you be able to keep the appointments or meeting dates? The commitment of time is as important as the money, Darling adds.

After investigating a number of diet programs, Darling says some people conclude, "Who needs this? I should be able to do this by myself." Some people are able to stick to self-imposed diets, she agrees. Many others, however, find that changing to new eating and exercising habits can be difficult. Organized programs may help them reach their goals. "If you can afford the money, the information and support you receive from a weight reduction program could be a helpful start toward a new way of life," she adds.

# # #

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
September 18, 1981

Source: William Angell  
(612) 373-0910  
Writer: Deedee Nagy  
(612) 373-1781

SOGGY BASEMENT PROBLEMS  
GOT YOU BAILING AND BOILING?

At least half of Minnesota homes have wet basements--damp, useless space that may encompass problems ranging from musty odors, mildew and peeling paint to actual rotting foundations.

William Angell, extension housing specialist at the University of Minnesota, estimates that half of those with wet basements could correct the problem with do-it-yourself skills and without a major investment. For those with more severe problems, however, professional help may be necessary. This may be risky, costly and time-consuming, he warns.

Angell urges homeowners not to guess at the type or cause of a basement moisture problem. "If you don't feel confident to diagnose your problem, consider hiring an independent soils engineer with experience in analyzing basement water problems," he says. "Otherwise, you leave yourself vulnerable to fraudulent claims and misrepresentation by unscrupulous waterproofing companies." He adds, "There are many excellent contractors who deal with basement moisture problems, but unfortunately, there are others interested only in your pocket book. As a homeowner, it's up to you to distinguish between the excellent firms, the fairly good ones and the shoddy or dishonest ones."

There are three types of basement moisture problems, according to Angell. Condensation is the most common and the easiest to correct. It is caused by warm, moist air contacting a cool

surface such as basement walls or floors. Moisture from the air condenses on these surfaces in the form of drips or puddles.

Condensation usually can be controlled by eliminating interior moisture-producing activities especially in the basement. Angell notes that these can include showering without using a vent fan, drying clothes on a line or in an unvented dryer, and storage of "green" firewood. Running a dehumidifier and keeping basement windows closed in the summer also will help.

Seepage is the next most common moisture problem, according to Angell. Usually it is caused by run-off following rain or snow melt. Seepage often indicates that water running off the roof isn't being carried away from the foundation. This may be because of leaky or inadequate gutters and downspouts, inadequate grading or slope away from the house, or window well collection of rainwater.

Remedies for this problem include repair or replacement of gutters, lengthening downspout leaders, installing plastic window well covers, and checking for proper drainage away from the house including run-off from nearby driveways, walks or patios.

Angell adds that in some cases of seepage, several coats of waterproofing paint on the basement walls may correct the problem. Occasionally, however, the problem is severe enough to require systems of "weep pipes," troughs or drains to carry water to a drain or sump pump.

Leakage is the least common form of basement moisture problem and the most difficult and costly to correct. Angell says leakage is caused by high ground water levels, often aggravated



by dense soil that prevents moisture from draining away from the foundation. He urges homeowners who think that this is their problem to contact their local Soil Conservation Service for help in diagnosis.

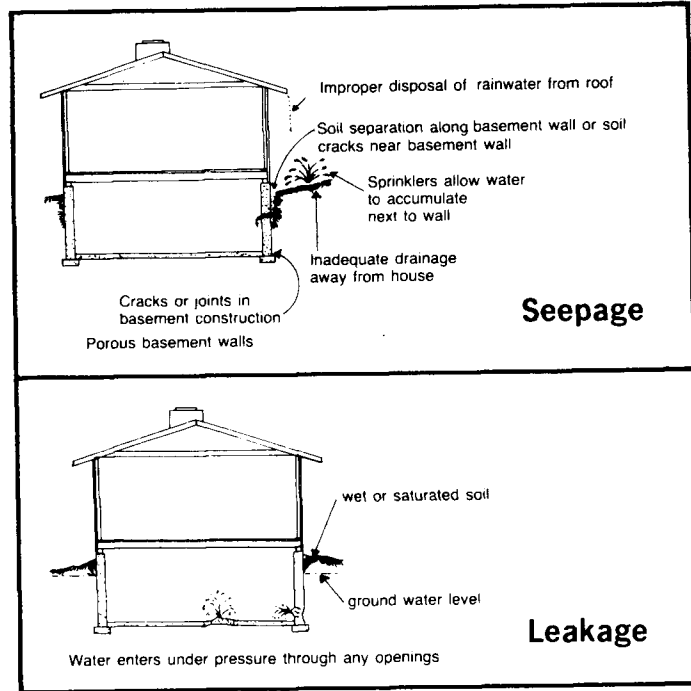
Angell adds, "Be wary of claims by sales people that a basement moisture problem is caused by a high water table based only on someone's casual observations. Only a soil boring can determine accurately what the problem is."

Angell adds that some leakage problems can be cured by a combination weep pipe and sump pump system or drain tiles under the floor or around the outside of the foundation. In other cases, a contractor may need to excavate the exterior of the foundation and seal it with a waterproof material at the same time that drain tiles or a sump system is installed.

"Correcting a leakage problem is never simple," Angell warns. "It's usually expensive, messy and time-consuming. If you are certain that your moisture problem involves leakage, be wary of contractors who promise an easy solution in the form of exterior-applied waterproofing compounds or materials."

Further information on basement moisture problems is available in a new publication written by Angell, "Correcting Basement Moisture Problems in Minnesota Homes" (Special Report # 2), available at a cost of \$1.00 from your local county Agricultural Extension Service Office.

SOGGY BASEMENT PROBLEMS  
GOT YOU BAILING AND BOILING?



Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
September 30, 1981

11550  
4-10-81  
Contact: Charles Christians  
(612) 373-1166

#### SOUTHEASTERN MINNESOTA CATTLE TOUR OCT. 16,17

A southeastern Minnesota cattle tour will be held Friday, Oct. 16 at Schmidt's Hereford Ranch, Eyota.

The tour continues to the Rushford, Lanesboro and La Crescent areas on Saturday, Oct. 17. The tour will feature Hereford cattle programs and management practices.

The tour is sponsored by the Minnesota Hereford Association, Tri State Breeders, International Mineral and Chemical Co. and the University of Minnesota Agricultural Extension Service. Activities will include youth and adult judging, a barbeque beef supper, a social and barn dance on Friday night and four Saturday tour stops.

Tour activities will begin Friday afternoon at Schmidt's Herefords, Eyota, Minn., with registration at 3 p.m. Both youth and adults can participate in a beef cattle judging contest. Officials for the contest will be Bob Schafer, Oxley Hereford Ranch manager, Mahnomon, Minn., Gary Bellin of Central Livestock in St. Paul and Walt Bones of Bones Hereford Ranch, Parker, S. D.

The Schmidt's will donate a registered heifer to a youth aged 10-21 who's interested in raising Herefords. This award will be given on the basis of an essay written by the youth. The Schmidt's ask that interested young people send them a brief resume before the tour. Describe your background and include reasons why you could help yourself and the Hereford breed by raising and showing the heifer in Minnesota Hereford events. You must participate in the judging contest and be present to win. For further information, contact Gloria Schmidt, Schmidt's Hereford Ranch, Eyota, Minn. 55934 or call 507/545-2308.

add one--southeastern minnesota

Next will be a demonstration of Ralgro implanting techniques and results of a controlled study using Ralgro implants on steer calves. The trial was conducted this summer at Schmidt's in cooperation with Ralgro and Dr. Charles Christians of the University of Minnesota Agricultural Extension Service. Paul Iverson, International Mineral and Chemical Corporation, will present the Ralgro implant demonstration.

After a pasture tour of the Schmidt breeding program, there will be a beef barbeque, social and barn dance.

At 8:30 a.m. Saturday morning the tour will get under way at Queen's Highland Hereford Farm near LaCrescent, Minn.

Dr. Charles Skemp, ranch owner, will talk about his Hereford breeding program and performance oriented selection objectives which stress maternal ability and functional efficiency. Skemp uses a special cow chute known as a "breeding box" for calving and AI work. An update on heat synchronization with Lutalyse will be presented by Keith Vander Velde, livestock marketing specialist with Tri-State Breeders' Coop., Wesby, Wisc.

Buses will load and head west to Lanesboro for a tour of the Hi Lo Hereford Farm owned and operated by Charles and Gloria Ruen and sons. The Ruen's herd consists of 60 registered Hereford cows and 60 commercial Hereford cows.

At Ruen's, Christians will discuss the place of British breeds in a crossbreeding program and Charles Ruen will talk on the effect of feeding time on calving time in his cow herd.

The last stop of this year's tour will treat the caravan to some fall beauty northwest of Rushford, Minnesota, where Elmer Schueler and his family operate Rush Arbor Herefords. After a tour of the cattle pastures there will be a discussion of the American Hereford Association Sire Evaluation program by the Association's field representative. The buses will load and return to Queen's Highland Farm, where the tour will end about 5 p.m.

add two--southeastern minnesota

For more information or reservations contact Chuck Skemp, LaCrescent, Minn., (507/643-6362), Gloria Schmidt, Eyota, Minn., (507/545-2308), or Dr. Charles J. Christians, University of Minnesota, 101 Peters Hall, St. Paul, Minn., 55108. Phone (612/373-1166).

# # #

CAS, IA

MSC  
9/15/81

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
October 13, 1981

Source: Edmund Zottola  
612-373-1082

Writer: Deedee Nagy  
612-373-1781

MOCK PINEAPPLE RECIPES  
SHOULD BE DISCARDED

Mock pineapple recipes made from zucchini squash are currently circulating throughout the state. A University of Minnesota extension food microbiologist suggests, however, that both the recipes and any jars of the pineapple/zucchini mixture already made from the recipe, should be discarded.

Edmund A. Zottola of the University's Department of Food Science and Nutrition says the recipes call for grated zucchini, pineapple juice and other fruit juices and flavorings. The boiling juices are poured over zucchini in canning jars and the jars are then processed in a boiling water bath.

Zottola says there is the potential for safety problems with such mixtures. Research at Michigan State University suggests that the high water content of the zucchini can dilute the acidity of the canned product during storage. If this happens, the mock pineapple could become a medium for the growth of dangerous microorganisms.

Because there has been little research done on such recipes, Zottola says there is no way to be sure the product is safe to eat. He suggests that if you have such recipes, do not use them. If you have already canned mock pineapple, discard the jars without tasting the product.

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# # #

MSC  
9/27/81

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
November 10, 1981

Source: Roger Peterson  
(612) 373-0911

Challenge go the Energy-Wise Homeowner:  
HOW TO CONTROL MOISTURE IN TIGHT HOMES

Some of our best efforts to save costly heating fuel may be causing moisture problems in our homes, suggests Roger Peterson, extension residential energy specialist at the University of Minnesota. As homes become tighter to save energy, there is less air leakage to carry off humidity from showers, baths, cooking, and laundry.

Peterson says that today's tighter homes require mechanical ventilation, such as ducted bath and range vent fans. Laundry rooms also may require a ducted vent fan that carries exhaust to the outdoors. Mechanical venting is more efficient than hundreds of small leaks because vent fans are used only when needed. The furnace can take a break when the fans are not running, Peterson adds. The fans can be installed with a timer that shuts them off automatically.

An even more efficient system is to bring several vent fan ducts together into one end of a sheet metal duct that is at least six feet long and vents to the outdoors. A metal duct or plastic enclosure around the one carrying exhaust air out brings in fresh air and preheats it from the warmth of the exhaust duct. Peterson reminds homeowners that they must separate the fresh air intake holes several feet from the exhaust outlet, or exhaust will come back into the house. Commercial equipment which preheats fresh air by the warmth in exhaust air ducts is also available.

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Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
November 10, 1981

Source: Roger Peterson  
(612) 373-0911

THE SILENT CULPRIT:  
WATER VAPOR CAN DAMAGE YOUR HOUSE

Water vapor (humidity) is harmless but let it hit a cold surface in your home and you've got the potential for problems, says Roger Peterson, extension residential energy specialist at the University of Minnesota. For example, moist indoor air contacting the cold surface of a window pane during a winter night can condense into a puddle on the window sash and sill. This can cause rot. Similarly, puddles of water can form inside walls because the cold side of the wall is condensing the vapor passing through it. Even though unseen, such dampness can cause rot, mildew and peeling paint on the outside.

Peterson says there are three answers to the problem: (1) Lower the humidity in your home with bath vent fans or dehumidifiers and exhaust fans with ducts to the outdoors in kitchens and laundry rooms. (2) Keep warm any surface exposed to water vapor. For example, a third layer of glass such as an extra storm window or inside glazing panel will keep glass surface warmer. (3) Prevent vapor from reaching the cold side of walls or ceilings by means of a vapor barrier in the form of either vapor-stopping paint or a plastic sheet installed behind plasterboard. Lowered humidity, Peterson cautions, has limitations for comfort, health, and energy reasons. A house that is too dry is not comfortable and may lead to more respiratory infections. Bath fans (or opening windows) cost you extra fuel because the replacement air must be heated. A relative humidity of 40 to 60% is recommended.

The second possibility, keeping a surface warmer can work for windows or doors where storm windows or doors or shutters can be added outside. If vapor leaks around the inner surface and reaches colder outer materials, however, there will be condensation. Some materials, such as plastic foam insulation, are virtually vapor proof, Peterson says.

In most cases, vapor barriers are the best answer. Vapor barrier paints allow homeowners to control vapor without expensive remodeling. Some types of vinyl wallcoverings are also good. Any smooth hard surface such as a wall or



## Add one--The Silent Culprit

ceiling is relatively easy to make vapor proof, Peterson says. Irregular surfaces such as wood paneled walls, beamed ceilings, or the floor joist perimeter may require major remodeling or adding plastic foam insulation to the exterior.

"When using vapor stopping paint, be sure you first caulk all holes and cracks where window moulding and floor moulding meet the wall or floor," Peterson says. "Use spray can foam around electrical outlet boxes to prevent vapor from leaking towards the outer portion of the wall or ceiling. By taking off the cover plate, you will usually find enough gap between the plaster and the electrical box to insert the small plastic tube on the foam can. Be careful of live wires. The outlet itself can be sealed with a rubber gasket and plastic plug inserts."

# # #

PII-P, SN2

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
November 16, 1981

Source: Richard Goodrich  
(612) 373-1110  
Writer: Lisa Ringhofer  
(612) 373-1791

UNIVERSITY OF MINNESOTA  
SCHEDULES SIX CATTLE FEEDERS DAYS

Updated information on developments in cattle feeding will be available at six University of Minnesota Cattle Feeders Days. The dates and locations of sessions offered are:

- December 2 - Crookston, Agricultural Experiment Station
- December 3 - Morris, Agricultural Experiment Station
- December 11 - Marshall, Southwest State University
- December 15 - Worthington, Worthington Community College
- December 16 - Waseca, South Central Experiment Station
- December 17 - Preston, Wagon Wheel Restaurant

Each of the sessions will run from 10:00 a.m. to 3:00 p.m. The format of these meetings has been changed from that of preceding years to allow more time for audience discussion.

Panel discussion subjects will include feed intake, B-vitamins, high calcium diets, protein sources, and alcohol by-products. A second panel will discuss high moisture grains, housing systems, implants and Hemophilus somnus-- a disease effecting feedlot cattle.

Other presentations will include: handling new cattle, tomorrow's cattle feeding industry and feedlot layout and handling facilities. Ample time has been allotted for a thorough discussion of each topic.

Results of University research will be available during the discussion periods following each topic presentation.

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nisc  
5-21P

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
November 23, 1981  
Tel. (612) 373-0715

By Jack Sperbeck  
Agricultural Experiment Station  
University of Minnesota

## GENETIC ENGINEERING IMPORTANT, BUT NO PANACEA

Both genetic engineering and conventional plant breeding methods promise steady, continuous gains in crop production.

Genetic engineering refers to manipulating genetic material--or gene splicing--to produce recombinant DNA. Scientists eventually hope to tailor-make microorganisms, plants and animals to take full advantage of their environments.

Scientists at the University of Minnesota's Agricultural Experiment Station say that genetic engineering techniques like DNA and gene-splicing technology will speed up their work.

But too much attention lavished on glamorous genetic engineering could hamper conventional plant improvement efforts, says Thomas N. Urban, president of Pioneer Hi-Bred International Inc. Urban says that genetic engineering techniques can't simultaneously work with large numbers of genes--a necessity for most hybrid and variety improvement.

"Plants have some 10,000 genes, and very few of their characteristics are controlled by a single gene," Urban says. "Genetic engineering techniques like DNA and gene-splicing technology will help speed up research. For example, they will help in identifying and releasing varieties with improved disease resistance. But they won't change conventional breeding methods," he says.

Five scientists at the University of Minnesota are working together using genetic engineering techniques like recombinant DNA and plant tissue culture.

They are molecular biologists Irwin Rubenstein of Genetics and Cell Biology and Joachim Messing of Biochemistry; and Charles E. Green, Ronald Phillips and Burle Gengenbach, all in Agronomy and Plant Genetics. One of their goals is to develop molecular genetic transfer techniques with corn. But their immediate goal is a new variety of corn that is rich in lysine, one of the essential amino acids. Ultimately, this could result in a corn that's a more complete food for man, hogs and chickens.

"For both genetic engineering and traditional plant breeding work, the University of Minnesota is the ideal spot in the world," says Phillips. "There's been good support for both. The genetic engineering work hasn't detracted from traditional research.

"It's important to emphasize traditional varietal development, too. But we need to try all avenues to improve research to feed the world. We need the basic research and technology being developed through genetic engineering," Phillips says.

The goal of developing high lysine corn is an example of how both traditional and new research approaches work together. Phillips developed a laboratory screening test on seedlings for high lysine corn.

Green developed the concept at the plant cell level through tissue culture. Other University of Minnesota researchers have techniques on the "drawing board" to use recombinant DNA.

"Our work on high lysine corn runs the gamut," says Phillips. "It goes from routine laboratory methods to the more sophisticated plant tissue culture, then to gene splicing to produce recombinant DNA."

A. Richard Baldwin, vice president and executive director of research at Cargill, Inc., agrees that genetic engineering techniques won't bring sudden, dramatic breakthroughs. "But genetic engineering, viewed as an additional tool to help plant and animal breeders, should be a top priority in ag research.

"The public sector has only about \$6 million invested in genetic engineering work now. That's far too little when you think of the long-term payoffs.

"Genetic engineering can help scientists develop plants with increased pest resistance, more cold tolerance and improved drought resistance," Baldwin says. "Increased cold tolerance is especially important. This would allow farmers to use more minimum tillage practices.

"If we could build more cold tolerance into the corn plant, we could plant earlier. We could plant corn in March if the seed had the same resistance to cold that small grains do.

"Then the corn plant would develop during longer days, when it could make increased use of the sun's energy. Now, only the best of our crops recover only two percent of the energy that falls on them from the sun."

"I expect plant breeding, including genetic engineering, will bring steady and continuous gains in food production," says Herbert W. Johnson, head of the University's Department of Agronomy and Plant Genetics. "But I don't expect the annual gains to be great.

"New plant varieties developed by genetic engineering won't make the deserts bloom without water, like I saw predicted on a television show. And I have some problems believing that genetic engineering will result in a 'sun bean,' which some people say will eventually be a combination of beans and sunflowers.

"The value of genetic engineering isn't that it will give rise to the sun bean or make the deserts bloom with no additional water. But genetic engineering can help in some specialized situations."

For example, Gengenbach used genetic engineering techniques to develop corn plants resistant to the southern corn leaf blight, which caused an epidemic in 1970. "The same approach could be used in breeding for resistance to salt in soils," Johnson says. "It could probably be used to increase herbicide tolerance in crops, or even to develop crop varieties resistant to herbicides.

"Genetic engineering might also help in developing varieties that respond to growth regulators, and in breeding for amino acid balance in plants. It has great potential, but it won't substitute for conventional plant breeding methods," Johnson concludes.

# # #

CA, CAS, 4-FC, 1A

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
Tel. (612) 373-0710  
November 30, 1981

Source: Judith Maxwell  
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Editor: Jack Sperbeck  
(612) 373-0715

IRRIGATION IN SWIFT COUNTY  
BENEFITS LOCAL ECONOMY

Irrigation development has helped the entire economy in a five-county area in west central Minnesota, according to a recent study by the University of Minnesota's Agricultural Extension Service.

The input-output study conducted in Swift County showed that irrigation gives two types of benefits. First, irrigating coarse-textured, droughtly soils results in large yield responses. This translates into higher revenues and incomes for farmers and other local business owners.

Second, irrigation stabilizes the local economy by eliminating drought-related crop losses. This is especially important in Swift County where the entire local economy is dependent on the well-being of agriculture. Prior to irrigation, agriculture-dependent local economies fluctuated according to commodity prices and crop yields. Irrigation eliminates most fluctuations in crop yields.

"While only 7 percent of Swift County's cultivated acres are irrigated, these acres produced 16 percent of the county's total crop production revenues," according to Extension Service economist Judith Maxwell. "Since each dollar of irrigated crop revenues results in a total of \$2.2 of local revenues in the Region 6 West economy, the positive impact at the farm level is amplified throughout the entire regional economy," Maxwell says.

The Region 6 West economy includes Swift, Big Stone, Lac Qui Parle, Yellow Medicine and Chippewa counties.

"This means that 45 percent of the total benefits due to irrigation went to the irrigators. The remaining 55 percent accrued to other local businesses."

## Add one--irrigation

Using 1978 as a base year, Maxwell constructed an economic model of Swift County's irrigated crops sector, based on a survey of 35 irrigators, speciality crop contractors, financial institutions, grain elevator operators, utility companies, and other local farm supply businesses. The survey data was used to determine the expenditure and marketing patterns of irrigators so that impacts on other types of businesses could be identified.

"The economic impact of irrigation development has been most directly felt by producers of agricultural chemicals and fertilizers, processors of agricultural products, firms providing custom crop work, insurance companies, and retail firms which provide consumer goods and services," Maxwell explained.

The Agricultural Extension researcher also pointed out that these impacts are even more apparent when irrigated and non-irrigated crop production are compared. "Average per acre revenues from irrigation in Swift County are \$309 (1978 dollars). Over 34 percent of these revenues, or \$107, are retained by the farmers as income to meet the personal consumption needs of the farm family.

"Average per acre revenues for non-irrigated production are \$115, of which 41.5 percent or \$47 are retained as family income. This helps to clarify the source of benefits which accrue to local agriculture-related businesses and consumer retail establishments."

The results of Maxwell's study of Swift County have positive implications for other irrigated areas in the state, particularly those typified by sandy soils and glacial outwash aquifers. However, as irrigation development extends to fine textured soils, the economic impacts are harder to predict. The study does indicate that the benefit due to yield increases will be of less importance than the benefit associated with economic stabilization when irrigation occurs on these more productive soils.



Add two--irrigation

The future of irrigation in Minnesota should be bright, Maxwell predicts. "As large areas of the High Plains deplete supplies of irrigation water, the semi-humid states such as Minnesota can be expected to make up for the resultant shortfall in agricultural production. Since the majority of Minnesota's groundwater sources recharge rapidly, long run declines in groundwater levels, such as those experienced in the High Plains, should not be a problem. The ability to sustain irrigated production, coupled with rises in commodity prices, would result in continued economic benefits for local communities and for the state" she says.

DPMP, IA, 4-FC, CAS

# # #

MSC  
A&I  
p

Communication Resources  
Agricultural Extension Service  
University of Minnesota  
St. Paul, Minnesota 55108  
December 10, 1981

Source: Ward Stienstra  
(612) 373-0937  
Writer: Jack Sperbeck  
(612) 373-0715

## RESISTANCE TO CORN HEAD SMUT VARIES BY HYBRID

Remember the stir over corn head smut in 1980? It was identified in four Minnesota counties in 1980--Wadena, Otter Tail, Stearns and Todd.

In 1981 it was found again in all these locations EXCEPT Stearns County, where fields infested in 1980 were planted to either grain or soybeans.

"Corn head smut probably won't be a major problem for Minnesota corn producers," says Ward Stienstra, plant pathologist with the University of Minnesota's Agricultural Extension Service.

In a cooperative project, researchers Thor Kommedahl, Erik Stromberg and Stienstra recently evaluated resistance of various corn hybrids to head smut. They also tested seed and soil chemical treatments. Kommedahl is a researcher with the University's Agricultural Experiment Station and Stromberg was formerly a USDA plant pathologist in Minnesota.

"Planting resistant hybrids and rotating infected fields away from corn are the best ways to control head smut," Stienstra says.

"Chemical control with registered seed treatment products is of little value," Stienstra says. "Vitavax did not prevent infection in our test--and it was reported to be of little value in a Canadian test," he adds.

Head smut is primarily soilborne (spread through the soil). Spores from smutted tassels or ears are disseminated by wind, rain or harvesting equipment and overwinter in the soil. Then they infect seedlings in next year's crop. Fields may also be infested if you plant seed contaminated with head smut spores.

It's important to remember that although head smut spores can be carried on the seed surface, they are not borne within the seed and don't grow there.

add one--corn head smut

"In locations where head smut has been found in the state, the most popular hybrids are thought to be some of the most susceptible," Stienstra says. "Farmers with fields known to have head smut should select lines resistant or moderately resistant to the disease," he advises.

Hybrid performance was averaged over three planting dates and ranked into four groups: resistant, no smut; moderately resistant, up to five percent smut; moderately susceptible, five to 10 percent smut; susceptible, over 10 percent smut.

(SEE ATTACHED LISTS SHOWING HEAD SMUT HYBRID RANK)

# # #

DPMP, CAS, 1A, 4-FC

## HEAD SMUT OF CORN, HYBRID RANK

| <u>Resistant</u>    | <u>Moderately Resistant</u> | <u>Moderately Susceptible</u> | <u>Susceptible</u> |
|---------------------|-----------------------------|-------------------------------|--------------------|
| Cenex 2203          | Pfizer T-950                | Cenex 3138                    | Holden's CB 59G    |
| Cenex 3015          | Dekalb EX1212               | Midland M-2087                | A 671              |
| Cenex 3139          | NK X6668                    | Dekalb XL-11                  | MN4201             |
| Dekalb XL-14AA      | MN8301                      | Blaney B607                   | Cenex 2155         |
| Funk's G-4256       | Holden's L632               | Dekalb EX1112                 | NK PX24            |
| Lester Pfister 1430 | Dekalb EX3333               | Pfizer T-930                  | Code 47            |
| McCurdy M-X956      | Blaney S6389                | NK PX11                       | Funk's G-5048      |
| NK PX37             | Payco SX-442-N              | Kaltenberg KX58               | Dekalb XL-12       |
|                     | Midland M-1085A             | RBA Super 4+                  | Blaney S4800       |
|                     | Funk's G-4435               | A654                          | NK PX7             |
|                     | Payco SX-431-N              | Kaltenberg KX31               | NK PX449           |
|                     | Ramy X-13                   | MN7301                        | Ramy EX14739       |
|                     | NK PX419                    | Payco SX-411-N                | NK PX485           |
|                     | Kaltenberg KX59             | Kaltenberg KX390              | MN5301             |
|                     | X117                        | Lester Pfister 1428           | Kaltenberg KX362   |
|                     | Cenex 2110                  | Wilson 1300                   | Payco 3X-155-N     |
|                     | McCurdy M-4855              | Blaney S3242                  | Ramy X-135         |
|                     | Funk's G-4180               | W153R                         | Code 7             |
|                     | Dekalb XL-23                | Dekalb XL-314                 | C0109              |
|                     | Blaney S4402                | Lester Pfister 1222           | Payco SX-599-N     |
|                     | Funk's G-4085               | Ramy X-150                    | Payco 3X-227-N     |
|                     | Cenex 3018                  | A554                          | Holden's LH39      |
|                     | Dekalb XL-36                | Pfizer T-X90                  |                    |
|                     | Blaney B101                 | MN6305                        |                    |
|                     | Cenex 3011                  | RBA Super 80                  |                    |
|                     | Cenex 2108                  | Ramy X-200                    |                    |
|                     | A661                        | Wilson 1100B                  |                    |
|                     | NK PX 443                   | Midland M-1051TY              |                    |
|                     | Blaney S2184                | Payco SX-637-N                |                    |
|                     | Ramy X-22                   | Ramy X-16                     |                    |
|                     | McCurdy M-5596              | Payco SX-555-N                |                    |
|                     | Blaney S2202                | Payco SX-711-N                |                    |
|                     | Midland M-1088              | Midland M-3080                |                    |
|                     | CM105                       | Kaltenberg KX53               |                    |
|                     | Cenex 2004                  |                               |                    |

continued on this page (all four columns Moderately Resistant)

| <u>Moderately Resistant</u> | <u>Moderately Resistant</u> | <u>Moderately Resistant</u> | <u>Moderately Resistant</u> |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Funk's G-4315               | Sokota MS27                 | Midland M-3093              | Code 48                     |
| A661 X A665                 | Dekalb XL-13                | Midland M-3090B             | Kaltenberg KX44             |
| Midland M-3095A             | Midland M-1090B             | Holden's LH38               | Cenex 3121                  |
| Ramy X-14                   | Cenex 2111                  | Payco SX-680-N              | NK X6392                    |
| Cenex 2106                  | Cenex 2119                  | Pfizer T-1000               | McCurdy M-3410              |
| Blaney S5602                | Funk's G-4224               | Code 97                     | Cenex 3123                  |
| RBA Super 4                 | Sokota 78-A                 | Ramy X-20                   | Blaney S2101WX              |
| McCurdy M-4436              | Cenex 2093                  | Ramy X-33                   | LP 7801                     |
| Dekalb XL-32A               | Midland M-1051DR            | Funk's G-4426               | Cenex 3094                  |
| A634                        | Payco SX-620-N              | Blaney S4406WX              | Funk's G-4323               |
| Dekalb XL-15                | C0109 X CM105               | RBA 3040                    | Payco SX-386-N              |
| Holden's LH74               | McCurdy M-46                | RBA 94                      | Blaney S2322                |
| RBA 94+                     | Midland M-1080              | Pfizer T-1069               | Blaney B606                 |
| RBA S3060                   | Dekalb XL-6                 | Midland M-1001B             | RBA 104+                    |
| Blaney S6595A               | Funk's G-4143               | Dekalb XL-18                | Cenex 2091                  |
| Code 8                      | Sokota TS20                 | Kaltenberg KX33             | Funk's G-4141A              |
| Pfizer T-1058               | Dekalb XL-25A               | Kaltenberg KX54A            | Blaney S3306                |
| Kaltenberg KX47             | McCurdy M-4664              | MN 5202                     | RBA 105+                    |
| A632                        | Cenex 2134                  | Cenex 3103                  | MN4202                      |

MEC  
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Communication Resources  
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TO: THE FARMER

THREE SWINE DAYS  
SET IN JANUARY

Management of Nursery Age Pigs is the theme of three area Swine Days scheduled for mid-January and sponsored by the Agricultural Extension Service and the Agricultural Experiment Station of the University of Minnesota.

The day-long conferences will be Jan. 12 at the Southern Experiment Station at Waseca, Jan. 13 at the American Legion Hall in Lamberton and Jan. 14 at Edson Hall on the University of Minnesota, Morris, campus.

Topics to be discussed will include weaning age, weaning behavior, environment, nutrition, feeding system management, diseases, and producers' views on management. A published research report, including most of the conference topics, will be available at the Swine Days sites for one dollar.

Speakers are faculty members from the University's College of Veterinary Medicine, extension swine specialists and Dr. Steve Henry, veterinarian from Abilene, Kansas.

Each Swine Days program begins at 9:45 a.m. and concludes at about 3 p.m. with an hour-long break for lunch. For further information, contact the host experiment station: Waseca, (507) 835-3620; Lamberton, (507) 752-7372; and Morris, (612) 589-1711.

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DPMP, CAS, farm broadcasters